**HABITAT CONSERVATION PLAN**

# BIOLOGICAL MONITORING PROGRAM
## Comal Springs/River Aquatic Ecosystem

**ANNUAL REPORT**

**December 2023**


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# EXECUTIVE SUMMARY

The Edwards Aquifer Habitat Conservation Plan (EAHCP) Biological Monitoring Program continued to track biota and habitat conditions of the Comal Springs/River ecosystem in 2023 through a series of routine and Critical Period monitoring activities outlined in this report. Monitoring in the Comal system consisted of routine surveys specific to EAHCP Covered Species: Fountain Darter (*Etheostoma fonticola*), Comal Springs Salamander (*Eurycea* sp.), and multiple Comal Springs invertebrates. Community-level monitoring data were also collected on aquatic vegetation, fish, and benthic macroinvertebrates. In addition to routine monitoring, springflows dropped to the lowest levels observed since the start of biological monitoring in 2000, triggering multiple Critical Period and species-specific low-flow sampling events. Results from 2023 biological monitoring provided valuable data to further assess spatiotemporal trends of aquatic biota in the Comal Springs/River ecosystem, as well as a unique opportunity to better understand ecological responses under extreme low flow scenarios.

In 2023, central Texas experienced a continuation of low precipitation and higher ambient temperatures observed in 2022. Exceptional drought conditions occurred throughout central Texas from January through August, impacting large portions of the Hill Country over the Edwards Aquifer Contributing Zone. As a result, discharge in the Comal Springs/River System was below median historical conditions for the entire year, continuing the decreased trend observed in 2022 and resulting in the lowest flow conditions documented over the course of the 23 year biological monitoring program. When compared to previous drought years, median and minimum daily mean discharge were lower in 2023 (121 and 55 cfs, respectively) than the previous monitoring program low observed in 2014 (135 and 65 cfs, respectively), and were considerably lower than other drought years in 2009, 2011, and 2013. Monthly median discharges were below the long-term 10$^{th}$ percentiles throughout the year, except for the months of May and June when they were slightly above 10$^{th}$ percentile levels. Flows dropped below 100 cfs in July, resulting in additional Critical Period sampling activities. Total system discharge dropped to a minimum mean daily flow of 55 cfs by August, triggering multiple habitat evaluations, discharge and flow partitioning measurements, and species-specific triggers (i.e., Comal Springs Salamander, Comal Springs Riffle Beetle). Although flows increased slightly in September and October, total system discharge remained below 10$^{th}$ percentile levels throughout fall 2023.

The most conspicuous impact of low summer water levels was desiccation of spring and spring run habitats. Spring Run 1, Spring Run 2, and Spring Island Spring runs were completely desiccated for extended periods in summer 2023, resulting in obvious impacts to surface habitat for salamanders and spring-associated invertebrates. As a result of Critical Period and species-specific triggers, a total of 13 salamander monitoring events were conducted in 2023 as flows declined. In drying spring runs, salamander monitoring effort was correspondingly decreased as wetted habitat declined. Although overall counts were down compared to previous years, confidence intervals overlapped with historical data, and salamanders were documented in all monitored spring runs up until surface habitats went dry. *Eurycea* salamanders are known to use subsurface habitats and genomics data suggests that migration events are occurring between various spring locations within the Edwards Aquifer region (Devitt et al. 2019). Given their ability to occupy subsurface habitats and previous monitoring data showing recolonization after spring run desiccation events (e.g., 2014), it is assumed that salamanders will recolonize these

areas as surface flow returns. However, additional monitoring is needed to confirm this as well as to evaluate recolonization rates and population responses.

Similar to salamanders, abundance estimates for *Stygobromus* sp. from spring drift-net sampling and Comal Springs Riffle Beetle from cotton-lure surveys were both down compared to historical data. Although drift-net counts of *Stygobromus* sp. are standardized per cubic meter of water, lower spring discharge may decrease the number of these organisms dislodged from near-spring environments. Across sites and seasons, a temporal decline in the number of Comal Springs Riffle Beetles observed per lure is noted when comparing 2023 data to 5-year and long-term datasets. In particular, abundance estimates have been low since fall 2021 suggesting population abundance was potentially impacted by low springflows observed the past two years. However, like the *Eurycea* salamanders described above, Comal Springs Riffle Beetles are capable of using sub-surface habitats. Therefore, reduced abundance on cotton lures set near spring surface habitats may not reflect a true population-level decline. A low-flow habitat utilization investigation conducted by BIO-WEST researchers as part of the species-specific triggered monitoring in fall 2023 suggests that Comal Springs Riffle Beetles follow water levels sub-surface when spring surface habitats dry up. Additional EAHCP research is currently being conducted to better understand Comal Springs Riffle Beetle population dynamics and its relationship to surface and subsurface habitat utilization.

In addition to impacts on spring orifices and spring runs, the influence of extremely low spring flows was also evident on abiotic habitat and aquatic vegetation conditions in areas further from springs and resulted in reach specific changes to Fountain Darter population metrics. In downstream riverine reaches, water temperature exceeded laboratory-estimated thresholds for maximum optimal Fountain Darter egg and larval production more commonly and for longer durations than during typical flow conditions. However, patterns in Fountain Darter population metrics didn't correspond well with patterns in water temperature threshold exceedance. For example, fall 2023 Fountain Darter densities declined in Landa Lake (where summer temperatures were consistently below thresholds) but increased abruptly in New Channel (where summer temperature exceedances were common). This suggests that lab-derived temperature thresholds for maximum optimal egg and larval production may not be as key as other environmental variables in predicting patterns in wild Fountain Darter population response.

Although a variety of abiotic and biotic factors are likely influential on Fountain Darter population abundance, habitat suitability driven by patterns in aquatic vegetation coverage appears to be the most important factor in predicting observed patterns. Indeed, reduced flows in 2023 led to reductions in the abundance of bryophytes in the Upper Spring Run and Landa Lake reaches, drove down the Overall Habitat Suitability Index (OHSI) in these areas, and resulted in subsequent declines in Fountain Darter population metrics. In Upper Spring Run, reductions in bryophytes led to low Fountain Darter densities throughout 2022 and 2023. In Landa Lake, impacts to Fountain Darter density were not readily apparent until fall 2023. In this event, although limited amounts of bryophytes were present within the lake, they were in areas too deep for drop-net sampling. Therefore, bryophytes were not sampled via drop-net in this reach in fall 2023. Importantly, Fountain Darters were observed in similar numbers to previous years in these deeper areas via visual surveys in fall 2023, highlighting the importance of multiple sampling techniques. However, since bryophytes typically show the highest densities among vegetation taxa via drop-net sampling, this resulted in a low overall density estimate in Landa Lake in fall 2023. In contrast to Landa Lake, Upper New Channel reach exhibited rather high but variable vegetation composition and OHSI in 2023. High amounts of vegetation coverage in spring and fall 2023 were supported by a lack of recent high flow events within the Dry Comal Creek watershed. Although vegetation coverage was impacted by recreation in summer 2023, it quickly rebounded to the highest levels observed in Upper New Channel in the past five years in fall 2023, and Fountain Darter population densities responded. Lastly, in contrast to patterns observed at Landa Lake and Upper Spring Run, the post-restoration vegetation community within the Old Channel has maintained consistently high amounts of bryophytes over the past five years despite low-flow conditions, and Fountain Darter drop-net densities have remained near or above the long-term median in this reach for eleven of the twelve sampling events over this time period.

At a community scale, fish and macroinvertebrate community-level responses to low flows were not as evident as those within Covered Species populations. In general, no long-term temporal trends in overall or spring-associated fish diversity, richness, and relative density are evident from fish community monitoring data. Macroinvertebrate Index of Biotic Integrity (IBI) scores did show slight declines at some riverine reaches (Old Channel and Other Place) suggesting that low flows may have led to habitat homogenization and reduction in abundance of fluvial specialists in these areas. However, besides these minor deviations, fish and macroinvertebrate community data were generally comparable to historical data.

Overall, 2023 biological monitoring provided insights into the current condition of the EAHCP Covered Species in the Comal Springs/River System, as well as flow-ecology relationships related to the broader aquatic community. Spring discharge in 2023 was the lowest observed since initiation of biological monitoring in 2000. As a result, acute impacts to Covered Species habitats and resulting responses of population metrics were noted. Despite the extreme conditions observed, all Covered Species are still present at multiple habitats within the system and are expected to persist and rebound once more typical flow conditions return. Subsequent monitoring will be critical to assess the ultimate response of species populations to these unique, and at present, continuing stressors.

# INTRODUCTION

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is intended to provide assurance of suitable habitat for threatened and endangered species (i.e., Covered Species) (Table 1) in both the San Marcos and Comal Springs. Established in 2012, the EAHCP supports the issuance of an Incidental Take Permit that allows the "incidental take" of Covered Species from otherwise lawful activities in the Comal Springs system. Section 6.3.1 of the HCP established a continuation of biological monitoring in the Comal Springs/River. This biological monitoring program was first established in 2000 (formerly known as the Edwards Aquifer Authority [EAA] Variable Flow Study), and its original purpose was to evaluate the effects of variable flow on the biological resources of the Comal Springs/River, with an emphasis on threatened and endangered species. However, the utility of the HCP biological monitoring program has surpassed its initial purpose (EAHCP 2012). The biological data collected since the implementation of this monitoring program (BIO-WEST 2001–2023) now serves as the cornerstone for several underlying sections in the HCP, which include the following: (1) long-term biological goals (LTBGs) and management objectives (Section 4.1); (2) determination of potential impacts to Covered Species, "incidental take" assessment, and Environmental Impact Statement alternatives (Section 4.2); and (3) establishment of core adaptive-management activities for triggered monitoring and adaptive-management response actions (Section 6.4.3). Additionally, biological monitoring program data, in conjunction with other available information, are essential to adaptive management as the EAHCP proceeds. Current and future data collection will help assess the effectiveness and efficiency of certain EAHCP mitigation and restoration activities conducted in the Comal Springs/River and calculate the EAHCP habitat baseline and net disturbance determination and annual "incidental take" estimate (EAHCP 2012).

**Table 1. Covered Species sampled for under the Edwards Aquifer Habitat Conservation Plan in the Comal spring and river ecosystems.**

| SCIENTIFIC NAME | COMMON NAME | ESA STATUS |
|---|---|---|
| **Insects** | | |
| *Haideoporus texanus* | Edwards Aquifer Diving Beetle | Petitioned |
| *Heterelmis comalensis* | Comal Springs Riffle Beetle | Endangered |
| *Stygoparnus comalensis* | Comal Springs Dryopid Beetle | Endangered |
| **Crustaceans** | | |
| *Lirceolus smithii* | Texas Troglobitic Water Slater | N/A |
| *Stygobromus pecki* | Peck's Cave Amphipod | Endangered |
| **Amphibians** | | |
| *Eurycea* sp. | Comal Springs Salamander | N/A |
| **Fish** | | |
| *Etheostoma fonticola* | Fountain Darter | Endangered |

This report provides the methodology and results for biological monitoring activities conducted in 2023 within the Comal Spring/River ecosystem. In addition to routine monitoring, Critical Period and species-specific low-flow sampling were triggered. The results include summaries of current physiochemical conditions, as well as current conditions of floral and faunal communities, encompassing routine and low-flow sampling. For all aquatic organisms, historic observations (BIO-WEST 2001–2023a) are also used to provide context to current conditions.

# METHODS

## Study Location

The Comal Springs System is the largest spring complex in Texas. It encompasses an extensive headsprings system and the Comal River (New Braunfels, Comal County, Texas), and is fed by the Edwards Aquifer (Brune 2002). Dam construction and channelization during the late-1800s modified headspring habitats (Odgen et al. 1986; Crowe and Sharpe 1997) and drainage patterns of the river (Ottmers 1987). Impoundment of Comal Springs resulted in the formation of Landa Lake (Linam et al. 1993), which is fed by four spring runs of variable size (Ogden et al. 1986; Crowe and Sharpe 1997). From the headwaters, the river flows about 5 kilometers (km) before its confluence with the Guadalupe River. The majority of water that exits Landa Lake flows through the "New Channel", an engineered diversion that was originally created to act as a cooling system for a power generation plant. Remaining flows are diverted to the original river channel, known as the "Old Channel," that rejoins the New Channel about 2.5 km downstream (Ottmers 1987).

The watershed is dominated by urban landcover and is subjected to recreational use. Spring inputs from the Edwards Aquifer provide stable physiochemical conditions, and springflow conditions are dictated by aquifer recharge and human water use (Sung and Li 2010). In the 1950s, Comal Springs temporarily ceased flowing (Schneck and Whiteside 1976; Brune 2002). Despite this, the Comal Springs System maintains diverse assemblages of floral and faunal communities (Bowles and Arsuffi 1993; Crowe and Sharpe 1997) and includes multiple endemic aquatic organisms, such as Comal Springs Riffle Beetle (*Heterelmis comalensis*), Peck's Cave Amphipod (*Stygobromus pecki*), Comal Springs Salamander (*Eurycea* sp.), and Fountain Darter (*Etheostoma fonticola*).

## Sampling Strategy

Based on the long-term biological goals (LTBGs) and management objectives outlined in the HCP, study areas were established to conduct long-term monitoring and quantify population trends of the Covered Species (EAHCP 2012). The sampling locations selected are designed to cover the entire extent of Covered Species habitats, but they also allow for holistic ecological interpretation while maximizing resources (Figures 1–3).

Comprehensive sampling within the established study area varies temporally and spatially among Covered Species. The current sampling strategy includes five spatial resolutions:

1. System-wide sampling
    a. Aquatic vegetation mapping: 5-year intervals (winter)
2. Select longitudinal locations
    a. Water temperature monitoring: year-round at permanent monitoring stations
    b. Discharge measurements: 2 events/year (spring, fall)
3. Reach sampling
    a. Aquatic vegetation mapping: 2 events/year (spring, fall)
    b. Fountain Darter drop-net sampling: 2 events/year (spring, fall)
    c. Fountain Darter random-station dip-net surveys: 3 events/year (spring, summer, fall)

4. Springs Sampling
    a. Endangered Comal invertebrate sampling: 2 events/year (spring, fall)
    b. Comal Salamander surveys: 2 events/year (spring, fall)
    c. Fountain Darter visual surveys: 2 events/year (spring, fall)
5. River section/segment
    a. Fountain Darter timed dip-net surveys: 3 events/year (spring, summer, fall)
    b. Fish community sampling: 2 events/year (spring, fall)
    c. Macroinvertebrate community sampling: 2 events/year (spring, fall)

In addition to annual comprehensive sampling outlined above, low-flow sampling may also be conducted, but is dependent on HCP flow triggers, which include Critical Period Low-Flow Sampling and species-specific sampling (EAHCP 2012). In April 2023, river discharge was less than 150 cfs, so the spring 2023 comprehensive monitoring effort doubled as the 150 cfs full Critical Period low-flow event. Discharge decreased below 100 cfs in July, which resulted in another Critical Period low-flow full sampling event and subsequent low-flow habitat evaluations. In addition, species-specific triggers were met from July to October for Comal Springs Salamander and Comal Springs Riffle Beetle (Appendix A). Species-specific triggers were also met from January to October (n = 3) for the Fountain Darter. Critical Period water grab sampling and habitat assessment results are presented in Appendix B.

The remaining methods sections provide brief descriptions of the procedures utilized for comprehensive sampling efforts, which includes details on all Critical Period and species-specific sampling efforts. A more-detailed description of the gear types used, methodologies employed, and specific GPS coordinates can be found in the Standard Operating Procedures Manual for the HCP biological monitoring program for the Comal Springs/River ecosystem (EAA 2017).

# Comal River Discharge and Springflow

River hydrology in 2023 was assessed using US Geological Survey (USGS) stream gage data from January 1 to October 31. Mean daily discharge expressed in cubic feet per second (cfs) was acquired from USGS gage #08169000, which represents cumulative river discharge that encompasses springflow and local runoff contributions. It should be noted that some of these data are provisional and are subject to revision at a later date (USGS 2023). The annual distribution of mean daily discharge was compared for the past 5-years using boxplots. The distribution of 2023 mean daily discharge was summarized by month using boxplots. Monthly discharge levels were compared with long-term (1928–present) 10th, 50th (i.e., median), and 90th percentiles.

Discharge was also measured in spring and fall at five cross-section stations (Upper Spring Run, Spring Run 1, Spring Run 2, Spring Run 3, Old Channel) using a flowmeter and adjustable wading rod, with the exceptions of measurements at Spring Run 1 and Spring Run 2 in the fall due to dry conditions. Additional discharge measurements were conducted during Critical Period and species-specific events triggered in July (n = 2), August (n = 4), September (n = 4), and October (n = 2). Additionally, discharge was measured at four M9 stations (Spring Island Upper Far, Spring Island Lower Near, Spring Island Lower Far, Landa Lake Cable) by EAA personnel using a SonTek RiverSurveyor Acoustic Doppler Profiler (Figure 3).

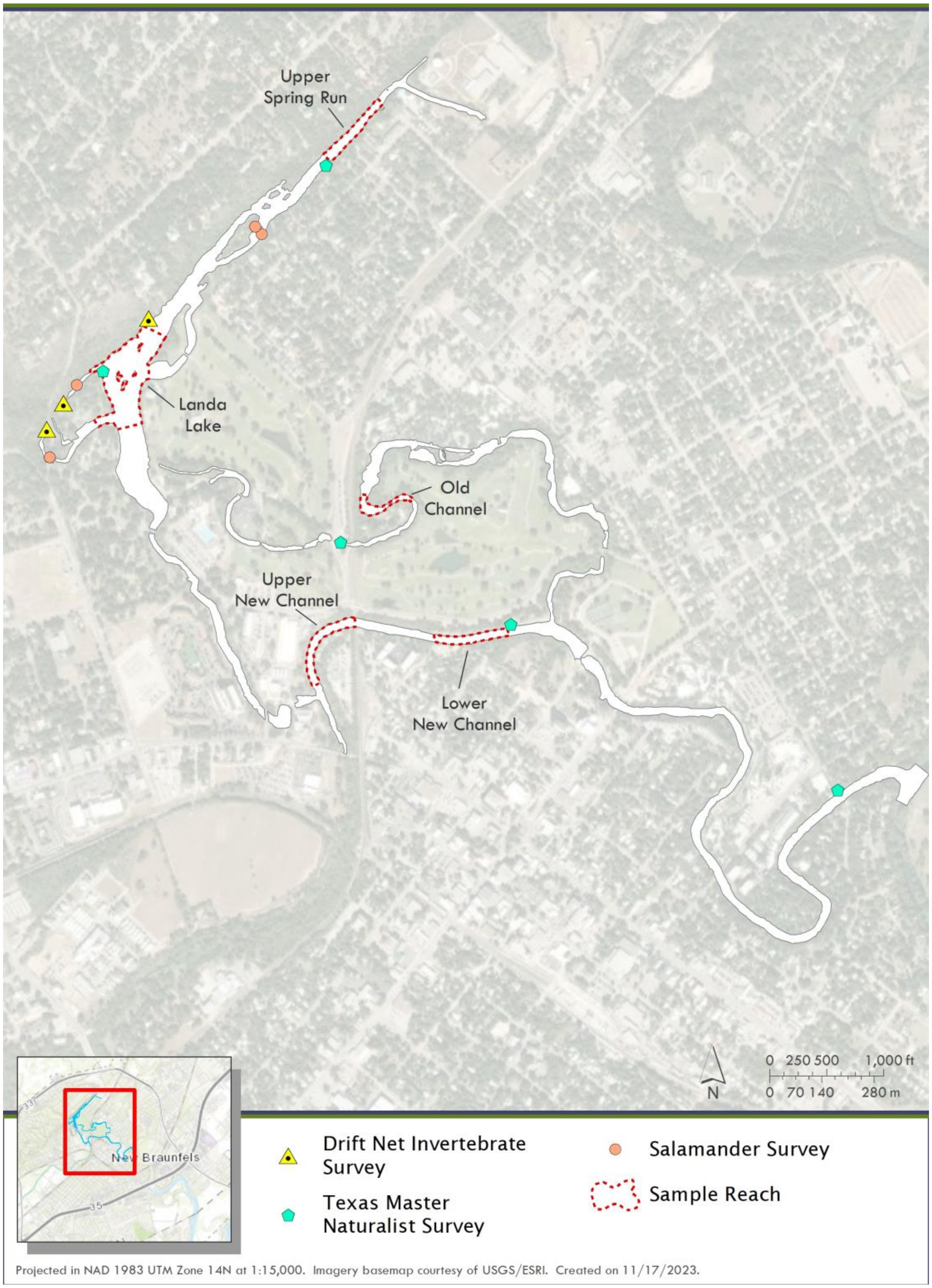


**Figure 1.** **Locations of drift-net invertebrate, Comal Springs Salamander, Texas Master Naturalist, and biomonitoring (includes aquatic vegetation mapping, drop-net sampling, presence/absence dip-net sampling, and macroinvertebrate community sampling) sample areas within the Comal Spring/River study area.**

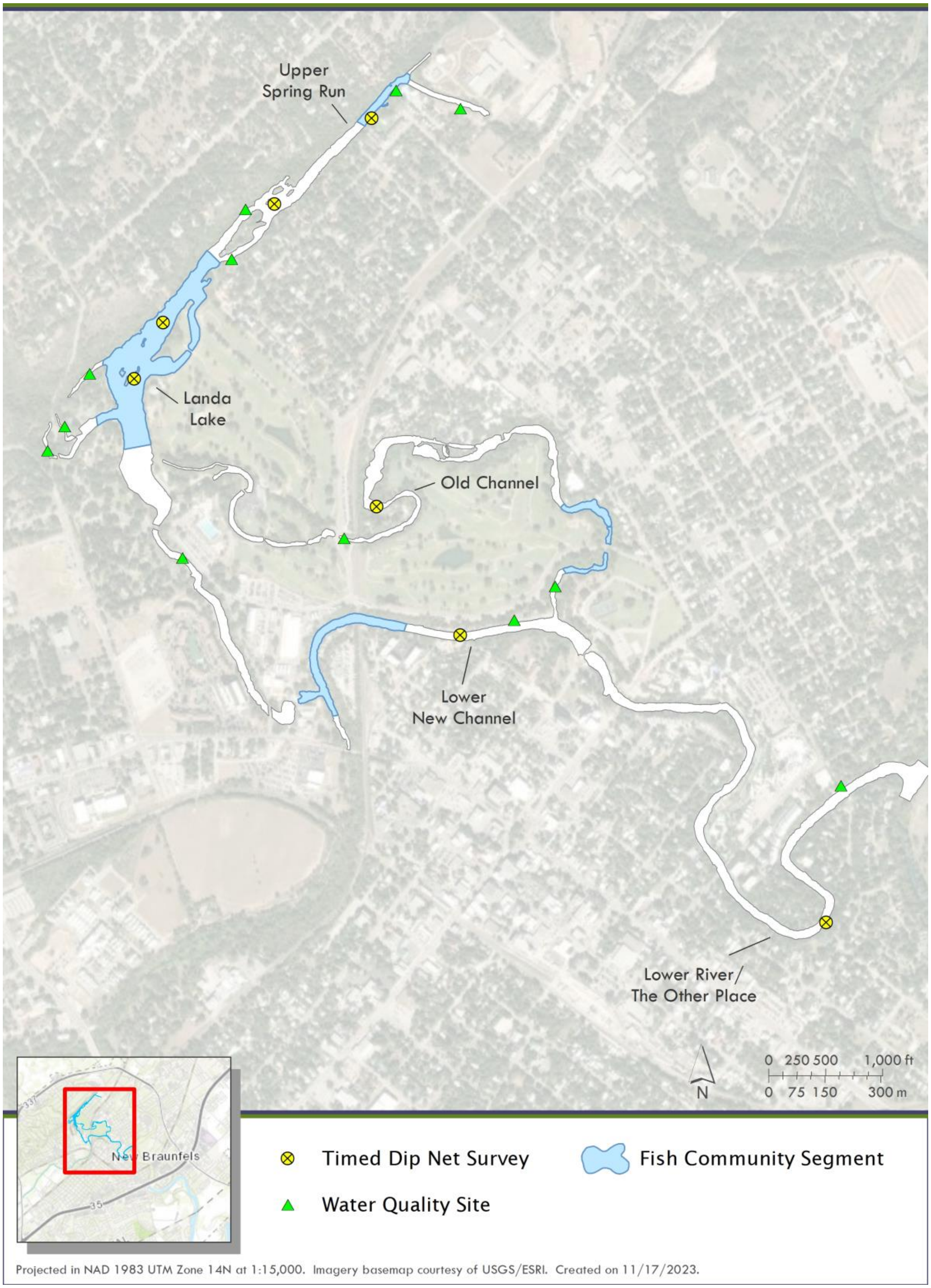


**Figure 2. Locations of fish community, water quality, and Fountain Darter timed dip-net surveys within the Comal Springs/River study area.**

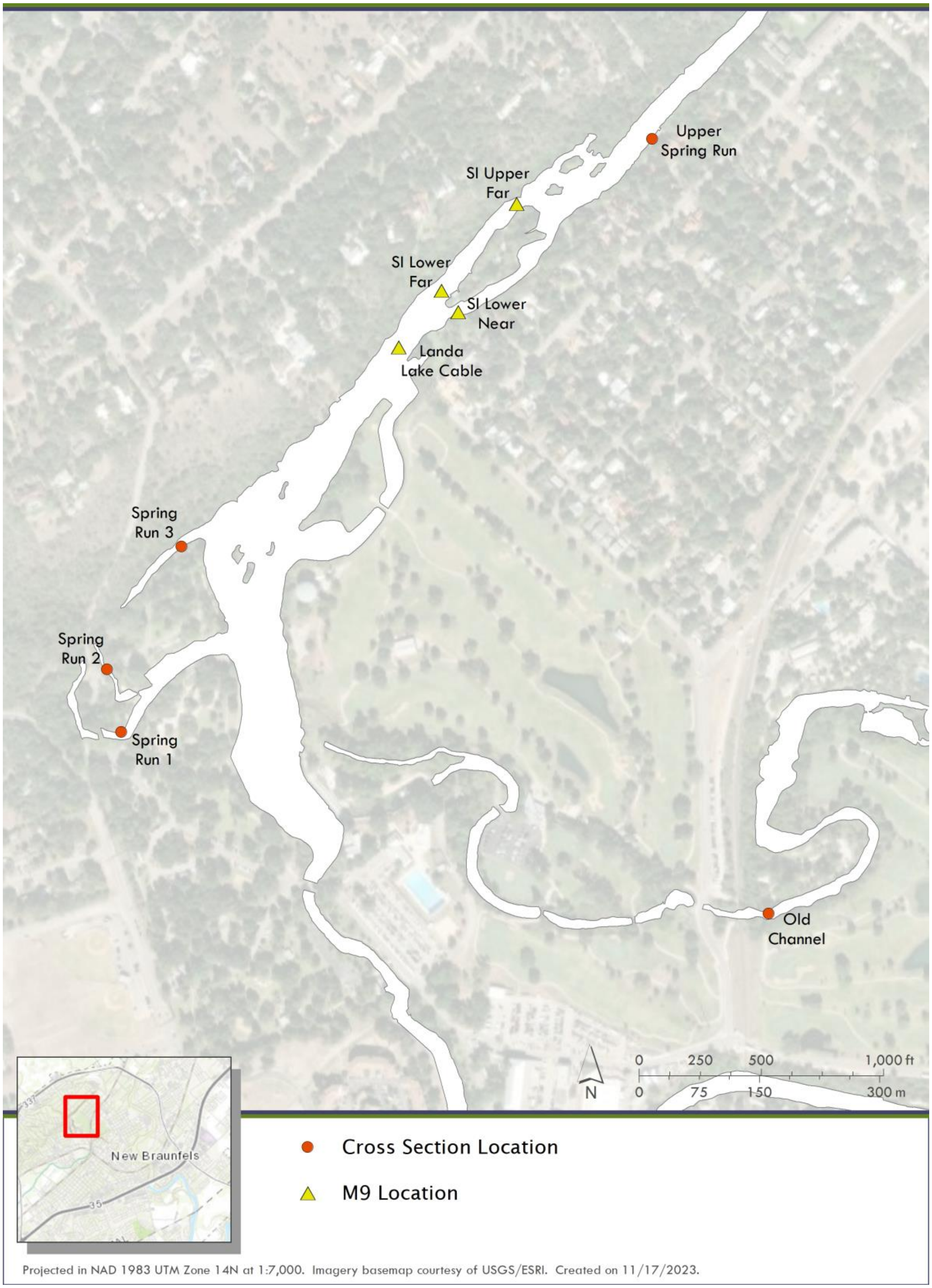


**Figure 3.** **Cross-section and M9 discharge collection locations in the Comal Springs/River study area.**

To quantify the contribution of each station to total system discharge, percent total discharge ([discharge(station *x*)/cumulative river discharge]*100) was calculated. Cumulative river discharge was based on the mean daily discharge value on the day of each measurement. Discharge and percent total discharge were summarized for spring and fall measurements, which were compared to 5-year and long-term (cross-section stations: 2003–present; M9 stations: 2014–present) averages ±95% confidence intervals using bar graphs. Results for cross-section stations are presented in the main body of the report and results for M9 stations can be found in Appendix E.

## Water Temperature

Spatiotemporal trends in water temperature were assessed using temperature data loggers (HOBO Tidbit v2 Temp Loggers) at the 13 permanent monitoring stations established in 2000. Data loggers recorded water temperature every 10 minutes and were downloaded at regular intervals. Prior to analysis, data processing was conducted to locate potential data logger errors per station by comparing time-series for the current year with previous years. Timeframes displaying temperatures that deviated substantially from historical data and did not exhibit ecologically rational trends (e.g., discontinuities, ascending drift) were considered unreliable and omitted from the dataset. For analysis, the distribution of water temperatures for the current year was assessed among stations based on 4-hour intervals and summarized using boxplots. Water temperatures were also compared with maximum optimal temperature requirements for Fountain Darter larval (≥25 °C) and egg (≥26 °C) production (McDonald et al. 2007). Further, 25 °C is also the designated threshold within the HCP Fountain Darter LTBGs study reaches (Upper Spring Run [Heidelberg], Landa Lake, New Channel, Old Channel) (EAHCP 2012). In the case of stations that surpassed either water temperature threshold during the year, the general timeframes in which those exceedances occurred are discussed in the text.

## Texas Master Naturalist Monitoring

Volunteers with the Texas Master Naturalist program continued their monitoring efforts in 2023 at select locations along the Comal system. Volunteers collected water quality and recreation data at the following five sites: (1) Houston Street site within the Upper Spring Run reach, (2) Gazebo site within the Landa Lake reach, (3) Elizabeth Avenue site upstream of the Old Channel reach, (4) New Channel site within the New Channel reach, and (5) the downstream-most Union Avenue site (Figure 1). Volunteer monitoring was performed on a weekly basis, with surveys conducted primarily on Friday afternoons between 1200 and 1500 hours. At each site, an Oakton Waterproof EcoTester pH 2 was used to measure pH, and a LaMotte Carbon Dioxide Test Kit was used to measure carbon dioxide ($CO_2$) concentrations in the water column. In addition to water-quality measurements, recreational-use data were collected at each site by counting the number of tubers, kayakers, anglers, etc., within the survey site at the time of sampling. Volunteers also took photographs at each site during each sampling event, and occasionally made additional notes on recreational use or the condition of the river. Results from this monitoring effort can be found in Appendix D.

# Aquatic Vegetation

## *Mapping*

The team used a sit-in kayak to complete aquatic vegetation mapping in each sample reach during the winter full system, spring, summer Critical Period, and fall monitoring events (Figure 1). A Trimble GPS unit and external Tempest antenna set on the bow of the kayak was used to collect high-accuracy (10–60 centimeter [cm]) geospatial data. A data dictionary with pre-determined attributes was loaded into the GPS unit for data collection in the field. Discrete patch dimensions and the type and density of vegetation were recorded from the kayak. In some instances, an accompanying free diver was used to provide additional detail and to verify surface observations. The discreteness of an individual vegetation patch was determined by the dominant species located within the patch compared to surrounding vegetation. Once a patch of vegetation was visually delineated, the kayak was maneuvered around the perimeter of the vegetation patch to collect geospatial data with the GPS unit, thus creating a vegetation polygon. Attributes assigned to each polygon included species type and percent cover of each of the four most-dominant species. The type of substrate (silt, sand, gravel, cobble, organic) was identified if substrate was a dominant feature within the patch. Rooted aquatic vegetation, floating aquatic vegetation, bryophytes, and algae were mapped as separate features. Only aquatic vegetation patches 1 meter (m) in diameter or larger were mapped as polygons.

## *Data Processing and Analysis*

During data processing, Microsoft pathfinder was used to correct spatial data and create shapefiles. Spatial data were projected using the Projected Coordinate System NAD 1983 Zone 14N. Post processing was conducted to clean polygon intersections, check for and correct errors, and calculate cover for individual discrete polygons as well as totals for all encountered aquatic plant species.

Vegetation types are described in the Results and Discussion section by genus. Vegetation community composition among taxa and grouped by native vs. invasive taxa are compared for the last five years using stacked bar graphs. Total surface area of aquatic vegetation, measured in square meters ($m^2$), is presented for each season using bar graphs and is compared with long-term averages (2001–present) from spring, fall, high-flow events, and low-flow events. High-flow and low-flow averages were calculated from Critical Period Events. These events are based on predetermined river discharge triggers (Appendix A), which result in additional mapping events to assess flow-related impacts to the vegetation community.

# Fountain Darter

## *Drop-Net Sampling*

Drop-net sampling was utilized to quantify Fountain Darter densities and evaluate habitat utilization during the spring, summer Critical Period, and fall monitoring events (Figure 1). Sample stations were selected using a random-stratified design. In each study reach, two sample stations per vegetation strata were randomly selected based on dominant aquatic vegetation (including open areas) mapped prior to sampling (see Aquatic Vegetation Mapping for details). At each sample station, all organisms were first trapped using a 2 $m^2$ drop-net. Organisms were then collected by sweeping a 1 $m^2$ dip net along the river bottom within the drop-net. If no fish were collected after the first 10 dip-net sweeps, the station was considered complete, and if fish were collected, an additional 5 sweeps were conducted. If Fountain Darters were collected on sweep 15, additional sweeps were conducted until no Fountain Darters were collected.

Most fishes collected were identified to species and enumerated. Two morphologically similar species, Western Mosquitofish (*Gambusia affinis*) and Largespring Gambusia (*Gambusia geiseri*), which are known to hybridize, were classified by genus (*Gambusia* sp.). Larval and juvenile fishes too small to confidently identify to species in the field were also classified by genus. All Fountain Darters and the first 25 individuals of other fish taxa were measured (total length expressed in millimeters [mm]).

Physiochemical habitat data were collected at each drop-net location. Water depth in feet (ft) and velocity in feet per second (ft/s) were collected at the upstream end of drop-net samples using a flowmeter and adjustable wading rod. Water-velocity measurements were collected at 15 cm above the river bottom to characterize flows that directly influence Fountain Darters. Mean-column velocity was measured at 60% of water depth at depths of less than three feet. At depths of three feet or greater, water velocities were measured at 20% and 80% of depth and averaged to estimate mean column velocity. Water quality was measured within each drop-net using a multiprobe, which included water temperature (degrees Celsius [°C]), pH, dissolved oxygen (milligrams per liter [mg/L], percent saturation), and specific conductance (microsiemens per centimeter [µs/cm]). Mid-column water quality was measured at water depths of less than three feet, whereas bottom and surface values were measured and averaged at depths of three feet or greater. Lastly, vegetation composition (%) was visually estimated and dominant substrate type was recorded within each drop-net sample.

## Dip-Net Sampling

Dip-net sampling was used to provide additional metrics for assessing Fountain Darter population trends and included qualitative timed surveys and random-station presence/absence surveys. All sampling was conducted using a 40x40-cm (1.6-mm-mesh) dip net, and surveys for both methods were conducted in winter, spring, summer, and fall. Summer sampling included one Critical Period event which was integrated into routine summer monitoring.

Timed dip-net sampling was conducted to examine patterns in Fountain Darter abundance and size structure along a more extensive longitudinal gradient compared to drop-net sampling. Surveys were conducted within established monitoring sites for a fixed amount of search effort (Upper Spring Run: 0.5 hour, Spring Island: 0.5 hour, Landa Lake: 1 hour, Old Channel: 1.0 hour, New Channel: 1.0 hour, Lower River: 1.0 hour) (Figure 2). In each study reach, a single surveyor used a dip net to collect Fountain Darters in a downstream to upstream fashion. Collection efforts mainly focused on suitable Fountain Darter habitat, specifically in areas with dense aquatic vegetation. Non-wadable habitats (>1.4 m) were not sampled. All Fountain Darters collected were enumerated, measured (mm), and returned to the river at point of collection.

Random-station presence/absence surveys were implemented to assess Fountain Darter occurrence. During each monitoring event, sampling stations were randomly selected within the vegetated area of each sample reach (Upper Spring Run: 5, Landa Lake: 20, Old Channel: 20, New Channel: 5) (Figure 1). At each random station, presence/absence was recorded during four independent dips. To avoid recapture, collected Fountain Darters were returned to the river in areas adjacent to the random station being sampled. Habitat variables recorded at each station included dominant aquatic vegetation, and presence/absence of bryophytes and algae.

## *Visual Surveys*

Visual surveys with the aid of SCUBA gear were conducted at Landa Lake in areas too deep for implementing the Fountain Darter sampling methods described above (Figure 1). Sampling occurred during the spring, summer Critical Period, and fall monitoring events. To standardize data relative to any potential diel patterns in behavior, observations were conducted in early afternoon during each sampling event. A specially designed grid (7.8 $m^2$) was used to quantify the number of Fountain Darters using these deeper habitats. During each survey, all Fountain Darters within the grid were counted and the percentage of bryophyte coverage within the grid was recorded. Results of visual surveys are presented in Appendix E.

## *Data Analysis*

Key demographic parameters used to evaluate Fountain Darter observations included population performance, size structure, and recruitment. Population performance was assessed using drop-net, timed dip-net, and random dip-net data. Counts of darters per drop-net sample were standardized as density (darters/$m^2$). Timed dip-net total darter counts per study reach were standardized as catch-per-unit-effort (CPUE; darters/person-hour [p-h]) for each sampling event. Random dip-net occurrence per station was based on whether or not a Fountain Darter was observed during any of the four dips and percent occurrence was calculated per sampling event at each reach as: (sum[darter presence]/sum[random stations])*100. Fountain Darter density, CPUE, and percent occurrence were compared among seasons using boxplots. In addition, most seasonal observations were compared to observations from the past five years and long-term observations (2001–present). Lastly, temporal trends in Fountain Darter density were assessed per sampling event for each study reach for the past five years using boxplots and compared to their respective long-term (2001–present) medians and quartiles (25th and 75th percentile).

Size structure and recruitment were assessed among seasons. Fall and spring were assessed by combining drop-net and timed dip-net data, and summer was assessed only using timed dip-net data. Boxplots coupled with violin plots were used to display the distribution of darter lengths per sampling event during each season for the past five years. Boxplots show basic length-distribution statistics (i.e., median, quartiles, range) and violin plots visually display the full distribution of lengths relative to each sampling event using kernel probability density estimation (Hintze and Nelson 1998). Recruitment was quantified as the percent of darters ≤20 mm during each sampling event. Based on a linear model built by Brandt et al. (1993) that looked at age-length relationships of laboratory-reared Fountain Darters, individuals of this size are likely less than 3 months old and not sexually mature (Brandt et al. 1993; Schenck and Whiteside 1976). Percent recruitment ±95% confidence intervals (i.e., beta distribution quantiles; McDonald 2014) were shown for the past five years by season and compared to their respective long-term averages.

Habitat use was assessed based on population performance and size structure among vegetation strata using drop-net and random station dip-net observations. Fountain Darter density by vegetation taxa was compared based on current, five-year, and long-term (2001–present) observations using boxplots. Proportion of occurrence was also calculated among vegetation types sampled during random-station dip-netting for the current year. Lastly, boxplots coupled with violin plots were used to display the distribution of darter lengths by vegetation taxa using drop-net data to examine habitat use among size classes for the current year.

Habitat suitability was quantified to examine reach-level changes in habitat quality for Fountain Darters through time. First, Habitat Suitability Criteria (HSC) ranging from 0 (unsuitable habitat) to 1 (most suitable habitat) were built based on occurrence data for all vegetation types (including open habitat) that have been sampled using logistic regression (Manly et al. 1993). Resulting HSC were then multiplied by the areal coverage of each vegetation strata mapped during a biomonitoring event, and results were summed across vegetation strata to calculate a weighted usable area for each reach. To make data comparable between reaches of different sizes, the total weighted usable area of each reach was then divided by the total area of the reach, resulting in an Overall Habitat Suitability Index (OHSI) for each reach during each sampling event. Following this method, temporal trends of Fountain Darter OHSI ±95% CI were calculated per sampling event for each study reach (Upper Spring Run, Landa Lake, Old Channel, Upper New Channel, Lower New Channel) for the past five years. Long-term (2003–present) OHSI and 95% CI averages were also calculated to provide historical context to recent OHSI observations. Specific details on the analytical framework used for developing OHSI and evaluating its efficacy as a Fountain Darter habitat index, including methods to build HSC, can be found in Appendix H.

# Fish Community

## *Mesohabitat, Microhabitat, and Seine Sampling*

Fish community sampling was conducted in the spring, summer Critical Period event, and fall to quantify fish assemblage composition/structure and to assess Fountain Darter population performance in river segments and habitats (e.g., deeper areas) not sampled during drop-net and timed dip-net surveys. The following four monitoring segments were sampled: Upper Spring Run, Landa Lake, Old Channel, and New Channel (Figure 2). Deeper habitats were sampled using visual transect surveys, and shallow habitats were sampled via seining.

A total of three mesohabitat transects were sampled at each segment during visual surveys. At each transect, four divers swam from bank-to-bank at approximately mid-column depth, enumerating all fishes observed and identifying them to species. After each mesohabitat transect was completed, microhabitat sampling was also conducted along four, 5-meter-long PVC pipe segments (micro-transect pipes) placed on the stream bottom, spaced evenly along the original transect. Divers started at the downstream end and swam up the pipe searching through the vegetation, if present, and substrate within approximately 1 m of the pipe. All fishes observed were identified to species and enumerated. For both surveys, any individuals that could not be identified to species were classified by genus. At each micro-transect pipe, total area surveyed ($m^2$), aquatic vegetation composition (%), and substrate composition (%) were recorded. Water depth (ft) and velocity (ft/s) data were collected in the middle of each micro-transect pipe using a portable flowmeter and adjustable wading rod. Water-velocity measurements were taken 15 cm from the bottom, mid-column, and at the surface. Standard water-quality parameters were also recorded once at each mesohabitat transect using a handheld water-quality sonde.

In shallow habitats, at least three seining transects were sampled within each monitoring segment (except for Landa Lake). At each of these, multiple seine hauls were pulled until the entire wadable area had been covered. After each seine haul, fish were identified, measured (mm), and enumerated. Total area surveyed ($m^2$) was visually estimated for each seining transect. Habitat data from each seine haul location included substrate and vegetation composition (%); water depth (ft); and velocity (ft/s) measured at 15 cm above the river bottom, at mid-column, and at the surface. Fish taxonomy herein follows the most recent guide published by the American Fisheries Society (AFS 2023).

## *Data Analysis*

To evaluate fish community results, all analyses were conducted using fishes identified to species; fishes identified to genus or family were excluded. Total counts of species from independent samples were first quantified as density (fish/$m^2$) to standardize abundance among the three gear types used.

Based on microhabitat sampling, temporal trends in Fountain Darter density were assessed per sampling event for each study reach for the past five years using boxplots and compared to their respective long-term (2014–present) medians and quartiles. Overall species richness and diversity using the Shannon's diversity index (Spellerberg and Fedor 2003) for each study segment was assessed for the past five years and plotted with bar graphs. Richness and relative density (%; [sum(species *x* density)/sum(all species density)]*100) of spring-associated fishes (Table 2) were also quantified and presented in the same manner as species richness and diversity.

**Table 2. Spring-associated fishes within the Comal Springs System based on Craig et al. (2016).**

| SCIENTIFIC NAME | COMMON NAME |
|---|---|
| *Dionda nigrotaeniata* | Guadalupe Roundnose Minnow |
| *Notropis amabilis* | Texas Shiner |
| *Astyanax argentatus* | Mexican Tetra |
| *Gambusia geiseri* | Largespring Gambusia |
| *Etheostoma fonticola* | Fountain Darter |
| *Etheostoma lepidum* | Greenthroat Darter |
| *Percina apristis* | Guadalupe Darter |
| *Percina carbonaria* | Texas Logperch |

# Comal Springs Salamander Surveys

In spring and fall, biologists performed timed visual surveys for Comal Springs Salamanders within the four following established sampling areas: Spring Run 1, Spring Run 3, Spring Island Spring Run, and Spring Island East Outfall (Figure 1). Eleven additional sampling events occurred during Critical Period and species-specific events triggered in July (n = 2), August (n =

4), September (n = 4), and October (n = 1). Timed surveys involved sampling from downstream to upstream within the extent of the sampling area. Biologists inspected under rocks within the top 5 cm of the substrate surface and within aquatic vegetation to quantify salamanders while moving upstream toward the main spring orifice. A dive mask and snorkel were utilized to view organisms, as depth permitted. Locations of all Comal Springs Salamander observations were recorded using pin flags. Following survey completion, and water depth (ft) and presence/absence of vegetation were noted to potentially serve as a baseline assessment of habitat parameters should the salamander population change significantly in subsequent sampling years. To account for any potential diel patterns in behavior, all surveys were initiated in the morning and completed by early afternoon.

Survey effort was previously fixed during routine sampling. Within Spring Run 1, a one-hour survey was conducted from the Landa Park Drive Bridge upstream to just below the head spring orifice. Spring Run 3 was surveyed for one hour from the pedestrian bridge closest to Landa Lake upstream to the second pedestrian bridge. Surveys in the Spring Island area were divided into the following two sections: (1) one 30-minute survey of Spring Island Run and (2) one 30-minute survey of the east outfall upwelling area on the east side of Spring Island near Edgewater Drive. Based on this, effort across all sites represents a total of 6 person-hours (p-h) under the established monitoring methodology. However, reduced habitat availability associated with low-flow conditions experienced in 2023 required modification in search times. Specifically, total survey effort at each site was adjusted relative to the percent of wetted habitats available for salamanders at a given sampling event. For example, if wetted habitats were reduced by 50% at Spring Run 1, a 50% reduction in survey time was implemented (i.e., 30 minutes).

## *Data Analysis*

Comal Springs Salamander counts and CPUE (salamanders/p-h) were used to assess seasonal and five-year trends, respectively. Data from all sampling events in 2023 were used for analysis despite varied search effort at each site. Since adjustments in search time were scalable, varied effort offset differences in total survey area, providing statistically valid comparisons in catch rates. Salamander counts were presented for each season using bar graphs and are compared with long-term (2001–present) spring, fall, high-flow event, and low-flow event averages. High-flow and low-flow event averages were calculated from Critical Period Events. These events are based on predetermined river discharge triggers (Appendix A), which result in additional survey events to assess flow-related impacts to the Comal Springs Salamander population. Temporal trends in salamander density were also assessed per sampling event for each sampling area for the past five years using bar graphs.

# Macroinvertebrates

## *Drift-net Sampling and Data Analysis*

Macroinvertebrate samples were collected via drift net at three sites in the Comal system. During each comprehensive sampling event, drift nets were placed over the major spring openings of Comal Spring Runs 1 and 3 and a moderate-sized spring upwelling (Spring 7) along the western shoreline of Landa Lake (Figure 1). Drift nets were anchored into the substrate directly over each spring opening, with the net faced perpendicular to the direction of flow. Net openings were circular with a 0.45-m diameter, and the mesh size was 100 micrometers (μm). The tail of the drift net was connected to a detachable, 0.28-m-long cylindrical bucket (200 μm mesh), which was removed at 6-hour intervals during sampling, after which cup contents were sorted and invertebrates removed in the field. The remaining bulk samples were preserved in ethanol and sorted later in the laboratory, where minute organisms that had been overlooked in the field were removed. All Comal Springs Riffle Beetles, Peck's Cave Amphipods, and Comal Springs Dryopid Beetles captured via drift net were returned to their spring of origin, with the exception of voucher organisms (fewer than 20 living specimens of each species identifiable in the field). All non-endangered invertebrates were preserved in 70% ethanol. Additionally, water-quality measurements (temperature, pH, conductivity, dissolved oxygen, and current velocity) were taken at each drift-net site using a water-quality meter and handheld flow meter.

The total numbers of endangered species at each site are presented in the results and a summary of total numbers for all taxa can be found in Appendix E. Temporal trends in *Stygobromus pecki* per cubic meter were assessed per sampling event for each sampling area over the past five years using boxplots and compared to their respective long-term (2003–present) medians and quartiles (25th and 75th percentile).

## *Comal Springs Riffle Beetle Sampling and Data Analysis*

Comal Springs Riffle Beetles were collected from three areas in the Comal River system during two routine sampling events in spring and fall. Three additional sampling events occurred during one Critical Period and two species-specific events triggered in July through October. Sampling followed the methods of the Cotton Lure standard operating procedure developed for the HCP (EAA 2017). This methodology consists of placing lures of 15x15 cm pieces of 60% cotton/40% polyester cloth into spring openings/upwellings in the Comal system, where they remain in situ for approximately 30 days. During this time, they become inoculated with local organic and inorganic matter, biofilms, and invertebrates, including Comal Springs Riffle Beetle. These lures were placed in sets of 10 in the following three areas: (1) Spring Run 3, (2) along the western shoreline of Landa Lake ("Western Shoreline"), and (3) near Spring Island. Due to declines in wetted habitats in the summer, alternate sampling methods were implemented during two low-flow sampling events to limit disturbance from over sampling. For the low-flow event from August 25th to September 11th, sets of 3 lures were placed in the most suitable habitat available at each site and remained in situ for about 15 days. For the third low-flow sampling event from mid-September through mid-October, the low-flow study design was modified to assess Comal Springs Riffle Beetle habitat use. The details of this modified study are described in Appendix I. Lures lost, disturbed, or buried by sedimentation were not included in subsequent analyses.

Numbered tags placed on the banks of Spring Run 3 and Western Shoreline were utilized, when possible, to identify lure locations.

Most Comal Springs Riffle Beetles collected with cotton lures were identified, counted, and returned to their spring of origin during each sampling effort. Some beetles were retained by SMARC personnel for genetic analysis or incorporation into the refugia program. A dissecting scope with a maximum magnification of 90x was used to correctly identify riffle beetles in the field. The sampling crew also recorded counts of *Microcylloepus pusillus*, Comal Springs Dryopid Beetle, and Peck's Cave Amphipod collected on lures. These and any other spring invertebrates collected on the lures were also placed back into their spring of origin. Crews utilized a mask and snorkel to place and remove lures in areas with deeper water depths.

Adult Comal Springs Riffle Beetle relative abundance (beetles/lure) were compared among seasons for each area using boxplots. In addition, seasonal observations were compared to five-year and long-term observations (2004–present). Temporal trends in relative abundance were also assessed per sampling event for each area for the past five years using boxplots and compared to their respective long-term (2004–present) medians and quartiles (25th and 75th percentile). Data collected during the three low-flow sampling with alternate methods were omitted from all analyses. Due to lower replicates and set times, these data were not statistically comparable with the other events, and were instead summarized for each event separately, based on total adult Comal Springs Riffle Beetle counts per site.

## *Rapid Bioassessment Sampling and Data Analysis*

Rapid bioassessment protocols (RBPs) are tools for evaluating biotic integrity and overall habitat health based on the community of organisms present (Barbour et al. 1999). Macroinvertebrates are the most frequently used biological units for RBPs because they are ubiquitous, diverse, and there is an acceptable working knowledge of their taxonomy and life histories (Poff et al. 2006, Merritt et al. 2008).

BIO-WEST performed sampling and processing of freshwater benthic macroinvertebrates, following Texas RBP standards (TCEQ 2014). Macroinvertebrates were sampled with a D-frame kick net (500 µm mesh) by disturbing riffle or run habitat (consisting primarily of cobble-gravel substrate) for five minutes while moving in a zig-zag fashion upstream. Invertebrates were then haphazardly distributed in a tray and subsamples were taken by scooping out haphazard portions of material and placing them into a separate sorting tray.

All macroinvertebrates were picked from the tray before another subsample was taken. This process was continued until a minimum of 140 individuals were picked to represent a sample. If the entire sample did not contain 140 individuals, the process was repeated again until this minimum count was reached. Macroinvertebrates were collected in this fashion from Upper Spring Run, Landa Lake, Old Channel, New Channel, and the Lower River reaches (Figure 1). Picked samples were preserved in 70% isopropyl, returned to the laboratory, and identified to established taxonomic levels (TCEQ 2014), usually genus. Members of the family Chironomidae (non-biting midges) and class Oligochaeta (worms) were retained at those taxonomic levels. The 12 ecological metrics of the Texas RBP benthic index of biotic integrity (B-IBI) were calculated for each sample. Each metric represents a functional aspect of the macroinvertebrate community related to ecosystem health, and sample values are scored from 1 to 4 based on benchmarks set by reference streams for the state of Texas. The aggregate of all 12 metric scores for a sample represent the B-IBI score for the reach that sample was taken from. The B-IBI point-scores for each sample are compared to benchmark ranges and are described as having aquatic-life-uses of "Exceptional", "High", "Intermediate", or "Limited". In this way, point-scores were calculated and the aquatic-life-use for each sample reach was evaluated. Temporal trends in B-IBI scores were assessed per sampling event for each reach during the past five years using bar graphs.

# RESULTS and DISCUSSION

In 2023, central Texas experienced a continuation of low precipitation and higher ambient temperatures observed in 2022. Exceptional (as designated by the National Weather Service [NWS]) drought conditions occurred through central Texas from January through August, covering large portions of the Hill Country. Drought conditions eased slightly to the NWS extreme classification during fall. As described in the next section, total river discharge in the Comal System was below median historical conditions for the entire year, continuing the trend observed in 2022. Flows declined to levels which have not been observed since 2014. Median and minimum mean daily discharge were lower in 2023 (121 and 55 cfs, respectively) than 2014 (135 and 65 cfs, respectively) and were both lower than other low-flow years in 2009, 2011, and 2013 (195–255 and 111–159 cfs, respectively). Despite the sustained low-flow conditions experienced in 2023, the majority of water quality parameters measured during Critical Period sampling were within the range of historical observations (Appendix B, Table B1 and B2; Crowe and Sharp 1997). Nitrate concentrations were similar to historical data (0.77–1.76 mg/L; Crowe and Sharp 1997) at most stations in both spring (i.e., Spring Runs, Landa Lake) and riverine (i.e., lower Old Channel and New Channel) habitats, with the exception of Spring Run 3 (1.82 mg/L). However, observed nitrate concentration at Spring Run 3 was still well below toxic concentrations (Boyd 2015). See Appendix B for a complete summary of water quality data collected during Critical Period low-flow sampling along with the low-flow triggered habitat evaluation memorandums.

Comal River discharge fluctuated throughout the year but had an overall decreasing trend from spring through late summer. The highest monthly median discharge was 191 cfs in May and the lowest monthly median discharge was 67 cfs in August. The declining flows triggered three full system habitat evaluations as documented in Appendix B. Habitat quality for the Covered Species varied spatially during the evaluations at these three flow tiers. Fountain Darter habitat quality (i.e., aquatic vegetation) was maintained in Landa Lake and Old Channel while conditions at Upper Spring Run were degraded. By August, the majority of bryophytes in Landa Lake were gone and *Ludwigia* was starting to go emergent. However, Fountain Darters still occurred in a majority of random dip-net points. Despite harsh low-flow conditions, the Old Channel continued to maintain high quality Fountain Darter habitat as vegetation coverage increased and it was the only reach to retain bryophytes. Habitat for Comal Springs Salamander (i.e., Spring Runs) and invertebrates (i.e., Spring Runs and Landa Lake's western shoreline) were noticeably reduced as water levels decreased. Most notably, the entire Comal Springs Salamander survey areas at Spring Run 1 and the spring run on Spring Island were dry during these low-flow evaluations. By mid-August, lower than average discharge coupled with summertime conditions resulted in elevated water temperatures in Blieders Creek and locations further downstream from spring flow orifices.

In summary, total river discharge in the Comal System in 2023 was the lowest since the inception of biological monitoring in 2000. Based on past low-flow conditions observed in 2014, it remains important to keep tracking the system-wide Fountain Darter and surface-dwelling invertebrate habitat conditions as these lower-than average discharge levels continue to persist. The remaining sections of the Results and Discussion describe current trends in river discharge, water temperature, Covered Species populations, and select floral and faunal communities through the Comal Spring/River System during this low-flow year.

## River Discharge and Springflow

Over the last five years, annual medians of mean daily discharge in the Comal River decreased from 2019 (358 cfs) to 2023 (121 cfs). Maximum discharge was lowest in 2023 (263 cfs) and highest in 2021 (1,850 cfs). The maximum mean daily discharge of 1,850 cfs in 2021 was a $99^{th}$ percentile discharge magnitude and the only high flow pulse that exceeded 1,000 cfs during this time period. Minimum discharge was lowest in 2022 (89 cfs) and 2023 (55 cfs). Variation in discharge (i.e., interquartile range) was greatest in 2022 (132 cfs), compared to more stable flow conditions in 2020 (55 cfs), 2023 (56 cfs), and 2021 (27 cfs) (Figure 4A).

Monthly medians of mean daily discharge were comparable to or below their respective long-term 10th percentiles the entire year. Monthly median discharge decreased from January (127 cfs) to March (120 cfs) and increased from April (143 cfs) to May (191 cfs), which represented the highest flows across months. Following May, median discharge descended from June (164 cfs) to the annual minimum in August (67 cfs). Median monthly discharge then increased in September (72 cfs) and October (90 cfs). Median monthly discharge was only above long-term 10th percentiles in May (+11 cfs) and June (+20 cfs) and was below this threshold the remainder of the year (-22 cfs in July to -83 cfs in March). Flows varied little during most months with interquartile ranges frequently below 20 cfs. Variation in discharge was highest in May (interquartile = 52 cfs) and lowest from August to October (interquartile = 3–7 cfs) (Figure 5B).

Cross-section discharges in spring habitats were below historical means in 2023 and mostly decreased from spring to fall. Discharge fell to 0 cfs for all fall measurements at Upper Spring Run, Spring Run 1, and Spring Run 2, while Spring Run 3 discharge slightly increased from summer to fall. All stations in Comal Springs exhibited discharges below lower confidence interval boundaries in spring and fall. However, flow regulation at the Landa Lake culverts regulate discharge in the Old Channel and result in more consistent discharge patterns in the Old Channel than in spring run habitats. Since contribution from spring runs declined, percent total discharge increased within the Old Channel. Lastly, it is important to note that lower historical averages in summer versus spring and fall within the spring runs is a result of the fact that discharges in the summer are only measured when low-flow triggers are met (Figure 5).

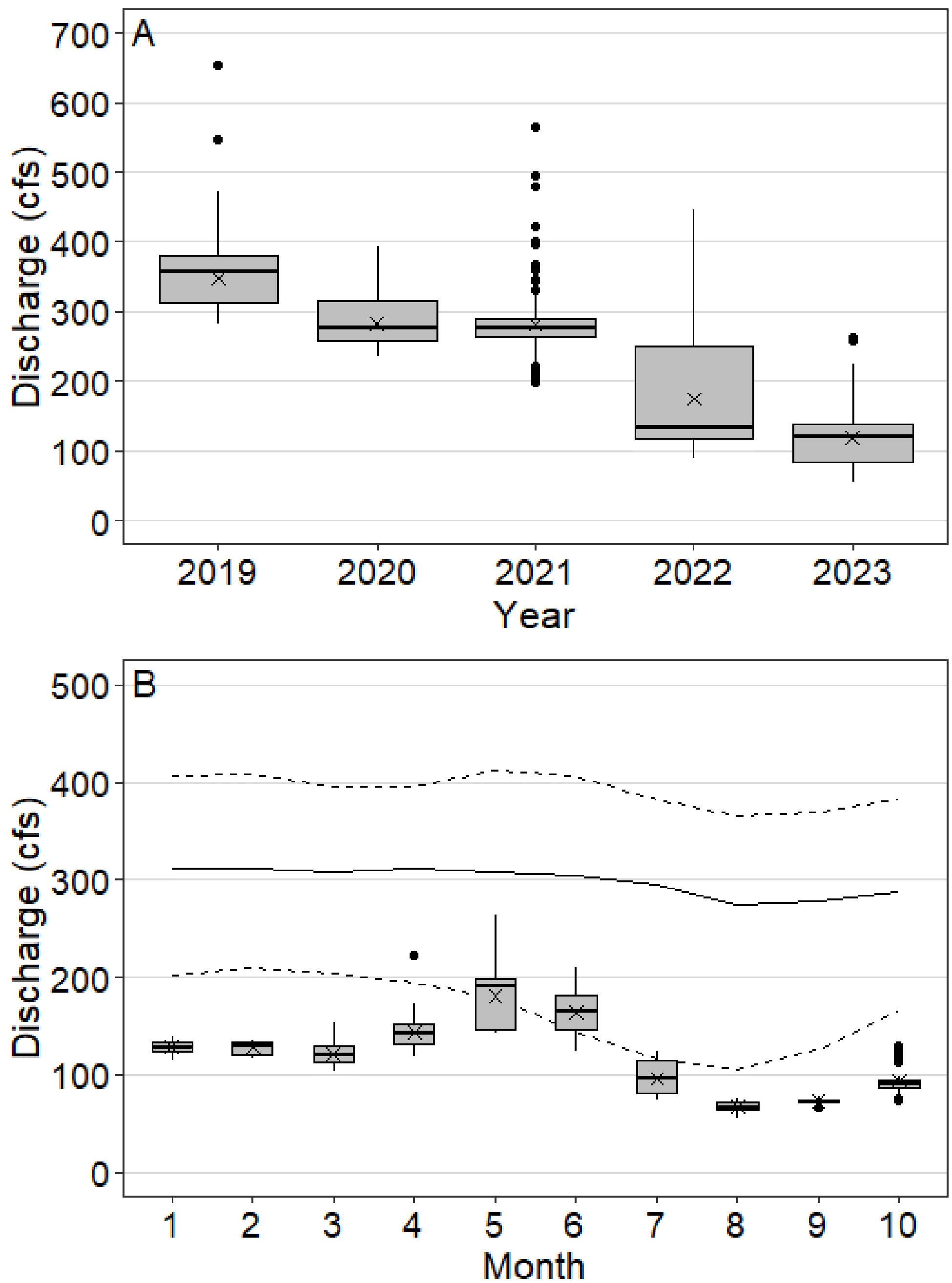


**Figure 4.** **Boxplots displaying Comal River mean daily discharge annually from 2019-2023 (A) and among months (January–October) in 2023 (B). Each month is compared to the 10th percentile (lower dashed line), median (solid line), and 90th percentile (upper dashed line) of their long-term (1956–2023) daily means. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range, and outliers beyond this are designated with solid black circles. One outlier for year 2021 in panel A is not shown (1,850 cfs).**

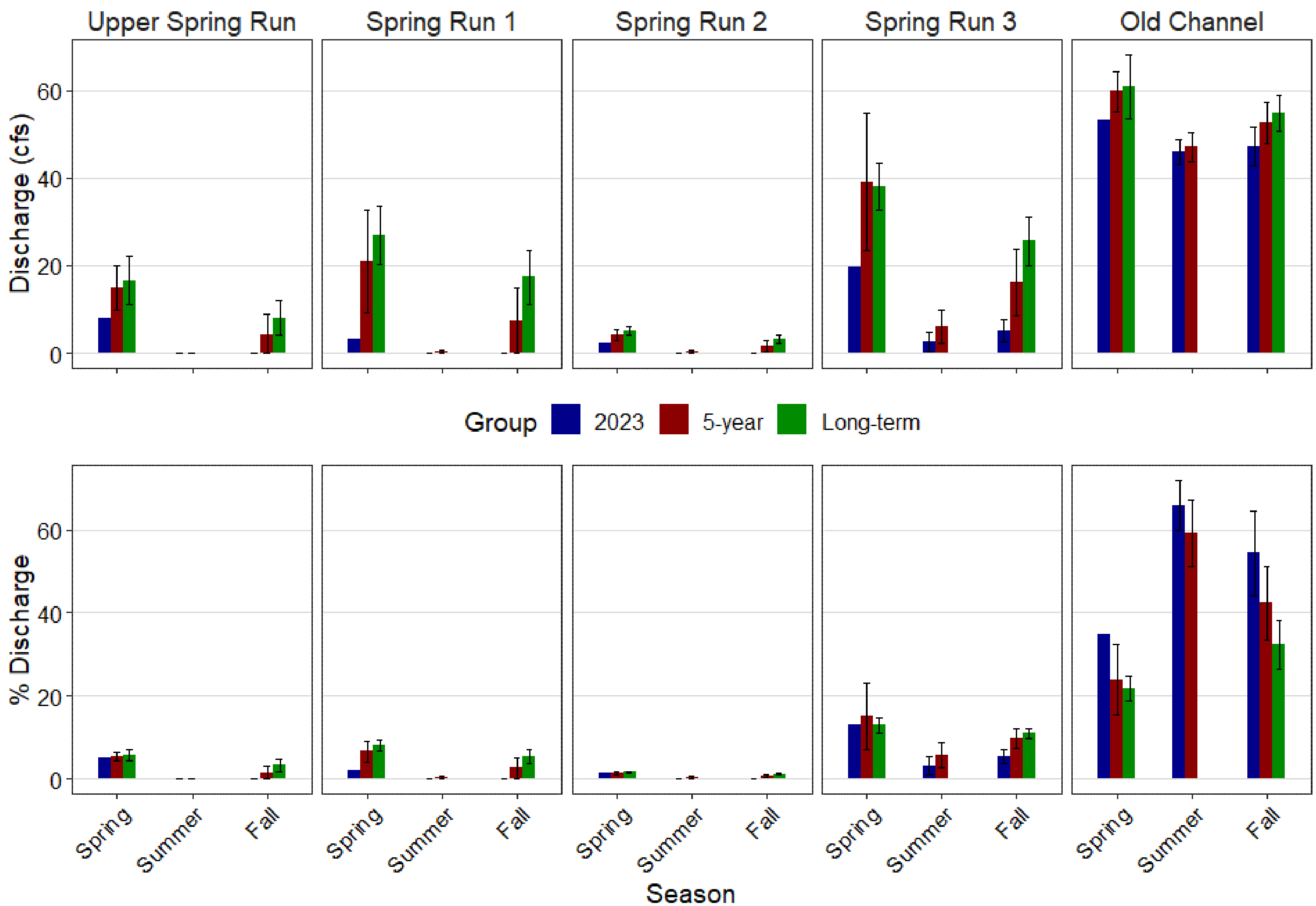


**Figure 5.** **Current (blue bars), five-year (2019–2023; red bars), and long-term (2003–2023; green bars) discharge and percent total discharge based on spring and fall cross-section measurements in the Comal Springs/River. Due to the heightened drought conditions during the summer season, Upper Spring Run, Spring Run 1, and Spring Run 2 experienced zero flow (Upper Spring Run) or dry conditions (Spring Runs 1 and 2). Five-year and long-term values are represented as means and error bars denote 95% confidence intervals.**

Routine spring sampling occurred in May, when daily discharge ranged from 142–261 cfs. Discharge during summer sampling in July ranged from 74–124 cfs. Flows below 100 cfs in July triggered Critical Period sampling, which in addition to routine summer sampling, included discharge measurements, fixed station photography, water quality grab sampling, aquatic vegetation mapping, Fountain Darter drop-netting and visual surveys, salamander surveys, fish community sampling, and Comal Springs Riffle Beetle surveys. Discharge decreased further in July, requiring full-system habitat assessments and species-specific sampling for Comal Springs Riffle Beetle and Comal Springs Salamander. In August, discharge declined to a low of 55 cfs, triggering increased species-specific sampling for Comal Springs Salamander and Comal Springs Riffle Beetle that continued through October. As mentioned previously, mean daily discharge during fall sampling in October was below the long-term 10th percentile, ranging from 111-128 cfs (Figure 5B).

## Water Temperature

Median water temperature during 2023 was similar among stations, varying about 1 °C and ranging from 23.4 °C at Spring Run 2 to 24.2 °C at Blieders Creek. Patterns in water temperature variability depended on station location within the system. Higher variation in water temperature (i.e., interquartile range) at Blieders Creek (6.6 °C) was unique compared to all other stations and directly related to this drainage receiving no springflow contributions. Spring runs and Landa Lake represented more stable environments within the Comal system and mostly varied by less than 1.0 °C. Variability was higher at Heidelberg (1.2 °C) and Booneville Far (1.2 °C), which was not surprising given that springflow was extremely low or zero near these stations through much of the year. Riverine stations were more variable than spring environments, exhibiting a longitudinal gradient, where variation (i.e., interquartile range) increased from Old Channel (1.7 °C) and New Channel Upstream (1.7 °C) to New Channel Downstream (2.5 °C) and Other Place (3.2 °C) (Figure 6). Longitudinal trends in 2023 met expectations based on previous years and are typical within spring-associated ecosystems, where water temperatures increase in magnitude and variation farther downstream from spring inputs (Groeger et al. 1997, Kollaus and Bonner 2012).

Fountain Darter maximum optimal egg or larvae production thresholds were not exceeded at six stations, which included spring run stations, Landa Lake stations, and Booneville Near. The remaining seven stations exceeded both egg and larvae thresholds at times. Total number of days water temperatures exceeded the Fountain Darter larval production threshold ranged from 49 to 140 days. Total days of exceedance was ~50 days at Blieders Creek and Heidelberg, 113 days at Booneville Far, and ~100–140 days at riverine stations. Across all stations, median total days of larval production exceedance per month generally increased from February (1 day) to June (29 days) and remained high in August (25 days) and September (28 days) before decreasing by October (5 days). In June, August, and September, total 4-hour measurements above this threshold per day was mostly 1–3 measurements and only consistently reached 4 per day at Heidelberg. Data was missing in July across most stations due to malfunctions in the data loggers.

Among stations where the Fountain Darter egg production threshold was exceeded, water temperatures exceeded the threshold from March to October and ranged from 33 to 116 days of exceedance per station. Total days of exceedance was 33 days at Booneville Far, ~70–90 days at

Heidelberg and riverine stations, and 116 days at Blieders Creek. Across all stations, median total days of egg production exceedance per month generally increased from March (0 days) to August (31 days) and decreased by October (2 days). In August, the daily number of 4-hour measurements above this threshold were about 2/day at Booneville Far and Old Channel, 3–4/day at New Channel stations and Blieders Creek, consistently reached 4/day at Heidelberg, and hit about 5/day at Other Place.

Among study reaches, the 26 °C optimal egg production threshold was not exceeded at Landa Lake from 2020-2023, but frequency of exceedance increased at some study reaches during the low-flow conditions of 2022 and 2023. For example, at the Heidelberg station (located within the Upper Spring Run study reach), the egg production threshold was not exceeded in 2020 or 2021 but was exceeded for four days in 2022 and 67 days in 2023. At New Channel Upstream, the egg production threshold was not exceeded in 2020 or 2021 but was exceeded for 44 days in 2022 and 74 days in 2023. At Old Channel, the egg production threshold was not exceeded in 2020 but was exceeded for five days in 2021, 75 days in 2022, and 89 days in 2023. However, despite water temperatures more commonly exceeding maximum optimal egg and larval production thresholds, direct negative effects of warmer temperatures on the Fountain Darter population was not observed in population monitoring data from 2023. Instead, habitat degradation from continued low-flow conditions more likely had an indirect negative effect on the population in select locations, due to decreased coverage of suitable vegetation taxa (see Fountain Darter sections for further discussion). That said, elevated water temperatures could potentially have nonlethal effects by decreasing fitness and leading to reductions in subsequent reproductive output.

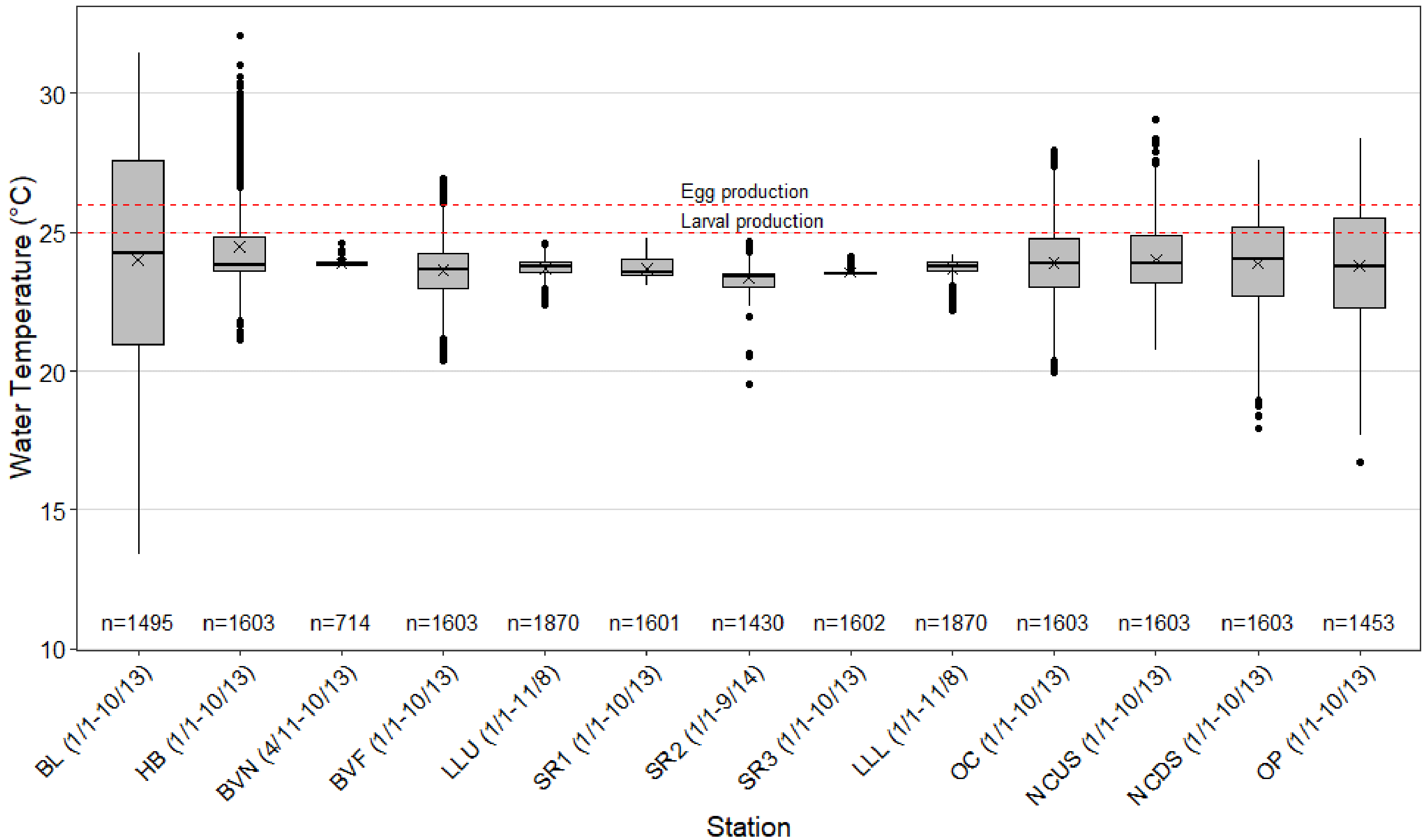


**Figure 6.** **Boxplots displaying 2023 water temperatures at logger stations (data collection timeframe [Month/Day]). Data are based on measurements collected at 4-hour increments. Stations include Blieders Creek (BL), Heidelberg (HB), Boonville Near (BVN), Boonville Far (BVF), Landa Lake Upper (LLU), Spring Run 1 (SR1), Spring Run 2 (SR2), Spring Run 3 (SR3), Landa Lake Lower (LLL), New Channel Upstream (NCUS), New Channel Downstream (NCDS), and Other Place (OP). The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range, and outliers beyond this are designated with solid black circles. The "n" values along the x-axis represent the number of individual temperature measurements in each category. The red dashed lines indicate maximum optimal temperatures for Fountain Darter larval (≥25 °C) and egg (≥26 °C) production (McDonald et al. 2007).**

# Aquatic Vegetation

## *HCP Benchmark Full System Mapping*

The HCP full system baseline vegetation mapping occurred in February to March 2023 and marks the third HCP benchmark mapping event since implementation of the EAHCP. Previous benchmark mapping events occurred in 2013 and 2018. In each event, aquatic vegetation was mapped from Blieders Creek at Klingemann Street to the Guadalupe River confluence. From 2013 to 2018, there was an increase in percent composition of native aquatic vegetation. Non-native *Hygrophila* decreased, whereas native species such as *Sagittaria*, *Cabomba*, and *Ludwigia* increased in relative percent composition (BIO-WEST 2018). In addition to natural variation in the system, changes were linked to HCP restoration activities through the removal of non-native species and planting of native species.

From 2018 to 2023, Comal River discharge generally decreased. In 2018, the Comal River system experienced flows near the historical median (~300 cfs), then flows generally declined from 2019 through 2023 (see Figure 4A). Changes in the aquatic vegetation community evident between 2018 and 2023 were likely influenced by a variety of factors including continued EAHCP restoration activities, reduced flows, and a few high flow pulses over this timeframe. The total vegetation coverage in 2018 (excluding bryophytes) was approximately 73,000 $m^2$, while the total vegetation coverage in 2023 exceeded 85,000 $m^2$ (Table 3). This increase was mostly attributed to the expansion of *Hygrophila* and *Sagittaria* (Figure 7). The expansion of *Hygrophila* occurred primarily in the Old Channel below the study reach and in the lower Comal River below San Antonio Street Bridge. The expansion of *Sagittaria* also contributed to the overall increase in vegetation coverage and occurred in Landa Lake and Upper Spring Run. Other native species with notable increases between years include *Justicia americana* and *Hydrocotyle verticillata.* The macroalgae *Chara* was also more abundant in the upper portions of the system, likely a response to decreased flows and velocity.

There were also notable decreases among some taxa between 2018 and 2023. Bryophyte coverage system-wide had the largest overall reduction of any species and decreased from 30,303 $m^2$ in 2018 to 9,385 $m^2$ in 2023. However, bryophytes are more sensitive to changes in flow conditions so comparisons over a five year span are difficult, especially during this low-flow year. *Vallisneria* decreased from 31,882 $m^2$ to 29,013 $m^2$ which was the most substantial drop among a single species of rooted vegetation. Declines in *Vallisneria* coverage were largely attributed to slower current velocities in Landa Lake caused by low flows. Overall, although restoration activities have removed non-native *Hygrophila* from the study reaches and replaced it with native vegetation, benchmark full system mapping shows that system-wide coverage of rooted aquatic vegetation (including non-natives) increases during periods of below average springflow. As previously noted, non-rooted taxa such as bryophytes are more heavily influenced by flow conditions.

**Table 3. A comparison of the notable changes in rooted aquatic vegetation assemblages observed in the 2013, 2018, and 2023 HCP Benchmark mapping events.**

| Taxa | 2013 Coverage ($m^2$) | 2018 Coverage ($m^2$) | 2023 Coverage ($m^2$) |
|---|---|---|---|
| *Cabomba* | 8,195 | 9,129 | 10,338 |
| *Hygrophila* | 26,612 | 13,796 | 22,424 |
| *Ludwigia* | 1,859 | 3,028 | 2,505 |
| *Nuphar* | 4,316 | 1,387 | 1,463 |
| *Sagittaria* | 7,330 | 10,061 | 14,186 |
| *Vallisneria* | 37,886 | 31,882 | 29,013 |
| Other species | 3,535 | 4,117 | 5,497 |
| **Total coverage** | **89,733** | **73,400** | **85,426** |

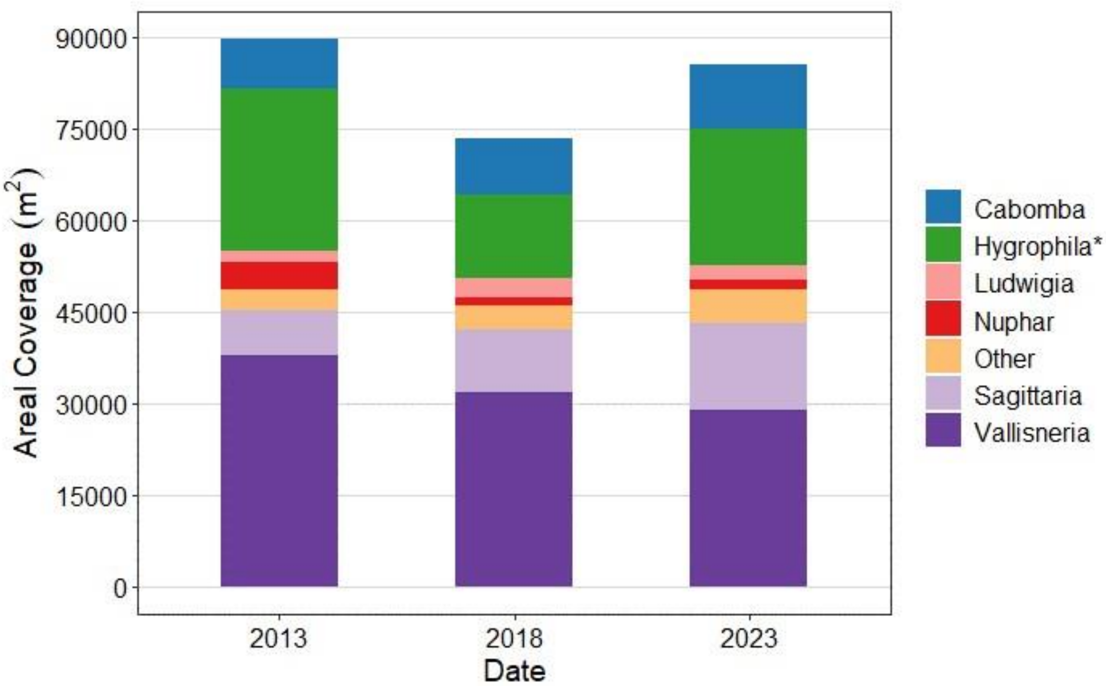


**Figure 7. Rooted aquatic vegetation ($m^2$) composition among taxa from HCP benchmark mapping events in the Comal Springs and River in 2013, 2018, and 2023.**

## *Long-term Biological Goal Reach Mapping*

Long-term biological goal reach mapping occurred in spring and fall, as well as low-flow events in July and August.

### *Upper Spring Run Reach*

In 2023, the Upper Spring Run reach was impacted heavily by low springflow conditions due to the continued drought. As a result, both spring and fall vegetation cover were below their respective long-term averages yet still remained higher than the low-flow average (Figure 8). Across all four mapping events, aquatic vegetation coverage remained similar with the highest coverage in the fall (1,668 $m^2$) and lowest coverage in the August low-flow event (1,426 $m^2$) (Figure 8). *Sagittaria* continued to be the most dominant plant taxa regardless of flow conditions, although *Cabomba* increased throughout the year to a maximum of 149 $m^2$ in the August low-flow event. The continued expansion of *Cabomba* was likely a result of higher sediment deposition and lack of scour due to consistent low flows. These conditions also favored the growth of the macroalgae, *Chara*, which increased to 365 $m^2$ (Figure 9). Benthic and epiphytic algae, dominated by *Spirogyra*, were prominent in spring (660 $m^2$) and the July low-flow event (251 $m^2$), but reduced considerably by the August low-flow event (63 $m^2$). However, algae increased again to 235 $m^2$ by fall. Bryophytes were largely absent across all mapping events. Reduced bryophyte coverage were influenced by low flows in 2022 and 2023, but also represent a continuation of the declining trend in this reach observed since 2019, despite more typical flow conditions in 2019-2020 (Figure 9).

## Landa Lake Reach

Aquatic vegetation coverage in Landa Lake typically exhibits less annual variability and less impact from flow disturbance events compared to other study reaches. Results in 2023 were no exception, with both spring and fall similar in total coverage (13,923–14,445 $m^2$). However, both were well below their respective seasonal averages (Figure 8). Landa Lake was dominated by *Vallisneria* and *Sagittaria*. *Vallisneria* usually accounts for greater than 50% of the total coverage and both of these strongly-rooted species tend to remain consistent in coverage across seasons (BIO-WEST 2001-2023). While *Vallisneria* continued to expand in areas where velocity remained consistent, reduced water velocity in some areas caused *Vallisneria* to retreat slightly. In addition to reduced water velocities, HCP restoration activities (i.e., benthic barriers) contributed to slight reductions in *Vallisneria* coverage. Denuded areas appeared below the Landa Lake islands and along the eastern edge. Reduction of *Vallisneria* in these areas allowed other competitors (i.e., *Cabomba*) to expand. Expansion of *Cabomba* occurred as a result of natural reductions in *Vallisneria* and active planting related to HCP restoration activities. *Cabomba* coverage began increasing in fall 2022. By the July 2023 low-flow mapping event, *Cabomba* covered over 1,000 $m^2$ and persisted above 900 $m^2$ for the remainder of the year. In contrast, *Cabomba* ranged from 239 $m^2$ to 432 $m^2$ in previous years with higher flow (e.g., 2019-2021). Bryophytes were not abundant in Landa Lake during any mapping event and continued to follow the decreasing trend of recent years (Figure 9). Epiphytic and benthic algae were present in varying abundance throughout Landa Lake. The annual Comal River Restoration Report provides more information regarding the restoration of native vegetation in the Landa Lake reach (BIO-WEST 2023b).

## Old Channel Reach

Total rooted vegetation in the Old Channel reach in 2023 remained below long-term averages. The highest vegetation coverage occurred in fall (198 $m^2$) and the lowest coverage occurred in the July low-flow event (124 $m^2$) (Figure 8). Although rooted vegetation coverage slightly decreased, bryophytes were abundant. Bryophyte coverage increased from spring (544 $m^2$) to the August low-flow event (652 $m^2$), and decreased in fall (581 $m^2$). This coverage was not represented in total areal coverage calculations, which exclusively quantify rooted vegetation (Figure 9). Bryophytes were dense along the bare stream bed as well as within rooted vegetation.

As a result of smothering by bryophytes, large reductions in *Cabomba* occurred by spring 2023 (Figure 9). Coverages in the past several years being well below long-term averages were due to *Hygrophila* historically dominating the reach prior to restoration, whereas non-rooted bryophytes now dominate. Therefore, lower coverages should not be interpreted as an indicator of degraded conditions, but instead represent an improvement in Fountain Darter habitat conditions within this reach.

### *Upper New Channel Reach*

In 2023, both spring and fall mapping showed higher than average vegetation coverage in the Upper New Channel (Figure 8). Spring vegetation coverage was 1,195 $m^2$ and decreased during the summer low-flow events to 605 $m^2$ but increased again to 1,801 $m^2$ by fall. Heavy recreation in this reach likely impacted aquatic vegetation coverage during summer months, but coverage quickly rebounded in fall. Aquatic vegetation in this reach has benefited from the prolonged absence of flood pulses within the Dry Comal Creek watershed. Additionally, *Cabomba* increased from spring to fall. Although bryophytes remained abundant in the reach through most of the year, this vegetation type was greatly reduced by fall and almost entirely replaced by filamentous algae, which was noted as unusually abundant in the reach during fall 2023 (Figure 9).

### *Lower New Channel Reach*

The spring and fall coverages for 2023 in the Lower New Channel were similar to or greater than their respective long-term averages, with a decreasing trend from spring to fall (Figure 8). Vegetation coverage was 2,677 $m^2$ in spring and remained similar through the July low-flow mapping event. However, by August, vegetation coverage was substantially reduced to 484 $m^2$ (Figure 8). This was a direct result of high recreation and reduced water depth (approximately 2 ft in most areas), allowing recreators to walk along the bottom. A large decrease in *Cabomba* was the driving factor in reduction of overall vegetation coverage. The two dominant species in this reach, *Cabomba* and *Hygrophila*, lose biomass during high flows and recreation, but can quickly recover once river conditions stabilize. This was observed in 2023 as spring, July, and August mapping all trended consecutively lower, with a subsequent gain in vegetation coverage in fall (2,193 $m^2$) (Figure 8 and 9).

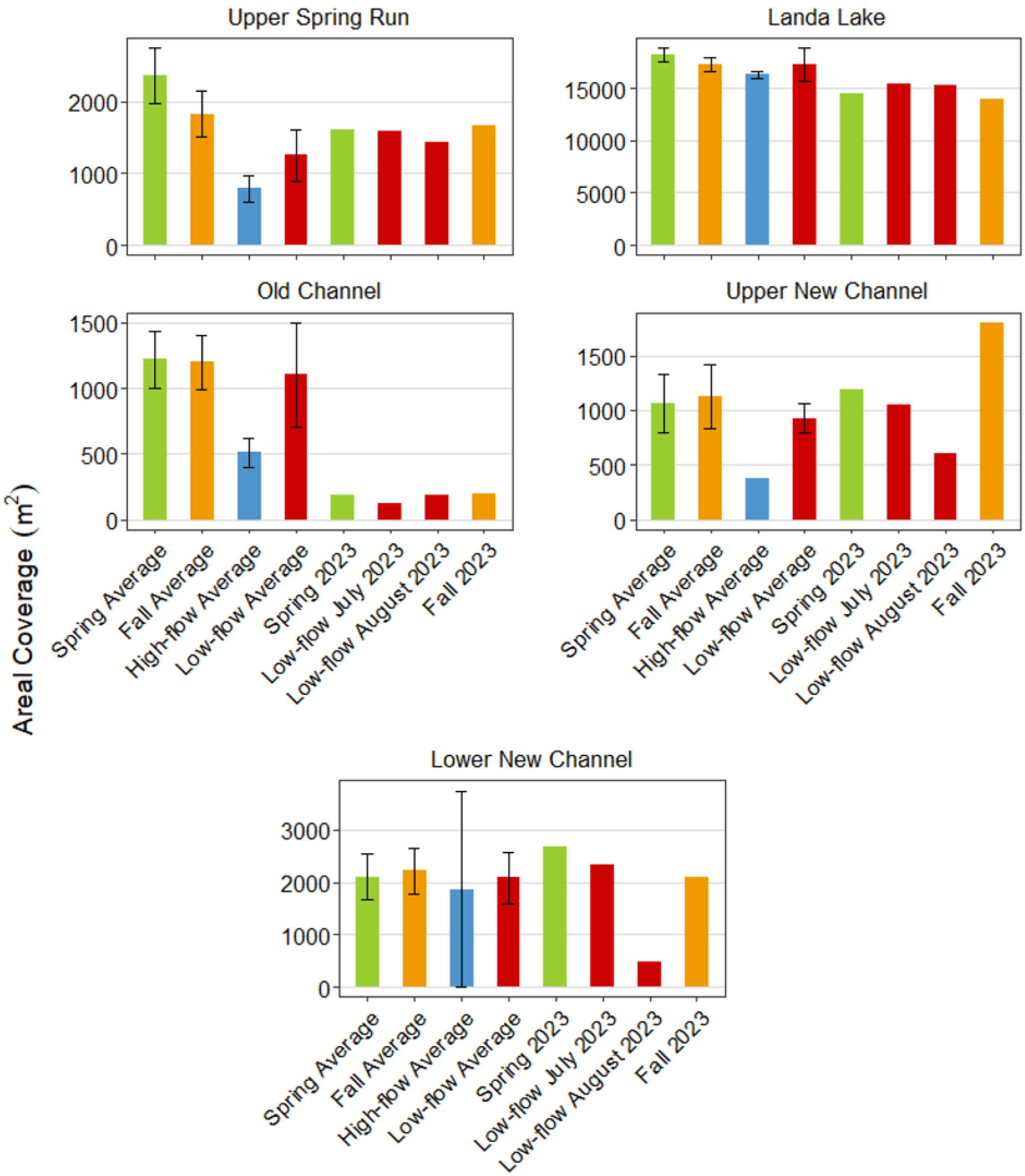


**Figure 8.** **Areal coverage (m$^2$) of rooted aquatic vegetation among study reaches in the Comal Springs/River. Long-term (2001–2023) study averages are provided with error bars representing 95% confidence intervals.**

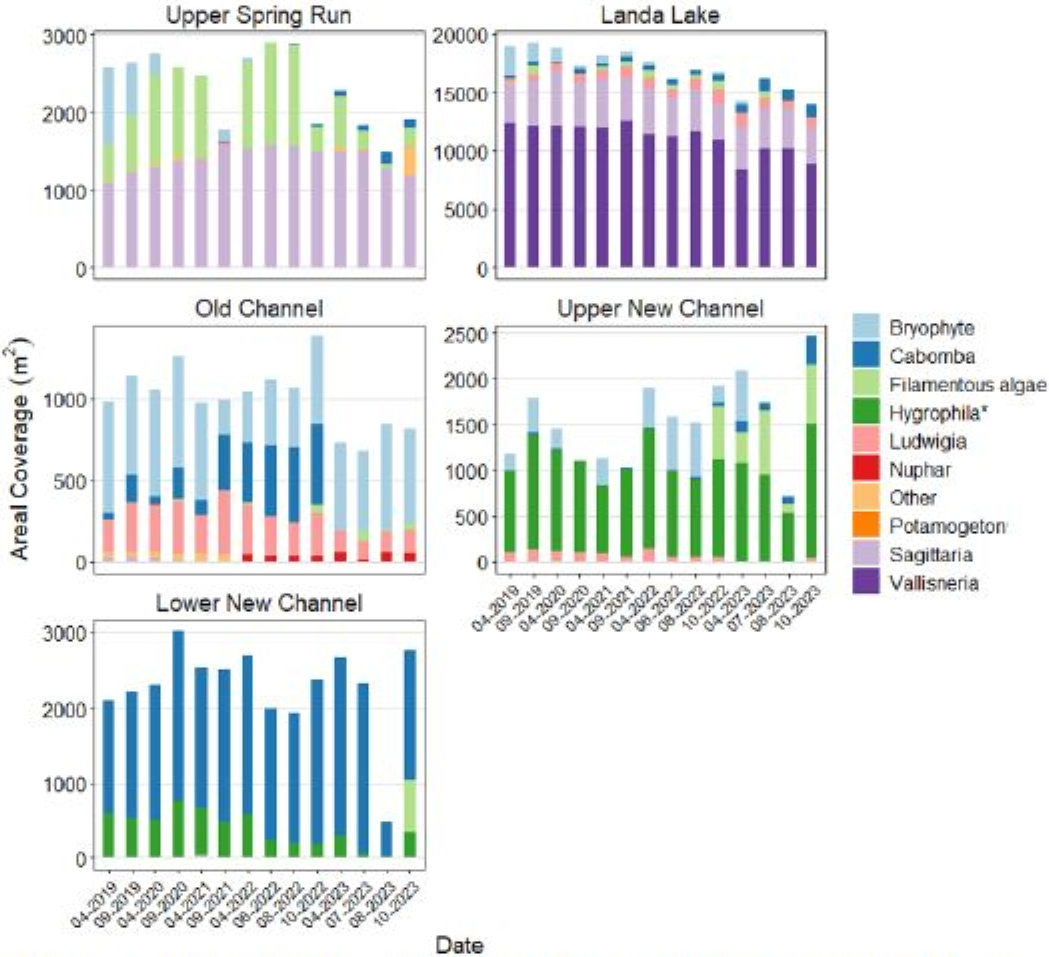


**Figure 9.** **Aquatic vegetation coverage (m²) among taxa from 2019–2023 in the Comal Springs/River. (*) in the legend denotes non-native taxa.**

## Fountain Darter

A total of 2,472 Fountain Darters were observed at 124 drop-net samples in 2023. Drop-net densities ranged from 0.00–134.00 darters/m$^2$. Community summaries and raw drop-net data are included in appendices E and G, respectively. Habitat conditions observed during drop-netting can be found in Table 4. Timed dip-netting resulted in a total of 1,056 Fountain Darters during 15 person-hours (p-h) of effort. Site CPUE ranged from 14–182 darters/p-h. Fountain Darters were detected at 222 out of 300 random-stations and reach-level percent occurrence among monitoring events ranged from 0–100%. A summary of occurrences per reach and vegetation taxa can be found in Table 5. Visual surveys in Landa Lake resulted in 76 darters observed and densities ranged from 2.95–3.72 darters/m$^2$ (bryophyte coverage = 10–30%) (Appendix E, Figure E11).

**Table 4. Habitat conditions observed during 2023 drop-net sampling in the Comal Springs/River. Physical habitat parameters include counts of dominant vegetation (median % composition) and dominant substrate type sampled. Depth/velocity and water quality parameters include medians (min-max) of each variable among all drop-net samples.**

| HABITAT PARAMETERS | USR | LL | OC | NC |
|---|---|---|---|---|
| **Vegetation** | | | | |
| *Bryophyte*[1] | 2 (70%) | 4 (80%) | 6 (100%) | 4 (75%) |
| *Cabomba*[1] | 4 (100%) | 6 (100%) | 0 | 4 (100%) |
| Filamentous algae[1] | 4 (100%) | 2 (85%) | 0 | 0 |
| *Hygrophila*[1] | 0 | 0 | 0 | 6 (100%) |
| *Ludwigia*[1] | 6 (90%) | 6 (100%) | 6 (100%) | 2 (95%) |
| Open | 6 (100%) | 6 (100%) | 6 (100%) | 4 (100%) |
| *Sagittaria*[2] | 6 (100%) | 6 (100%) | 0 | 0 |
| Vallisneria[2] | 0 | 6 (100%) | 0 | 0 |
| **Substrate** | | | | |
| Cobble | 3 | 3 | 1 | 0 |
| Gravel | 17 | 6 | 6 | 1 |
| Sand | 0 | 3 | 1 | 4 |
| Silt | 8 | 24 | 10 | 15 |
| **Depth-velocity** | | | | |
| Water depth (ft) | 1.9 (0.2–3.4) | 2.3 (0.7–3.8) | 2.8 (1.3–3.1) | 2.6 (1.0–3.8) |
| Mean column velocity (ft/s) | 0.0 (0.0–0.2) | 0.0 (0.0–0.4) | 0.2 (0.0–0.7) | 0.1 (0.0–0.9) |
| 15-cm column velocity (ft/s) | 0.0 (0.0–0.1) | 0.0 (0.0–0.2) | 0.0 (0.0–0.5) | 0.1 (0.0–0.6) |
| **Water quality** | | | | |
| Water temperature (°C) | 23.7 (20.6–26.9) | 23.8 (20.9–26.5) | 25.4 (22.3–26.9) | 23.5 (21.8–26.2) |
| DO (mg/L) | 6.4 (4.7–10.2) | 7.5 (4.2–11.5) | 9.7 (8.3–11.2) | 8.7 (2.9–10.7) |
| DO % saturation | 74.3 (55.2–124.9) | 87.8 (36.7–107.0) | 111.3 (100.0–137.7) | 103.3 (9.3–113.2) |
| pH | 7.4 (7.3–8.3) | 7.4 (7.0–7.8) | 7.7 (7.6–7.9) | 7.8 (7.5–9.5) |
| Specific conductance (µs/cm) | 565 (554–680) | 567 (561–655) | 563 (540–583) | 566 (562–632) |

[1]Denotes ornate vegetation taxa with complex leaf structure
[2]Denotes long broad or ribbon-like, austere-leaved vegetation taxa

**Table 5. Summary of vegetation types sampled among reaches during 2023 random-station surveys in the Comal Springs/River and the percent occurrence of Fountain Darters in each vegetation type and reach. Raw numbers represent the sum of detections per reach-vegetation type combination.**

| VEGETATION TYPE | USR | LL | OC | NC | Total | Occurrence (%) |
|---|---|---|---|---|---|---|
| Bryophyte[1] | 0 | 1 | 66 | 0 | 67 | 98.5 |
| *Cabomba*[1] | 2 | 22 | 0 | 30 | 54 | 72.2 |
| *Chara*[1] | 2 | 0 | 0 | 0 | 2 | 50.0 |
| Filamentous algae[1] | 4 | 0 | 0 | 0 | 4 | 100.0 |
| *Ludwigia*[1] | 0 | 24 | 53 | 0 | 77 | 84.4 |
| *Nuphar*[2] | 0 | 0 | 1 | 0 | 1 | 100.0 |
| *Potamogeton*[2] | 0 | 1 | 0 | 0 | 1 | 0.0 |
| *Sagittaria*[2] | 22 | 37 | 0 | 0 | 59 | 42.4 |
| *Vallisneria*[2] | 0 | 35 | 0 | 0 | 35 | 60.0 |
| **Total** | 30 | 120 | 120 | 30 | 300 | 74.0 |
| **Occurrence (%)** | 23.3 | 70.0 | 94.2 | 60.0 | - | - |

[1]Denotes ornate vegetation taxa with complex filamentous or leaf structure
[2]Denotes long broad or ribbon-like, austere-leaved vegetation taxa

## *Population Demography*

### *Seasonal population trends*

Median Fountain Darter density in 2023 was higher in the spring (7.00 darters/$m^2$) and summer (6.50 darters/$m^2$) than fall (0.50 darters/$m^2$). Variation in density (i.e., interquartile range) was also lowest in fall (4.75 darters/$m^2$) compared to other seasons (17.50–24.00 darters/$m^2$) (Figure 10A). Current median CPUE was also high in spring (101 darters/p-h) and decreased from summer (54 darters/p-h) to fall (46 darters/p-h) (Figure 10B). Median occurrence also decreased from spring (100%) to fall (25%) (Figure 10C). In addition, random dip-net sampling in January represented the first winter event (not shown in Figure 10) and had the second highest median occurrence rate (73%) in 2023. All three indices aligned with 5-year and long-term trends in spring and summer, though were lower than expected in fall. Differences were minor for density and catch rates compared to occurrence, which was 35% lower than its 5-year median in fall. Also of note, 2023 density data were more closely aligned with the 5-year data than the long-term (see next section for more details) (Figure 10).

In summary, patterns in population performance aligned with historical data in all seasons but fall. Densities and catch rates were not substantially lower than past observations, which may be best explained by spatial variation in population responses. For example, catch rates were generally lower than expected across all reaches except New Channel. Spatial patterns in density were similar, demonstrating that despite lower index values in some areas, increases in New Channel helped resist substantial population declines overall (see next section for further discussion). In contrast to density and catch rates, fall occurrence rates were much lower than historical expectations, possibly due to several factors. First, no darters were observed at Upper Spring Run. Habitat conditions are currently poor in this reach which has experienced limited to zero springflow the past two years (BIO-WEST 2023a). Second, percent occurrence at Landa Lake was also lower than expected, possibly due to lower overall habitat suitability this year.

Lower darter prevalence may also in part be explained by the location of randomized samples within suitable vegetation (e.g., *Cabomba* near the slough arm). Regardless of potential effects of spatial stochasticity, low flows appear to have impacted Landa Lake, though previous low-flow sampling provide reasonable optimism that the population will rebound (Figure E8).

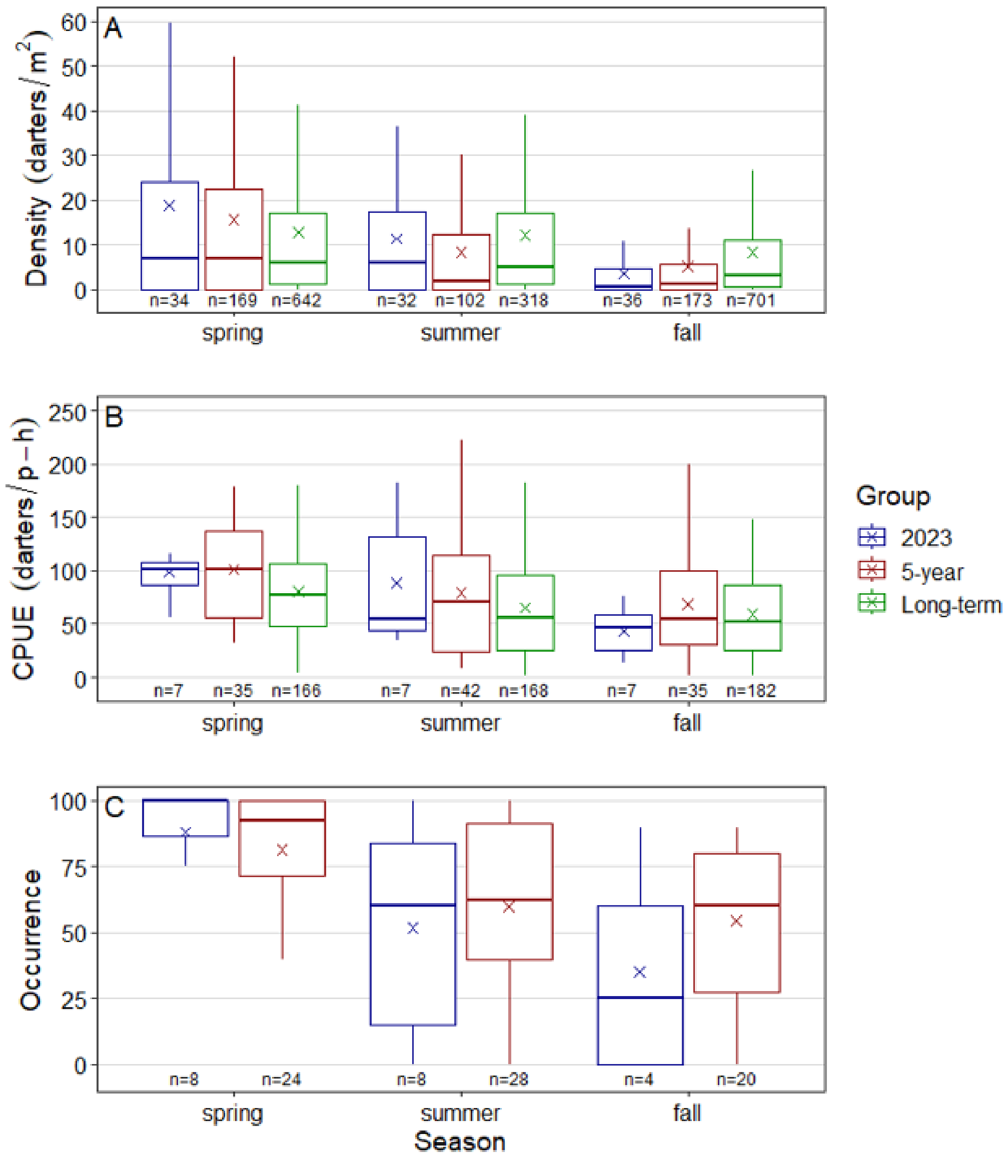


**Figure 10.** **Boxplots comparing Fountain Darter density from drop-net sampling (A), catch-per-unit-effort (CPUE) from timed dip-netting (B), and percent occurrence from random station dip-netting (C) among seasons in the Comal Springs/River. Temporal groups include 2023, 5-year (2019–2023), and long-term (2001–2023) observations. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent the number of samples per category.**

### ***Drop-net sampling density trends***

Patterns in Fountain Darter density in 2023 varied among reaches. Median density at Upper Spring Run was 0.00 darters/$m^2$ for all 2023 events and upper quartiles were higher in summer (0.88 darters/$m^2$) than spring and fall (0.38 darters/$m^2$). Lower densities have persisted in this reach since summer 2022. At Landa Lake, median density decreased from spring (18.00 darters/$m^2$) to summer (12.75 darters/$m^2$), though both estimates were above the long-term median (10.50 darters/$m^2$). Upper quartiles showed a similar pattern and were much greater than the long-term (24.00 darters/$m^2$) in spring (53.38 darters/$m^2$). Density sharply declined by fall, with most observations below the long-term lower quartile (2.50 darters/$m^2$), though several outliers (14.00 and 20.00 darters/$m^2$) not displayed in Figure 11 were higher. Density trends at Old Channel were similar to Landa Lake, except that median density in fall (3.50 darters/$m^2$) was more aligned with the long-term (4.00 darters/$m^2$), though the upper quartile estimate was 4.75 darters/$m^2$ lower than the long-term. Trends in density at New Channel deviated from historical expectations much more than other reaches. Median density decreased from spring to fall (23.50–8.00 darters/$m^2$), but all three events in 2023 exhibited median density about 4–12 times greater than the long-term median (2.00 darters/$m^2$) (Figure 11).

Median density the past five years were not strongly correlated ($r < 0.70$) among reaches, indicating spatially asynchronous trends in the Comal Springs/River System. While trends varied spatially, general patterns in density showed some similarities were evident between certain reaches. Densities at Upper Spring Run and New Channel displayed discontinuous temporal patterns, where abrupt large increases in density were usually followed by sharp declines below long-term trends that extend for longer durations. This results in greater variability in long-term datasets from these reaches. In contrast, Landa Lake and Old Channel demonstrated more regular seasonal oscillations. Density fluctuations typically followed long-term expectations, peaking during spring (Figure 11). Differences in these general temporal patterns among reaches are likely best explained by dissimilarities in habitat stability. Populations that exhibit discontinuous trends are usually associated with greater environmental variation (i.e., Upper Spring Run, New Channel), whereas seasonal oscillations are more typical in areas with more stability (i.e., Landa Lake, Old Channel) and driven mainly by timing of reproduction (Berryman 2002).

Results displayed variable reach-level responses to continued low-flow conditions. Differences were likely explained by responses of vegetation to reduced flows which limited available resources and possibly led to population regulation. First, lower overall habitat suitability at Upper Spring Run and Landa Lake partially explains their density trends this year. Lower densities at Upper Spring Run are coupled with changes in bryophyte coverage, which is a taxon sensitive to low flows (Suren 1996). Substantial declines in Landa Lake, particularly in fall 2023, are likely related to decreases of bryophytes due to low flows. Although bryophytes were limited within Landa Lake during fall 2023, they were present in areas too deep for drop-net sampling and therefore were not sampled in fall. It is likely that their exclusion influenced overall densities in the reach. Abrupt declines in density at the lake by fall 2023 may also be a product of over compensatory dynamics typical for this reach (i.e., large seasonal swings in density) in conjunction with lower habitat quality (Shoemaker et al. 2020). Very high densities in spring and summer this year could partially be attributed to increased recruitment rates in fall 2022 as a result of low and stable flows (McCargo and Peterson 2010, Katz and Freeman 2015). Based on evidence of habitat degradation at Landa Lake, the more abrupt decrease in density observed in fall 2023 was possibly due to lower availability of resources to sustain elevated population levels, resulting in intense competitive population regulation over a short time frame (Berryman 2002, Shoemaker et al. 2020). Despite this, increases in density are expected by spring 2024 given typical patterns in reproduction and recruitment, and densities should return to typical levels once optimal vegetation (bryophytes) increase in coverage (Figure E9).

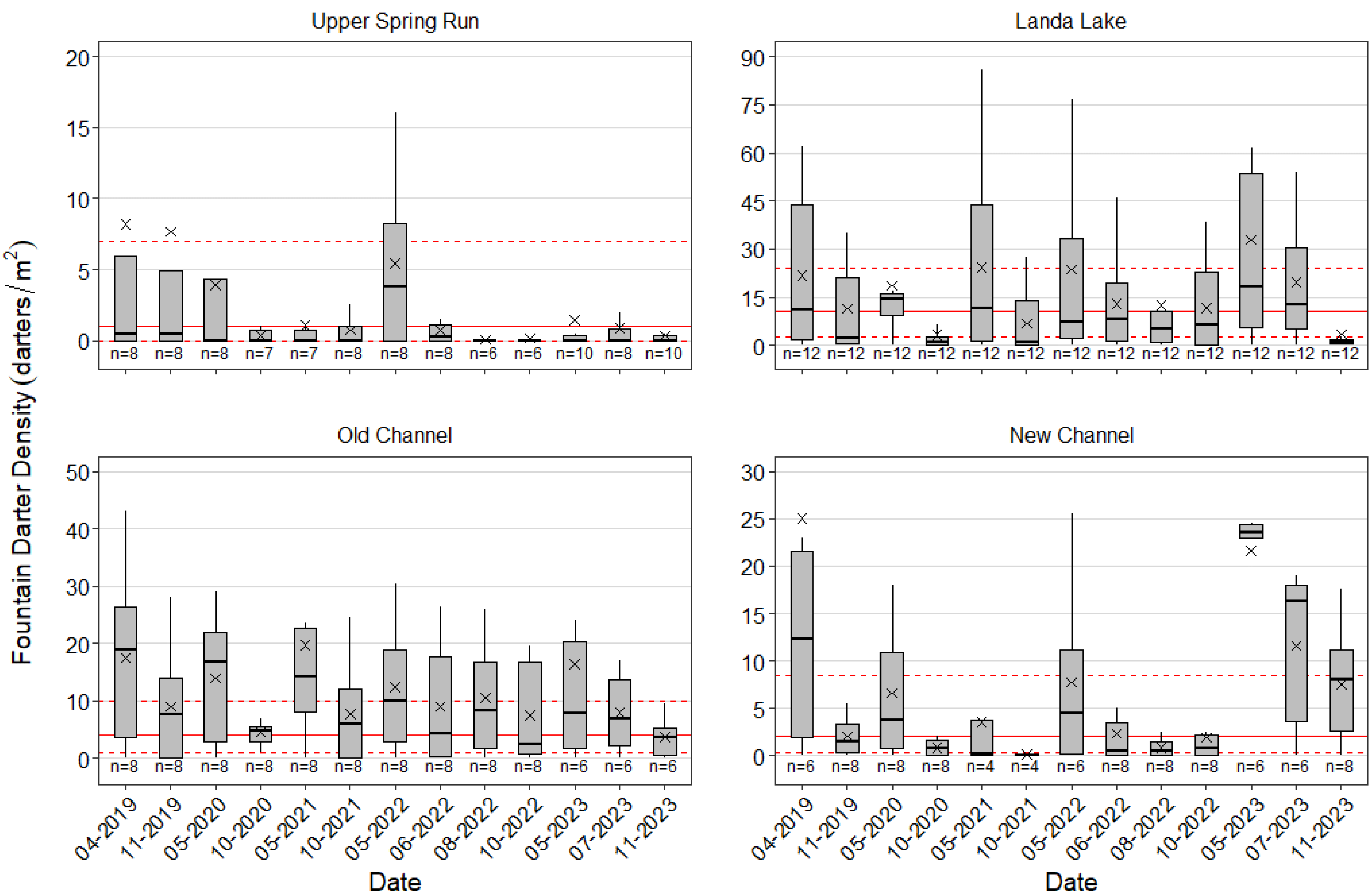


**Figure 11.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m²) among study reaches from 2019–2023 during drop-net sampling in the Comal Springs/River. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent the number of drop-net samples in each category. Solid and dashed red lines denote long-term (2001–2023) medians and interquartile ranges, respectively.**

Abrupt increases in density at New Channel this year were somewhat surprising but can again be explained by the influence of flow on habitat conditions. Recruit densities were high in this reach in spring (relative density: 49.6%) and fall (relative density: 33.1%) resulting from expansion of more suitable vegetation (e.g., bryophyte, *Hygrophila*) due to flow stability (Katz and Freeman 2015). Low variability observed in spring can be partially explained by open habitats not being sampled, due to the ubiquitous distribution of filamentous algae in wadable areas. Since open habitats typically result in extremely low densities, their exclusion greatly decreases variability. Nonetheless, these results exemplify how Fountain Darter responses to low flows vary spatially. It is well recognized that spatially asynchronous population dynamics help facilitate long-term persistence, and this appears to be the case for Fountain Darters in the Comal system (Stowe et al. 2020, Larsen et al. 2021). In summary, negative effects of low flows were not a ubiquitous trend at the system-level. Research on relative influences between density- independent and -dependent factors could help identify what mechanisms drive spatial differences in population trends and provide a more complete understanding on effects of reduced flows.

## ***Size structure and recruitment trends***

Five-year trends in Fountain Darter size structure and recruitment were consistent among seasons, though several years did not align with expectations in summer and fall. In general, smaller darters were more frequent in spring during the peak reproductive period, as seen by lower median lengths (15–17 mm) and higher recruitment rates (45.9–57.6%). Violin plots depicting five-year trends further demonstrate a greater proportion of smaller darters during the spring and higher recruitment rates in years with left-skewed distributions. Patterns in size structure and recruitment observed in spring closely aligned with long-term trends from 2021–2023. Size structure in 2019 and 2020 also aligned with past observations, though recruitment was higher than expected. In summer and fall 2023, results also generally met expectations, displaying higher median lengths (24–26 mm and 23–27 mm, respectively), left-skewed size distributions, and lower recruitment (21.1–35.5% and 16.1–45.2%, respectively) compared to spring. Notable exceptions for recruitment included summer 2021 (35.5%) and fall 2022 (45.2%) (Figure 12).

Foutain Darter recruitment in the fall was above long-term expectations for the second consecutive year but at a lower magnitude than 2022. Increased fall recruitment also differed spatially the past two years. Recent recruits were most prevalent at Landa Lake and Old Channel in fall 2022 compared to >50% of recent recruits being observed at New Channel in 2023. It was previously suggested that stable and/or low flows increases young-of-year survival (BIO-WEST 2022a), which other fisheries studies also observed and suggested as a potential resilience mechanism against reduced flows (McCargo and Peterson 2010, Katz and Freeman 2015). Water temperature is also considered a limiting factor on Fountain Darter egg and larval production, though exceedance of optimal temperature thresholds from previous laboratory studies do not adequately explain patterns of recruitment observed in 2023. Temperatures stayed below production thresholds at Landa Lake and were exceeded at similar frequencies at Old Channel and New Channel in summer. Based on this, attenuated recruitment rates would be expected for these riverine reaches in fall 2023 if water temperature was the driving mechanism. That said, the laboratory-derived temperature thresholds are difficult to apply directly to wild populations because the temperature fluctuations imposed during the McDonald et al. (2007) study trials do not exactly match natural patterns observed in the wild. However, high recruitment within the

New Channel in 2023 suggest other factors such as habitat availability and density-dependent mechanisms influence recruitment. More formal analyses are needed to elucidate the relative influence of water temperature, habitat, and density-dependent mechanisms on Fountain Darter demography (Berryman 2002, Dennis et al. 2006).

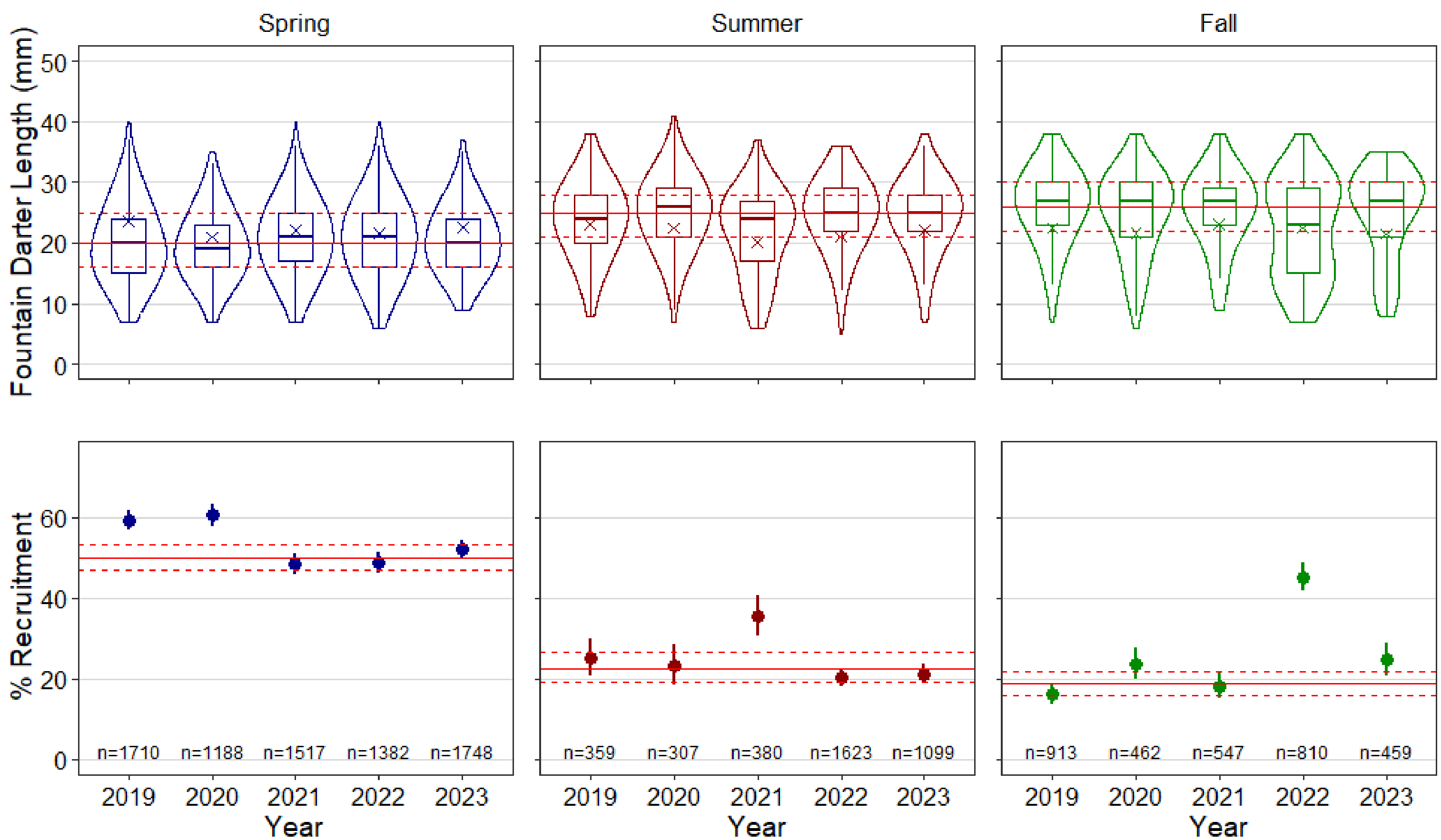


**Figure 12.** **Seasonal trends of Fountain Darter size structure (mm; top row) and percent recruitment (bottom row) in the Comal River from 2019–2023. Spring and fall trends are based on drop-net and timed dip-net data in aggregate, whereas summer trends are based on timed dip-net data only. Size structure is displayed with boxplots (median, quartiles, range) and violin plots (probability density; polygons outlining boxplots). The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axis of the top row represent the number of Fountain Darter length measurements in each distribution. Recruitment is the percent relative abundance (± 95% CI) of darters ≤20 mm. Long-term (2001–2023) trends in size structure are represented by median (solid red line) and interquartile range (dashed red lines). Recruitment is compared to the long-term mean percentage (solid red line) and 95% CI (dashed red lines).**

## *Habitat Use and Suitability*

### ***Density trends among vegetation taxa***

Median densities in 2023 were highest in bryophyte (16.50 darters/$m^2$) and *Hygrophila* (15.50 darters/$m^2$). Taxa with intermediate densities included *Cabomba* (9.75 darters/$m^2$) and *Ludwigia* (9.00 darters/$m^2$). Among these taxa, median density was higher than expected in *Hygrophila* whereas others aligned with long-term data. Median density was higher in *Vallisneria* (3.75 darters/$m^2$) and lower in filamentous algae (0.75 darters/$m^2$), with filamentous algae being considerably lower than expected based on long-term data. In open habitats and *Sagittaria*, median density was 0.00 darters/$m^2$ and mirrored historical data (Figure 13). Greater densities within ornate taxa aligned with expectations based on historical data and past research on Fountain Darter habitat associations (Schenck and Whiteside 1976, Linam et al. 1993, Alexander and Phillips 2012, Edwards and Bonner 2022).

Slightly higher than typical densities in *Vallisneria* were directly related to bryophytes being present within, creating greater complexity in physical structure that is more suitable for darters. Higher densities in *Hygrophila* in 2023 was somewhat surprising and warrants further investigation. Differences observed in filamentous algae density are likely related to taxa specific patterns that are overlooked because algae are usually identified at a coarse taxonomic level. This may also explain why past studies show conflicting results on the use of filamentous algae by Fountain Darters (Linam et al. 1993, Alexander and Phillips 2012, Edwards and Bonner 2022).

### ***Size structure among vegetation taxa***

Boxplot summary statistics and violin plots showed that Fountain Darter size structure varied among vegetation taxa sampled in 2023. Median lengths were most frequently 23 mm, with minimum and maximum medians observed in filamentous algae (15 mm) and open (26 mm), respectively. Filamentous algae had the highest relative proportion of small darters, though counts were lowest among this vegetation taxa. Size structure distributions in *Hygrophila*, *Ludwigia*, and *Vallisneria* were left-skewed and had a higher prevalence of larger adults. The uniform distributional shape exhibited by bryophyte and *Cabomba* supports these taxa were important habitats across all life stages in 2023 (Figure 14).

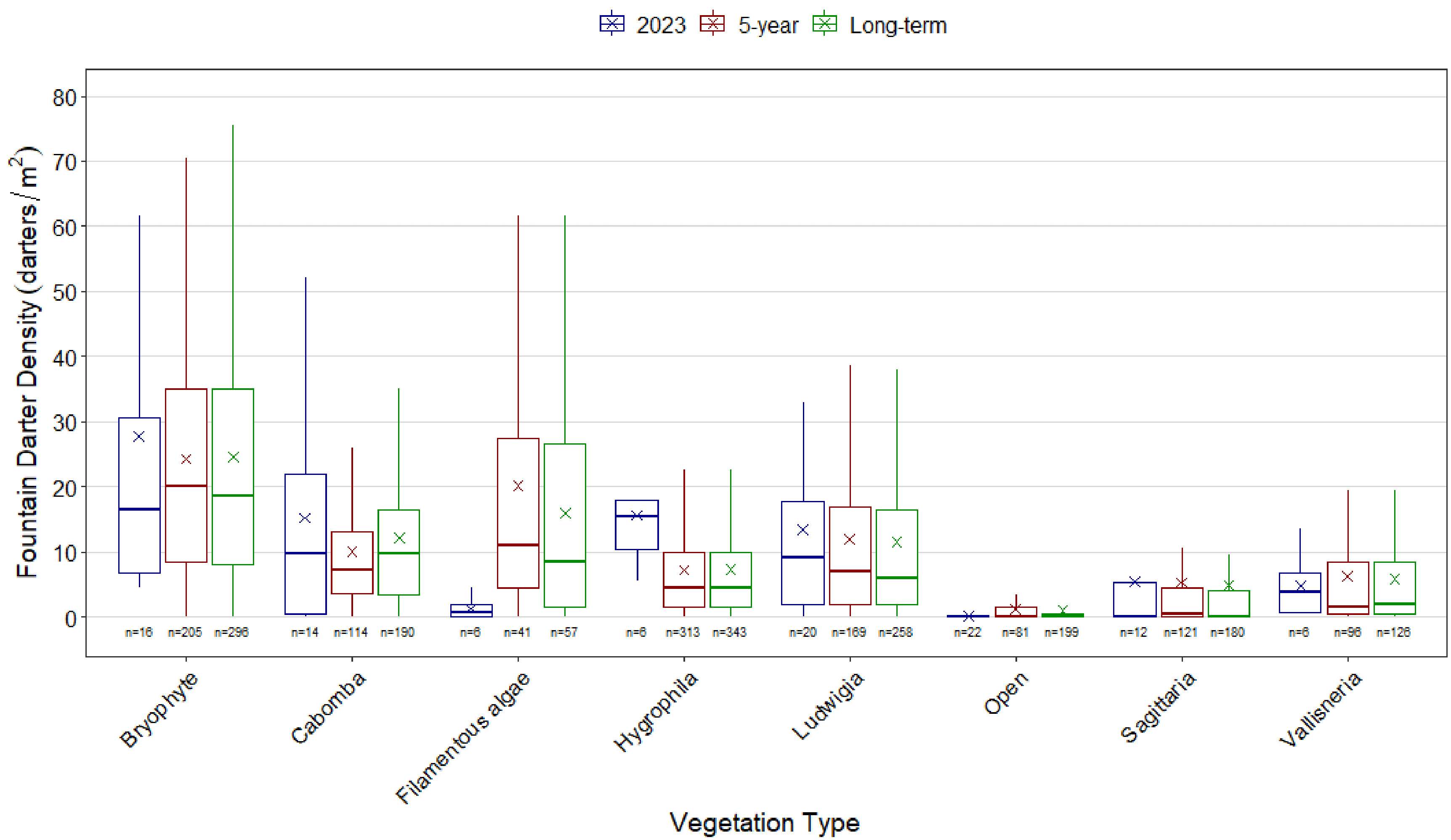


**Figure 13.** **Boxplots displaying 2023, 5-year (2019–2023), and long-term (2001–2023) drop-net Fountain Darter density (darters/m²) among vegetation types in the Comal Springs/River. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent drop-net sample sizes per group.**

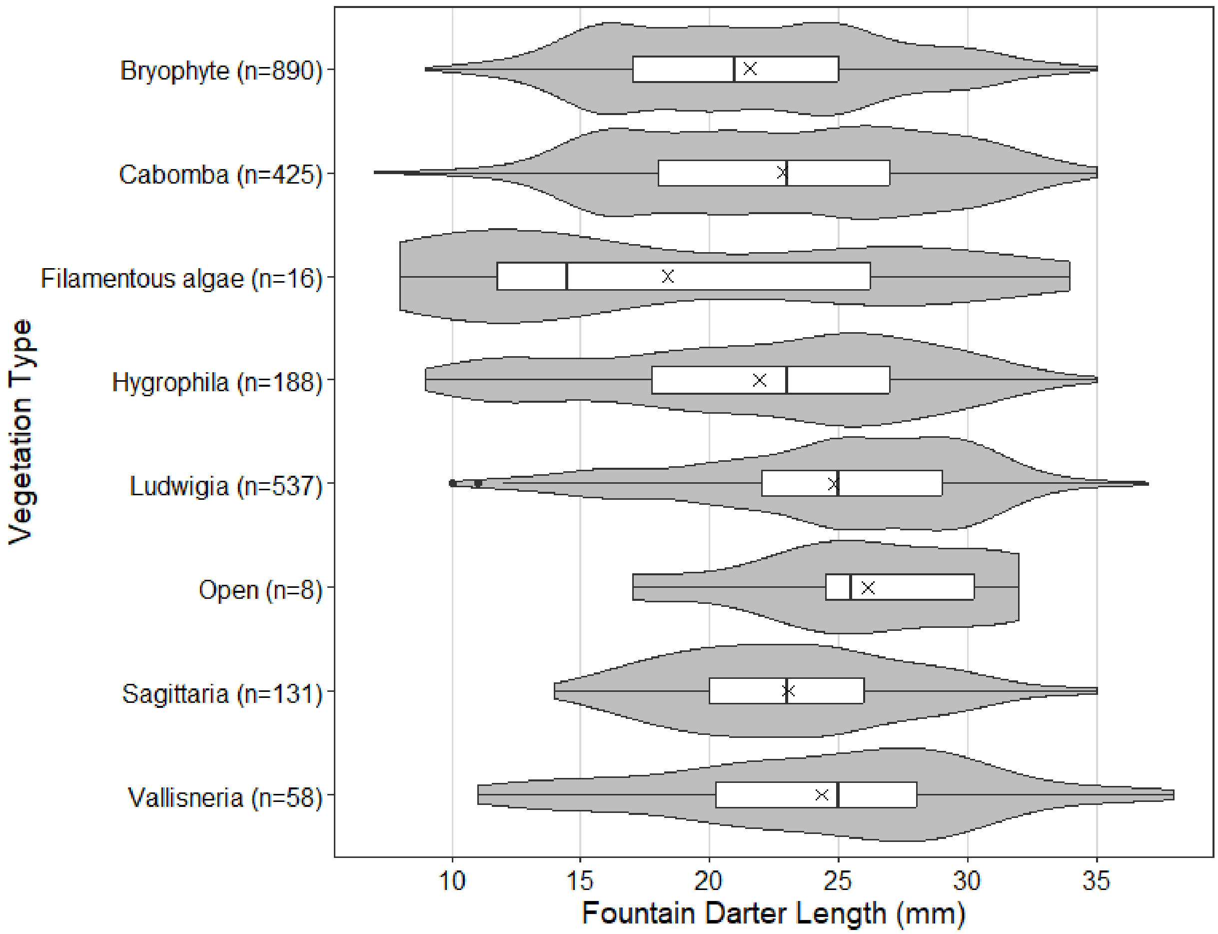


**Figure 14.** **Boxplots and violin plots (grey polygons) displaying Fountain Darter lengths among dominant vegetation types during 2023 drop-net sampling in the Comal Springs/River. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range, and outliers beyond this are designated with solid black circles. The "n" values represent the number of Fountain Darter length measurements per vegetation type.**

Compared to previous years, bryophyte is the only taxa that displays consistent size structure. For example, size classes that utilize *Ludwigia* have differed annually, and a greater proportion of small darters were within *Cabomba* in 2023 than 2022 (BIO-WEST 2022a, 2023a) (Figure 14). This suggests ontogenetic shifts in habitat use may vary temporally or spatially. Changes in habitat use among size classes may depend on habitat conditions such as depth, velocity, or substrate at a given location. For example, vegetation taxa that occur in variable flow conditions (e.g., *Ludwigia*) would likely have lower proportions of juveniles if sampling was mostly in swift habitats within a given year.

### ***Habitat suitability***

Temporal trends in Fountain Darter habitat suitability at Upper Spring Run displayed a cyclical pattern and fluctuated around the long-term mean. Overall Habitat Suitability Index (OHSI) decreased from spring 2019 (0.57) to fall 2021 (0.42), then increased up to summer 2022 (0.54). For the remaining time period, OHSI continued to decrease to minimums in spring and fall 2023 (~0.41). At Landa Lake, OHSI was stable from 2019–2021 (0.57–0.62). OHSI slightly decreased, but also remained stable from 2022 to spring 2023 and declined again to the 5-year minimum in fall 2023. Similar to Upper Spring Run, temporal patterns in Old Channel were cyclical (0.48–0.59) and fluctuated within the limits of long-term trends. OHSI at Upper New Channel displayed distinct shifts in suitability. OHSI was slightly below the long-term mean from 2019–2021 (0.39–0.44) and was above it from 2022–2023 (0.47–0.52), with the exception of an abrupt decline in summer 2023 (August; 0.38). Temporal patterns at Lower New Channel were mostly near or above (0.48–0.62) the long-term mean other than a sharp decrease that also occurred in summer 2023 (0.38) (Figure 15).

Vegetation taxa most associated with changes in habitat suitability varied among reaches. Changes in suitability at Upper Spring Run was mostly driven by changes in bryophyte and filamentous algae coverages. Declines in OHSI at Upper Spring Run were never substantial due to increased coverage of *Cabomba* when bryophyte decreased. Both of these taxa provide high quality Fountain Darter habitat and their varying responses to springflow help improve physical habitat conditions in this reach under low flows. Landa Lake suitability was also most associated with changes in bryophyte coverage, which has decreased since 2022, though *Cabomba* shows a similar inverse relationship as seen in Upper Spring Run. In contrast, the cyclical pattern observed in Old Channel is mostly driven by variation in coverage of *Cabomba*, which dropped to zero in 2023. Lastly, the abrupt declines in OHSI in the New Channel in August 2023 were attributed to decreased coverages of *Cabomba* and *Hygrophila*, though OHSI returned to high condition by fall 2023 (Figure 15).

Patterns in habitat suitability directly attributed to some of the observed Foutain Darter population trends. Low flows may have facilitated decreased coverages of bryophyte at Upper Spring Run and Landa Lake in 2023 (Suren 1996). That said, abrupt increases in bryophytes occurred at Upper New Channel in the spring, suggesting other mechanisms are influencing the dynamics of this taxon. Nonetheless, consistently lower densities and occurrence rates observed by the fall indicate potential negative effects of extended periods of habitat degradation within Comal Springs. That said, the inverse relationship between bryophyte and *Cabomba* in some reaches likely buffered against further declines in habitat quality and may help maintain habitat redundancy during periods of reduced flow (Magoulick and Kobza 2003).

Higher habitat suitability at New Channel directly reflected the enhanced population condition observed. As mentioned previously, positive responses by Fountain Darters and their habitat at this reach were surprising at such low-flow conditions in a reach far from spring inputs. Additional research on how dynamics of vegetation assemblages differ between spring and riverine environments would be worth exploring further. In summary, observed trends in habitat suitability help partially explain the positive and negative population responses of Fountain Darters in the Comal system. Future assessments may benefit from incorporating other relevant habitat factors (e.g., recent flow regime characteristics, depth, velocity, and/or substrate) or controlling for sources of spatiotemporal variation (e.g., reach, time of year) to provide more complete realizations of habitat suitability.

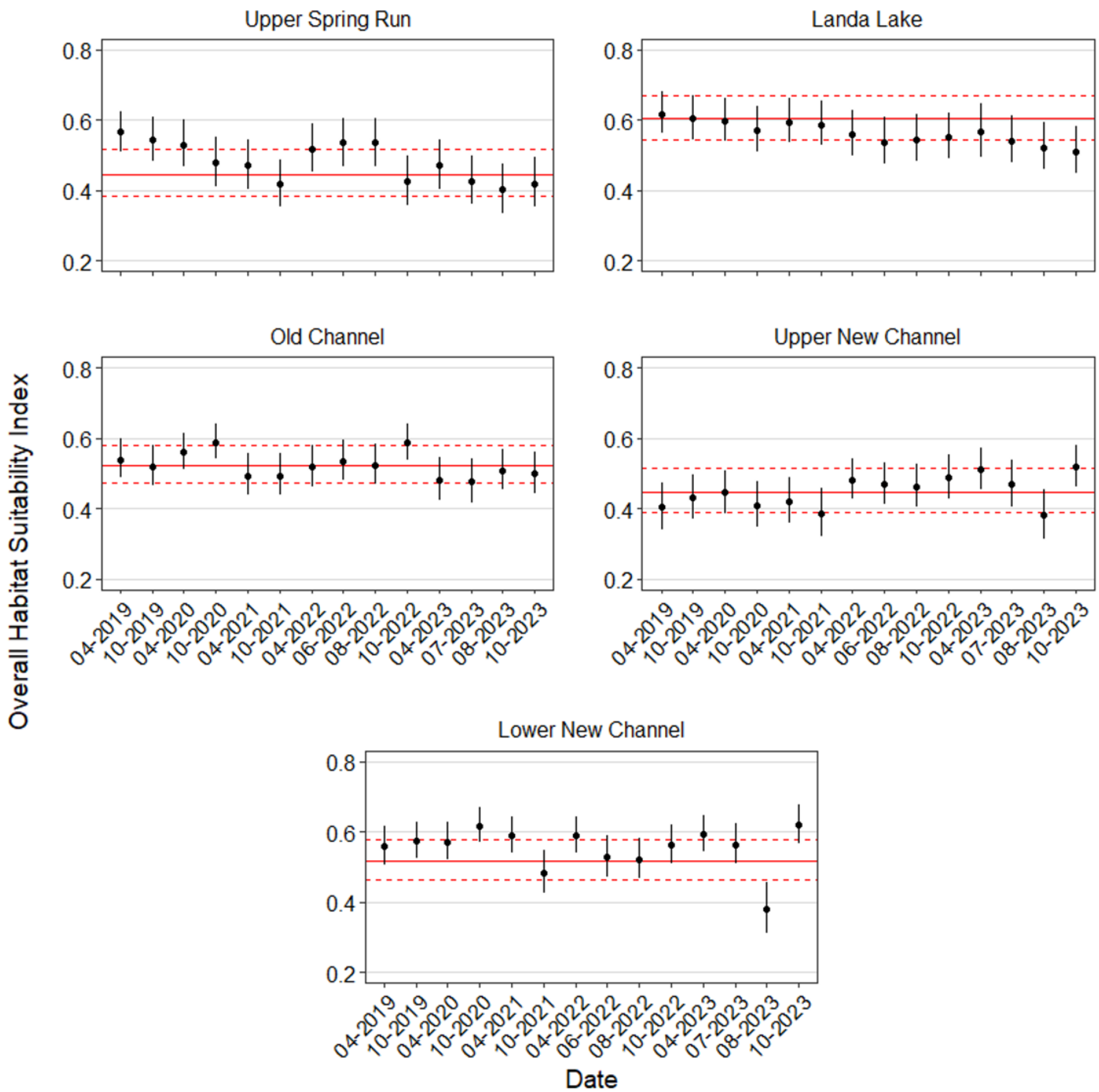


**Figure 15. Overall Habitat Suitability Index (OHSI) (±95% CI) from 2019–2023 among study reaches in the Comal Springs/River. Solid and dashed red lines denote means of long-term (2003–2023) OHSI and 95% CI, respectively.**

# Fish Community

A total of 11,971 fishes represented by 8 families and 21 unique species were observed in the Comal Springs/River System during 2023 sampling. Complete summaries of segment-level community composition can be found in Appendix E. Fish assemblage structure (percent relative abundance) varied from spring environments to riverine areas. Assemblages at upstream spring environments were dominated by *Gambusia* sp. at Upper Spring Run (37.4%) and by Guadalupe Roundnose Minnow (*Dionda nigrotaeniata*) at Landa Lake (65.2%); whereas downstream riverine areas at Old Channel and New Channel were dominated by Mexican Tetra (*Astyanax* *argentatus*; 27.9—37.7%). Other dominant species in riverine areas included Mimic Shiner (*Paranotropis volucellus*) and Texas Shiner (*Notropis amabilis*) at Old Channel (7.4% and 9.6%, respectively) and New Channel (12.1% and 9.6%, respectively). Fountain Darter ranked 3rd in abundance at Upper Spring Run (10.8%), 4th at New Channel (10.0%), and 5th at Landa Lake (5.8%) and Old Channel (5.9%) (Appendix E, Table E3).

Temporal trends in fish communities varied between and within study segments. Species richness and diversity were generally higher in riverine areas and lowest at Landa Lake. At Upper Spring Run, species richness and diversity were intermediate and more similar to riverine segments than to spring segments. Five-year trends in species richness usually varied from event to event and displayed no detectable patterns. No apparent trends in diversity were observed at Upper Spring Run and New Channel. In contrast, diversity generally increased from 2019–2021 at Landa Lake (0.49–1.45) then declined from 2022–2023. Diversity at Old Channel (1.29–2.15) has generally increased since 2019, though it did vary for some events (Figure 16), suggesting that community composition in Old Channel has become more heterogenous in recent years (Figure 16).

Temporal trends in richness of spring fishes aligned with community-level observations and were generally stable throughout the study area. Spring fishes' richness ranged from 4–6 species across all segments, generally not changing by more than one species from one event to the next. Relative density of spring fishes showed no emergent patterns at Upper Spring Run, Landa Lake, or New Channel, although relative density at Landa Lake was higher and more consistent than other segments. The general pattern of relative density at Upper Spring Run was varied, while the pattern at New Channel was more stable, similar to Landa Lake. Relative density was noticeably lower in two events at Upper Spring Run (August 2022, 37.7%; July 2023, 25.8%) and one event at New Channel (fall 2021, 46.1%). However relative densities returned to normal levels at successive sampling events. At Old Channel, relative density of spring fishes showed apparent cyclical patterns. Relative density first decreased from spring 2019 (80.7%) to fall 2020 (54.6%). This was followed by a large subsequent increase in spring 2021 (80.6%), after which it decreased again to fall 2022 (65.0%) (Figure 17). Beginning in summer 2023, spring fishes relative density increased again through fall, where it reached the greatest relative density in the past five years (84.3%).

Temporal trends in Fountain Darter density from 2019–2023 were based on microhabitat sampling data. Trends in 2023 were similar to Fountain Darter densities from drop-net sampling in which higher densities generally occurred in the spring and lower densities generally occurred in the fall (Figure 11). In 2023, median density at Upper Spring Run, Landa Lake, and New Channel were above the long-term in spring, while median density at Old Channel was below in spring. Median densities were below long-term expectations across all sites in summer and fall, except at New Channel which had higher median densities in the fall (Figure 18).

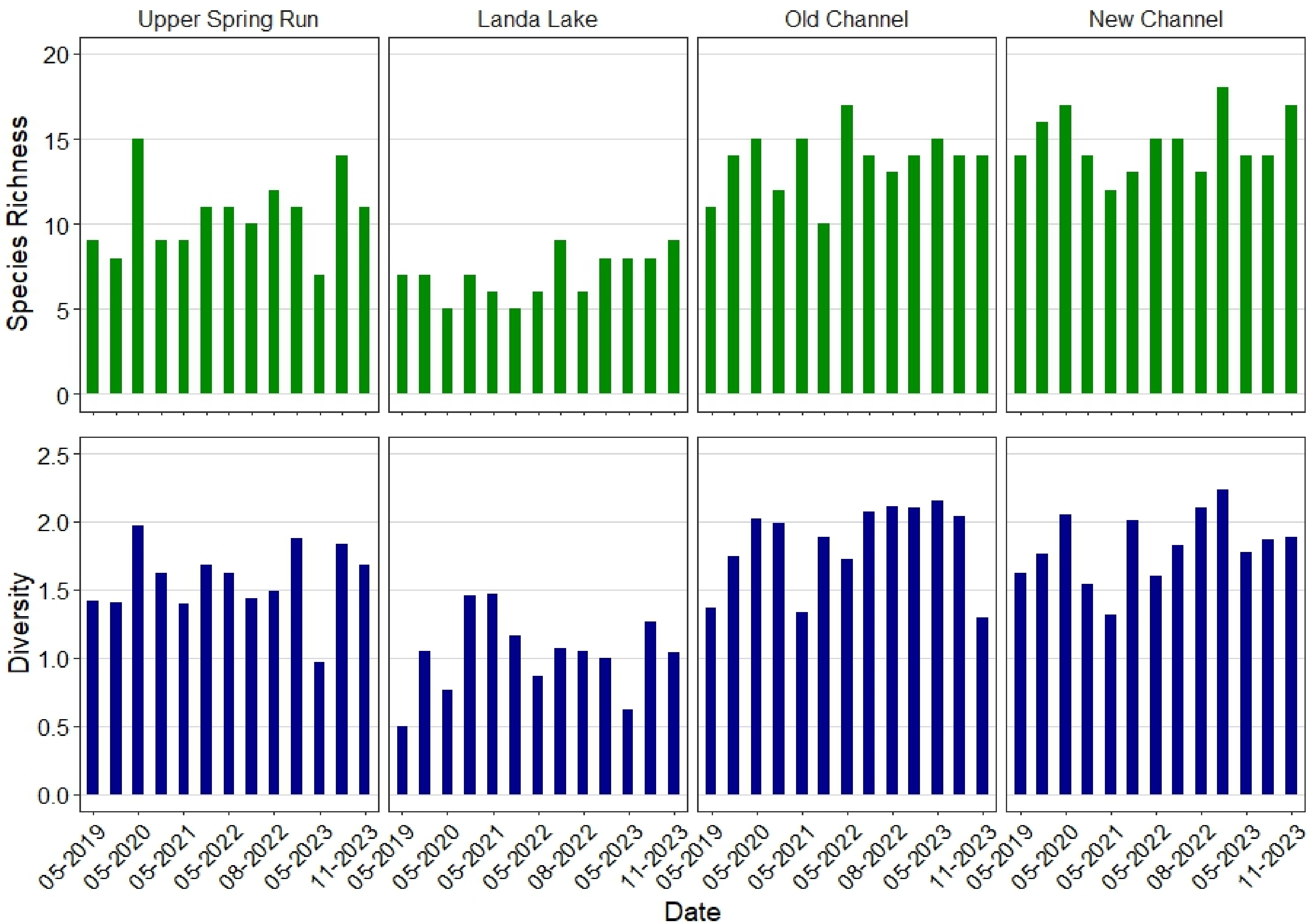


**Figure 16.** **Bar graphs displaying species richness (top row) and diversity (bottom row) from 2019–2023 based on all three fish community sampling methods in the Comal Springs/River.**

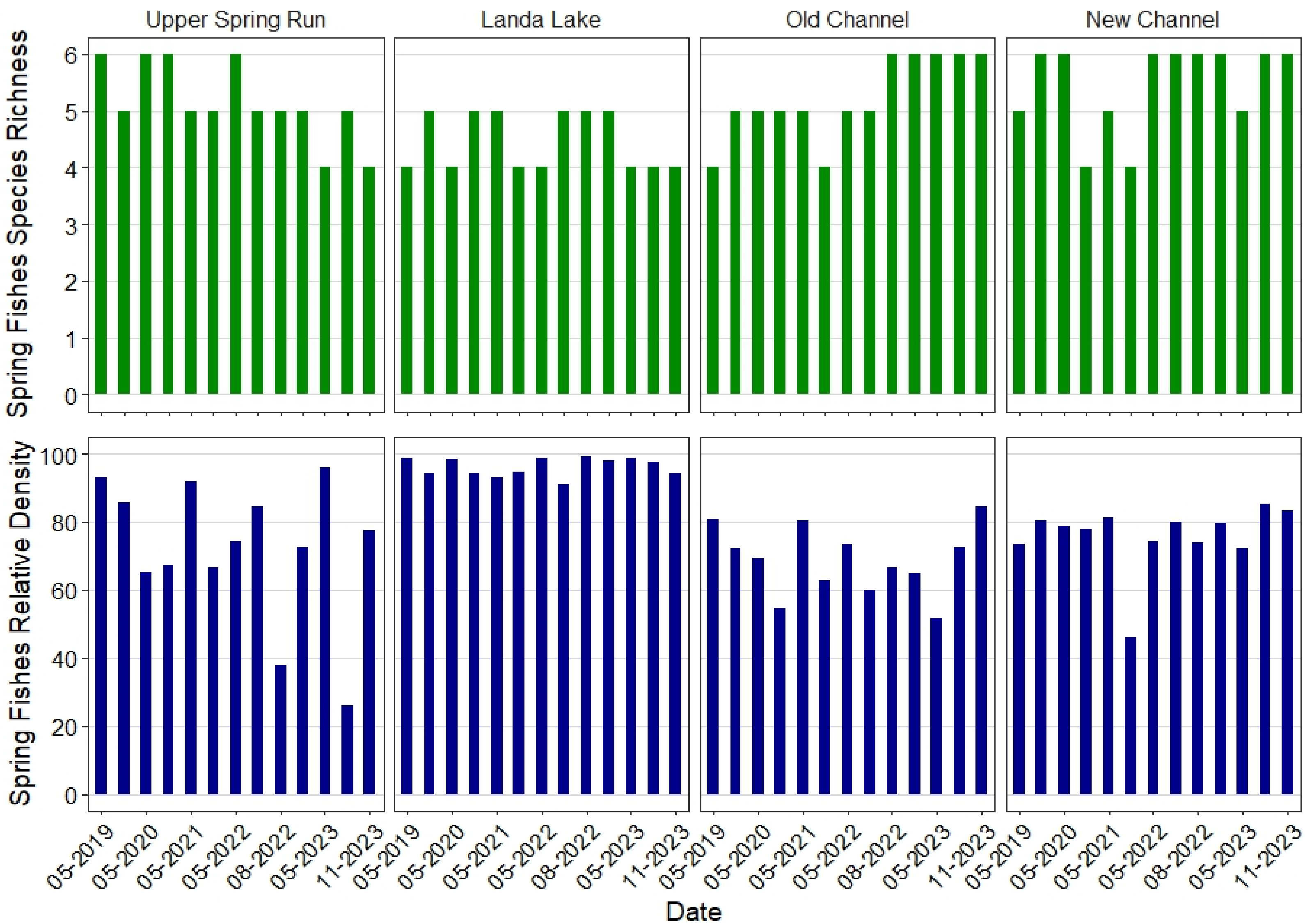


**Figure 17.** **Bar graphs displaying spring fish richness (top row) and relative density (RD; %) (bottom row) from 2019–2023 based on all three fish community sampling methods in the upper Comal Springs/River.**

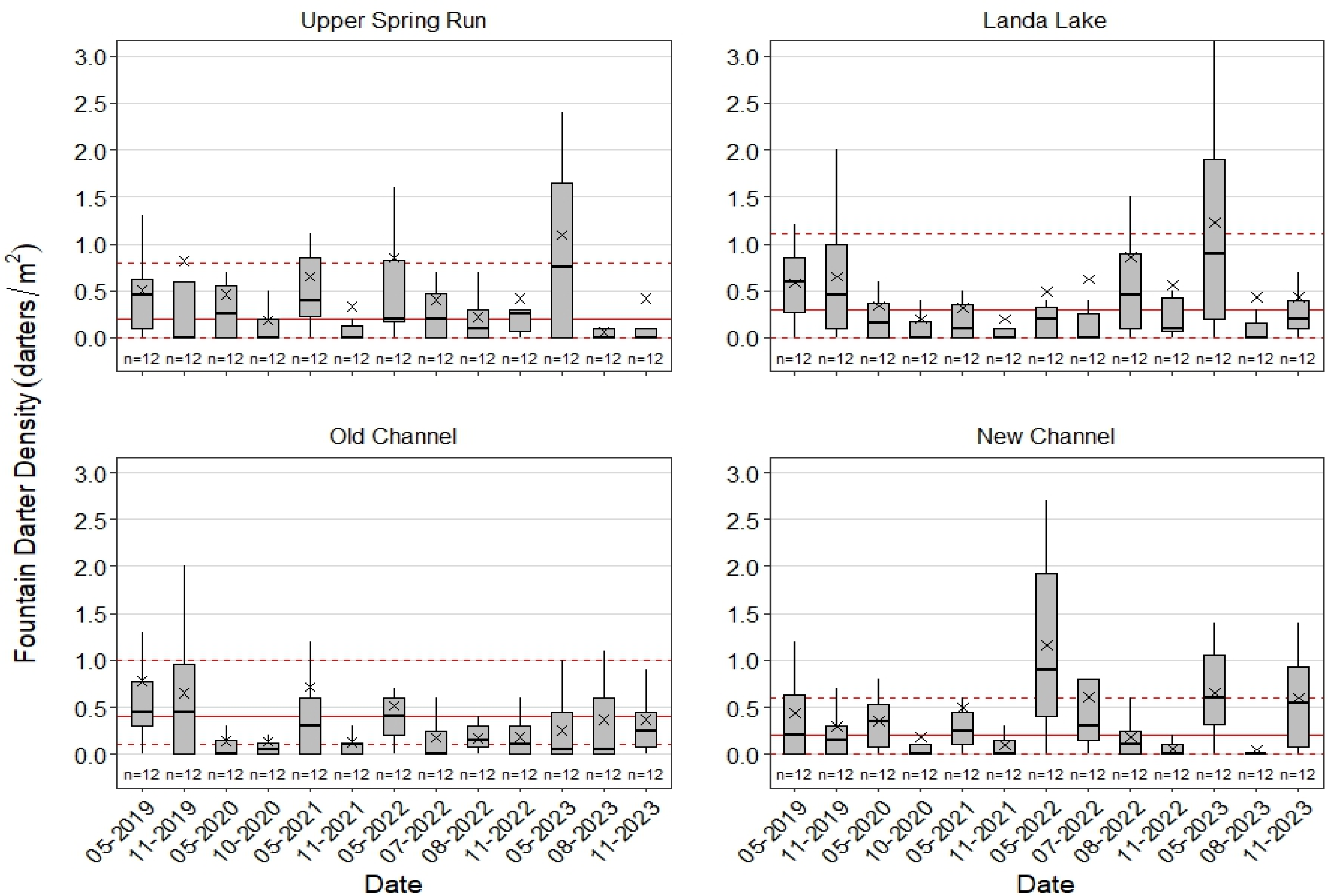


**Figure 18.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m$^2$) among study reaches from 2019–2023 during fish community microhabitat sampling in the Comal Springs/River. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent the number of microhabitat samples per category. Solid and dashed red lines denote long-term (2014–2023) medians and interquartile ranges, respectively.**

# Comal Springs Salamander

Although low springflows resulted in substantial reductions to surface salamander habitat in 2023, a total of 389 Comal Springs Salamanders were observed during 13 survey efforts. Sampling was not conducted at Spring Island Run during summer and fall and at Spring Run 1 during late summer and fall because these sites were completely desiccated. Across all sites, Comal Springs Salamander counts in spring, summer, and fall of 2023 were lower than the long-term averages. However, at sites that remained wetted, confidence interval overlap in summer and fall suggests counts may not be meaningfully lower given variability in the dataset (Figure 19). Five-year trends at Spring Island Run did not display any distinct patterns in CPUE, varying about 1 to 3 salamanders/p-h until this run dried up in summer 2023. From 2019 to 2023 Spring Island Outfall has varied from 8 salamanders/p-h to over 50 salamanders/p-h. Catch rates were consistently high from spring 2019 to spring 2022 but have been variable since that time. At Spring Run 3, salamander CPUE appeared to decrease over 2023, with the exception of a few high events in July and October 2023. The catch rate of 48.57 salamanders/p-h in October 2023 was the second highest recorded over the past five years. At Spring Run 1, trends appear to show a cyclical pattern until this spring run dried up in summer 2023 (Figure 20). Subsequent monitoring will help determine if returns to typical catch rates are maintained following dry conditions during this low-flow year.

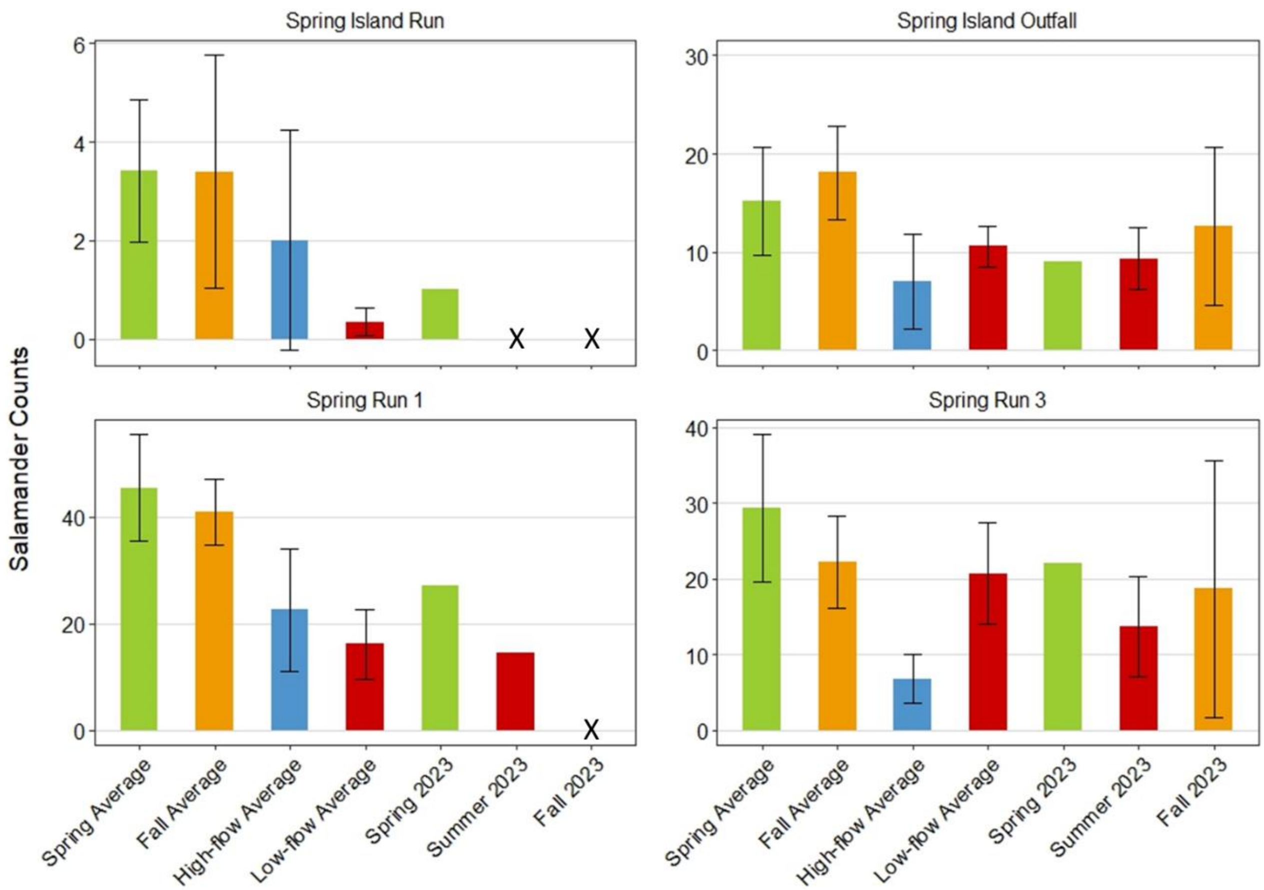


**Figure 19.** **Comal Springs Salamander counts among Comal Springs survey sites in 2023, with the long-term (2001–2023) average for each sampling event. Error bars for long-term averages represent 95% confidence intervals. X within dates at Spring Island Run and Spring Run 1 denotes lack of sampling due to dry conditions.**

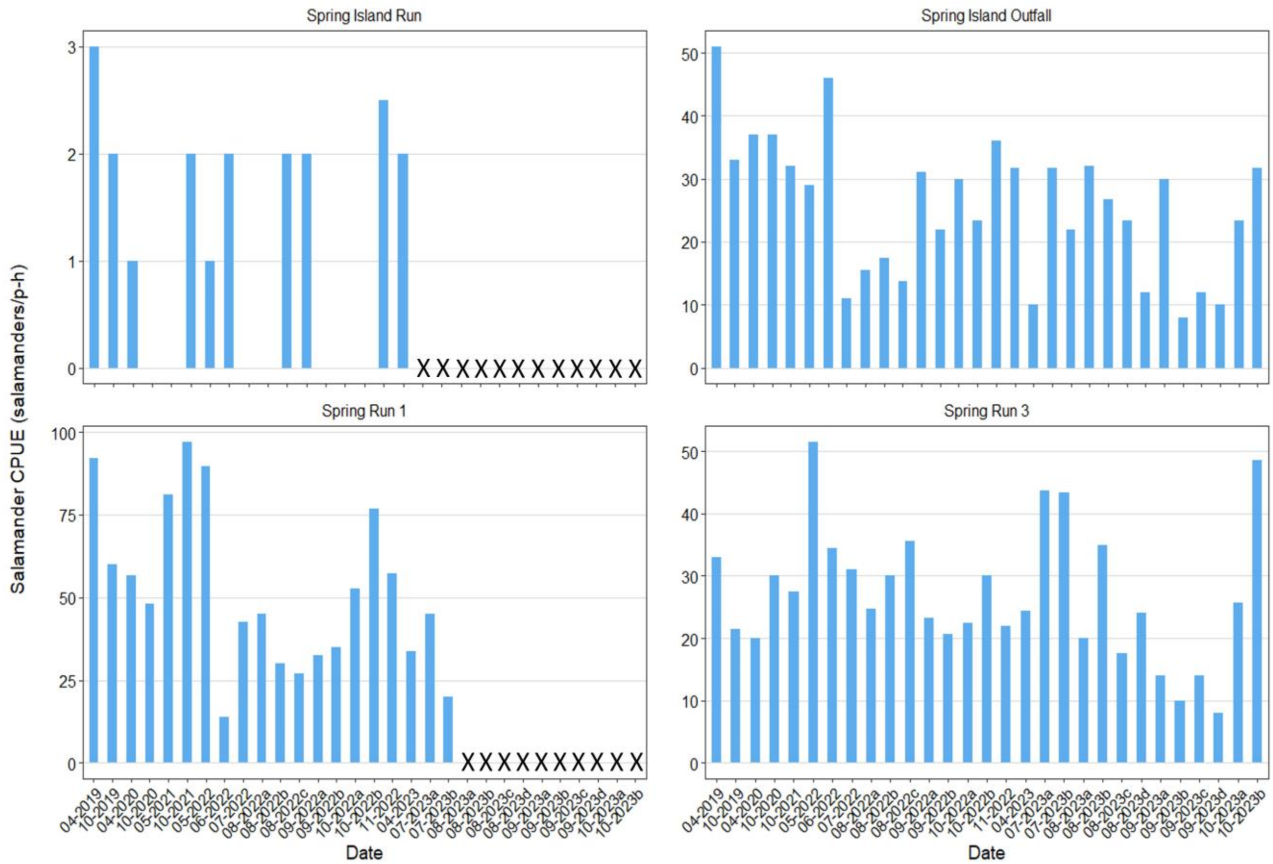


**Figure 20. Comal Springs Salamander catch-per-unit-effort (CPUE; salamanders/person-hr) among sites from 2019–2023 in the Comal Springs. No bar within dates at Spring Island Run denotes zero salamanders observed. X within dates at Spring Island Run and Spring Run 1 denotes lack of sampling due to dry conditions.**

# Macroinvertebrates

## *Drift-Net Sampling*

A total of 1,006 macroinvertebrates represented by 13 families and 19 taxa were collected during 144 drift-net hours. The total number of individuals collected was lower at Spring Run 1 (n = 113) than Spring Run 3 (n = 267) and Western Upwelling (n = 297), which can likely be attributed to reduced springflows in 2023. For example, the drift-net at Spring Run 1 was set at an alternate location than usual from fall 2022 through fall 2023 sampling due to the headwaters being dry (Figure 21). Across all sampling efforts, dominant taxa included amphipods (*Stygobromus* spp., 49.0%), ostracods (*Comalcandona tressleri*, 11.5%), and oligochaetes (*Eremidrilus* sp., 6.6%). The remaining taxa each represented less than 5% of the total catch. A total of 17 Peck's Cave Amphipods (*Stygobromus pecki*) positively identified out of 332 total *Stygobromus* spp., 8 larval Comal Springs Riffle Beetles (*Heterelmis comalensis*), and 1 larval Comal Springs Dryopid Beetle (*Stygoparnus comalensis*) were observed in 2023 (Table 6). Full drift-net results are presented in Appendix E. Over the past 5 years, the median counts of *Stygobromus* spp. per cubic meter of water filtered most often aligned with the long-term median (0.02 *Stygobromus*/$m^3$). However, since fall 2022 median counts have been lower than the long-term, but means and upper quartiles have been relatively high (Figure 22). Lower counts at Spring Run 1 and Spring Run 3 in 2023 were likely attributed to the desiccated conditions at Spring Run 1 and reduced springflow at Spring Run 3 throughout the summer; whereas counts at Upwelling, where springflow was less variable, were higher and consistent with previous years.

**Figure 21.** **Photo displaying the habitat conditions and alternate drift-net location at Spring Run 1 during spring and fall sampling. This drift-net was moved from its usual location due to the headwaters being dry.**

**Table 6. Total numbers of endangered species collected at each site during drift-net sampling in May and November 2023. Full drift-net results are presented in Appendix E.**

| | SITE (TOTAL DRIFT-NET HOURS) | | |
|---|---|---|---|
| **TAXA** | **RUN 1 (48)** | **RUN 3 (48)** | **UPWELLING (48)** |
| **Crustaceans** | | | |
| Amphipoda | | | |
| Crangonyctidae | | | |
| *Stygobromus pecki* | 0 | 1 | 16 |
| **Insects** | | | |
| Coleoptera | | | |
| Dryopidae | | | |
| *Stygoparnus comalensis* | 1 | 0 | 0 |
| Elmidae | | | |
| *Heterelmis comalensis* | 0 | 8 | 0 |

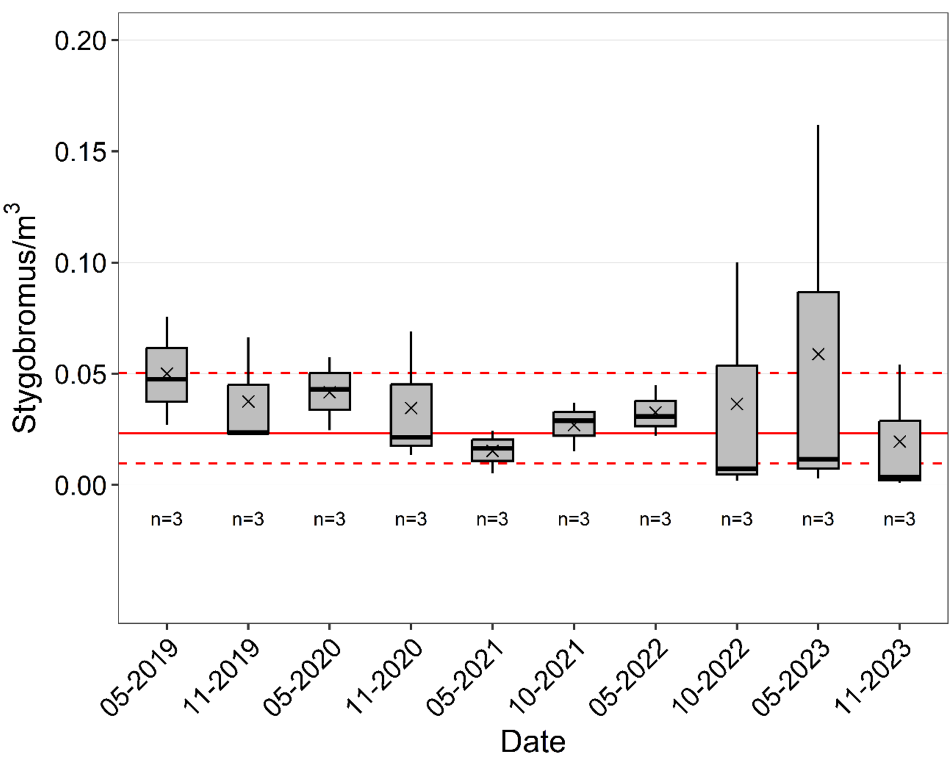


**Figure 22. Boxplots displaying *Stygobromus* spp. counts per cubic meter of water (*Stygobromus*/ m$^3$) at Western Upwelling, Spring Run 1, and Spring Run 3 from 2019–2023. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. Solid and dashed red lines denote long-term (2003–2023) medians and interquartile ranges, respectively.**

## *Comal Springs Riffle Beetle*

A total of 115 adult Comal Springs Riffle Beetle (CSRB) were collected at 59 lures during spring and fall sampling efforts in 2023 and counts ranged from 0–21 beetles/lure. Beetles occupied 35.6% of lures across spring and fall. The CSRB low-flow sampling event from August to September yielded 12 CSRB on two lures at Western Shoreline; however, this was not included in seasonal and temporal analyses due to lower sample replication (n = 3) and set times (n = two weeks) per event. Likewise, the second low-flow sampling event from September to October included altered methods to assess occupancy during drought conditions and was excluded from seasonal and temporal analyses. A summary of the drought occupancy study is presented in Appendix I.

Median counts across both seasons for all three areas were zero beetles/lure, well below long-term trends. Mean beetles per lure across all areas were lower during fall than spring. The highest mean beetle counts were observed in spring at Western Shoreline (3.2 beetles/lure), spring at Spring Island (3.1 beetles/lure), and fall at Spring Island (2.7 beetles/lure) (Figure 23). The three lures at Spring Run 3 and two lures at Spring Island did not have any beetles, while the third lure at Spring Island was lost. In summary, counts in 2023 decreased from spring to fall across all sites. Overall, seasonal trends were lower than historical data and lures with higher counts were less frequent (Figures 23 and 24). Counts ranging from 12–21 beetles/lure were observed in 2023, but were rare and represented as outliers not shown in Figure 23 and 24.

When analyzed in conjunction with five-year and long-term datasets, a general temporal decline in the number of beetles per lure is evident across sites and seasons (Figure 23). Over the past five years, beetles per lure fluctuated within the range of historical variability from spring 2019 to spring 2021, but median counts have been well below the long-term medians since fall 2021 at all sites, except at Spring Island in spring 2022. Declines in 2022 and 2023 are likely influenced by the continued low springflow conditions experienced during this time period. When compared to previous low-flow events (summer 2009, 2011, 2013, and 2014), 2023 mean CSRB counts were similar at Spring Island (Appendix E, Figure E24) but were lower than previous low-flow events at Spring Run 3 and Western Shoreline (Appendix E, Figure E25 and E26). This suggests that extended low-flow conditions in 2022 and 2023 may be resulting in larger impacts than previous droughts. That being said, it is unclear whether the declines observed during low-flow periods are true population-level trends or if catch rates are potentially confounded by imperfect detection. Benthic invertebrates can move from surface habitats to subsurface habitats to seek refuge during low-flow periods (Williams and Hynes 1974, Dole-Olivier et al. 1997), and low-flow habitat utilization studies conducted by BIO-WEST in 2023 suggest that CSRB follow water levels down into the substrate when spring surface habitats are desiccated (Appendix I). Based on this, decreased CSRB counts may alternatively be explained by most individuals temporarily migrating into subsurface habitats (Kéry and Royle 2021). A two-year EAHCP CSRB study was initiated in 2023 to estimate spatiotemporal trends of CSRB sub-populations and to quantify functional relationships between relative abundance and various environmental features (e.g., flow, water quality, physical habitat) (BIO-WEST 2022c).

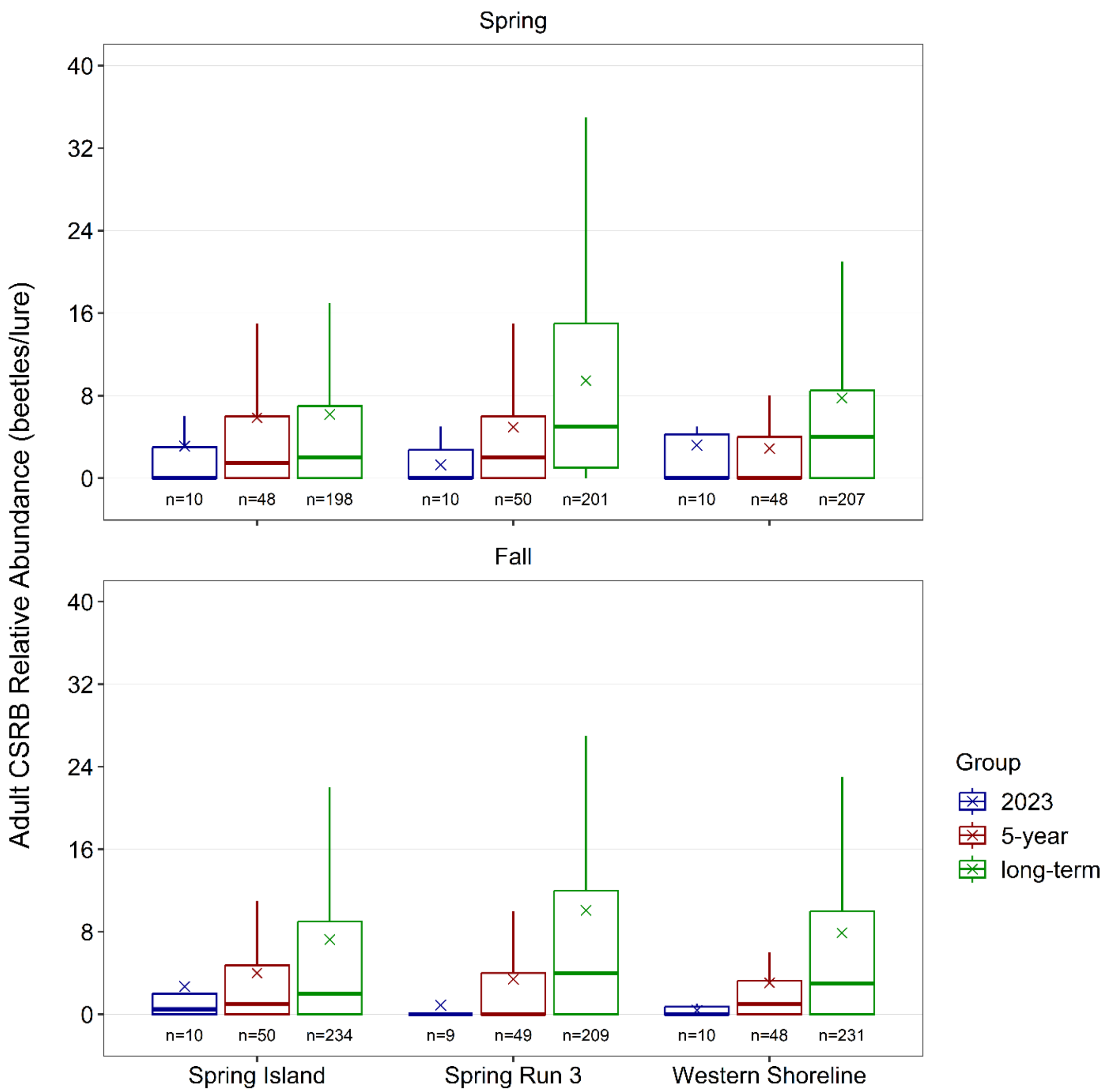


**Figure 23.** **Boxplots displaying 2023, 5-year (2019–2023), and long-term (2004–2023) trends in adult Comal Springs Riffle Beetle abundance per retrieved lure by season across sites in the Comal Springs. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent the number of lures included in each category.**

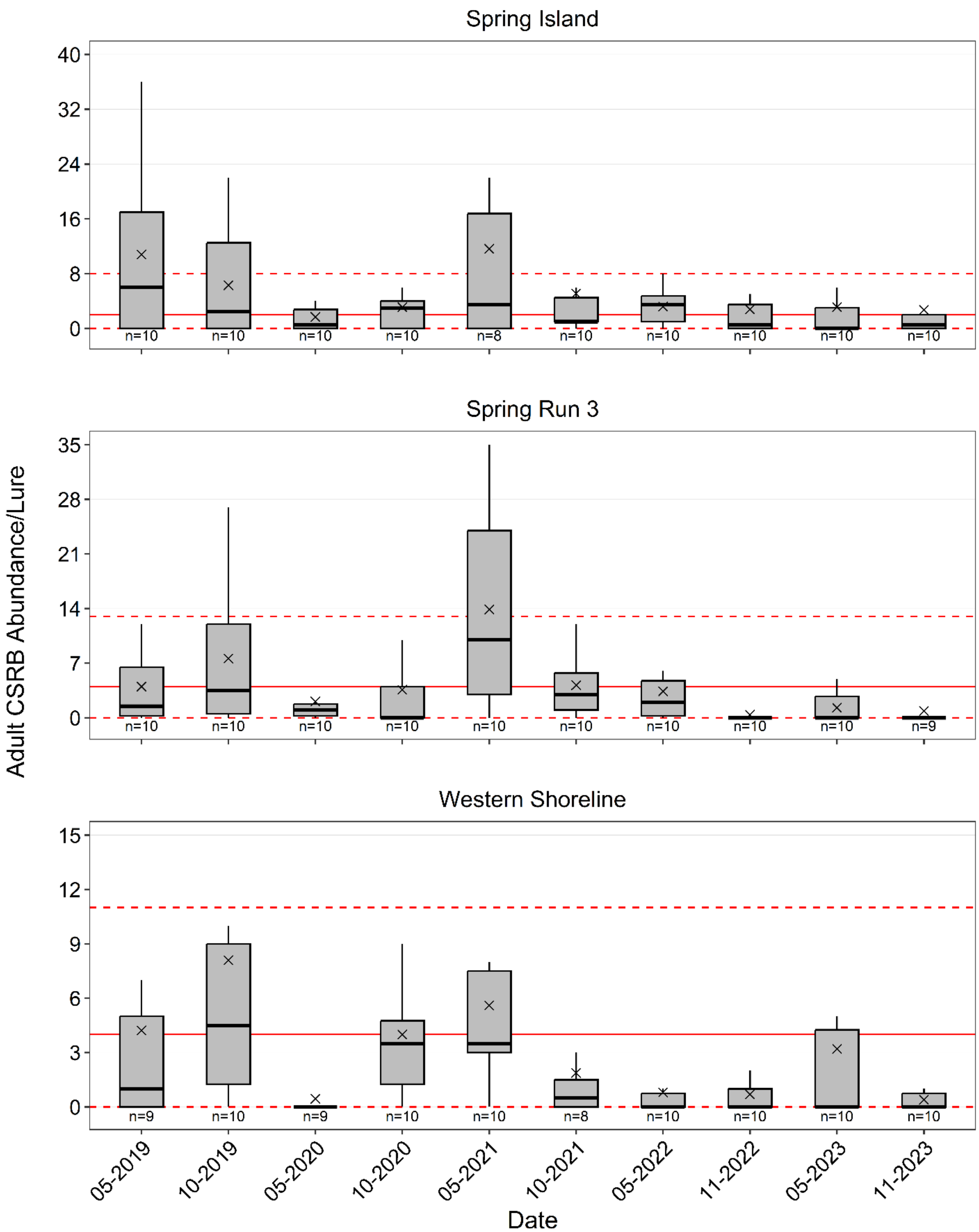


**Figure 24.** **Boxplots displaying temporal trends in adult CSRB abundance per retrieved lure among study reaches from 2019–2023 during lure sampling in Comal Springs. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. The "n" values along the x-axes represent the number of lures in each category. Solid and dashed red lines denote long-term (2004–2023) medians and interquartile ranges, respectively.**

### *Benthic Macroinvertebrate Rapid Bioassessment*

Benthic macroinvertebrate rapid bioassessment data was collected during both the spring and fall sampling events in 2023 (raw data presented in Appendix F). All samples in 2023 consisted of kick samples with suitable cobble-gravel habitat. Habitats sampled this year included cobble/gravel and root wads across sites. In addition, organic material was also sampled at each site, either in the form of debris jams or root wads. No supplement snag samples were taken. Cumulative scores and corresponding aquatic-life-use designations are displayed in Figure 25, while metric scores for calculating the B-IBI can be found in Table 6. A total of 787 and 743 individual macroinvertebrates, representing 35 and 38 unique taxa were sampled in spring and fall, respectively. Altogether, 48 unique taxa were represented among all samples from 2023.

**Table 7. Metric value scoring ranges for calculating the Texas RBP B-IBI (TCEQ 2014).**

| METRIC | SCORING CRITERIA | | | |
|---|---|---|---|---|
| | 4 | 3 | 2 | 1 |
| Taxa richness | >21 | 15–21 | 8–14 | <8 |
| EPT taxa abundance | >9 | 7–9 | 4–6 | <4 |
| Biotic index (HBI) | <3.77 | 3.77–4.52 | 4.56–5.27 | >5.27 |
| % Chironomidae | 0.79–4.10 | 4.11–9.48 | 9.49–16.19 | <0.79 or >16.19 |
| % Dominant taxon | <22.15 | 22.15–31.01 | 31.02–39.88 | >39.88 |
| % Dominant FFG | <36.50 | 36.50–45.30 | 45.31–54.12 | >54.12 |
| % Predators | 4.73–15.20 | 15.21–25.67 | 25.68–36.14 | <4.73 or >36.14 |
| Ratio of intolerant: tolerant taxa | >4.79 | 3.21–4.79 | 1.63–3.20 | <1.63 |
| % of total Trichoptera as Hydropsychidae | <25.50 | 25.51–50.50 | 50.51–75.50 | >75.50 or no Trichoptera |
| # of non–insect taxa | >5 | 4–5 | 2–3 | <2 |
| % Collector–gatherers | 8.00–19.23 | 19.24–30.46 | 30.47–41.68 | <8.00 or >41.68 |
| % of total number as Elmidae | 0.88–10.04 | 10.05–20.08 | 20.09–30.12 | <0.88 or >30.12 |

Benthic IBI scores ranged from 19 in spring at Landa Lake resulting in “Limited” designation, to 35 in spring at New Channel resulting in a “High” designation. Lower scores observed at Upper Spring Run and Landa Lake compared to riverine sites were likely due to differences in mesohabitats available for sampling. Specifically, these communities are naturally different compared to the “least-disturbed reference streams”, which contain swifter riffle habitats. As such, higher scores would be expected at riverine sites due to a higher likelihood of supporting more fluvial specialists, resulting in greater taxa diversity overall. It should also be noted that most reference streams do not exhibit the stenothermal conditions present within the Comal Springs/River System and this may result in differing community composition. Based on this, the value of the score is less important in this spring-associated system than the consistency or trends in results per reach over time.

Aquatic-life-use designations in 2023 generally aligned with years prior and indicate stable trends at most reaches (Figure 25). Upper Spring Run and Old Channel were described as “Intermediate” for both seasons, with scores generally comparable to previous years. Aquatic-life-use at Landa Lake was ranked as “Limited” in the spring and “High” in the fall, a pattern also observed in 2022. Reduced water levels observed in Landa Lake from fall 2022 through 2023 might have increased velocity near the substrate in some areas, which in turn supported greater habitat diversity and resulted in higher scores than were observed historically when lake levels were higher. Other Place ranked as “Intermediate” for both seasons with scores notably lower since fall 2022. In contrast to Landa Lake, reduced flows at this riverine reach may have resulted in homogenization of habitats, and thus a reduction in fluvial specialists. Lastly, New Channel ranked as "High" during both seasons in 2023 which corresponds well with previous events (Figure 25). Additional monitoring will be needed to see if observed trends continue at Landa Lake and Other Place, as well as to generate a robust reference dataset for the development of scoring criteria specific to this unique ecosystem, providing a more accurate realization of ecological health.

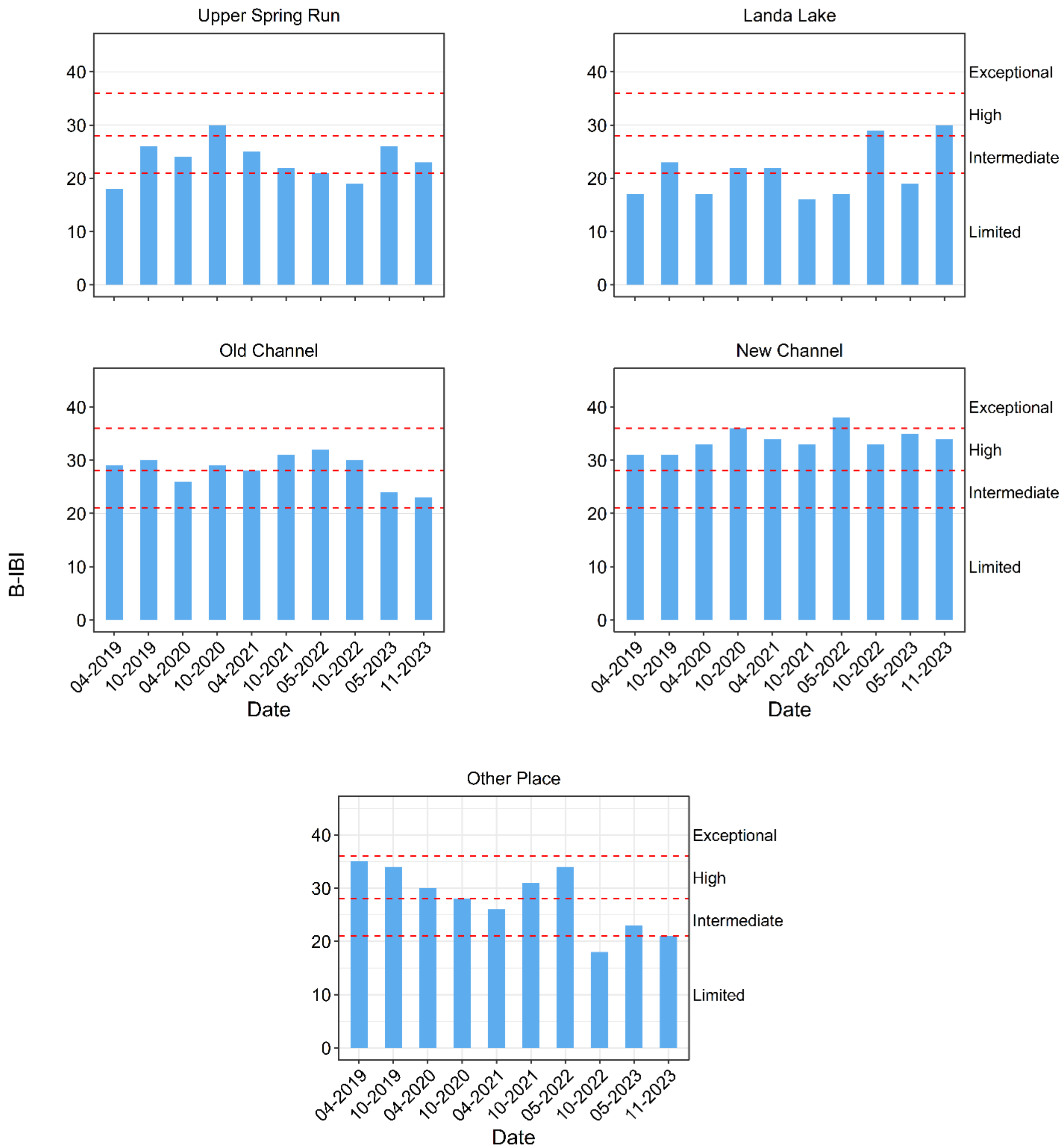


**Figure 25.** **Benthic macroinvertebrate Index of Biotic Integrity (B-IBI) scores and aquatic-life-use designations from 2019–2023 in the Comal Springs/River.**

# CONCLUSION

Results from 2023 biological monitoring in the Comal Springs/River system indicated continued declining trends in discharge from ongoing drought conditions and subsequent declines in some Covered Species population metrics. Median mean daily discharge in 2023 (121 cfs) was below median historical conditions and below 10$^{th}$ percentile flows for most months. Spatial patterns in water temperature fluctuation were typical, with low variation in reaches closer to springs (i.e., Landa Lake) and higher variation at reaches farther from springs (i.e., Other Place). Temperature exceedance of Fountain Darter larval and egg production thresholds increased in frequency and duration throughout the summer.

Habitat evaluations during low-flow events in the summer demonstrated degraded habitat conditions at upper spring reaches and spring runs (e.g., Spring Run 1 was dry throughout the summer). Where wetted surface habitat was available for Comal Springs Salamanders, counts and catch rates were slightly lower but comparable to previous years. Salamander monitoring following previous drought years suggests that Comal Springs Salamanders populations will return to Spring Run 1 and Spring Island Spring Run when surface flows return, however, continued monitoring is necessary to confirm this and document how quickly recolonization occurs. Degraded habitat conditions at upper spring reaches and spring runs also influenced spring macroinvertebrates (i.e., *Stygobromus* sp., CSRB). Lower CSRB counts this year, when compared to historical observations, suggests the current extended drought may have resulted in reduced abundance. However, subsurface migration of both salamanders and CSRB may yield reductions in counts that are not accurate representations of true population abundance. For CSRB, a separate population assessment is underway to gain a greater understanding of population dynamics.

Vegetation mapping demonstrated that seasonal patterns in total aquatic vegetation coverage varied spatially. Coverages at Upper Spring Run were lower than long-term averages and varied from previous years due to reductions in bryophyte and expansion of *Cabomba*. Habitat suitability indices at Landa Lake declined throughout the year as bryophyte coverage waned. Overall OHSI for Fountain Darters at Landa Lake declined to a 5-year minimum by fall, and Fountain Darter densities and occurrence decreased. Quality Fountain Darter habitat at Old Channel remained stable yet below average coverages of rooted vegetation occurred in this reach. However, these comparisons in the Old Channel reach should not be interpreted an indicator of degraded conditions, since non-native *Hygrophila* historically dominated the reach prior to restoration. Furthermore, Old Channel was the only reach to retain substantial bryophyte coverages through the lowest flows in August. In contrast to declining habitat conditions at Upper Spring Run and Landa Lake, above average vegetation coverages (e.g., expansion of *Cabomba*) in the spring at Upper and Lower New Channel reaches and fall at Upper New Channel were best explained by the prolonged absence of flood pulse events along Dry Comal Creek. Changes in vegetation structure and composition at New Channel were also demonstrated by a higher OHSI. Improved habitat conditions in this reach resulted in abrupt increases in Fountain Darter density. However, overall lower densities and occurrence rates observed in fall 2023 indicate potential negative effects of extended periods of habitat degradation in Comal Springs. That said, increases in density and occurrence in New Channel and expansion of *Cabomba* likely facilitated resistance to substantial declines in Fountain Darter populations.

Evidence of detectable temporal trends in fish communities varied among the selected metrics, as well as between and within study segments. Species richness and diversity were typically higher in riverine areas and lowest at Landa Lake. Five-year trends in species richness usually varied from event to event and displayed no detectable patterns. The increasing diversity observed at Landa Lake in previous years declined in 2023 which aligns with the degraded Fountain Darter habitat conditions observed. However, relative density of spring fishes remained consistently high and varied substantially less at Landa Lake than other segments. Temporal trends in richness of spring-associated fishes were congruent with community-level observations and generally stable throughout the study area.

In summary, 2023 biological monitoring provided insights into the current condition of the EAHCP Covered Species in the Comal Springs/River System, and documented important flow-ecology relationships driving population dynamics. Results indicated that Covered Species and aquatic vegetation appeared to be more impacted by reduced flows in spring run habitats compared to riverine habitats and Landa Lake, which suggests greater resilience potential than expected in some downstream areas. Despite declines observed in Covered Species habitats and population indices, historical data indicates that ecological conditions will likely improve when typical flows return. Subsequent monitoring efforts will provide opportunities to better understand the dynamics of this complex ecological system and how it responds to future hydrologic conditions.

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# APPENDIX A: CRITICAL PERIOD MONITORING SCHEDULES

# COMAL RIVER/SPRINGS
# Critical Period Low-Flow Sampling – Schedule and Parameters

| FLOW TRIGGER (+ or - 10 cfs) | PARAMETERS |
|---|---|
| **200 cfs** | Full Sampling Event |
| **150 cfs** | Full Sampling Event |
| **120 - 80 cfs** | Riffle Beetles and spring discharge – Every 10 cfs decline (maximum weekly) |
| **100 cfs** | Full Sampling Event |
| **100 - 50 cfs** | Habitat Evaluations - Every 10 cfs decline (maximum weekly) |
| **50 cfs** | Full Sampling Event |
| **50 - 0 cfs** | Habitat Evaluations - Every 10 cfs decline (maximum weekly) |
| **10 - 0 cfs** | Full Sampling Event |
| **RECOVERY** | |
| **25 - 100 cfs** | Full Sampling Event (dependent on flow stabilization) |
| **100 - 200 cfs** | Full Sampling Event (dependent on flow stabilization) |

## PARAMETER DESCRIPTION

| | |
|---|---|
| Full Sampling Event | Aquatic Vegetation Mapping<br>Fountain Darter Sampling<br>Drop Net, Dip net (Presence/Absence), and Visual Parasite evaluations<br>Fish Community Sampling<br>Salamander Sampling - Visual<br>Riffle Beetle – Cotton lure sampling<br>Fish Sampling - Exotics/Predation (100 cfs and below)<br>Water Quality - Suite I and Suite II |
| Riffle Beetle Monitoring | Spring discharge and wetted perimeter measurements |
| Habitat Evaluations | Photographs |

# COMAL RIVER/SPRINGS
# Species-Specific Triggered Sampling

| FLOW RATE (+ or - 5 cfs) | SPECIES | FREQUENCY | PARAMETERS |
|---|---|---|---|
| ≤150 or ≥80 cfs | Fountain Darter | Every other month | Aquatic vegetation mapping to include Upper Spring Run reach, Landa Lake, Old Channel reach, and New Channel reach |
| ≤150 or ≥80 cfs | Fountain Darter | Every other month | Conduct Dip net sampling/visual parasite evaluations at five (5) sites in the Upper Spring Reach; twenty (20) sites in Landa Lake; twenty (20) sites in the Old Channel reach and; at five (5) sites in the New Channel reach. |
| ≤60 cfs | Fountain Darter | Weekly | Conduct Dip net sampling/visual parasite evaluations at five (5) sites in the Upper Spring Reach; twenty (20) sites in Landa Lake; twenty (20) sites in the Old Channel reach and; at five (5) sites in the New Channel reach. |
| ≤60 cfs | Fountain Darter | Monthly | Aquatic vegetation mapping at Upper Spring Run reach, Landa Lake, Old Channel reach, and New Channel reach |
| ≤120 cfs | Comal Springs Riffle Beetle | Every 2 weeks | Monitoring via cotton lures at Spring Run 3, western shore of Landa Lake, and Spring Island upwelling |
| ≤120 cfs or ≥80 cfs | Comal Springs Salamander | Every other week | Salamander snorkel surveys will be conducted at three sites (Spring Runs 1 and 3 and the Spring Island area) |
| ≤80 cfs | Comal Springs Salamander | Weekly | Salamander snorkel surveys will be conducted at three sites (Spring Runs 1 and 3 and the Spring Island area) |

# APPENDIX B: LOW-FLOW CRITICAL PERIOD WATER QUALITY SAMPING AND HABITAT EVALUATION

# Water Quality Sampling Results

**Table B1.** **Water quality sampling at select stations during Low-flow Critical Period Monitoring in August 2023. Measurements were taken at the middle of the water-column.**

| Site | Date | Time | Temp (°C) | SpCond (µs/cm) | pH | D.O. (mg/L) | Depth (ft) | Velocity (ft/s) | Weather Conditions |
|---|---|---|---|---|---|---|---|---|---|
| Blieder's Creek | 2023-08-10 | 8:51 | 28.7 | 537 | 7.68 | 5.71 | 0.9 | 0.01 | Partly Cloudy, 81 F, clear water |
| Heidelberg Main Channel | 2023-08-10 | 8:59 | 26.2 | 568 | 7.56 | 7.26 | 1.9 | 0.00 | Partly Cloudy, 81 F, clear water |
| Island Park Far | 2023-08-10 | 9:17 | 23.9 | 573 | 7.47 | 5.63 | 0.9 | 0.03 | Partly Cloudy, 82 F, clear water |
| Island Park Near | 2023-08-10 | 9:23 | 23.8 | 569 | 7.34 | 5.38 | 2.2 | 0.00 | Partly Cloudy, 82 F, clear water |
| Landa Lake | 2023-08-10 | 9:39 | 23.9 | 567 | 7.46 | 6.08 | 1.2 | 0.51 | Mostly Sunny, 83 F, clear water |
| Spring Run 3 | 2023-08-10 | 9:44 | 23.6 | 572 | 7.56 | 5.63 | 0.7 | 0.11 | Mostly Sunny, 83 F, clear water |
| Spring Run 2 | 2023-08-10 | 9:53 | 23.9 | 575 | 7.38 | 5.57 | 0.7 | 0.01 | Mostly Sunny, 85 F, clear water |
| Spring Run 1 | 2023-08-10 | 10:01 | 25.2 | 567 | 7.72 | 4.94 | 0.9 | 0.01 | Mostly Sunny, 85 F, clear water |
| SR1-SR2 Confluence | 2023-08-10 | 10:08 | 25.3 | 578 | 7.78 | 5.62 | 0.4 | 0.01 | Mostly Sunny, 85 F, clear water |
| Old Channel Upstream | 2023-08-10 | 10:49 | 24.6 | 566 | 7.87 | 8.09 | 1.1 | 0.23 | Sunny, 89 F, clear water |
| Old Channel Downstream | 2023-08-10 | 11:01 | 24.9 | 568 | 7.99 | 7.61 | 0.8 | 1.59 | Sunny, 89 F, clear water |
| New Channel Upstream | 2023-08-10 | 10:31 | 24.2 | 569 | 7.56 | 4.67 | 4.2 | 0.10 | Mostly Sunny, 87 F, clear water |
| New Channel Downstream | 2023-08-10 | 11:09 | 26.6 | 567 | 7.86 | 7.32 | 2.9 | 0.00 | Sunny, 90 F, clear water |

**Table B2.** **Lab results from water quality grab samples collected at select stations during Low-flow Critical Period Monitoring on August 10, 2023. The unit for each parameter is milligrams per liter (mg/L). ND for each parameters denotes that it was not detectable.**

| Site | Nitrate as N | Total N | Ammonia | Total P | Alkalinity | Total Suspended Solids |
|---|---|---|---|---|---|---|
| Blieder's Creek | 1.09 | ND | 0.091 | 0.023 | 225 | 19.4 |
| Heidelberg Main Channel | 1.46 | 1.46 | ND | ND | 241 | ND |
| Island Park Far | 1.56 | 1.56 | ND | 0.0186 | 247 | 11.8 |
| Island Park Near | 1.72 | 1.72 | ND | ND | 244 | ND |
| Landa Lake | 1.72 | 1.72 | ND | ND | 241 | ND |
| Spring Run 3 | 1.82 | 1.82 | ND | ND | 232 | ND |
| Spring Run 2 | 1.77 | 1.77 | ND | ND | 231 | ND |
| Spring Run 1 | 1.4 | 1.4 | ND | 0.0111 | 237 | 2.32 |
| New Channel Upstream | 1.57 | 1.57 | ND | ND | 234 | ND |
| Old Channel Upstream | 1.57 | 1.57 | ND | ND | 242 | 1.26 |
| Old Channel Downstream | 1.53 | 1.53 | ND | ND | 215 | 2.53 |
| New Channel Downstream | 1.43 | 1.43 | 0.0519 | 0.0138 | 211 | 9.05 |

# Habitat Evaluation

BIO-WEST

# MEMORANDUM

| | |
|---|---|
| TO: | Chad Furl, Kristy Kollaus |
| FROM: | Ed Oborny (BIO-WEST) |
| DATE: | **September 1, 2023** |
| SUBJECT: | EA HCP Critical Period Habitat Evaluations – Comal System |

## Habitat Evaluations (100 to 80 cfs, 70 cfs, 60 cfs)

### COMAL SYSTEM:

The Spring 2023 Comprehensive Biological Monitoring effort for the Comal System was completed in May 2023. That monitoring event doubled for the 150 cfs full Critical Period monitoring trip since total system discharge during that routine monitoring ranged from approximately 130 cfs to 150 cfs. Mid-May rains and resulting recharge increased total system daily discharge to over 200 cfs briefly towards the end of May. However, subsequent hot and dry conditions has led to total system discharge steadily declining this summer. The under 100 cfs full Critical Period monitoring event was triggered in mid-July which incorporated the 100 to 80 cfs habitat evaluation. Subsequently, the 70 cfs habitat evaluation was conducted on August 10th and the 60 cfs habitat evaluation was conducted on August 21st. All activities associated with Comal Critical Period Biological Monitoring < 100 cfs event have been completed as shown below:

- Aquatic vegetation mapping of the four (Upper Spring Run, Landa Lake, Old Channel, and upper New Channel) study reaches.
- Comal Salamander surveys (Spring Run 1, Spring Run 3, and Spring Island).
- Comal Springs discharge measurements
- Landa Lake Flow partitioning measurements
- Thermister downloads and zebra mussel lure assessment.
- Fixed-station photography.
- Fountain Darter presence/absence and timed dip netting.
- Fountain Darter drop netting in the four study reaches.
- Fountain Darter visual surveys in Landa Lake.
- Comal Springs Riffle Beetle cotton lure sampling (Spring Run 3, Western Shoreline, and Spring Island).
- Suite I and II water quality sampling
- Fish Community sampling via SCUBA and seine.

Additionally, all continued activities associated with Critical Period biological monitoring (**Task 2**) and low-flow monitoring (**Task 3**) have been completed through August. This memorandum highlights habitat conditions this summer in the Comal system. Figure 1 shows the total system discharge at the USGS Comal gage over the past 30 days. As of September 1st, J-17 aquifer conditions are reported as 628.5 (see image to right).

AQUIFER CONDITIONS

| Area Index | Today | Yesterday | Ten Day |
|---|---|---|---|
| Bexar (J-17) | 628.5 | 628.8 | 628.7 |
| Uvalde (J-27) | 841.2 | 841.2 | 841.2 |
| Comal Springs | 68 | 69 | 67 |
| San Marcos | 69 | 69 | 68 |

Provisional Daily water readings as of 9:00 AM
Last Updated on September 1 2023

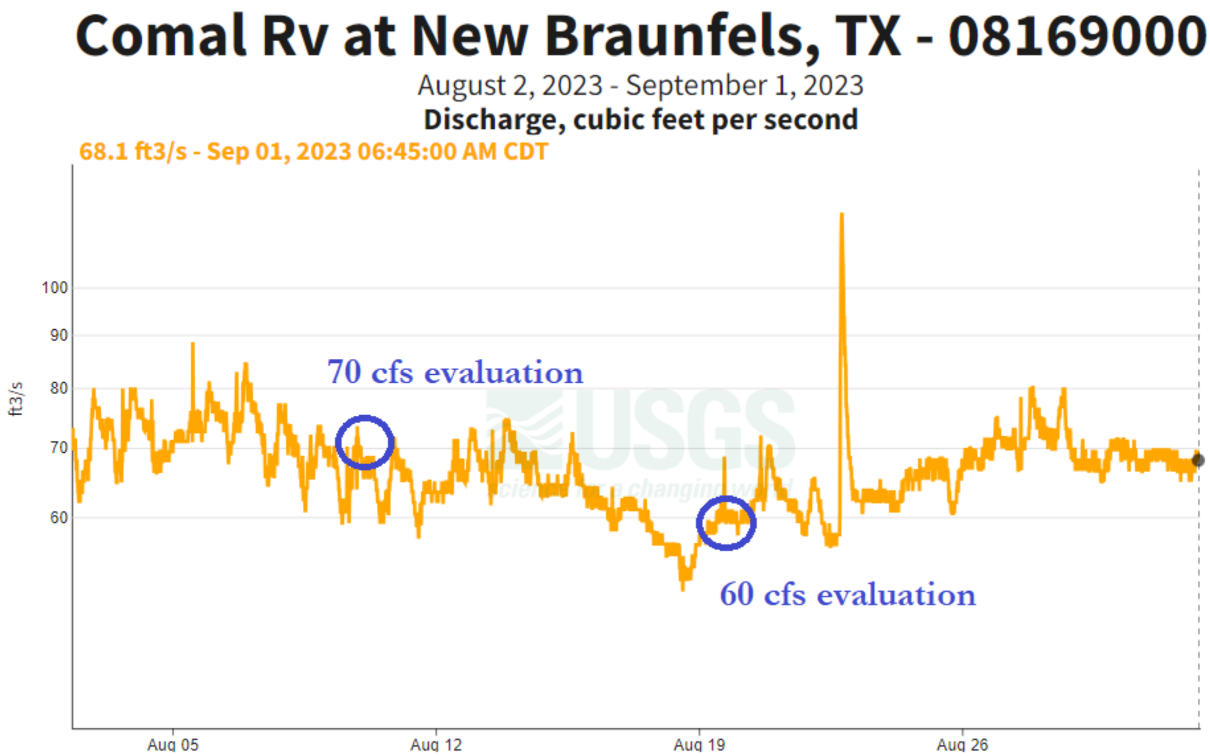


**Figure 1:** Total system discharge over the past 30 days at USGS gage on the Comal River.

Key ecological information regarding study reaches and full-system sampling are included herein relative to the July Critical Period and low-flow monitoring for comparison. Water temperature is a key component system-wide as it supports spring-related aquatic assemblages. Recent one-month trends in water temperature (°C) for August Critical Periods were assessed using temperature data loggers (HOBO Tidbit v2 Temp Loggers) at 11 permanent monitoring stations in the Comal Springs/River. Data for each monitoring station are based on 10-minute intervals and dates for recent trends extended from the last day that each data logger was downloaded to the first of the month. One-month trends were examined from 8/1 – 8/30 (n = 30 days) for all stations except Blieders Creek (8/15-8/30; n = 16 days). At all stations, data were compared to long-term water temperature data measured at 4-hour intervals in August from 2001 – 2022 or to the greatest temporal extent available. For analysis, one-month trends were compared to long-term data using boxplots to visualize differences in central tendency (i.e., median) and variation (e.g., interquartile range). Results are provided in Table 1 and graphically depicted in Figure 2. Overall, it is evident that lower than average discharge coupled with summer time conditions this August created elevated water temperatures in Blieders Creek and Heidelburg in the Upper Spring Run and at locations further downstream from the spring flow orifices (Figure 2).

**Table 1.** Summary of boxplot descriptive statistics comparing recent one-month and long-term trends in water temperature (°C) at 11 monitoring stations in the Comal Springs/River for the month of August.

| Station | Period | Lower Whisker | Lower Box | Median | Upper Box | Upper Whisker | Interquartile Range |
|---|---|---|---|---|---|---|---|
| Blieders | 1-month | 27.46 | 29.07 | 29.59 | 30.14 | 31.05 | 1.08 |
| Blieders | Long-term | 22.86 | 25.74 | 26.98 | 28.35 | 31.69 | 2.60 |
| Heidelberg | 1-month | 23.83 | 25.99 | 27.51 | 28.52 | 30.65 | 2.53 |
| Heidelberg | Long-term | 23.43 | 23.81 | 23.91 | 24.07 | 24.46 | 0.26 |
| Booneville Near | 1-month | 23.83 | 23.86 | 23.88 | 23.93 | 24.03 | 0.07 |
| Booneville Near | Long-term | 23.28 | 23.52 | 23.63 | 23.69 | 23.94 | 0.17 |
| Booneville Far | 1-month | 23.26 | 23.86 | 24.10 | 25.16 | 27.09 | 1.31 |
| Booneville Far | Long-term | 22.71 | 23.76 | 24.01 | 24.53 | 25.67 | 0.77 |
| Spring Run 1 | 1-month | 24.05 | 24.20 | 24.36 | 24.46 | 24.85 | 0.27 |
| Spring Run 1 | Long-term | 23.42 | 23.57 | 23.67 | 23.74 | 23.99 | 0.17 |
| Spring Run 2 | 1-month | 23.62 | 24.00 | 24.12 | 24.27 | 24.65 | 0.27 |
| Spring Run 2 | Long-term | 23.37 | 23.52 | 23.55 | 23.62 | 23.76 | 0.10 |
| Spring Run 3 | 1-month | 23.47 | 23.53 | 23.59 | 23.67 | 23.86 | 0.14 |
| Spring Run 3 | Long-term | 23.43 | 23.48 | 23.50 | 23.52 | 23.57 | 0.04 |
| Old Channel | 1-month | 23.40 | 24.22 | 24.94 | 26.30 | 27.95 | 2.09 |
| Old Channel | Long-term | 22.97 | 23.98 | 24.36 | 25.16 | 26.89 | 1.18 |
| New Channel Upstream | 1-month | 23.74 | 24.77 | 25.72 | 26.89 | 29.89 | 2.12 |
| New Channel Upstream | Long-term | 22.99 | 23.81 | 24.15 | 24.85 | 26.40 | 1.04 |
| New Channel Downstream | 1-month | 23.62 | 25.07 | 25.96 | 26.89 | 27.63 | 1.83 |
| New Channel Downstream | Long-term | 22.99 | 24.29 | 24.92 | 25.75 | 27.92 | 1.46 |
| The Other Place | 1-month | 24.41 | 26.09 | 26.84 | 27.38 | 28.59 | 1.30 |
| The Other Place | Long-term | 23.03 | 24.46 | 25.10 | 25.79 | 27.47 | 1.33 |

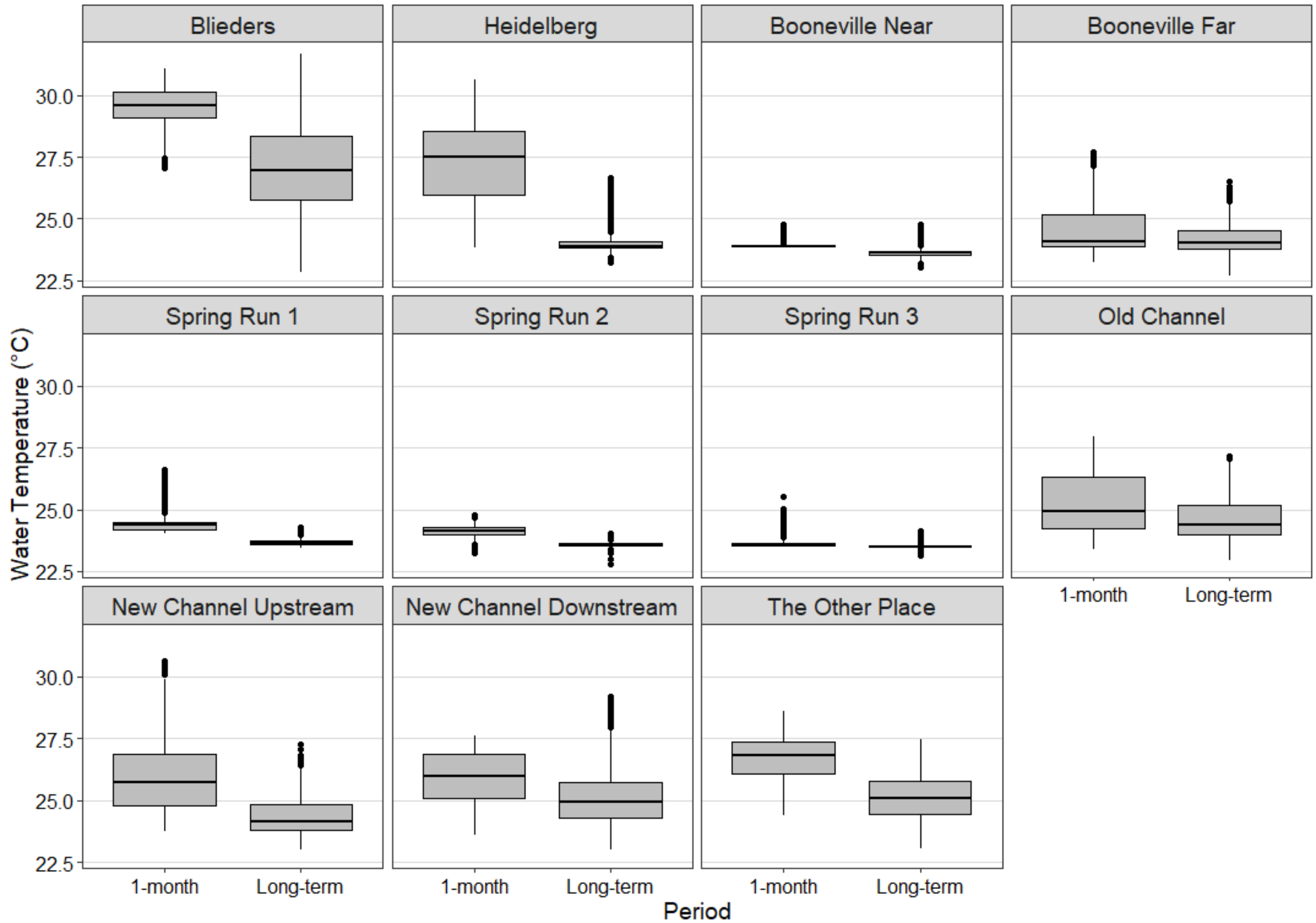


**Figure 2.** Boxplots comparing recent one-month and long-term water temperature trends at 11 monitoring stations from Blieders to The Other Place for the month of August. The thick horizontal line in each box is the median and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range, and outliers beyond this are designated with solid black circles.

From Spring through August 2023, the five Comal Study reaches have varied in response to aquatic vegetation coverage. The Upper Spring Run reach lost all bryophytes, but retained most *Sagittaria* and saw some increases in *Cabomba*. The Landa Lake reach exhibited a slight decline overall while the Old Channel increased in native aquatic vegetation and is the only reach at the conclusion of August that is still supporting bryophytes. The New Channel reaches experienced large declines in vegetation coverage with approximately a 90% reduction in *Cabomba*. The substrate in the new channel is highly disturbed with considerable turbidity during high recreation periods. At present, the aquatic vegetation conditions in the New Channel are worse than noted throughout the Summer of 2014. This submerged aquatic vegetation coupled with water temperature typically drives Fountain Darter habitat conditions. In the latest Fountain Darter dip net, random 50-site sampling conducted on August 30th, the presence/absence results were:

| | |
|---|---|
| Upper Spring Run | 0% |
| Old Channel | 100% |
| Landa Lake | 60% |
| New Channel | 20% |

Although recording 0% in the presence / absence abbreviated sampling, Fountain Darters were recorded in the Upper Spring Run reach during the July Critical Period drop netting and observed during the August 21st habitat evaluation in this reach. Landa Lake continues to support quality Fountain Darter habitat in areas, but the majority of bryophytes are gone and *Ludwigia* had started going emergent in the Three Islands area when flows were < 70 cfs. The Old Channel ERPA continues to maintain excellent Fountain Darter habitat from Landa Lake through the Old Channel LTBG reach. The New Channel reaches are showing considerable impact to Fountain Darter habitat, but darters are still occupying these areas.

Aquatic vegetation and Fountain Darter dip netting are key monitoring components as they comprise the equation / criteria for Fountain Darter refugia salvage activities described in Section 6.4.3 (**Comal Springs and River Ecosystem Adaptive Management Activities**) in the EAHCP. Those trigger conditions for the Fountain Darter in the Comal system are as follows:

- *Less than 50 percent mean aquatic vegetation (Landa Lake and Old Channel) AND less than 20 percent darter presence system-wide,*

*OR*

- *Less than 25 percent mean aquatic vegetation (Landa Lake and Old Channel) AND less than 30 percent darter presence system-wide.*

The results of the July and August calculations are presented below.

**JULY**

Approximate* percentage aquatic vegetation of mean - 95%
Percent darter abundance - 76%

**AUGUST**

Approximate* percentage aquatic vegetation of mean - 90%
Percent darter abundance - 66%

*Please note that the vegetation coverages used for the calculations below are draft at this time because we have not had time to polish them up for maps yet.

It is evident that both indicators have declined over the past month, but continue to be considerably above the EAHCP refugia criteria.

Comal Spring riffle beetle and Comal Springs salamander habitat throughout each species range has been reduced as water levels declined over the course of the summer. This is most exasperated in the upper reaches springs, Spring Runs 1 and 2, but also quite notable in Spring Run 3, the Western Shoreline, and around Spring Island. As of August 9$^{th}$, there were abundant numbers of Comal Springs riffle beetles being supported in the system. After a 2-week recovery period, Comal Springs riffle beetle limited, low-flow sampling has been resumed. The entire Comal Springs salamander survey areas for Spring Run 1 and the spring runs on Spring Island have been dry for the entirety of August, thus no salamanders have been recorded in these areas. Comal Springs salamander sampling is occurring weekly with individuals being recorded each week in Spring Run 3 and the eastern outfall of Spring Island where wetted area permits surface area sampling. It will be imperative to track both water temperature increases and wetted area reductions in the Comal System as this drought continues into the fall.

The following pictorial habitat evaluation over the course of the late summer highlights the current Covered species habitat conditions throughout the Comal System starting at the upper springs / Blieders Creek confluence and working downstream.

**Figure 3:** Blieders Creek looking downstream on July 25, 2023 (~85 cfs - left), August 10 (~70 cfs - center) and August 21 (~60 cfs – right). During each event there was no visible flow with abundant green algae, emergent *Sagittaria* and floating mats of dead vegetation.

**Figure 4:** Upper Spring Run reach Fountain Darter habitat on July 25, 2023 (Left ~85 cfs). Inactive Greenthroat Darter with flared gills in Upper Spring Run reach observed on the substrate on August 9, 2023 (Right ~70 cfs).

**Figure 5:** Spring Island Eastern Outfall Covered Species Habitat on July 25, 2023 (~85 cfs – upper left), August 10 (~70 cfs – upper right) and August 21 (~60 cfs – bottom center). During each event there was exposed substrate, but active springs and bryophytes are still present in wetted areas.

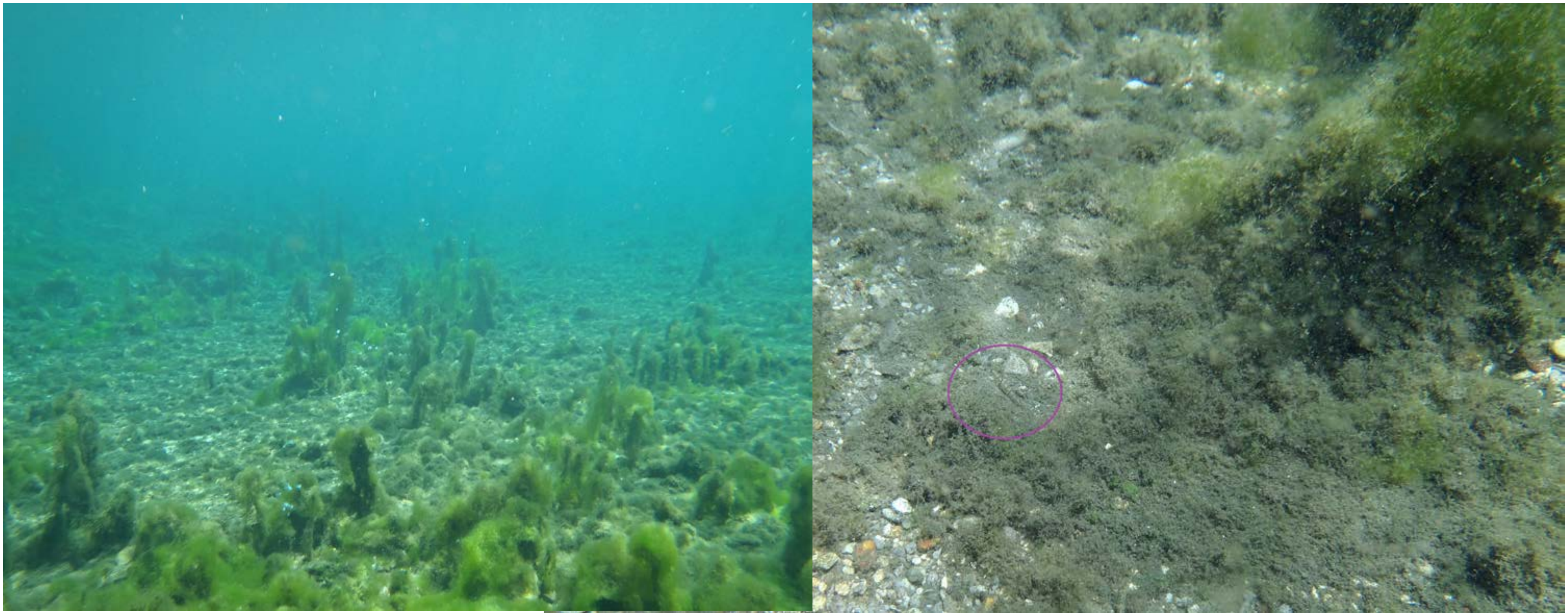

**Figure 6:** Landa Lake deeper section condition (left) and Fountain Darter in visual transect survey (right) on July 25, 2023 (~85 cfs).

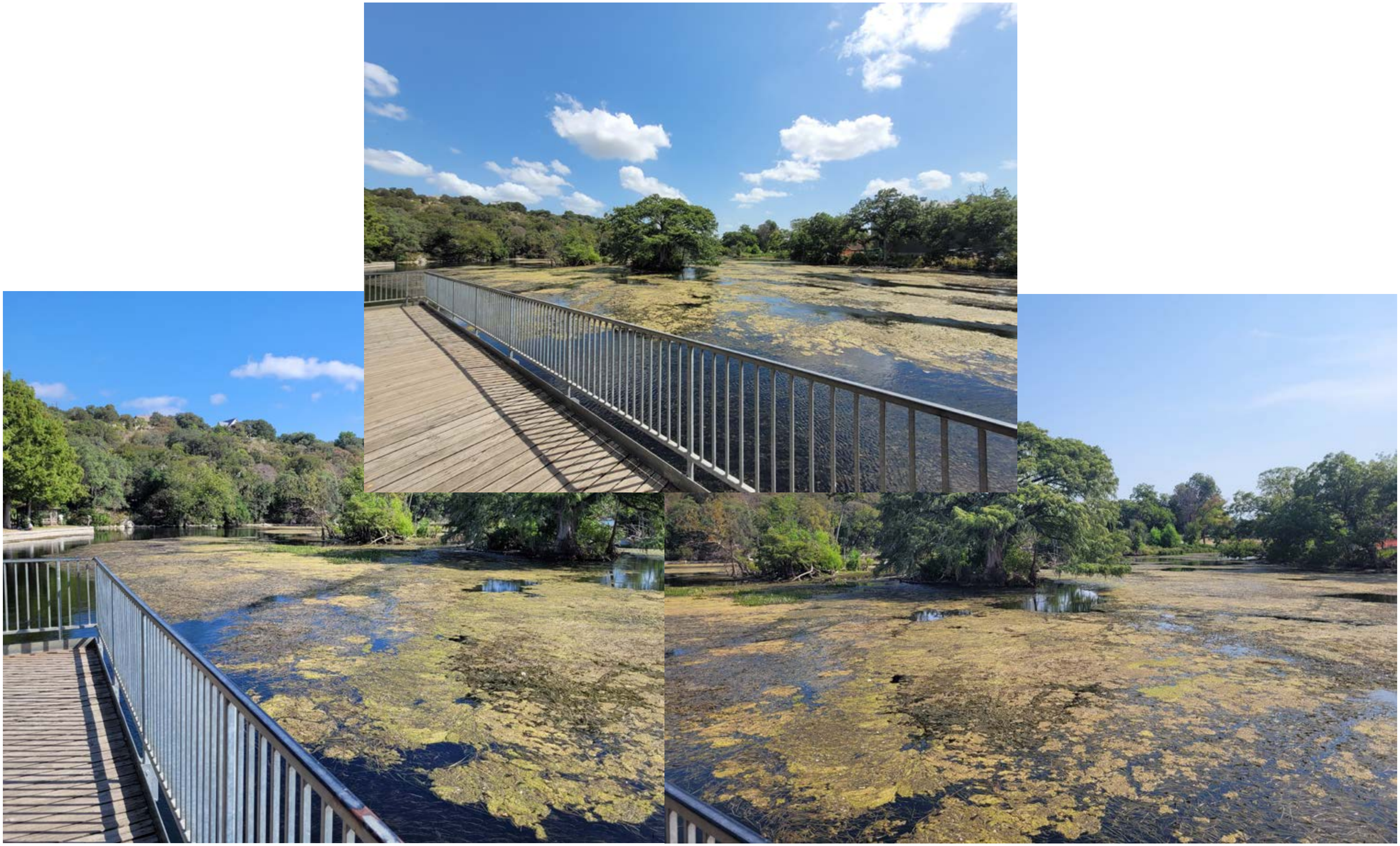

**Figure 7:** Landa Lake Floating Vegetation Matts looking upstream from Fishing Pier on July 25, 2023 (~85 cfs – upper center), August 10 (~70 cfs – lower left) and August 21 (~60 cfs – lower right). Areas of *Ludwigia* located between the three islands started to go emergent at around 70 cfs.

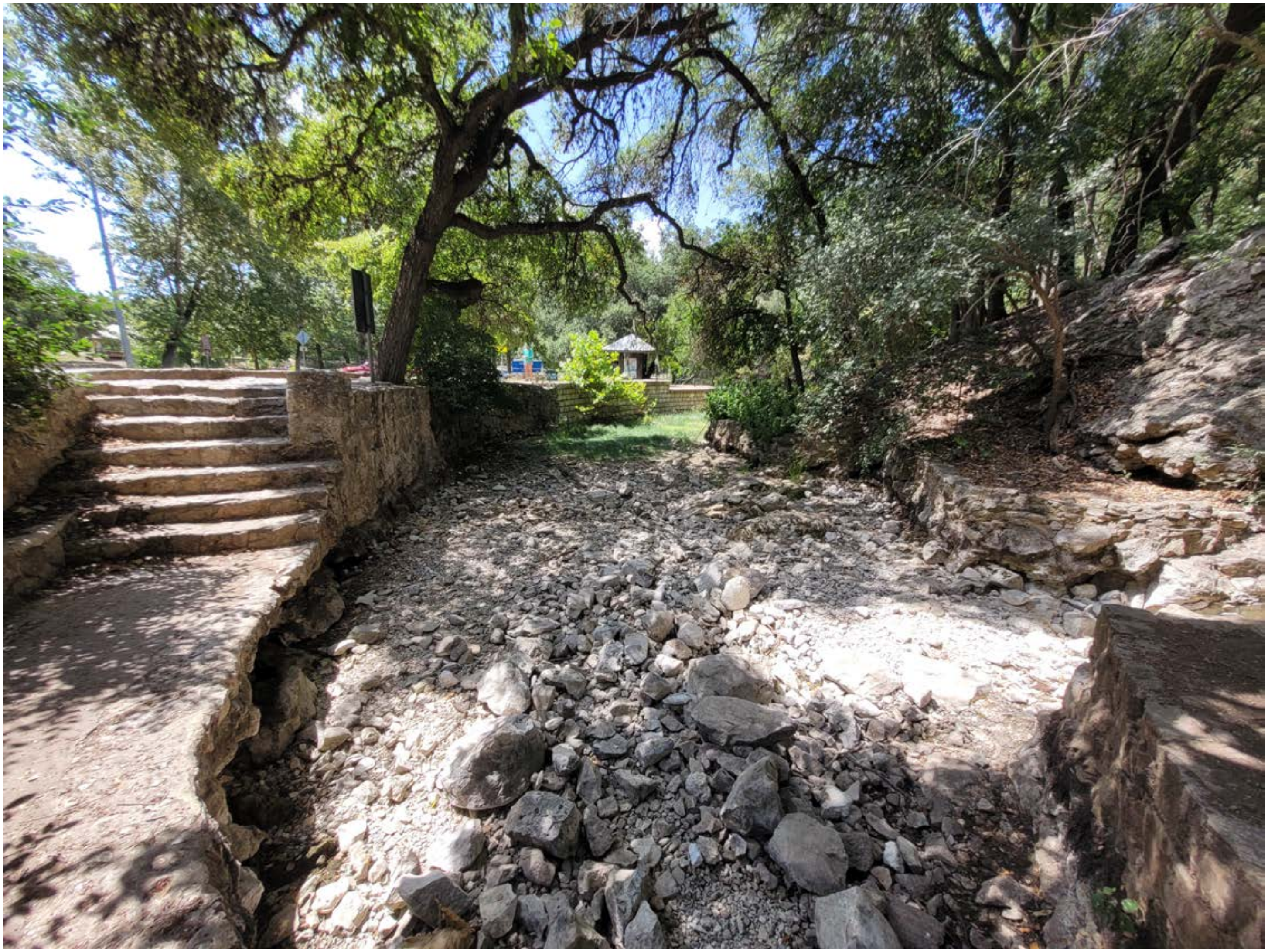

**Figure 8:** Spring Run 1 looking downstream from headwaters on July 25, 2023 (~85 cfs). Spring Run 1 headwaters remained dry throughout August.

**Figure 9:** Spring Run 2 kiddie pool looking downstream from bridge on July 25, 2023 (~85 cfs - left), August 10 (~70 cfs - center) and August 21 (~60 cfs – right).

**Figure 10:** Spring Run 3 looking downstream from headwaters on July 25, 2023 (~85 cfs - left), August 10 (~70 cfs - center) and August 21 (~60 cfs – right).

**Figure 11:** Casey Williams mapping submerged aquatic vegetation at the confluence of Spring Run 3 and Landa Lake on August 21 (~60 cfs).

**Figure 12:** Old Channel ERPA looking upstream from Golf Course Bridge on July 25, 2023 (~85 cfs – upper left), August 10 (~70 cfs – lower left) and August 21 (~60 cfs – right). Fountain Darter habitat including water temperature remains in excellent condition throughout the ERPA.

**Figure 13:** New Channel Park Office Weir on July 25, 2023 (~85 cfs – left [flow over weir), August 10 (~70 cfs – center [trickle of water flowing over weir) and August 21 (~60 cfs – right [no water flowing over weir – only seepage through dam]).

**Figure 14:** New Channel river left bank with no irrigation on July 25, 2023 (~85 cfs **-** left); New Channel looking downstream toward Park Office Weir on August 21 (~60 cfs – right).


**Figure 15:** New Channel and Old Channel confluence downstream on July 25, 2023 (~85 cfs).

In summary, total system discharge in the Comal System in 2023 declined below those levels observed in 2014. As witnessed in 2014, should this downward trend continue, these lower discharges will create worsening surface habitat conditions each week for the Comal Springs invertebrates. The positive news is that Comal invertebrates are persisting in areas with wetted surface habitat at this time and the system continues to support quality Fountain Darter habitat in Landa Lake and throughout the Old Channel ERPA. The slight rains and subsequent bump in the Aquifer levels in late August was also very welcome. This has caused overall total system discharge to increase slightly this past week. It remains to be seen if the fringes of the system (Blieders Creek, Upper Spring Run and New Channel) are approaching a tipping point or will continue to hold fast. As such, it is vital to keep tracking the surface-dwelling invertebrates should surface habitat continue to decline at Comal Springs. It is also important to continue monitoring the temporal component of these low flow conditions on submerged aquatic vegetation and Fountain Darter habitat. With no significant rainfall over the next two weeks, a second full Critical Period monitoring event (< 50 cfs) may be triggered in September. However, with a few rains, it is likely the next full monitoring event will be conducted in conjunction with the Fall Routine sampling later in October. Meanwhile, all Task 2 and Task 3 low-flow sampling components that are actively triggered at this time will be continued throughout September.

As always, if you have any questions, please don’t hesitate to reach out.

Ed

# APPENDIX C: AQUATIC VEGETATION MAPS

# Long-term Biological Goals Study Reaches


**Figure C1. Map of aquatic vegetation coverage at Upper Spring Run Study Reach in spring 2023.**


**Figure C2.** **Map of aquatic vegetation coverage at Upper Spring Run Study Reach in summer 2023 during the first Critical Period low-flow sampling event (July).**

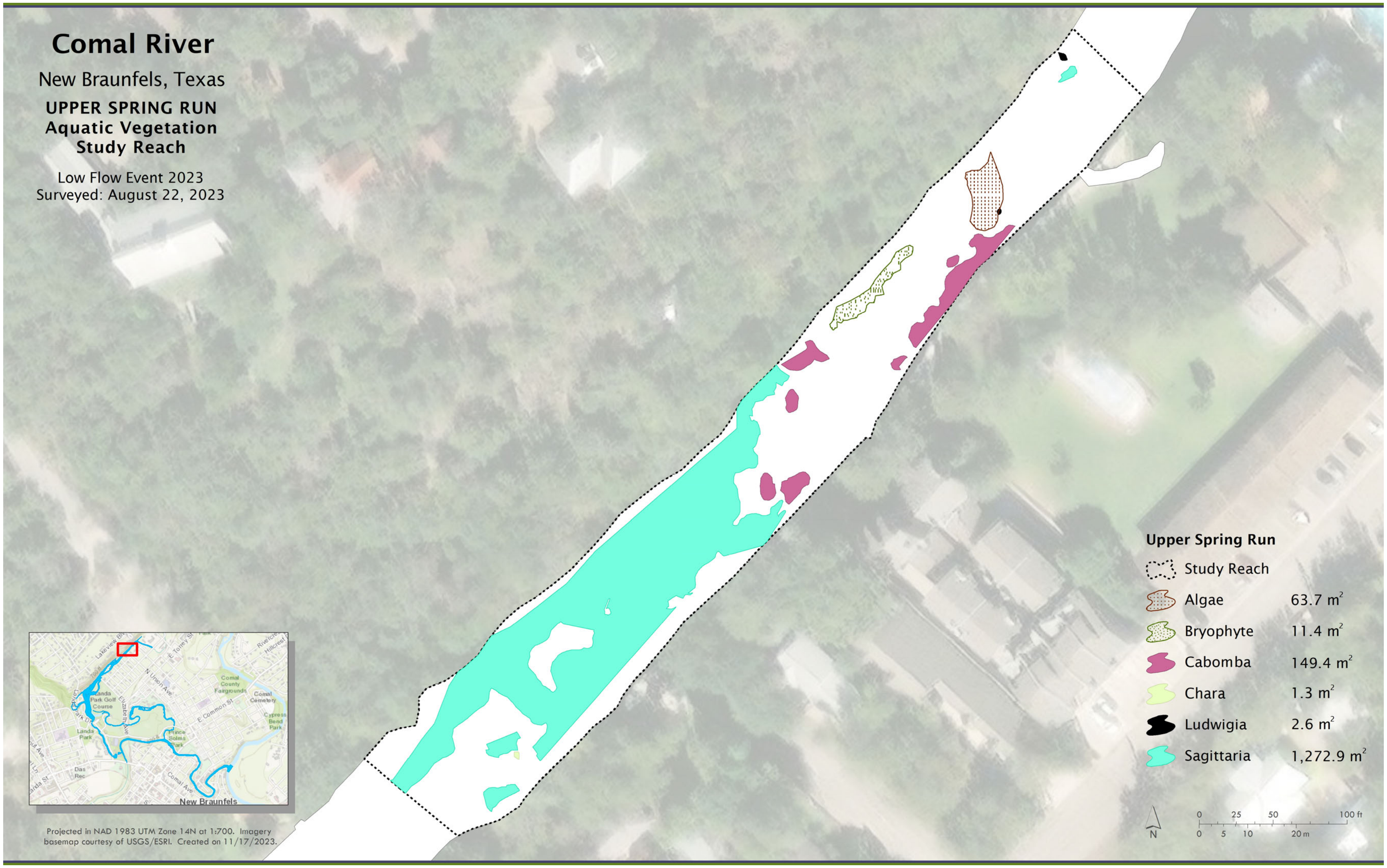


**Figure C3.** **Map of aquatic vegetation coverage at Upper Spring Run Study Reach in summer 2023 during the second Critical Period low-flow sampling event (August).**

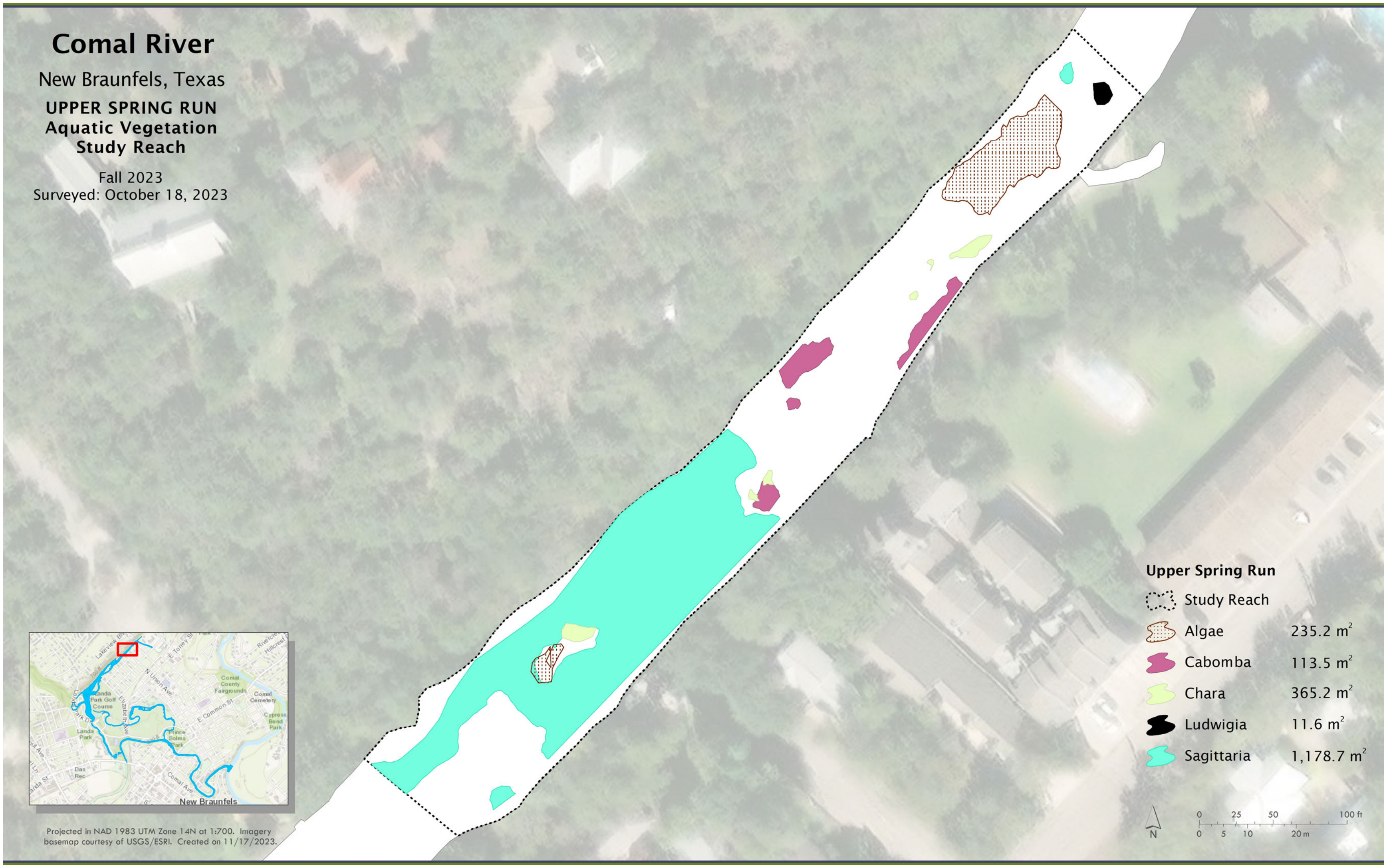


**Figure C4.** **Map of aquatic vegetation coverage at Upper Spring Run Study Reach in fall 2023.**

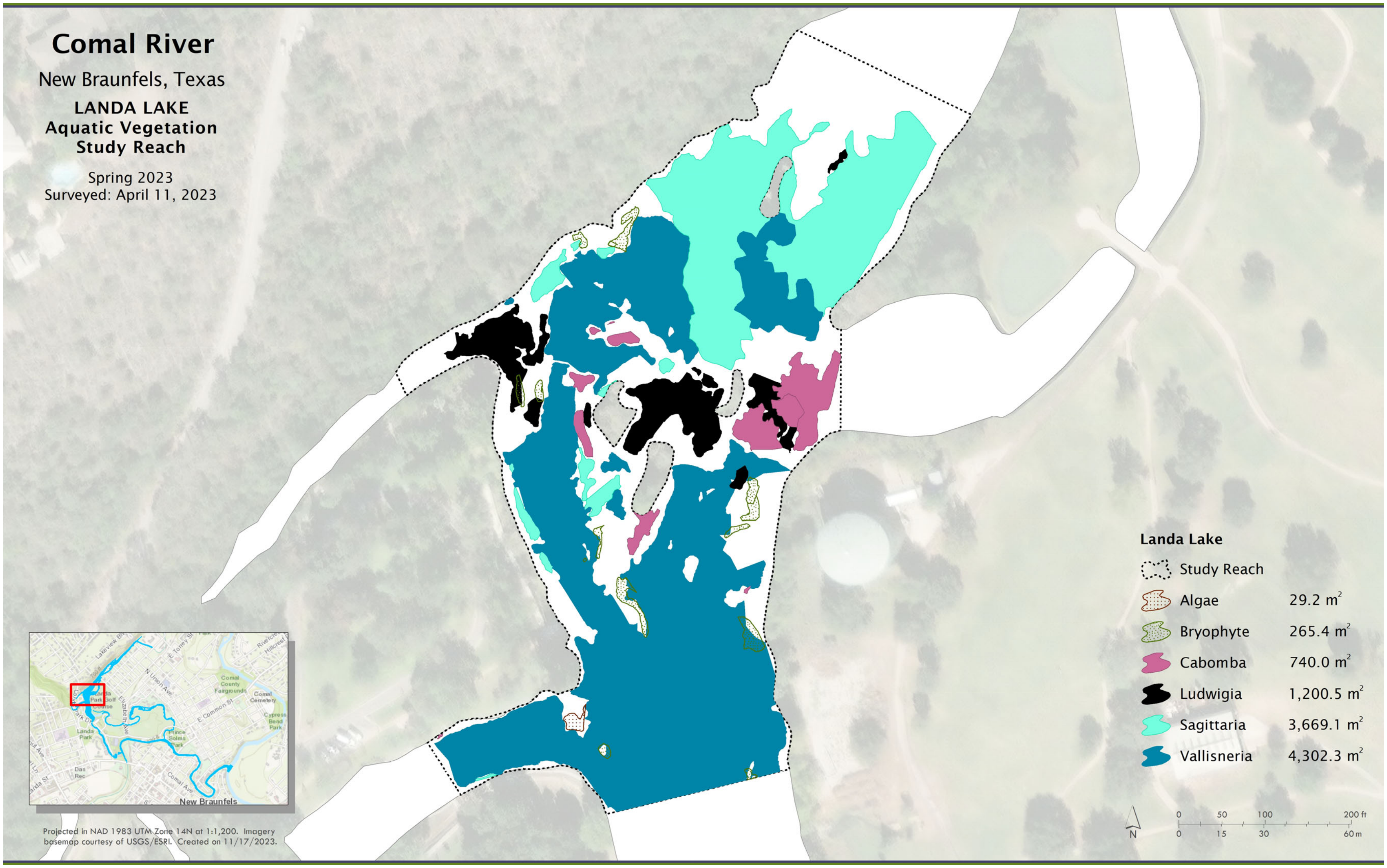


**Figure C5. Map of aquatic vegetation coverage at Landa Lake Study Reach in spring 2023.**

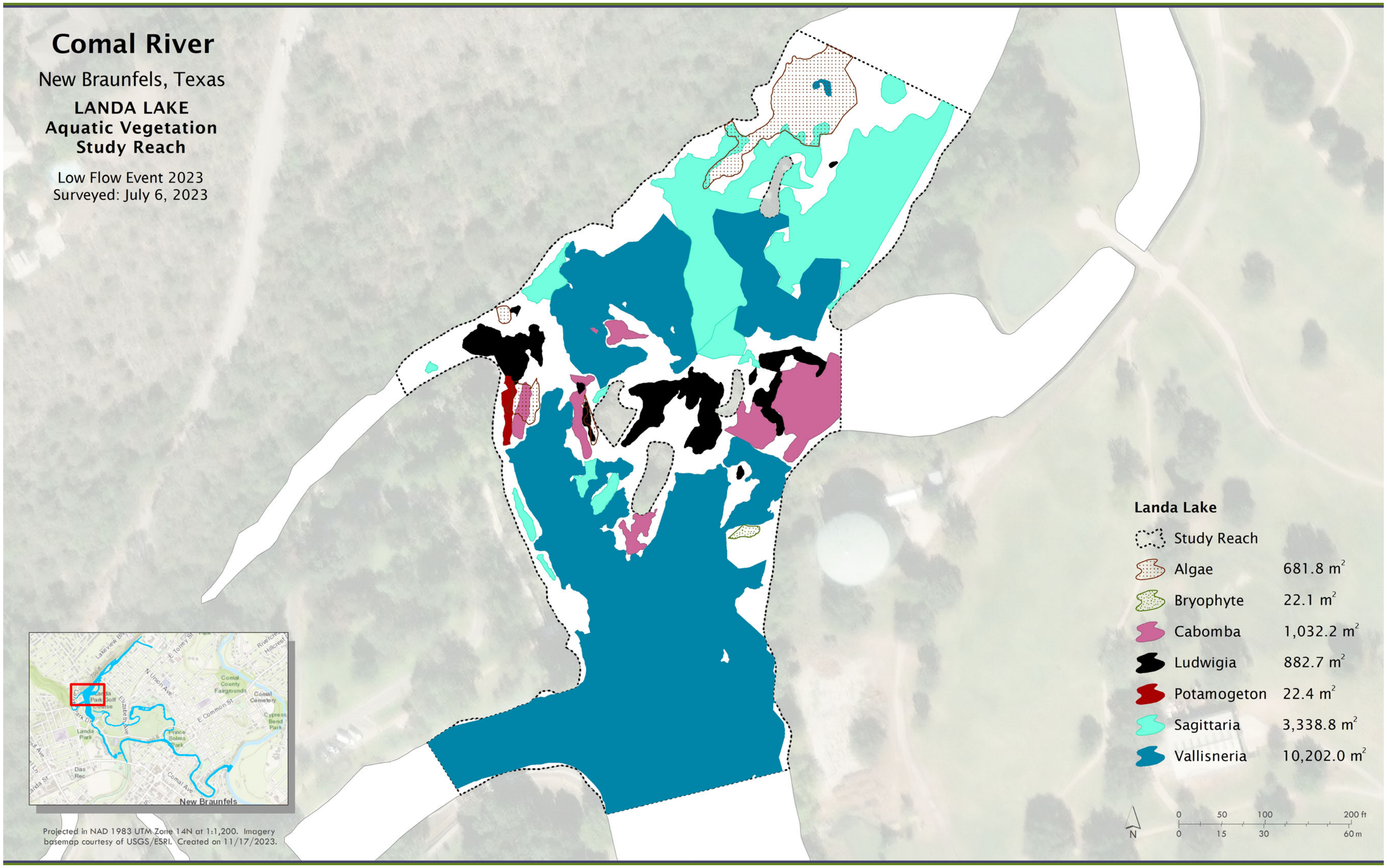


**Figure C6.** **Map of aquatic vegetation coverage at Landa Lake Study Reach in summer 2023 during the first Critical Period low-flow sampling event (July).**

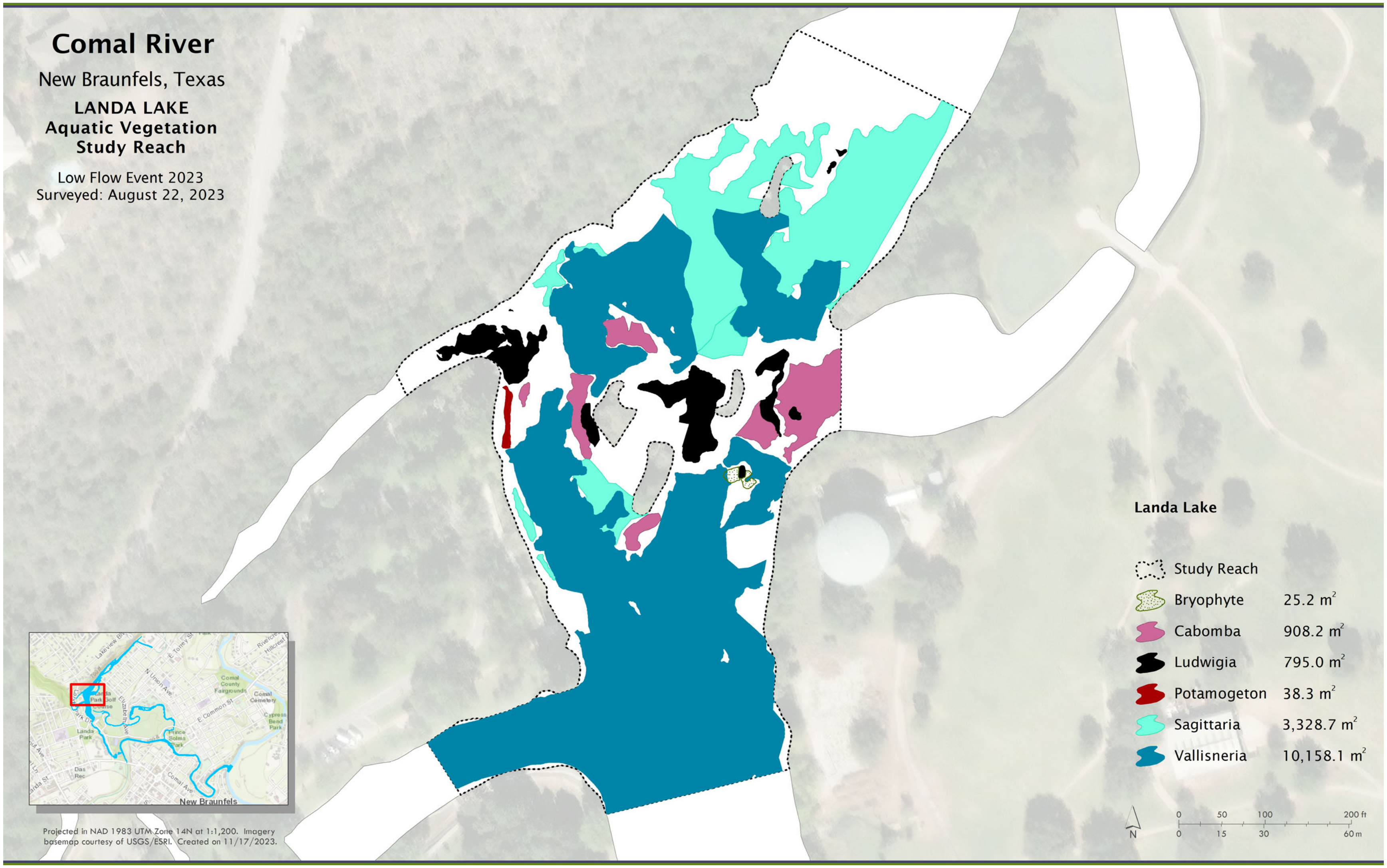


**Figure C7.** **Map of aquatic vegetation coverage at Landa Lake Study Reach in summer 2023 during the second Critical Period low-flow sampling event (August).**

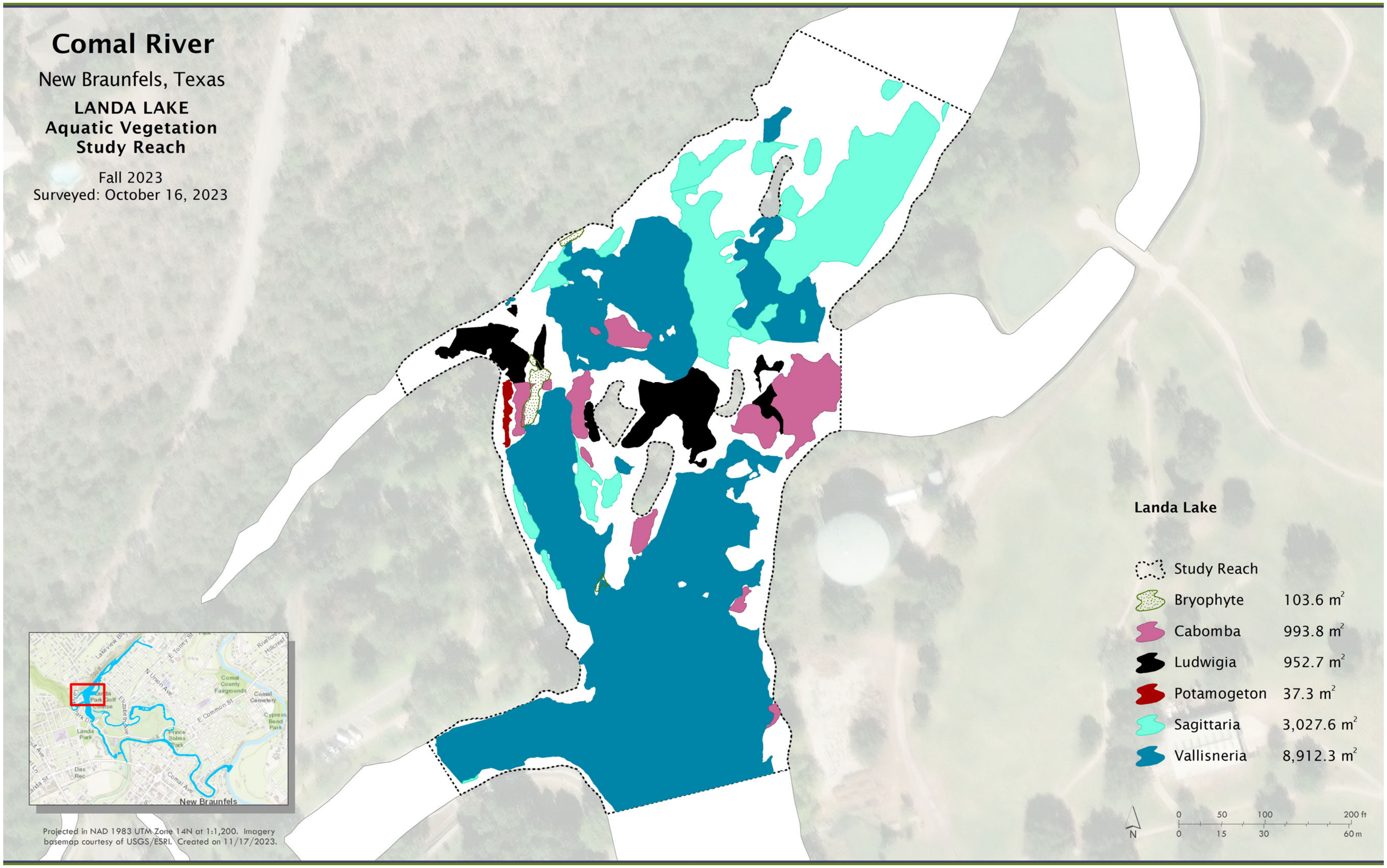


**Figure C8. Map of aquatic vegetation coverage at Landa Lake Study Reach in fall 2023.**

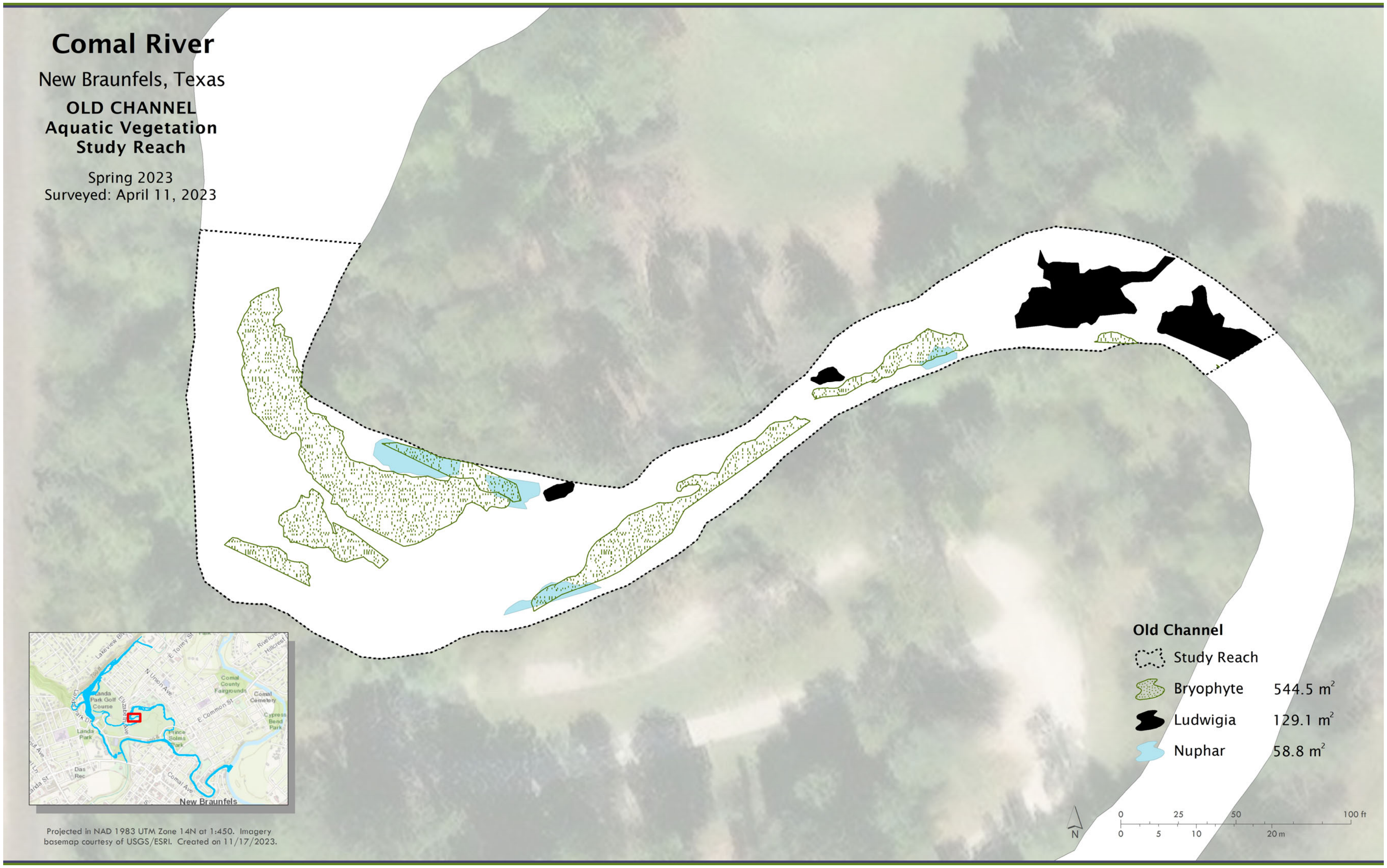


**Figure C9.** **Map of aquatic vegetation coverage at Old Channel Study Reach in spring 2023.**

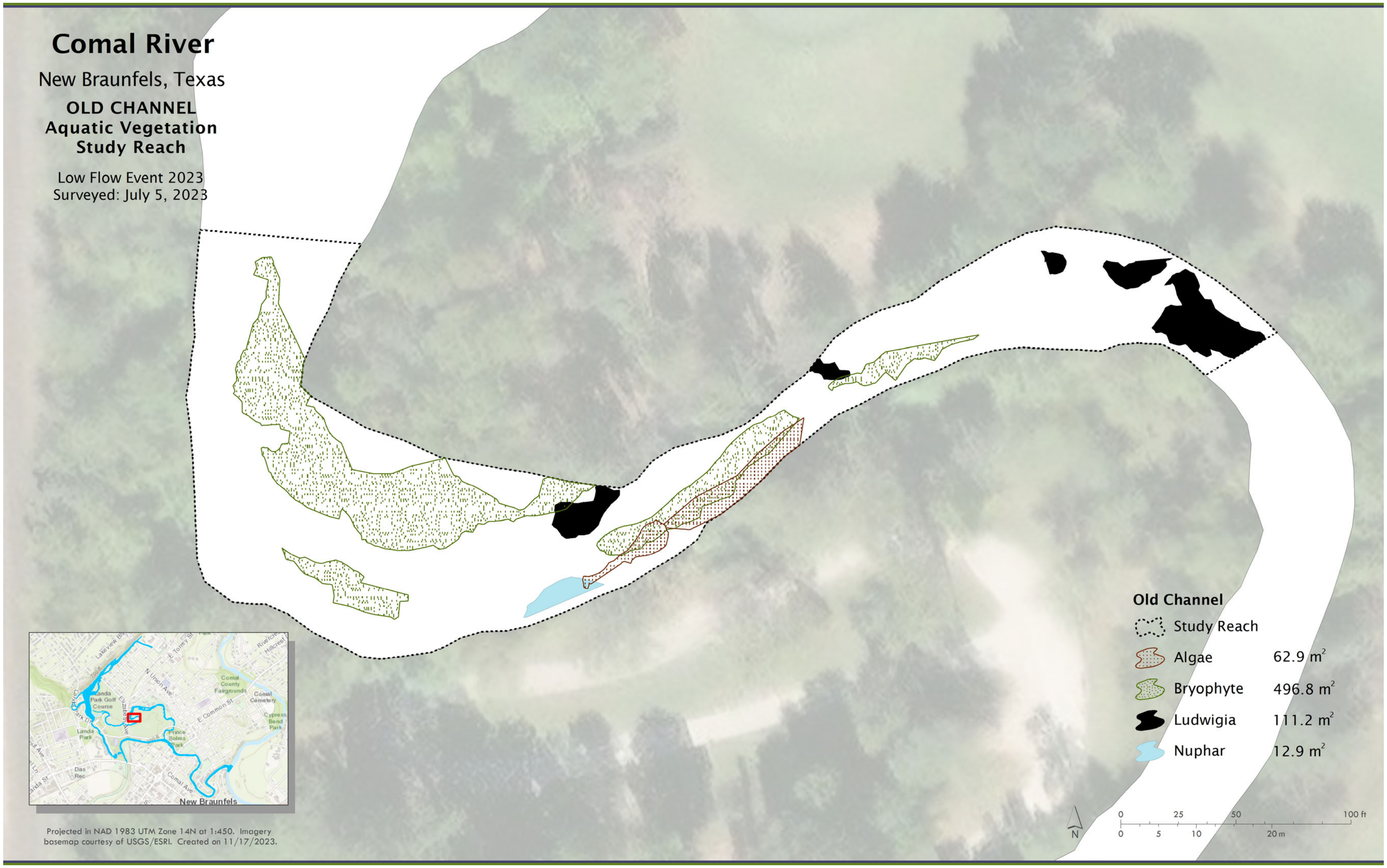


**Figure C10. Map of aquatic vegetation coverage at Older Channel Reach in summer 2023 during the first Critical Period low-flow sampling event (July).**

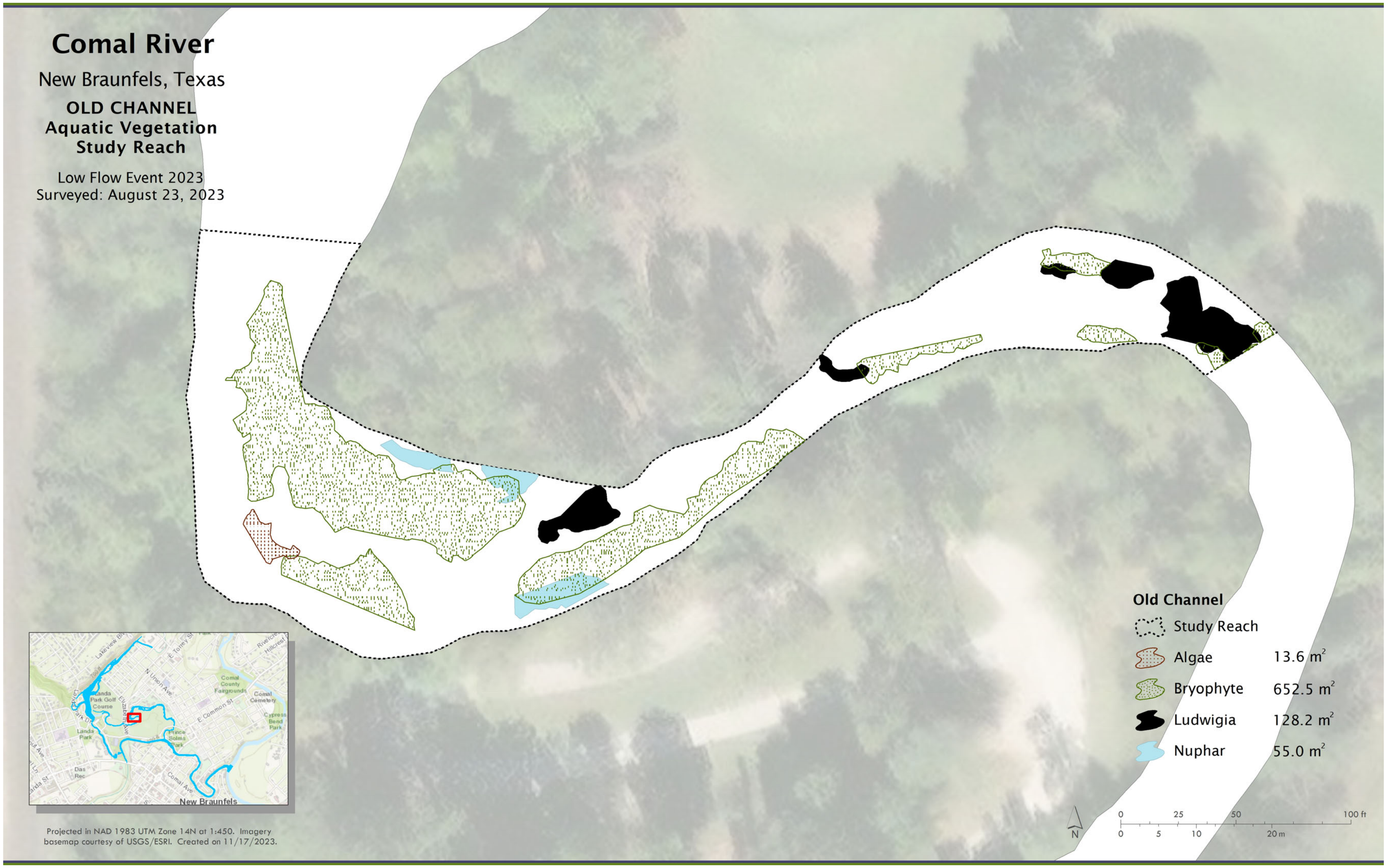


**Figure C11. Map of aquatic vegetation coverage at Old Channel Study Reach in summer 2023 during the second Critical Period low-flow sampling event (August).**


**Figure C12. Map of aquatic vegetation coverage at Old Channel Study Reach in fall 2023.**


**Figure C13. Map of aquatic vegetation coverage at Upper New Channel Study Reach in spring 2023.**


**Figure C14. Map of aquatic vegetation coverage at Upper New Channel in summer 2023 during the first Critical Period low-flow sampling event (July).**

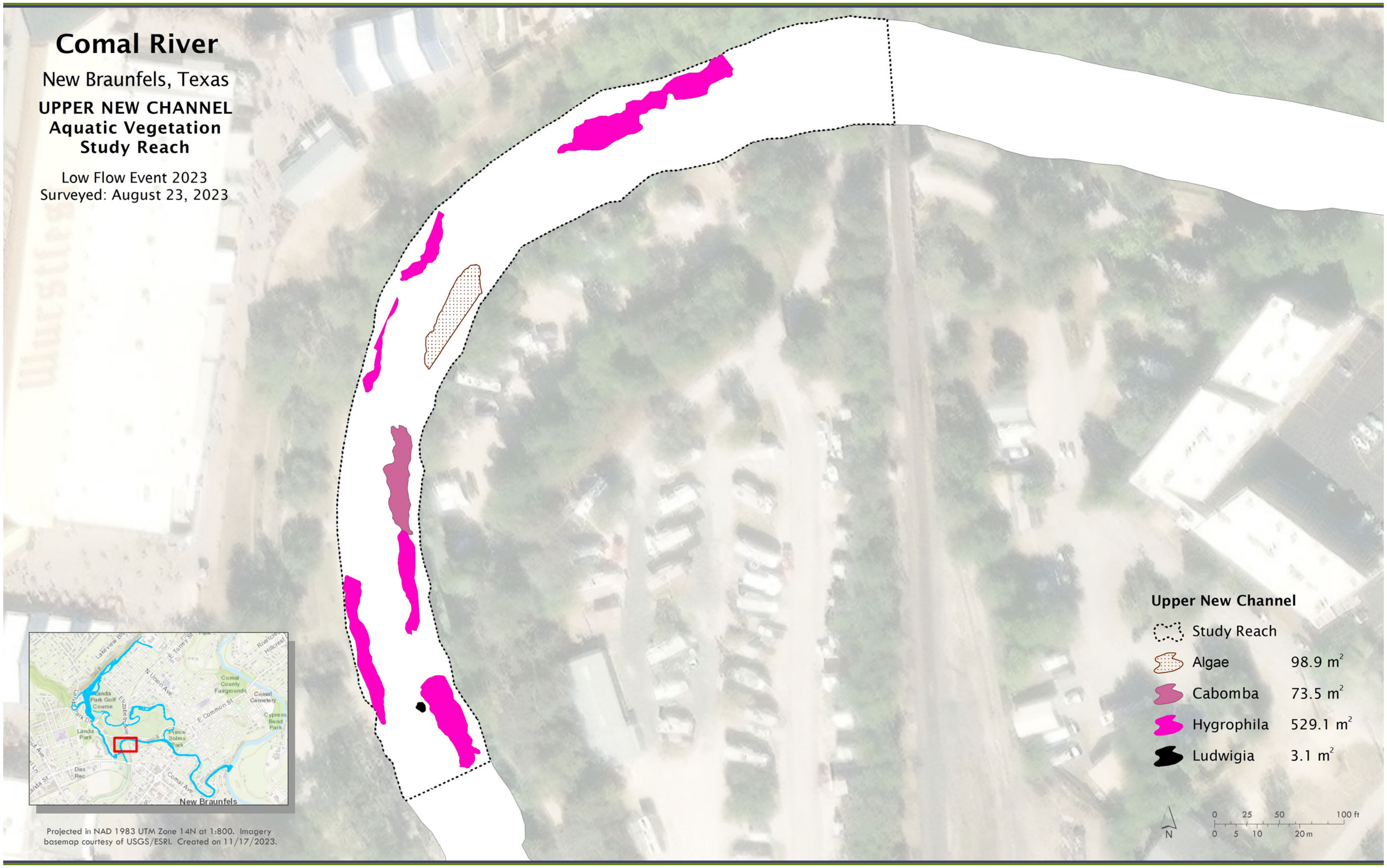


**Figure C15.** **Map of aquatic vegetation coverage at Upper New Channel Study Reach in summer 2023 during the second Critical Period low-flow sampling event (August).**


**Figure C16. Map of aquatic vegetation coverage at Upper New Channel Study Reach in fall 2023.**

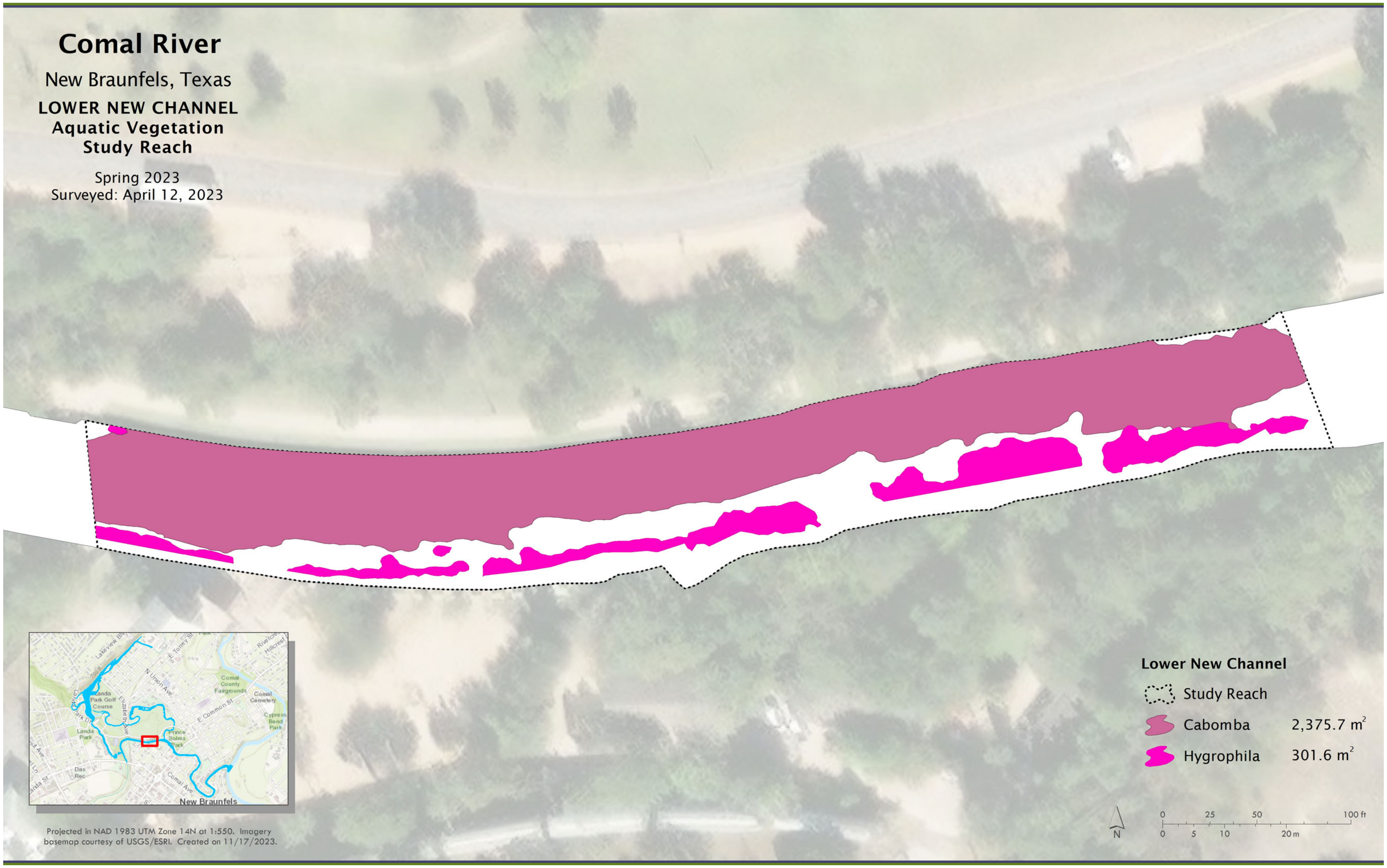


**Figure C17. Map of aquatic vegetation coverage at Lower New Channel Study Reach in spring 2023.**

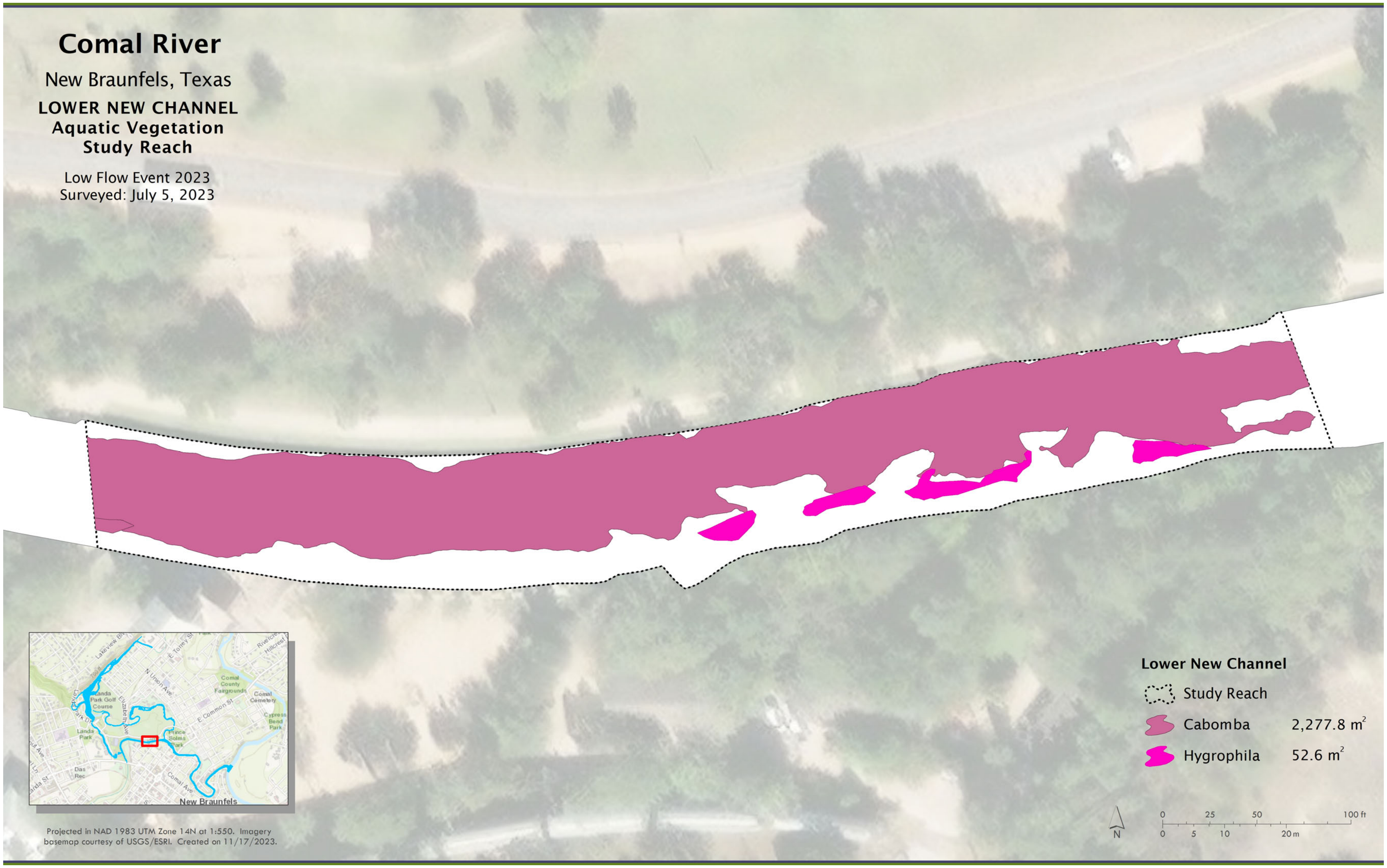


**Figure C18. Map of aquatic vegetation coverage at Lower New Channel in summer 2023 during the first Critical Period low-flow sampling event (July).**

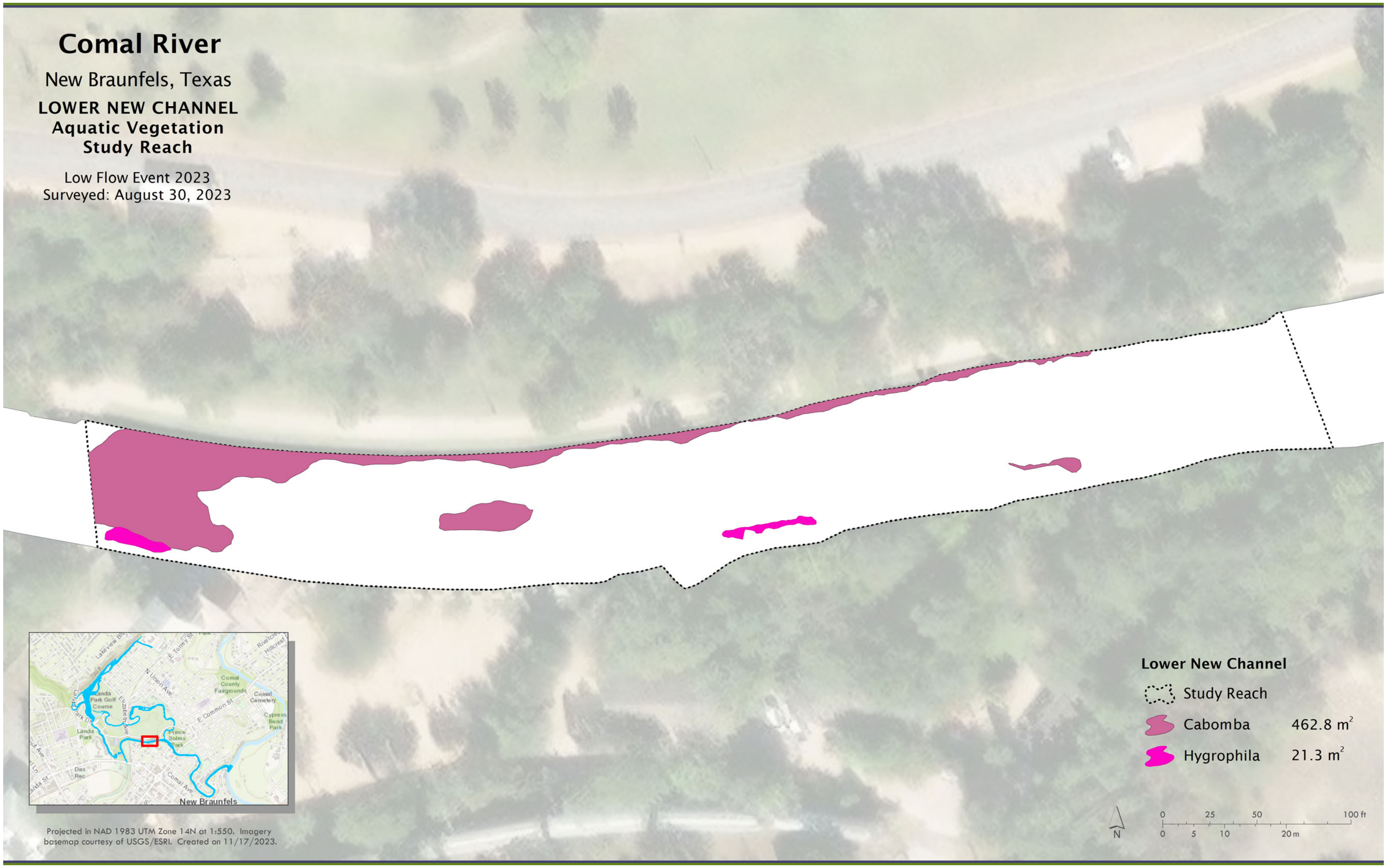


**Figure C19. Map of aquatic vegetation coverage at Lower New Channel Study Reach in summer 2023 during the second Critical Period low-flow sampling event (August).**

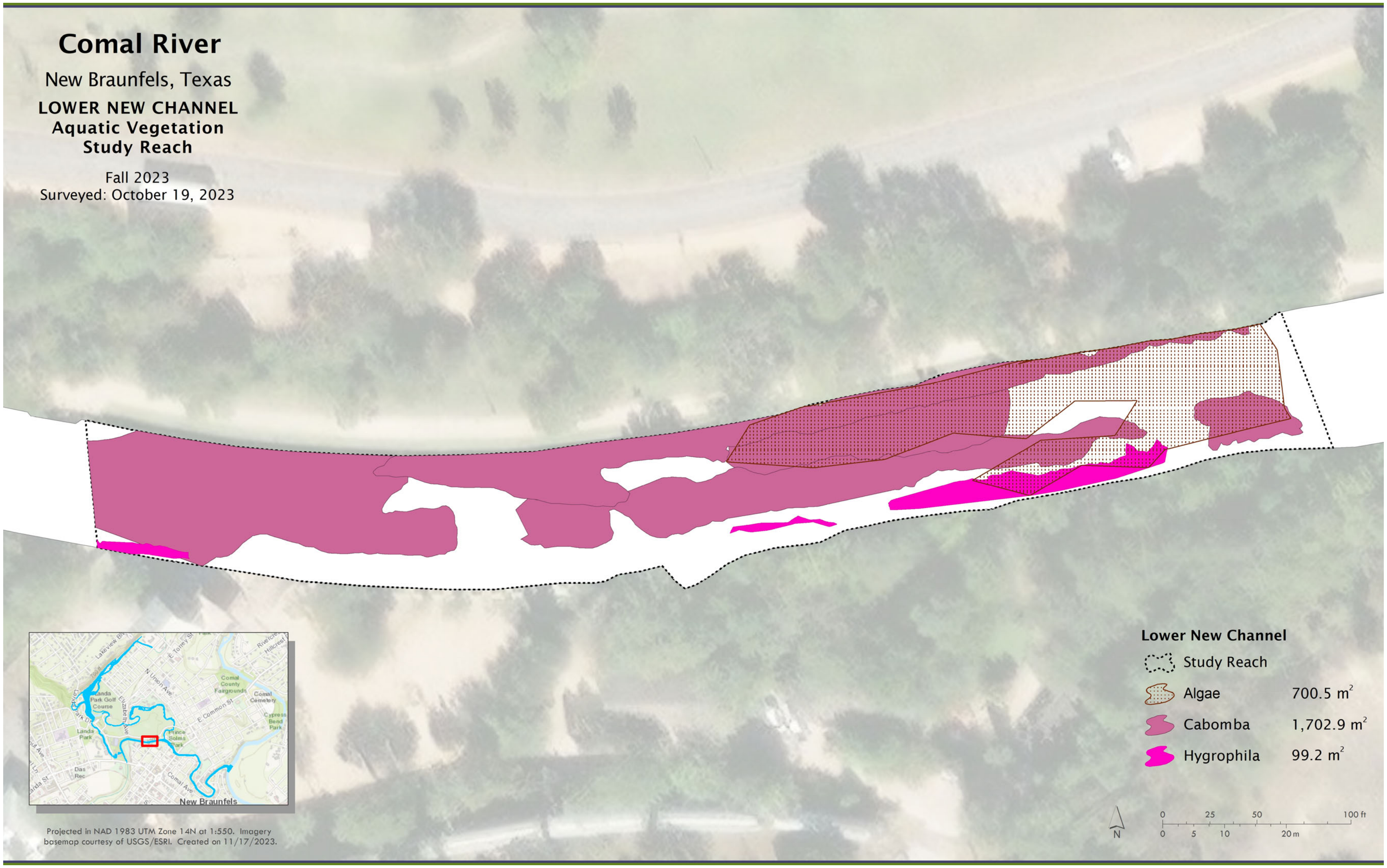


**Figure C20. Map of aquatic vegetation coverage at Lower New Channel Study Reach in fall 2023.**

# HCP Benchmark Full System Mapping

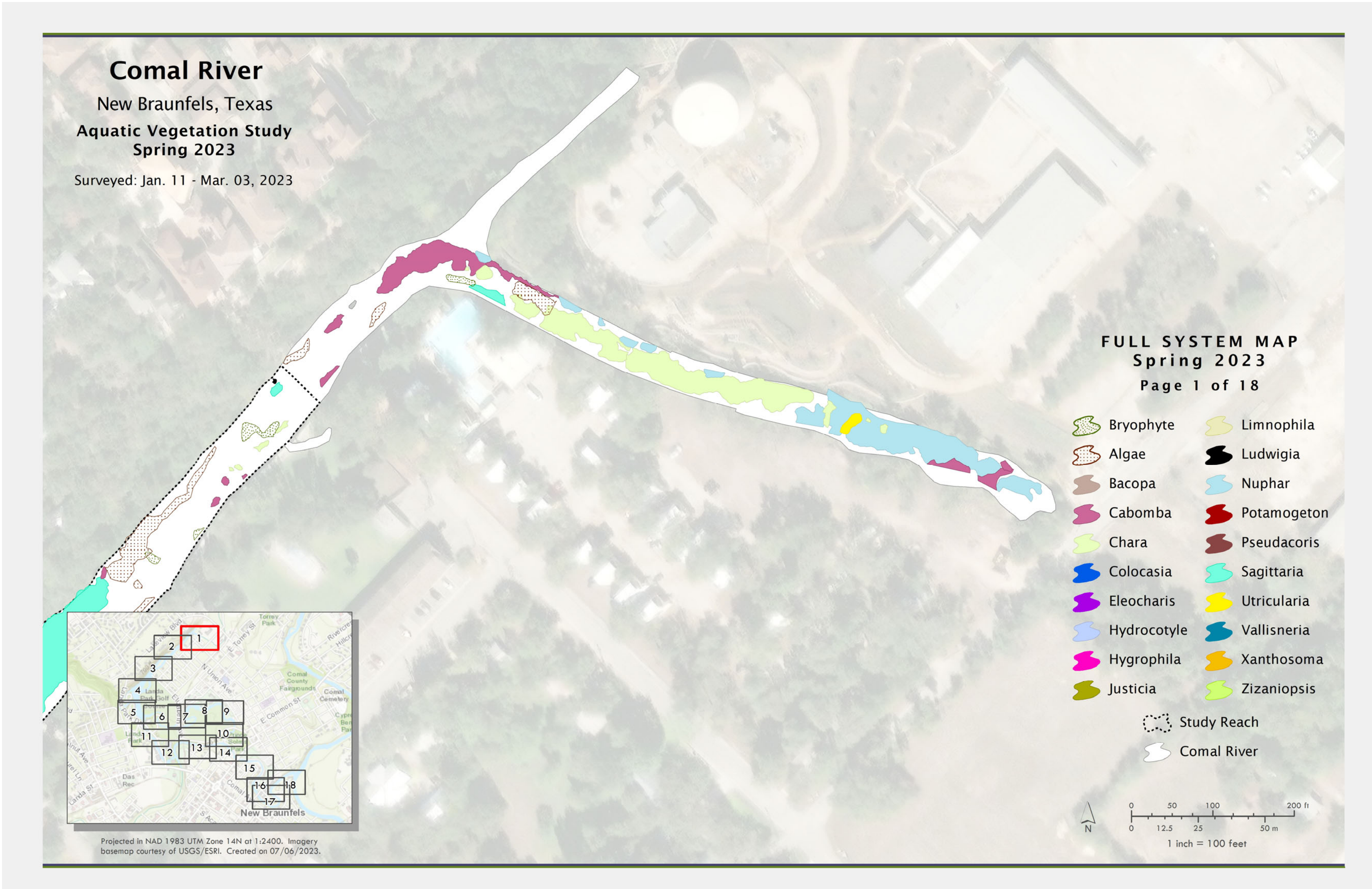


**Figure C21. Map of aquatic vegetation coverage at segment 1 in 2023.**

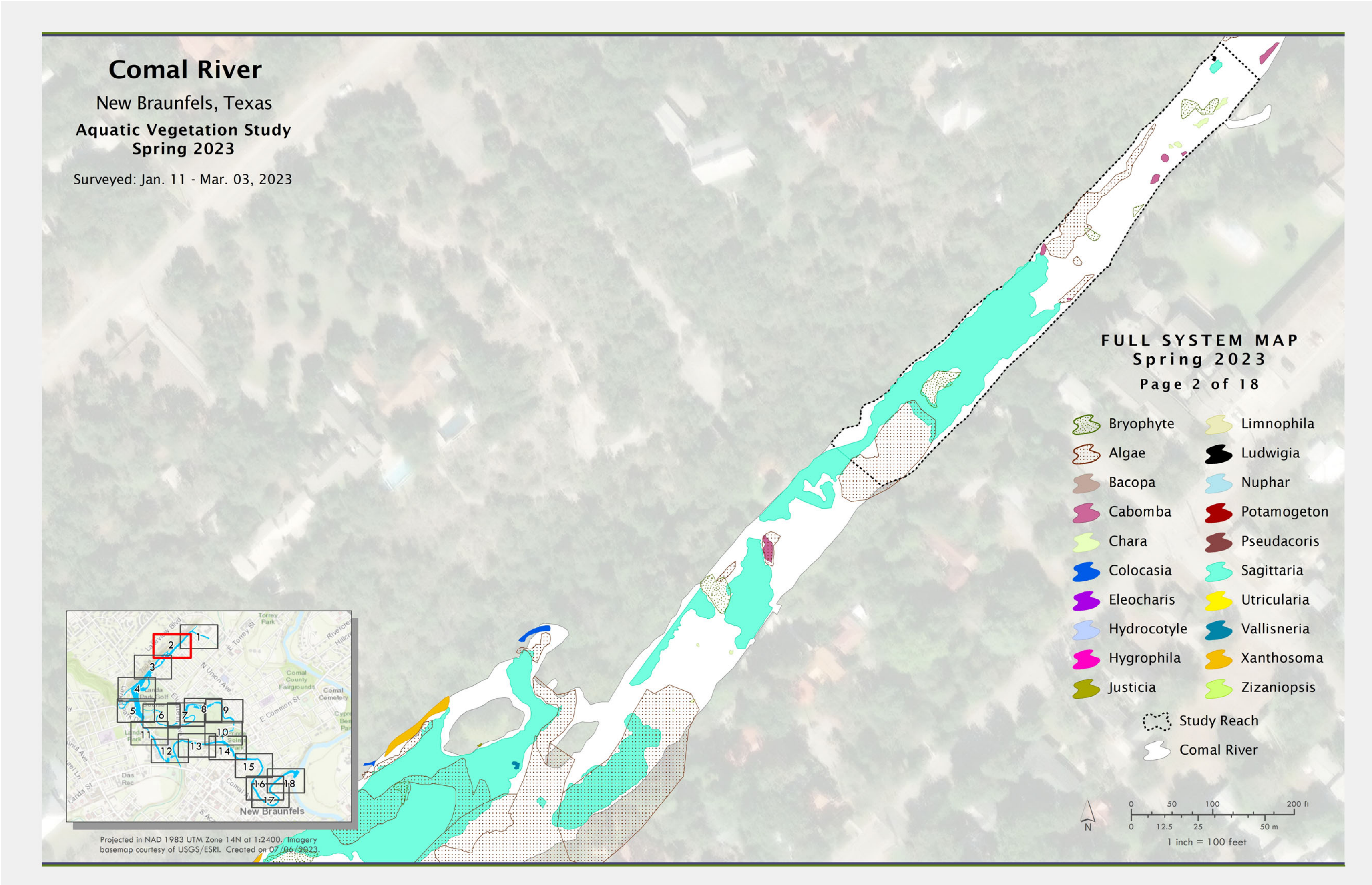


**Figure C22. Map of aquatic vegetation coverage at segment 2 in 2023.**

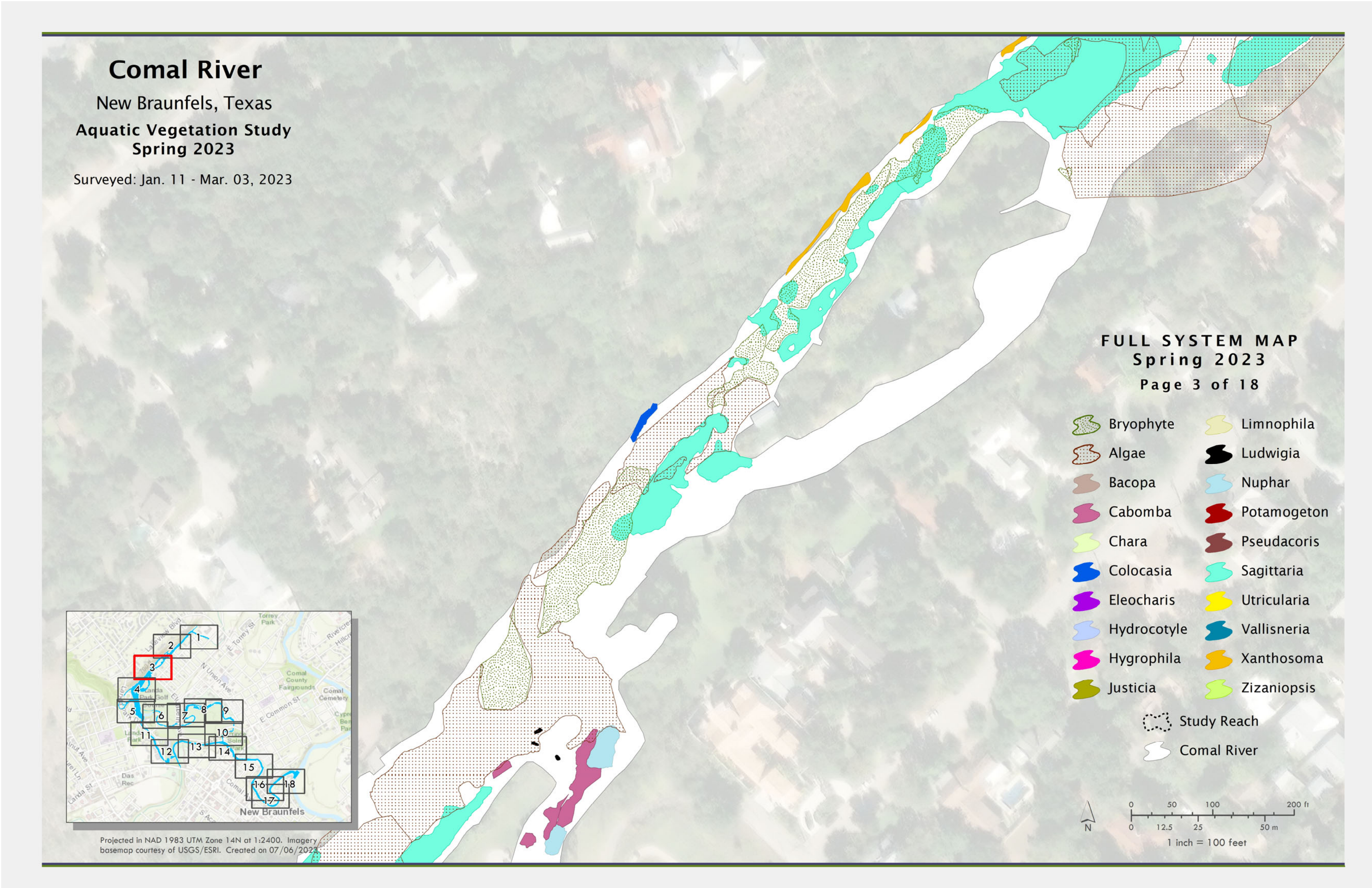


**Figure C23. Map of aquatic vegetation coverage at segment 3 in 2023.**

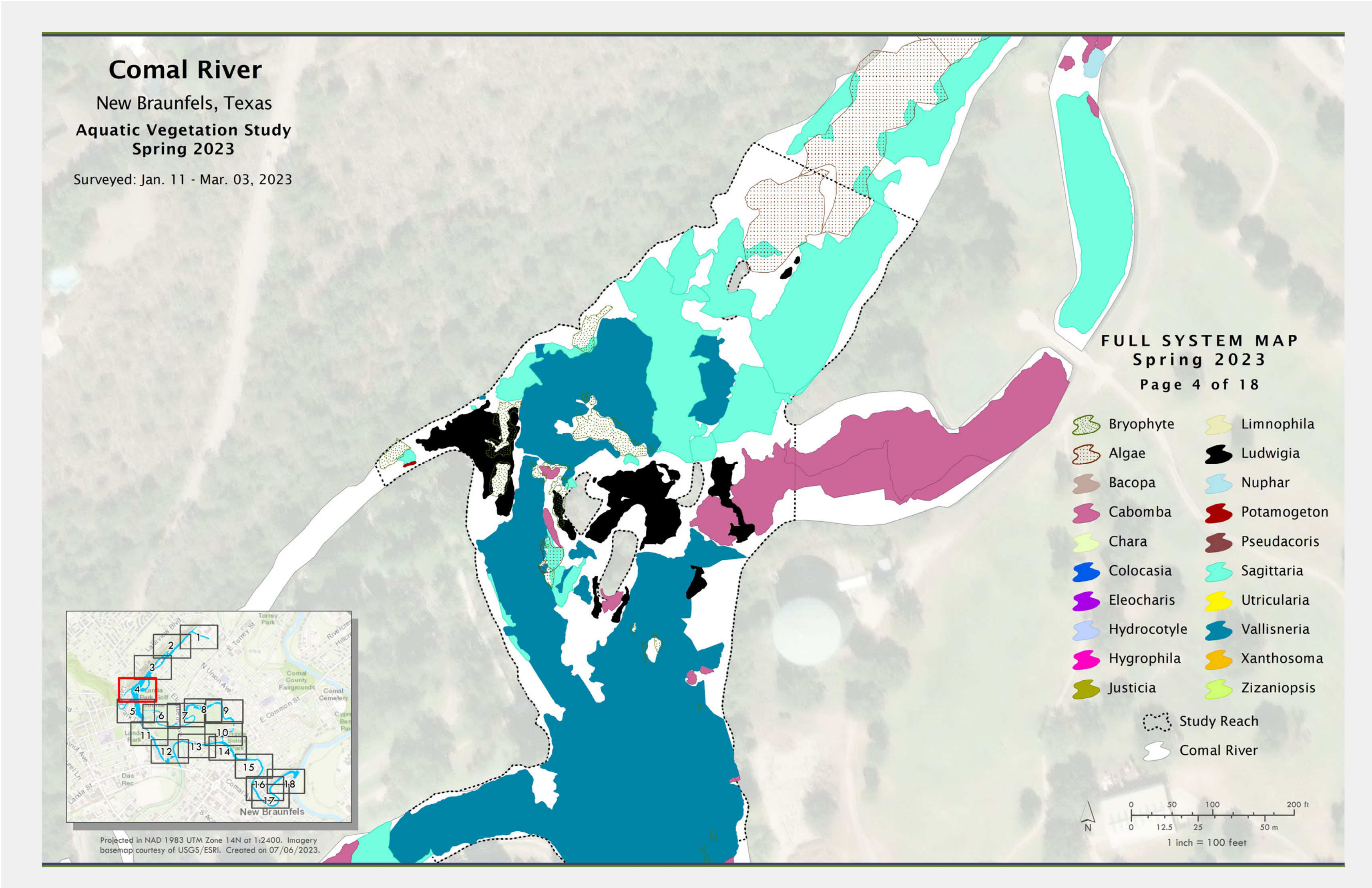


**Figure C24.** **Map of aquatic vegetation coverage at segment 4 in 2023.**

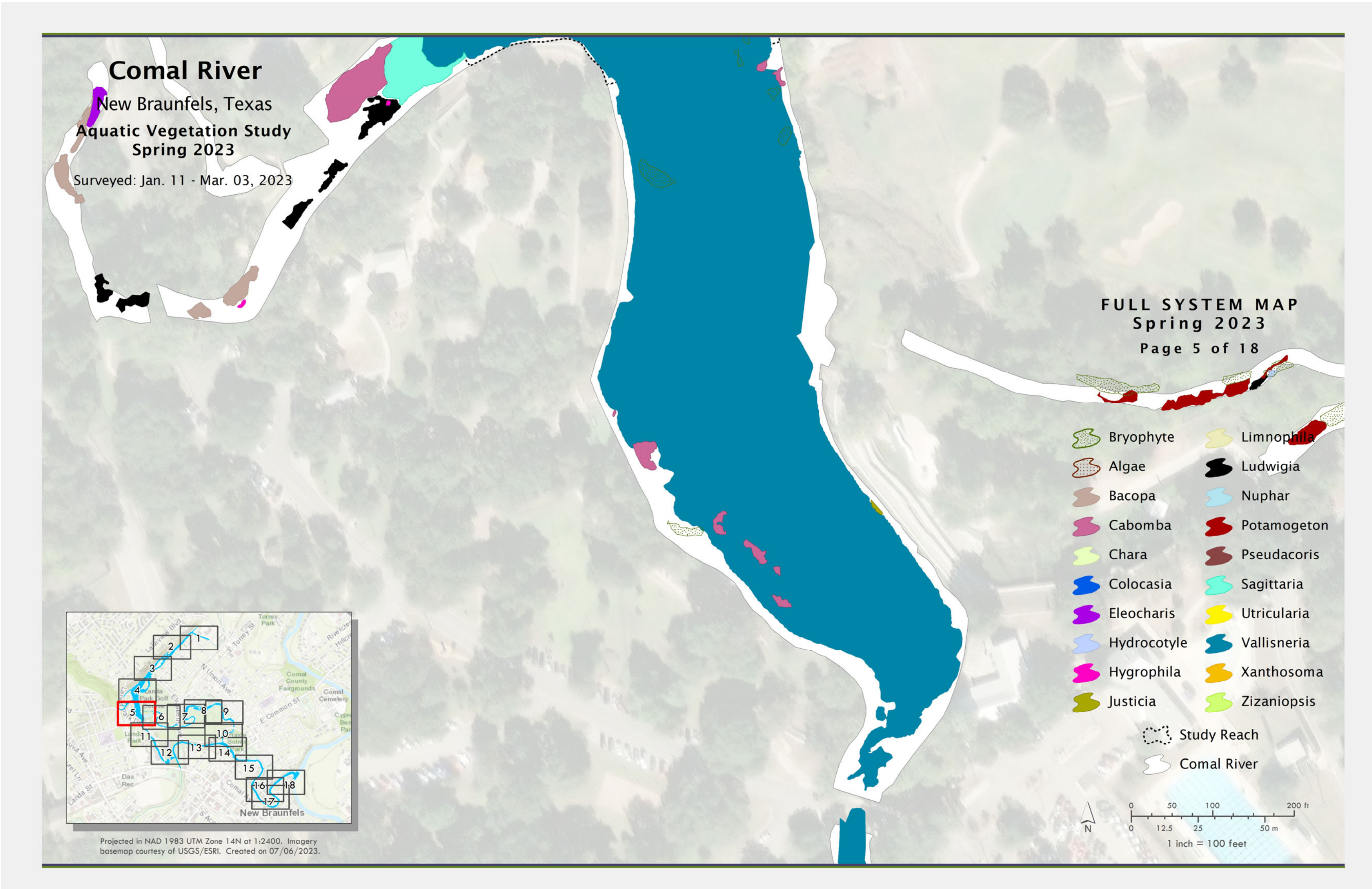


**Figure C25. Map of aquatic vegetation coverage at segment 5 in 2023.**

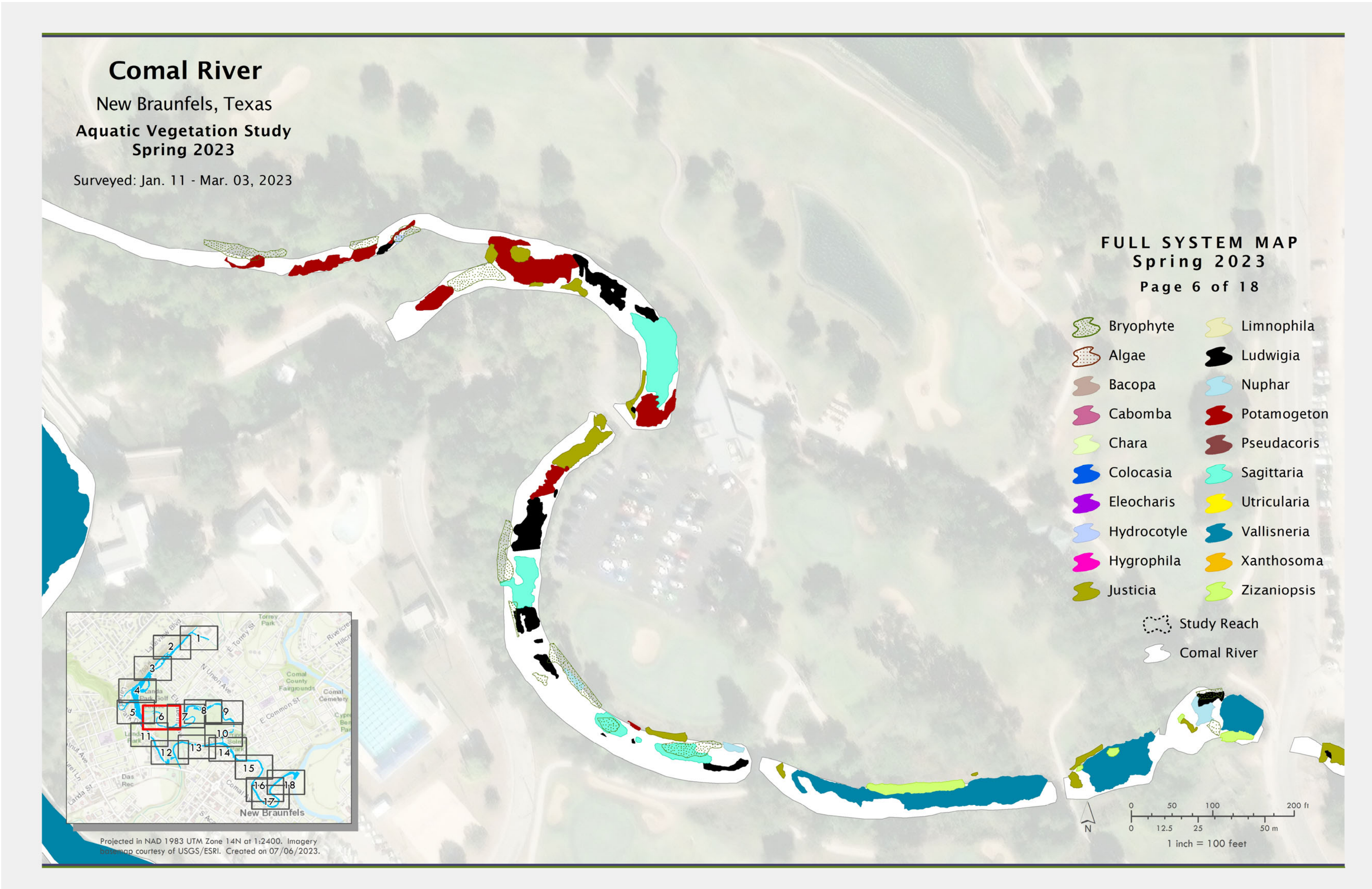


**Figure C26. Map of aquatic vegetation coverage at segment 6 in 2023.**

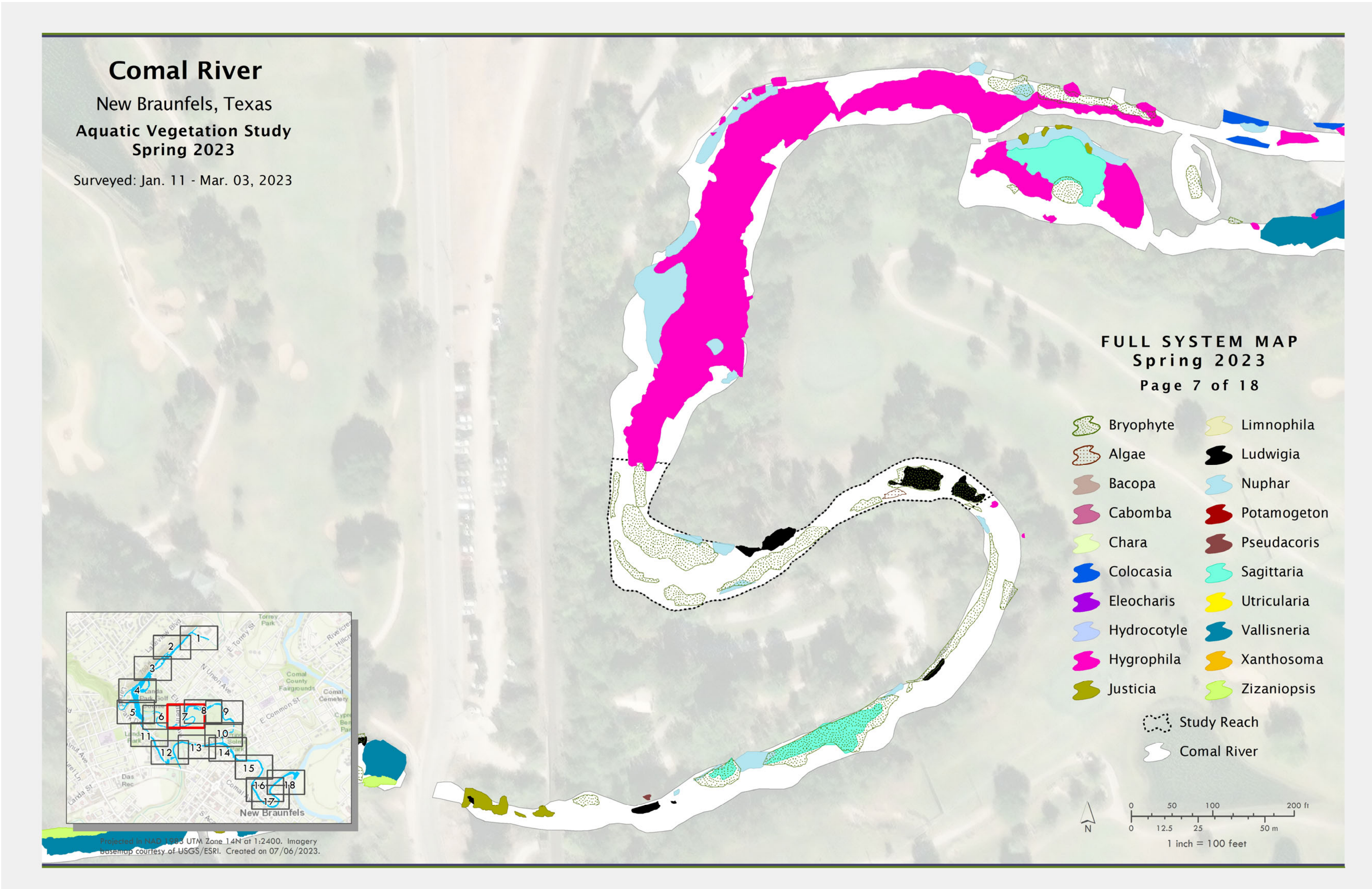


**Figure C27. Map of aquatic vegetation coverage at segment 7 in 2023.**

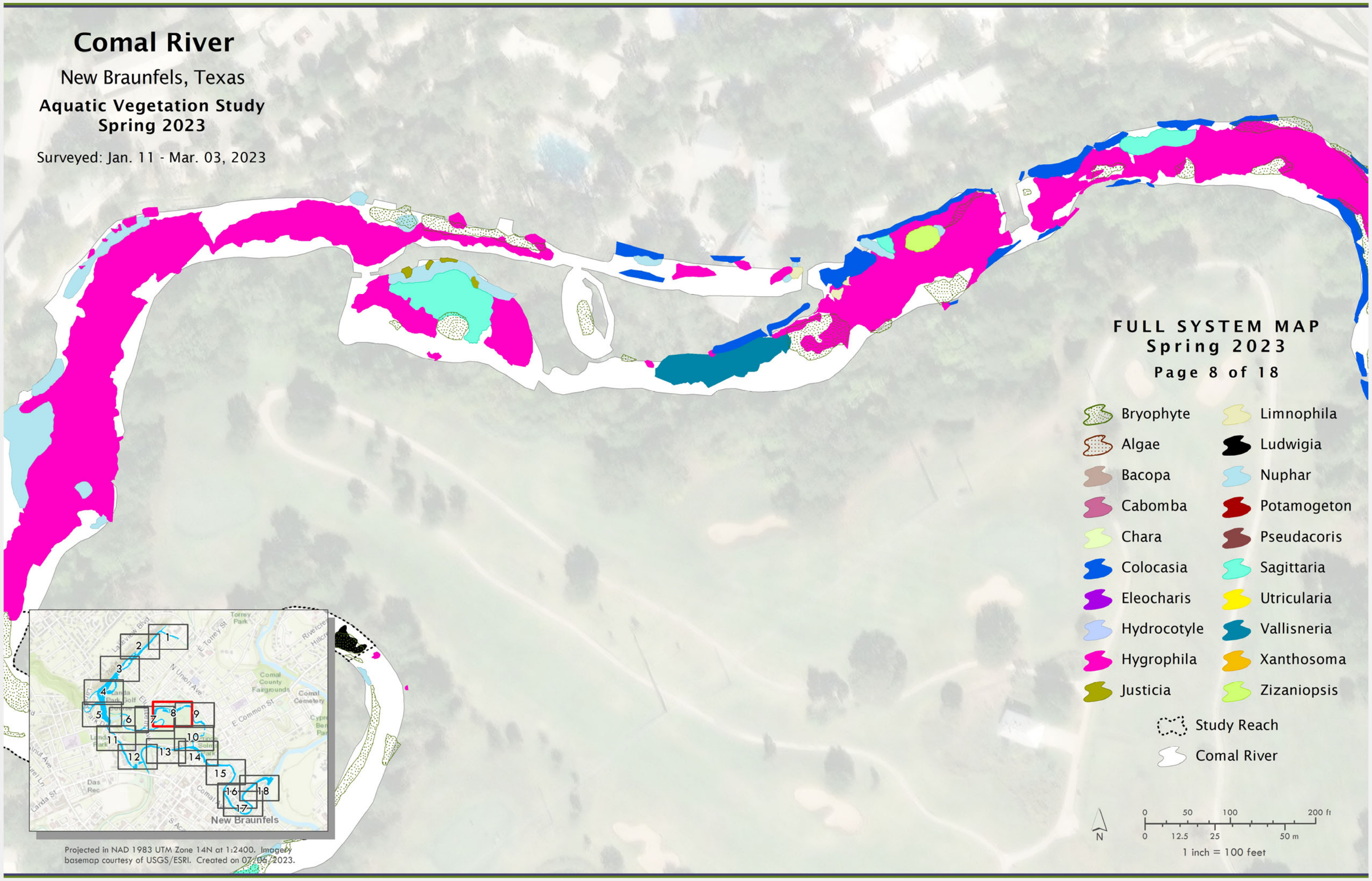


**Figure C28.** **Map of aquatic vegetation coverage at segment 8 in 2023.**

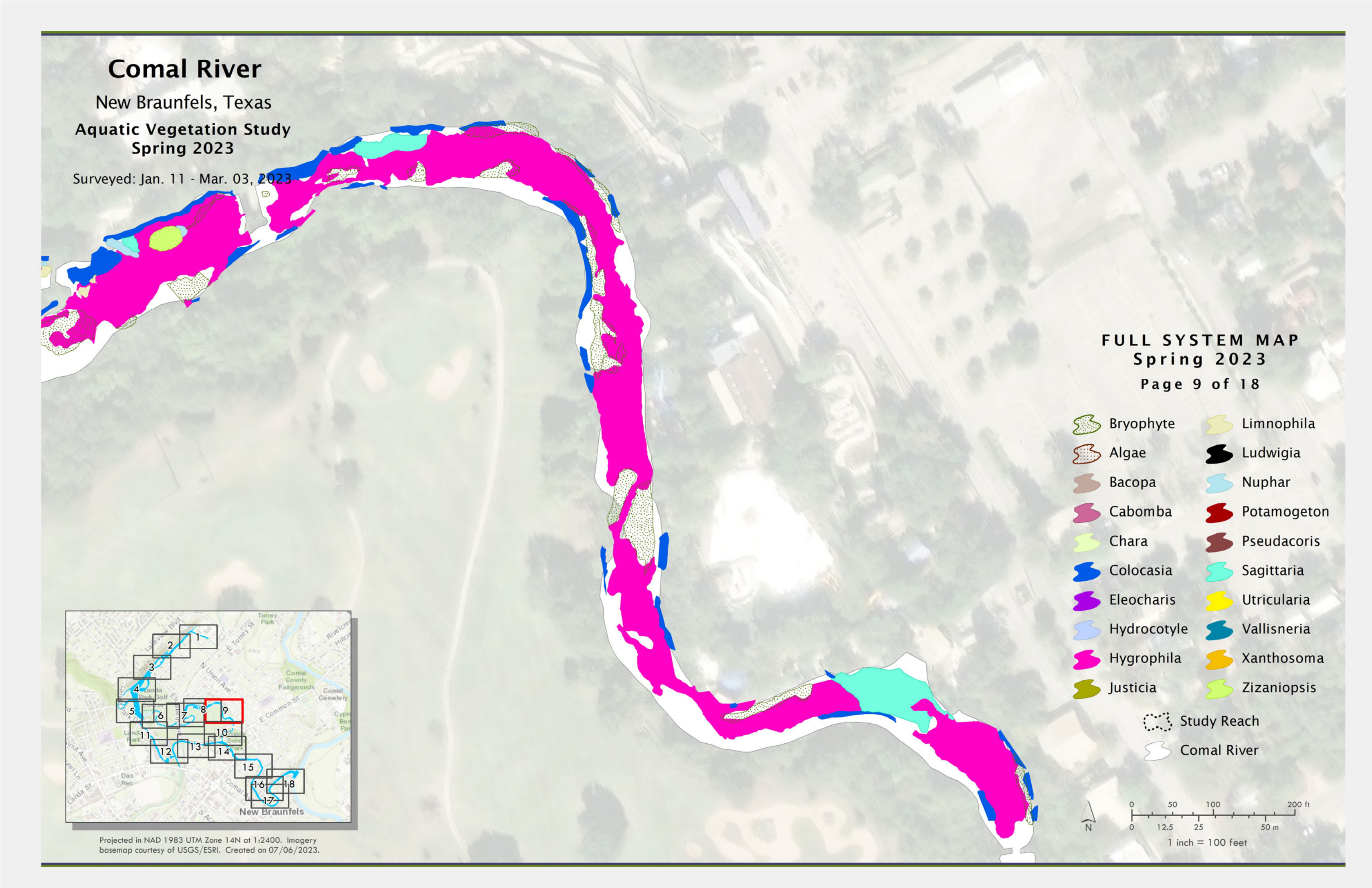


**Figure C29.** **Map of aquatic vegetation coverage at segment 9 in 2023.**

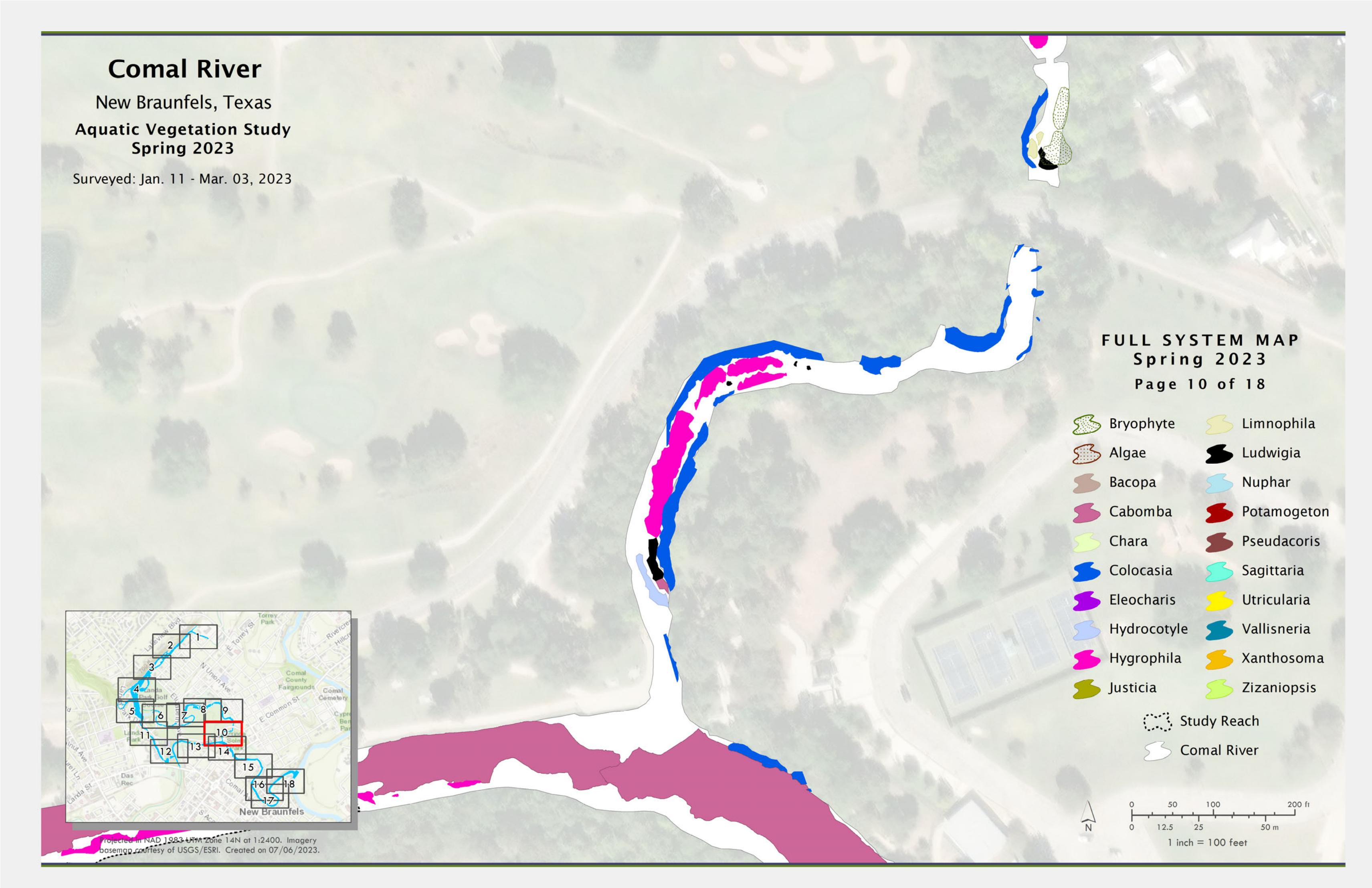


**Figure C30.** **Map of aquatic vegetation coverage at segment 10 in 2023.**

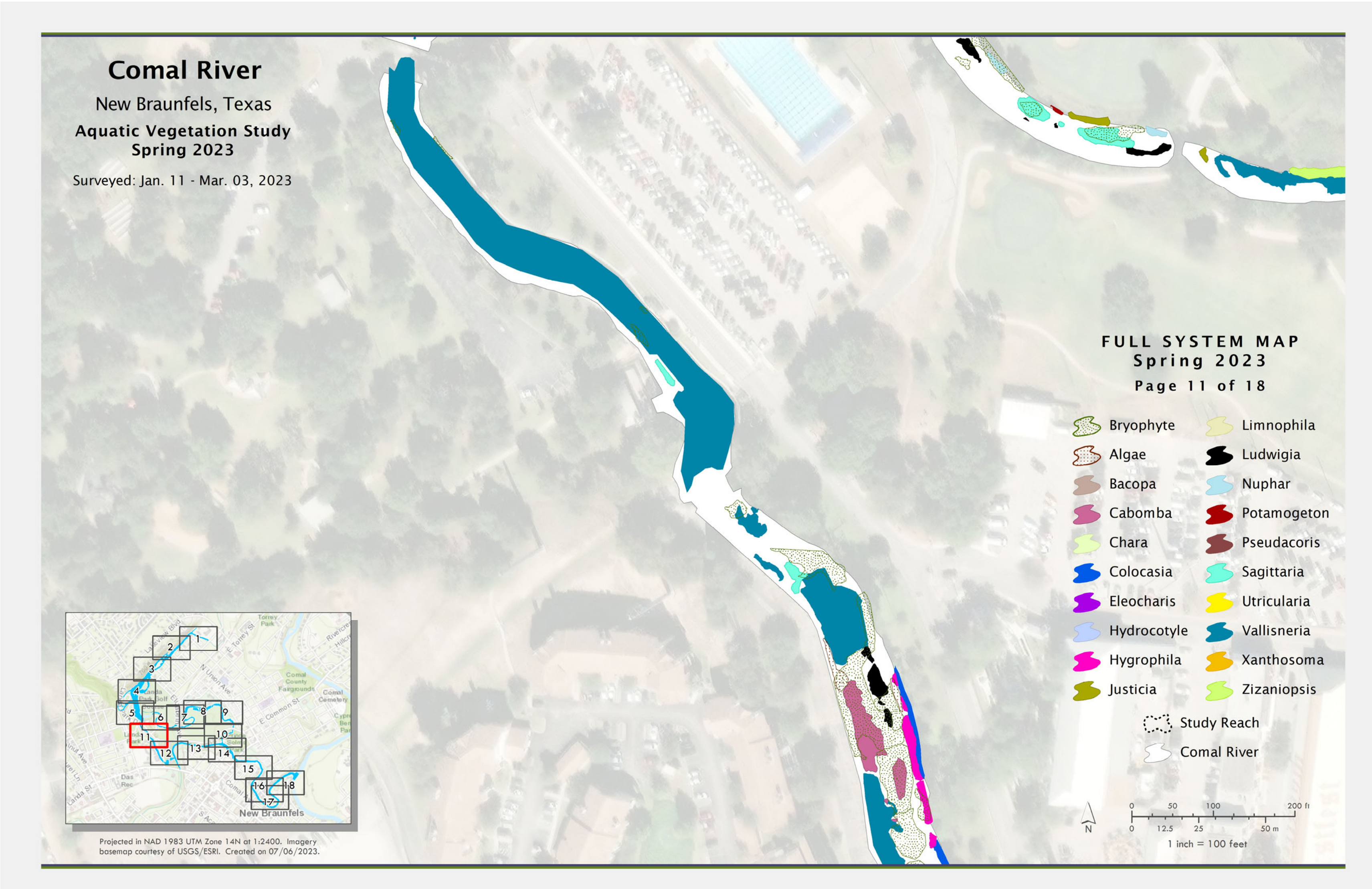


**Figure C31.** **Map of aquatic vegetation coverage at segment 11 in 2023.**

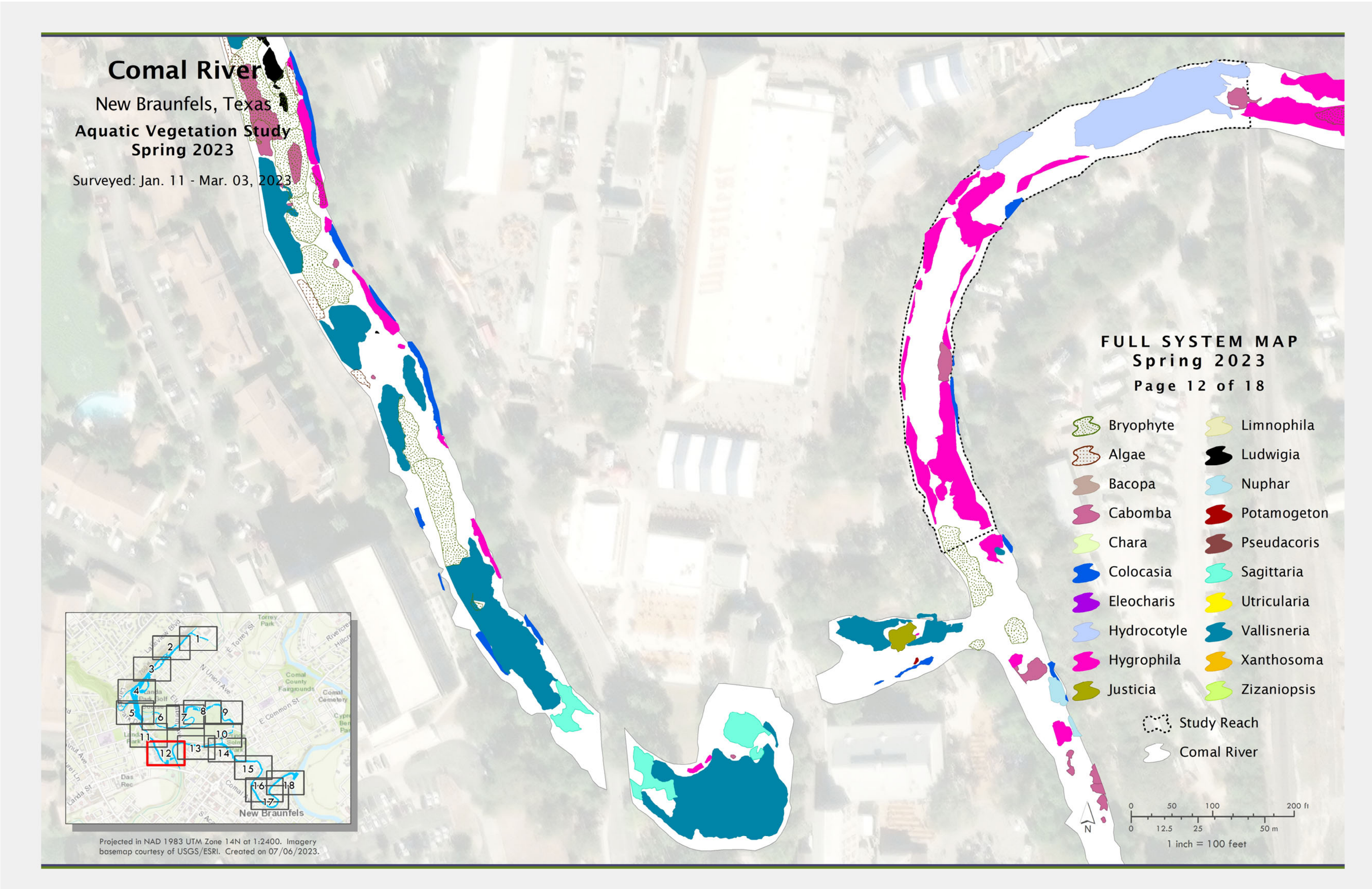


**Figure C32.** **Map of aquatic vegetation coverage at segment 12 in 2023.**


**Figure C33. Map of aquatic vegetation coverage at segment 13 in 2023.**

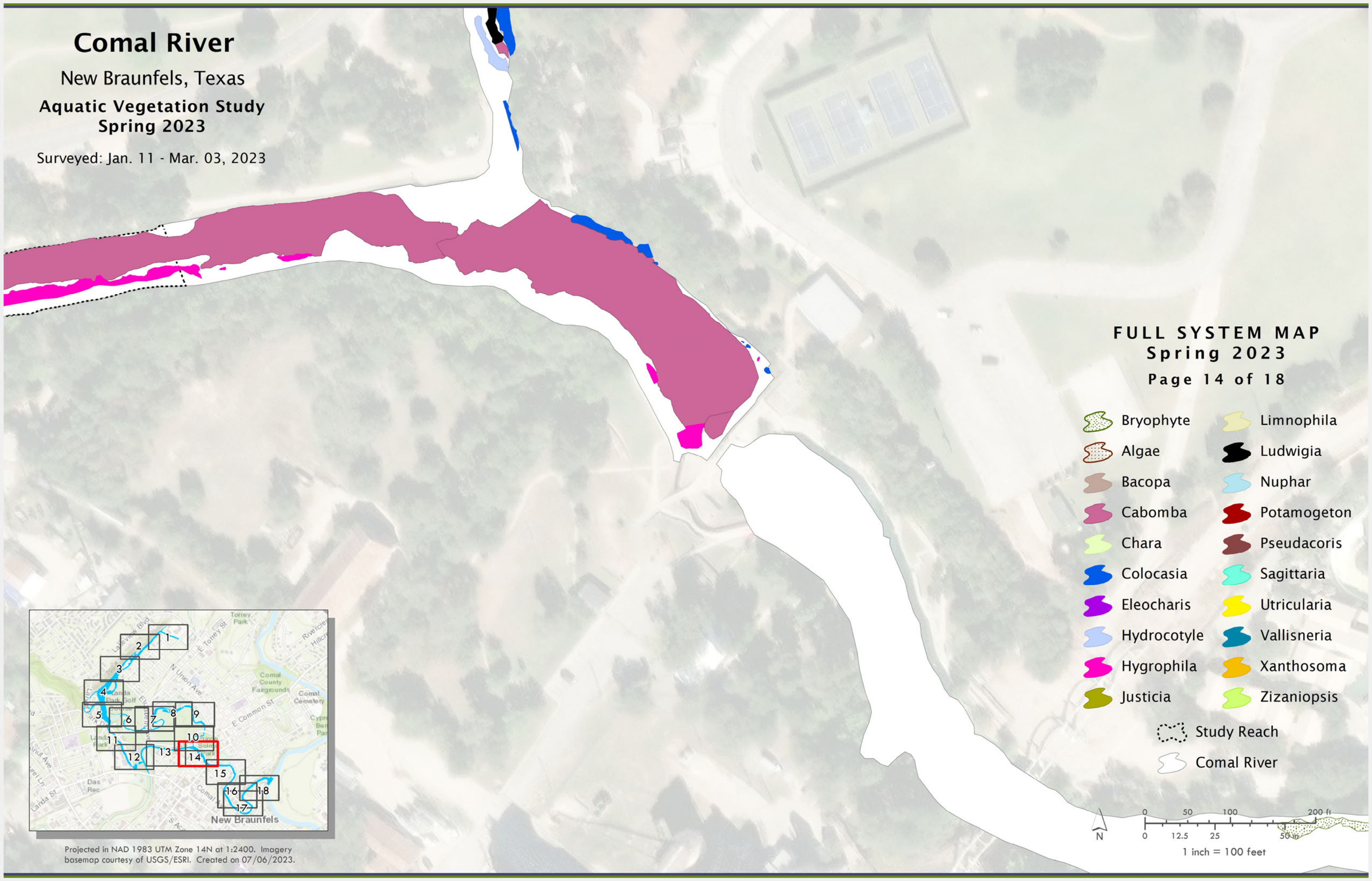


**Figure C34. Map of aquatic vegetation coverage at segment 14 in 2023.**

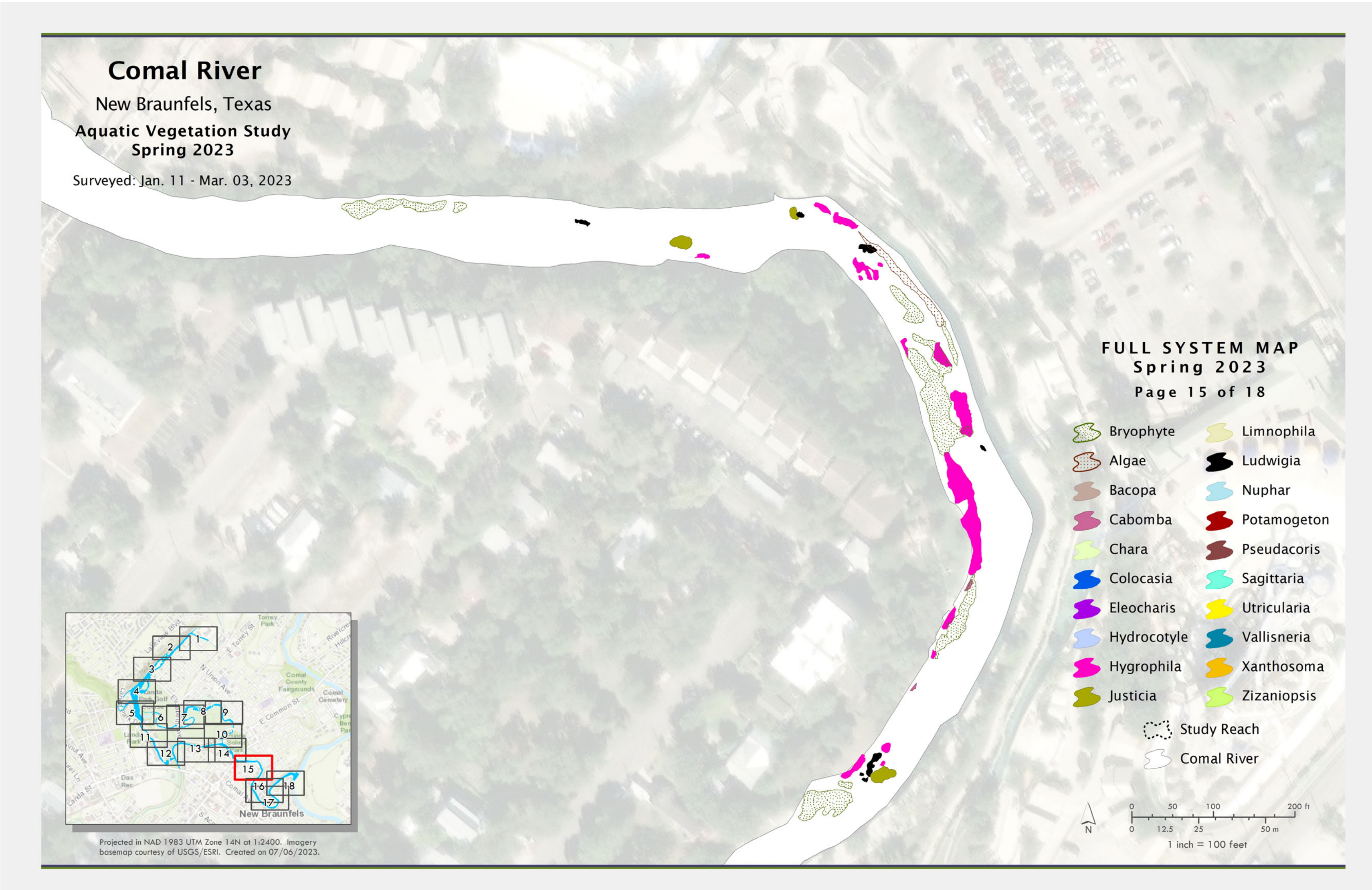


**Figure C35. Map of aquatic vegetation coverage at segment 15 in 2023.**

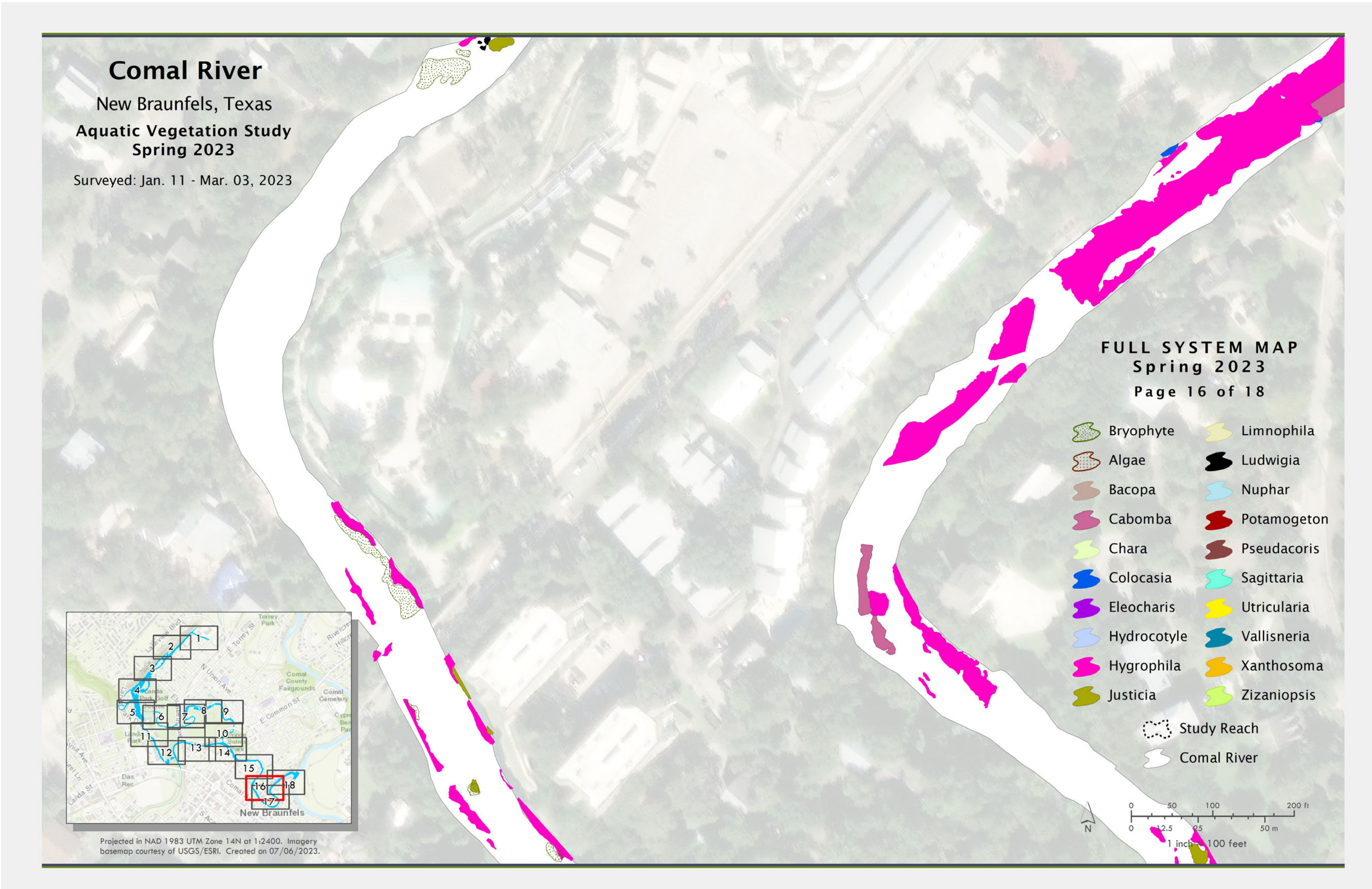


**Figure C36. Map of aquatic vegetation coverage at segment 16 in 2023.**

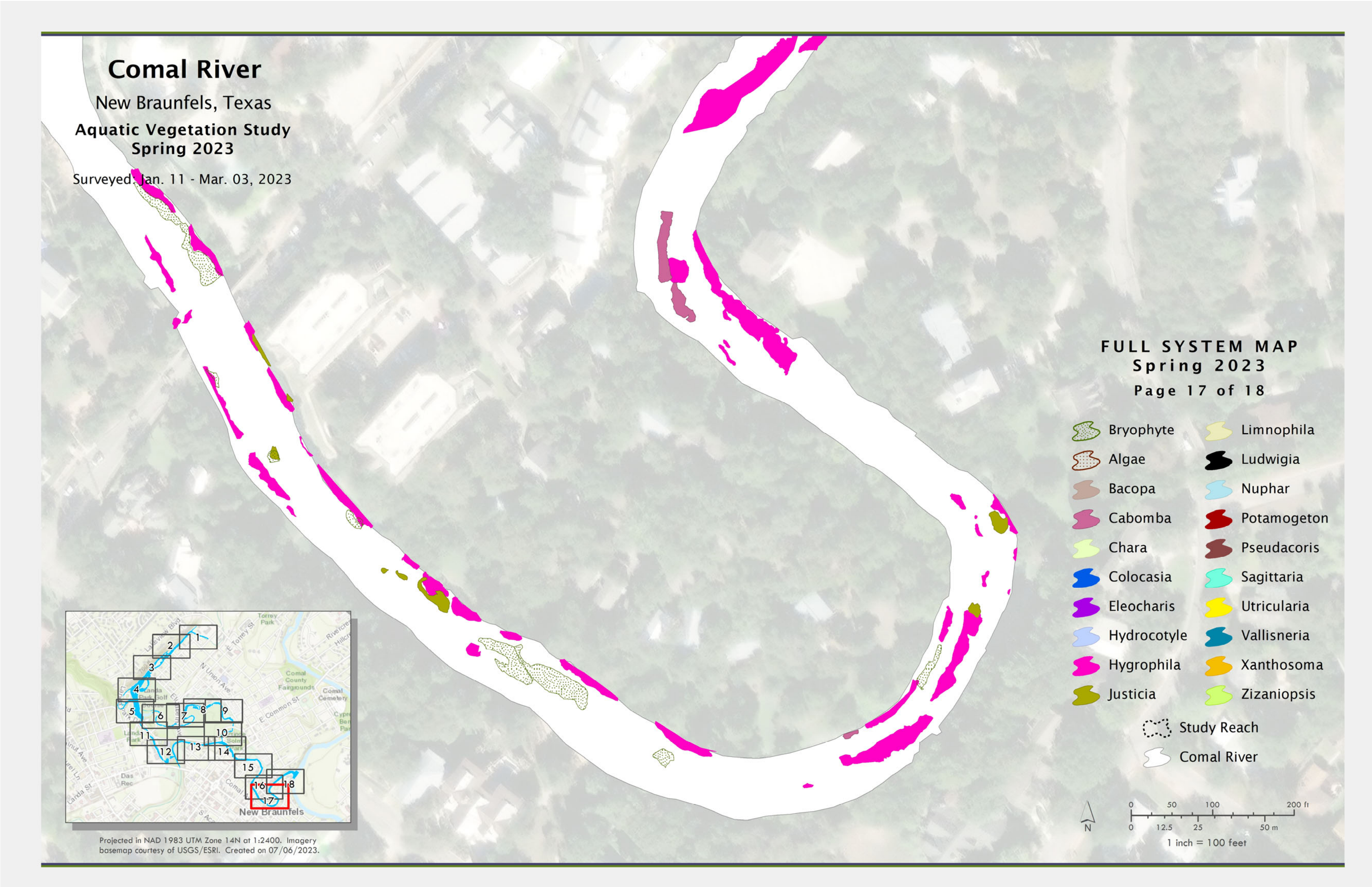


**Figure C37. Map of aquatic vegetation coverage at segment 17 in 2023.**

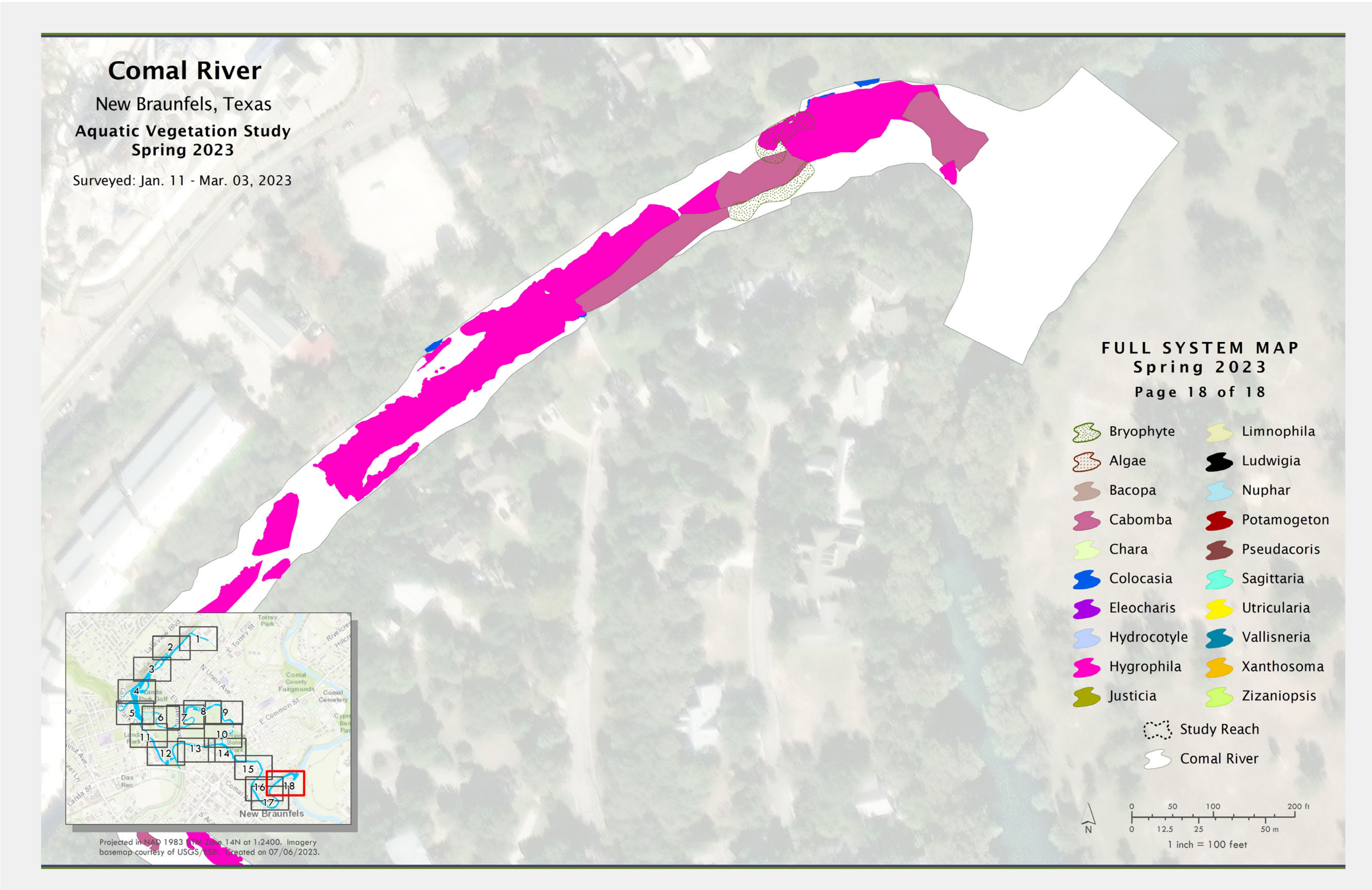


**Figure C38.** **Map of aquatic vegetation coverage at segment 18 in 2023.**

# APPENDIX D: TEXAS MASTER NATURALIST MONITORING RESULTS

Site locations are shown in Figure 2 of the report and are listed from upstream (Houston Street) to downstream (Union Avenue). Water quality data collected by Master Naturalist volunteers in 2023 were similar to years past, observing $CO_2$ concentrations highest at sites near springs, such as the Houston Street (Upper Spring Run Reach) and Gazebo (Landa Lake/Spring Run 3) sample sites (Figure D1). Also continuing with past trends, pH measurements increased with increased distance from the springs (Figure D2). The inverse relationship between $CO_2$ and pH is directly related to greater concentrations of carbonic acid in spring waters, so as $CO_2$ concentrations decline going downstream, pH rises in the system. Within sites, year-to-year variation was relatively limited in both pH and $CO_2$ concentrations. In 2023, pH was slightly higher compared to the previous five years (Figures D1 and D2).

To compare recreational use at the various sites, weekly counts of recreation users collected by the Texas Master Naturalist volunteers were converted to monthly averages and plotted over a long-term survey period (Figures D3–D7). In 2023, the New Channel continued as the most recreated area in the system. Recreation was second highest at Union Avenue, which received similar pressure to the New Channel in 2023. As in previous years, recreational use at Elizabeth Street (Old Channel) was low because this site is not located within a city park or advertised for recreational use (Figures D3–D7).

The New Channel site has received the most recreation pressure throughout the Texas Master Naturalist monitoring (2006–2023). The peak of recreational use is usually during the summer months of June through September (Figure D6). During the warmer months, the New Channel site becomes a popular destination for tubers and others seeking relief from the heat in the cooler spring-fed water. There was a brief decrease in activity during the lockdowns associated with the COVID-19 pandemic in 2020; however, activity at the New Channel site has returned to levels similar to historical trends in 2023. Much like the New Channel site, recreation pressure at the Union Avenue site can also be substantial during summer because this is a take-out site for many tubers floating the river (Figure D7) and like the New Channel, experienced increased traffic in 2023 compared to 2020. However, unlike the New Channel site, this location does not offer long-term attraction such as picnic tables, resulting in fewer alternative or additional recreational activities.

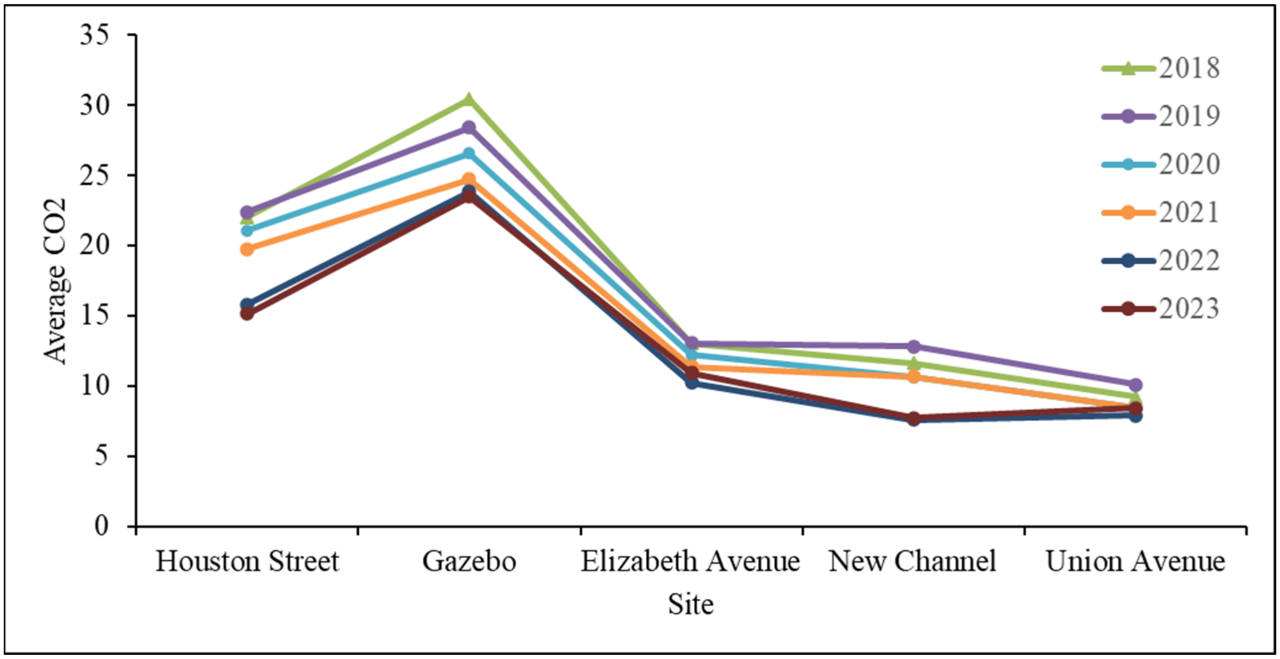


**Figure D1.** **Annual average dissolved carbon dioxide ($CO_2$) concentrations at five sites on the Comal River system (2018–2023).**

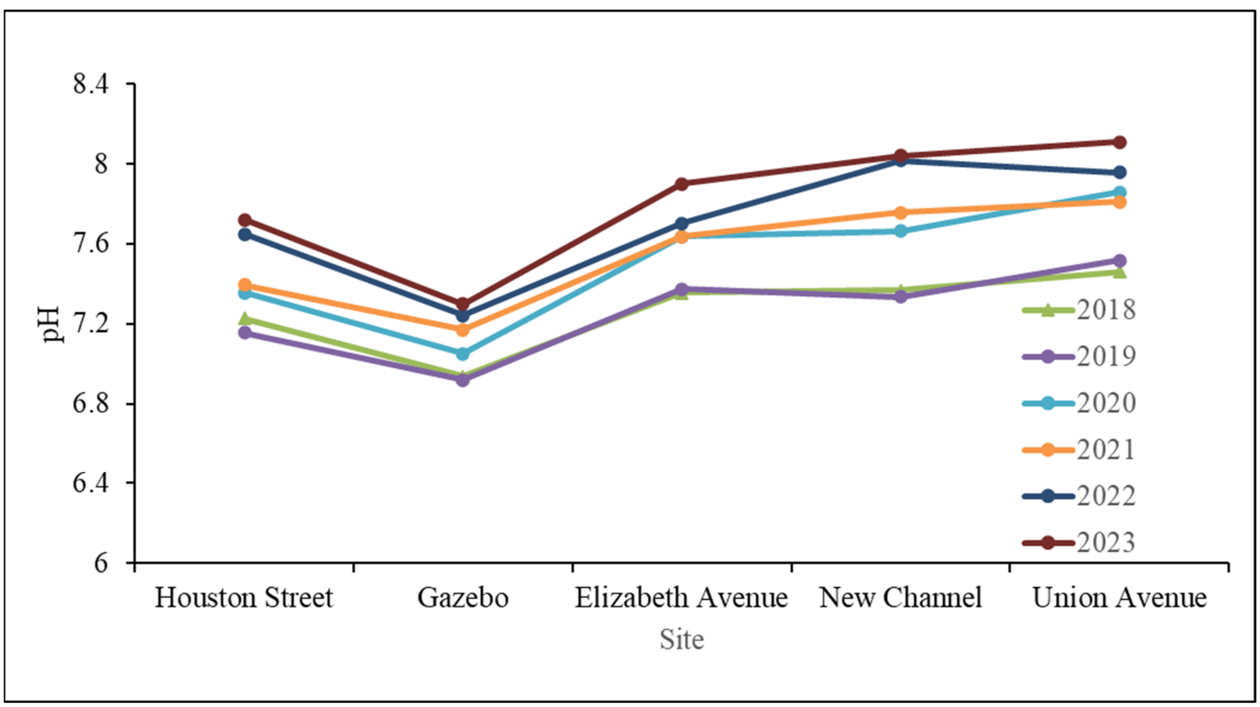


**Figure D2.** **Annual average pH values at five sites on the Comal River system (2018–2023).**

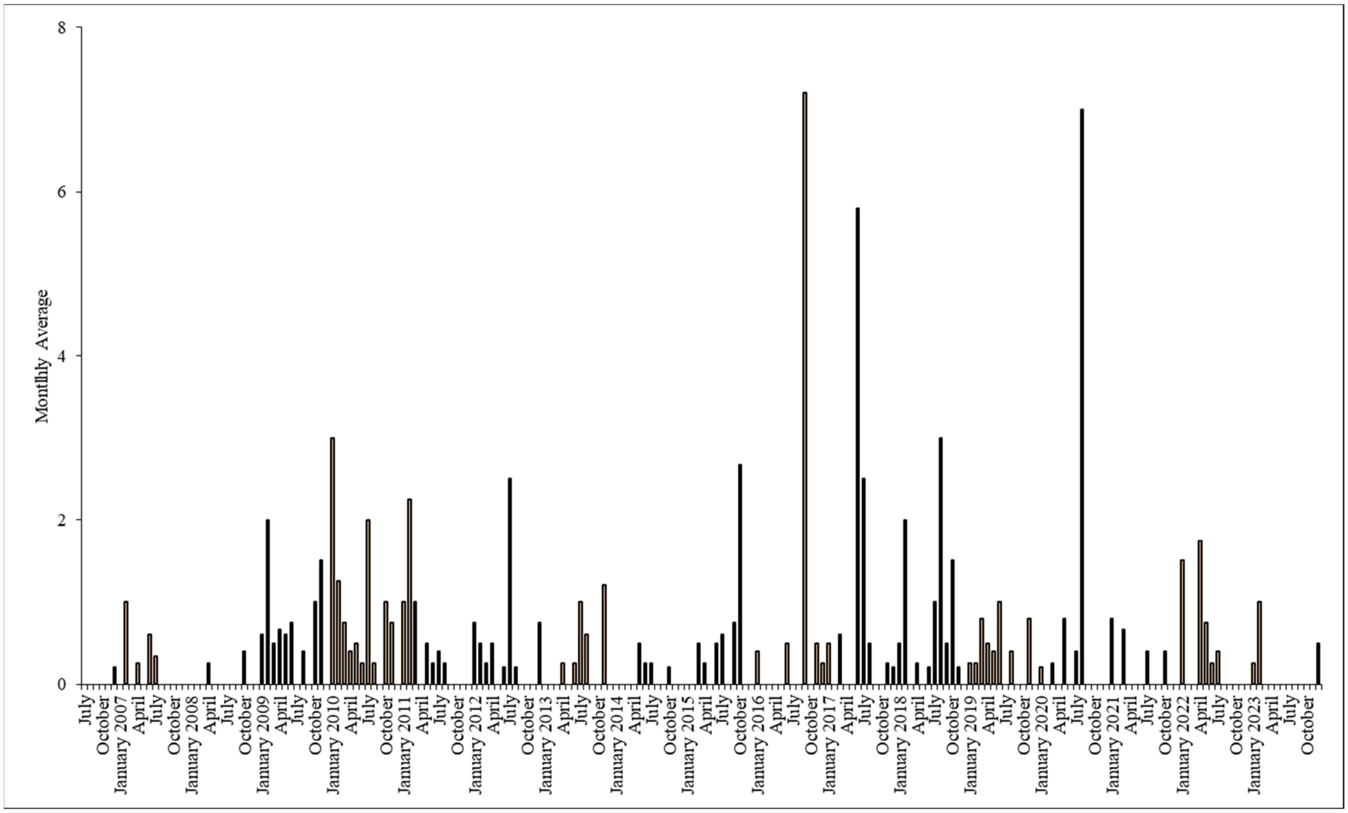


**Figure D3.** **Average daily recreational user counts at the Elizabeth Avenue site (2006–2023).**

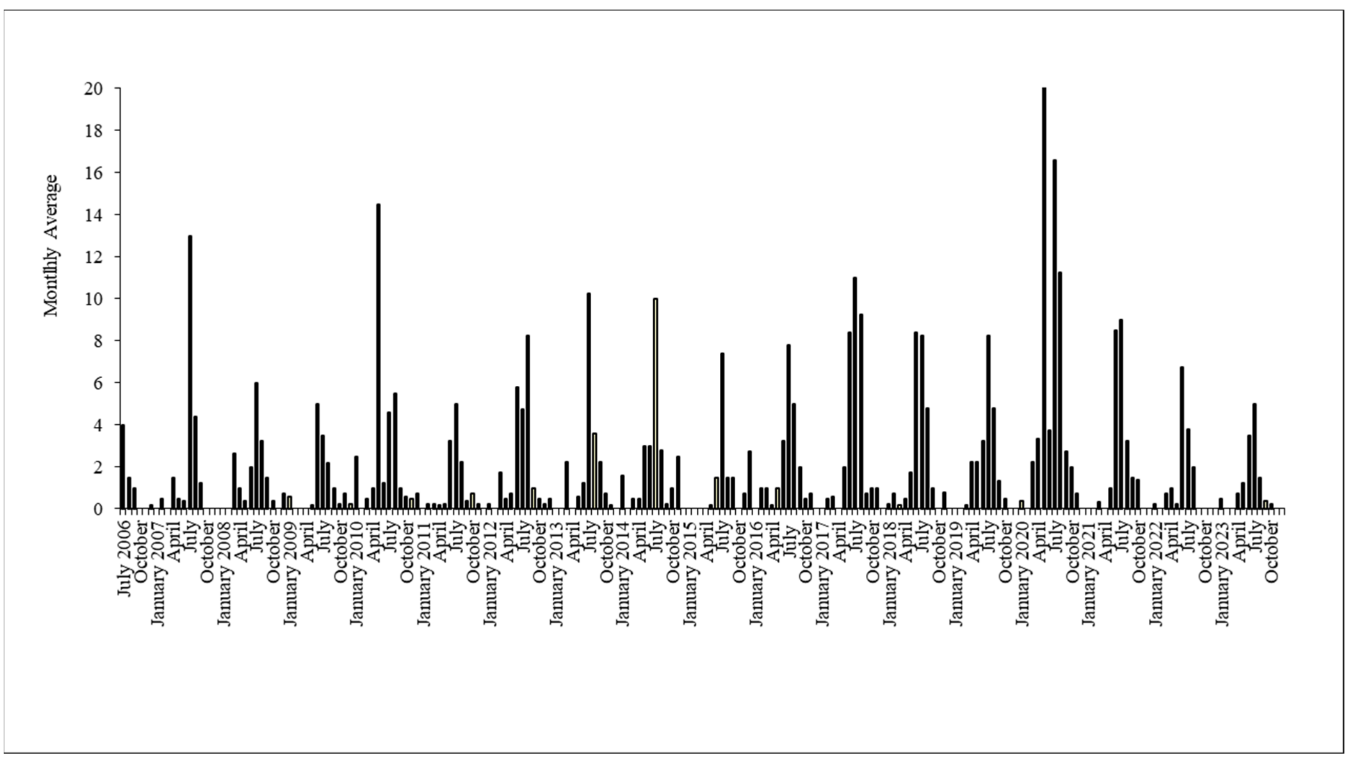


**Figure D4.** **Average daily recreational user counts at the Upper Spring Run site (2006–2023).**

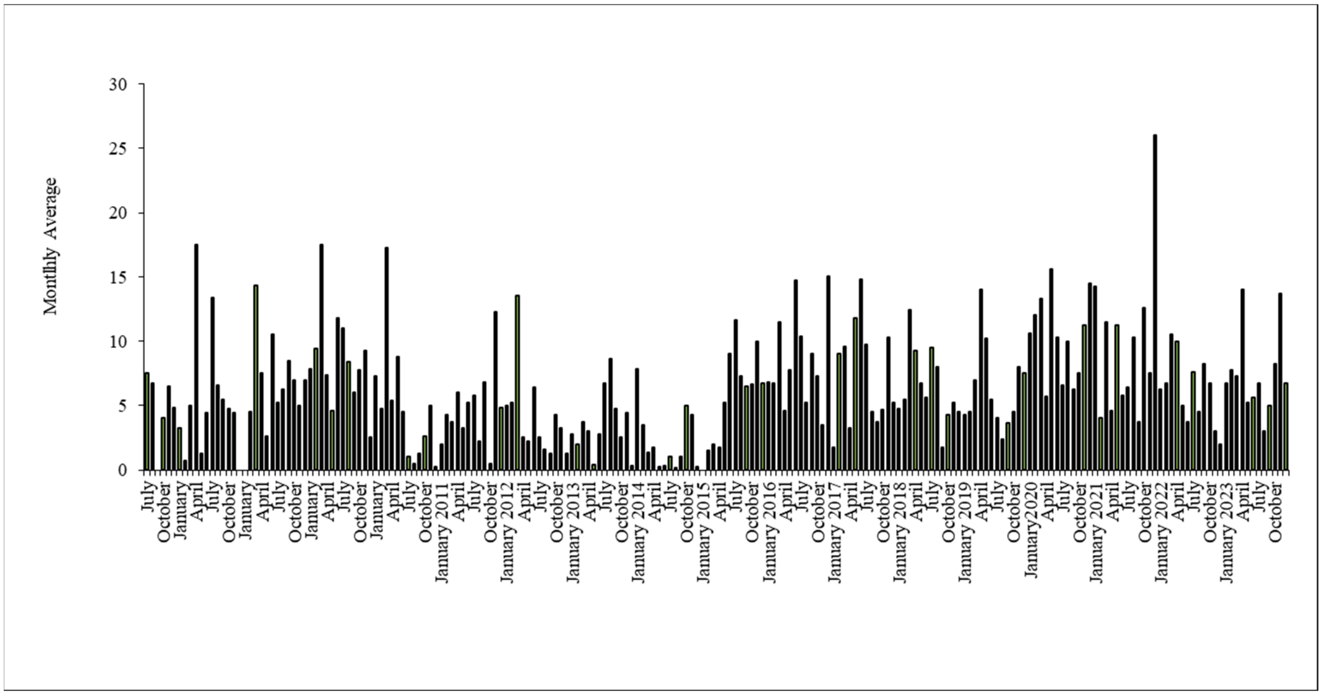


**Figure D5.** **Average daily user counts at the Landa Lake Park Gazebo site (2006–2023).**

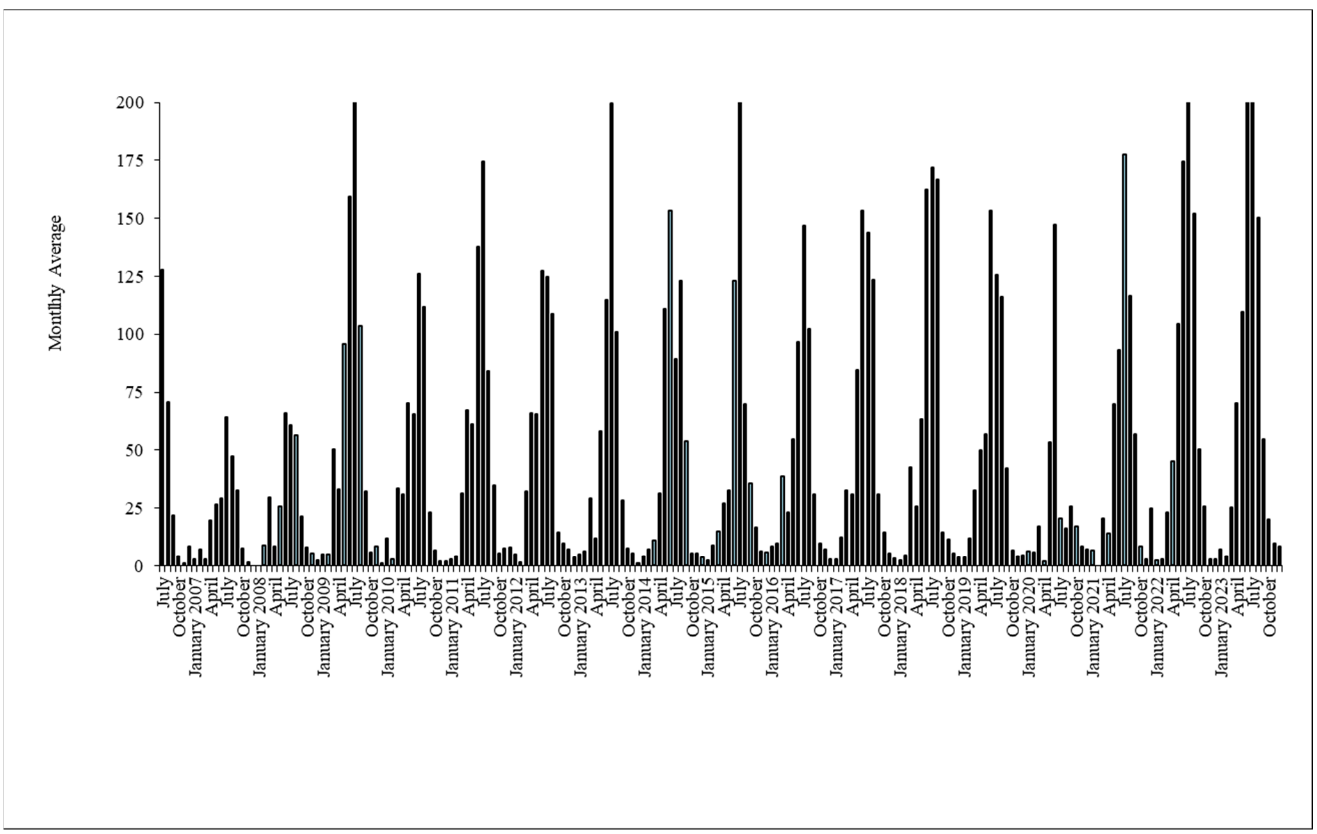


**Figure D6.** **Average daily user counts at the New Channel site (2006-2023).**

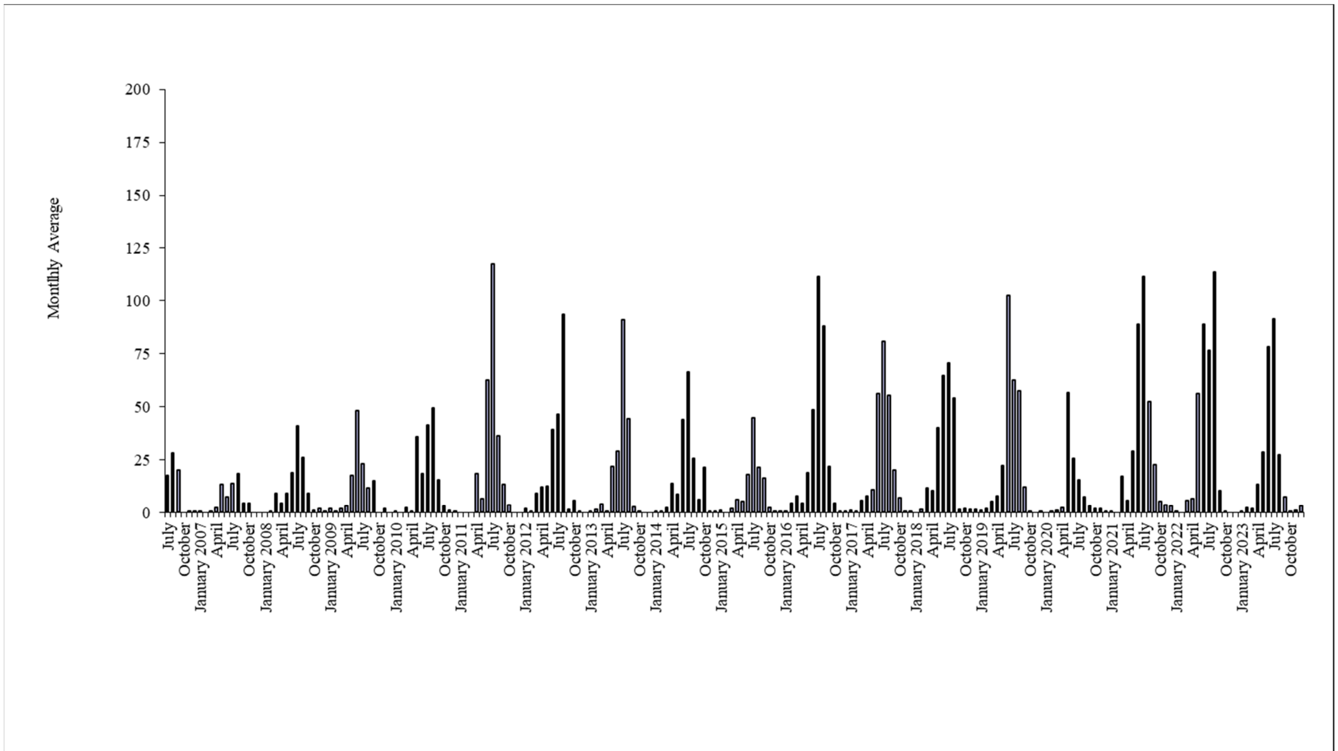


**Figure D7. Average daily recreational user counts at the Union Avenue site (2006–2023).**

# APPENDIX E: TABLES AND FIGURES

# TABLES

# HCP Full System Benchmark Mapping

**Table E1. Submerged aquatic vegetation coverages mapped during the 2023 HCP Benchmark mapping event.**

| Taxa | Coverage ($m^2$) |
|---|---|
| Bryophyte | 9,385 |
| *Bacopa* | 144 |
| *Cabomba* | 10,338 |
| *Chara* | 896 |
| *Colocasia* | 1,865 |
| *Eleocharis* | 68 |
| Grass | 15 |
| *Hydrocotyle* | 917 |
| *Hygrophila* | 22,424 |
| *Justicia* | 608 |
| *Limnophila* | 42 |
| *Ludwigia* | 2,505 |
| *Nuphar* | 1,463 |
| *Potamogeton* | 561 |
| *Pseudacoris* | 4 |
| *Sagittaria* | 14,186 |
| *Utricularia* | 22 |
| *Vallisneria* | 29,013 |
| *Xanthosoma* | 126 |
| *Zizaniopsis* | 230 |

# Fish Assemblage Results:
# Drop-Net and Fish Community Sampling

**Table E2.** **Overall number (#) and percent relative abundance (%) of fishes collected from the three long-term biological goals study reaches during drop-net sampling in 2023.**

| TAXA | UPPER SPRING RUN | | LANDA LAKE | | OLD CHANNEL | | NEW CHANNEL | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| **Leuciscidae** | | | | | | | | |
| *Dionda nigrotaeniata* | 6 | 1.70 | 6 | 0.40 | 0 | 0.00 | 2 | 0.26 |
| *Paranotropis volucellus* | 0 | 0.00 | 0 | 0.00 | 2 | 0.01 | 0 | 0.00 |
| **Characidae** | | | | | | | | |
| *Astyanax argentatus** | 8 | 2.27 | 4 | 0.26 | 3 | 0.01 | 17 | 2.17 |
| **Ictaluridae** | | | | | | | | |
| *Ameiurus natalis* | 3 | 0.85 | 6 | 0.40 | 3 | 0.01 | 1 | 0.13 |
| *Ictalurus punctatus* | 0 | 0.00 | 0 | 0.00 | 1 | 0.00 | 0 | 0.00 |
| **Loricariidae** | | | | | | | | |
| *Hypostomus plecostomus** | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 2 | 0.26 |
| **Poeciliidae** | | | | | | | | |
| *Gambusia* sp. | 143 | 40.51 | 65 | 4.30 | 8 | 0.02 | 50 | 6.39 |
| *Poecilia latipinna* | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 0.13 |
| **Centrarchidae** | | | | | | | | |
| *Ambloplites rupestris** | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| *Lepomis cyanellus* | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 30 | 3.83 |
| *Lepomis miniatus* | 30 | 8.50 | 60 | 3.97 | 23 | 0.06 | 67 | 8.56 |
| *Lepomis* sp. | 26 | 7.37 | 6 | 0.40 | 8 | 0.02 | 28 | 3.58 |
| *Micropterus nigricans* | 16 | 4.53 | 14 | 0.93 | 0 | 0.00 | 17 | 2.17 |
| **Percidae** | | | | | | | | |
| *Etheostoma fonticola* | 50 | 14.16 | 1345 | 89.01 | 336 | 0.87 | 520 | 66.41 |
| *Etheostoma lepidum* | 49 | 13.88 | 0 | 0.00 | 0 | 0.00 | 3 | 0.38 |
| **Cichlidae** | | | | | | | | |
| *Herichthys cyanoguttatus** | 6 | 1.70 | 5 | 0.33 | 4 | 0.01 | 45 | 5.75 |
| *Oreochromis aureus** | 16 | 4.53 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| **Total** | **353** | | **1511** | | **388** | | **783** | |

Asterisks (*) denotes introduced species

**Table E3.** **Overall number (#) and percent relative abundance (%) of fishes collected during fish community sampling in 2023.**

| TAXA | UPPER SPRING RUN | | LANDA LAKE | | OLD CHANNEL | | NEW CHANNEL | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| **Leuciscidae** | | | | | | | | |
| *Dionda nigrotaeniata* | 31 | 1.51 | 2805 | 65.16 | 94 | 4.05 | 481 | 14.61 |
| *Notropis amabilis* | 0 | 0.00 | 0 | 0.00 | 222 | 9.56 | 314 | 9.63 |
| *Paranotropis volucellus* | 0 | 0.00 | 20 | 0.46 | 171 | 7.37 | 399 | 12.12 |
| **Characidae** | | | | | | | | |
| *Astyanax argentatus** | 193 | 9.41 | 327 | 7.60 | 875 | 37.70 | 921 | 27.97 |
| **Ictaluridae** | | | | | | | | |
| *Ameiurus natalis* | 0 | 0.00 | 1 | 0.02 | 0 | 0.00 | 6 | 0.18 |
| *Ictaluris punctatus* | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 0.03 |
| **Loricariidae** | | | | | | | | |
| Loricariidae sp. | 0 | 0.00 | 0 | 0.00 | 5 | 0.22 | 2 | 0.06 |
| **Poeciliidae** | | | | | | | | |
| *Gambusia affinis* | 58 | 2.83 | 0 | 0.00 | 91 | 3.92 | 18 | 0.55 |
| *Gambusia geiseri* | 7 | 0.34 | 0 | 0.00 | 84 | 3.62 | 102 | 3.10 |
| *Gambusia* sp. | 768 | 37.43 | 420 | 9.76 | 178 | 7.67 | 91 | 2.76 |
| *Poecilia latipinna** | 61 | 2.97 | 26 | 0.60 | 0 | 0.00 | 3 | 0.09 |
| **Centrarchidae** | | | | | | | | |
| *Ambloplites rupestris** | 0 | 0.00 | 0 | 0.00 | 2 | 0.09 | 0 | 0.00 |
| *Lepomis auritus** | 81 | 3.95 | 2 | 0.05 | 77 | 3.32 | 95 | 2.88 |
| *Lepomis cyanellus* | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 0.09 |
| *Lepomis macrochirus* | 4 | 0.19 | 0 | 0.00 | 6 | 0.26 | 13 | 0.39 |
| *Lepomis megalotis* | 15 | 0.73 | 0 | 0.00 | 4 | 0.17 | 11 | 0.33 |
| *Lepomis microlophus* | 0 | 0.00 | 0 | 0.00 | 3 | 0.13 | 1 | 0.03 |
| *Lepomis miniatus* | 74 | 3.61 | 30 | 0.70 | 83 | 3.58 | 145 | 4.4 |
| *Lepomis* sp. | 66 | 3.22 | 42 | 0.98 | 127 | 5.47 | 100 | 3.04 |
| *Micropterus salmoides* | 262 | 12.77 | 264 | 6.13 | 50 | 2.15 | 104 | 3.16 |
| **Percidae** | | | | | | | | |
| *Etheostoma fonticola* | 221 | 10.77 | 251 | 5.83 | 137 | 5.90 | 328 | 9.96 |
| *Etheostoma lepidum* | 157 | 7.65 | 54 | 1.25 | 12 | 0.52 | 34 | 1.03 |
| *Etheostoma* sp. | 27 | 1.32 | 58 | 1.35 | 23 | 0.99 | 51 | 1.55 |
| **Cichlidae** | | | | | | | | |
| *Herichthys cyanoguttatus** | 22 | 1.07 | 2 | 0.05 | 77 | 3.32 | 67 | 2.03 |
| *Oreochromis aureus* | 5 | 0.24 | 3 | 0.07 | 0 | 0.00 | 0 | 0.00 |
| **Total** | **2052** | | **4305** | | **2321** | | **3293** | |

Asterisks (*) denotes introduced species

**Table E4. Total numbers of stygobitic and endangered species collected at each site (24 hours per event) during spring and fall 2023. Federally endangered species are designated with (E). A = adults; L = larvae.**

| TAXA | RUN 1 | RUN 3 | UPWELLING | TOTAL |
|---|---|---|---|---|
| **Crustaceans** | | | | |
| Amphipoda | | | | |
| Crangonyctidae | | | | |
| *Stygobromus pecki* (E) | | 1 | 16 | 17 |
| *Stygobromus russelli* | | | 2 | 2 |
| *Stygobromus bifurcatus* | | | | 0 |
| *Stygobromus flagellatus* | | | | 0 |
| *Stygobromus* spp. | 6 | 55 | 252 | 313 |
| All *Stygobromus* | 6 | 56 | 270 | 332 |
| Hadziidae | | | | |
| *Mexiweckelia hardeni* | 6 | 16 | 2 | 24 |
| Sebidae | | | | |
| *Seborgia relicta* | 9 | 10 | 9 | 28 |
| Bogidiellidae | | | | |
| *Artesia subterranea* | | 1 | | 1 |
| *Parabogidiella americana* | | | | 0 |
| Ingolfiellidae | | | | |
| *Ingolfiella* n. sp | | | | 0 |
| Isopoda | | | | |
| Asellidae | | | | |
| *Lirceolus* spp. | 7 | 89 | 5 | 101 |
| Cirolanidae | | | | |
| *Cirolanides texensis* | | | 1 | 1 |
| *Cirolanides wassenichae* | | | | 0 |
| Microceberidae | | | | |
| Texicerberus sp. | | | | 0 |
| Ostracoda | | | | |
| Candonidae | | | | |

| | | | | |
|---|---|---|---|---|
| *Comalcandona tressleri* | 68 | 10 | | 78 |
| *Comalcandona gibsoni* | 1 | 1 | | 2 |
| *Rugosuscandona scharfi* | | | | 0 |
| *Lacromacanadona sp.?* | | 1 | | 1 |
| *Ufocandona hannaleeae* | | | | 0 |
| Thermosbaenacea | | | | |
| Monodellidae | | | | |
| *Tethysbaena texana* | | | | 0 |
| Bathynellacea | | | | |
| Parabathynellidae | | | | |
| *Texanobathynella bowmani* | | | | 0 |
| Bathynellidae | | | | |
| *Hobbsinella edwardensis* | | | 1 | 1 |
| **Turbellaria** | | | | |
| Kenkiidae | | | | |
| *Sphalloplana mohri* | | 3 | 3 | 6 |
| **Mollusca** | | | | |
| **Gastropda** | | | | |
| Cochliopidae | | | | |
| *Phreatodrobia nugax* | | | | 0 |
| *Phreatodrobia micra* | | | | 0 |
| *Phreatodrobia plana* | 1 | 12 | 4 | 17 |
| *Phreatodrobia rotunda* | | 2 | | 2 |
| *Phreatodrobia spica* | | 3 | | 3 |
| *Vitropyrgus lillianae* | 8 | 16 | | 24 |
| **Annelids** | | | | |
| Lumbriculata | | | | |
| Lumbriculidae | | | | |
| *Eremidrilus* sp. | 2 | 39 | 4 | 45 |
| *Haplotaxis* sp. | | | | 0 |
| **Arachnids** | | | | |

| | | | | |
|---|---|---|---|---|
| Hydrachnoidea | | | | |
| Hydryphantidae | | | | |
| *Almuerzothyas comalensis* | 2 | 2 | 1 | 5 |
| **Insects** | | | | |
| Coleoptera | | | | |
| Dytiscidae | | | | |
| *Comaldessus stygius* | 1(A), 1(L) | | | 2 |
| *Haideoporus texanus* | | | | 0 |
| Dryopidae | | | | |
| *Stygoparnus comalensis* (E) | 1(L) | | | 1 |
| Elmidae | | | | |
| *Heterelmis comalensis* (E) | | 8(L) | | 8 |

# FIGURES

# Springflow: M9 Measurements

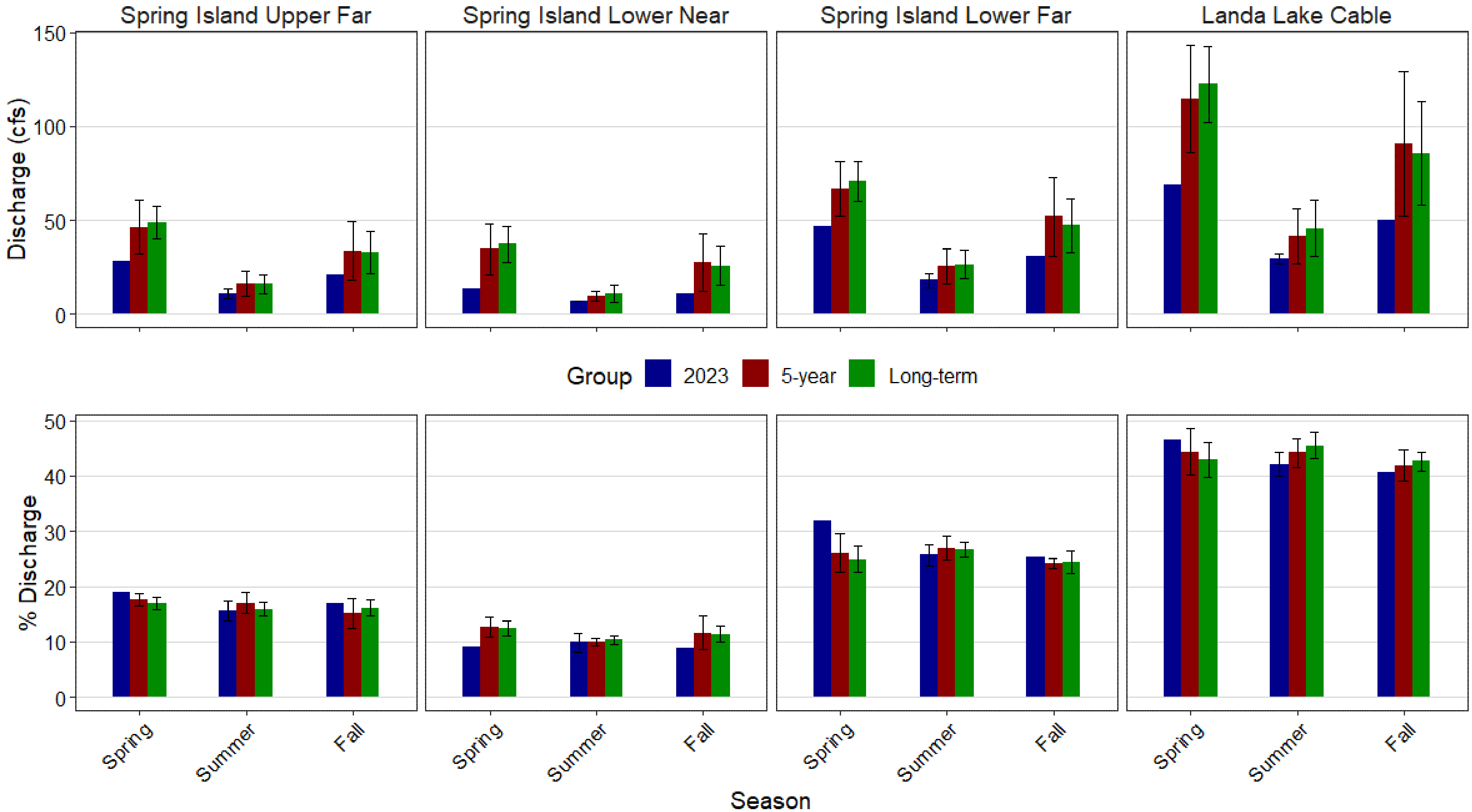


**Figure E1.** **Current (blue bars), five-year (2019–2023; red bars), and long-term (2014–2023; green bars) discharge and percent total discharge based on spring and fall M9 measurements in the Comal Springs/River. Five-year and long-term values are represented as means and error bars denote 95% confidence intervals.**

# Aquatic Vegetation

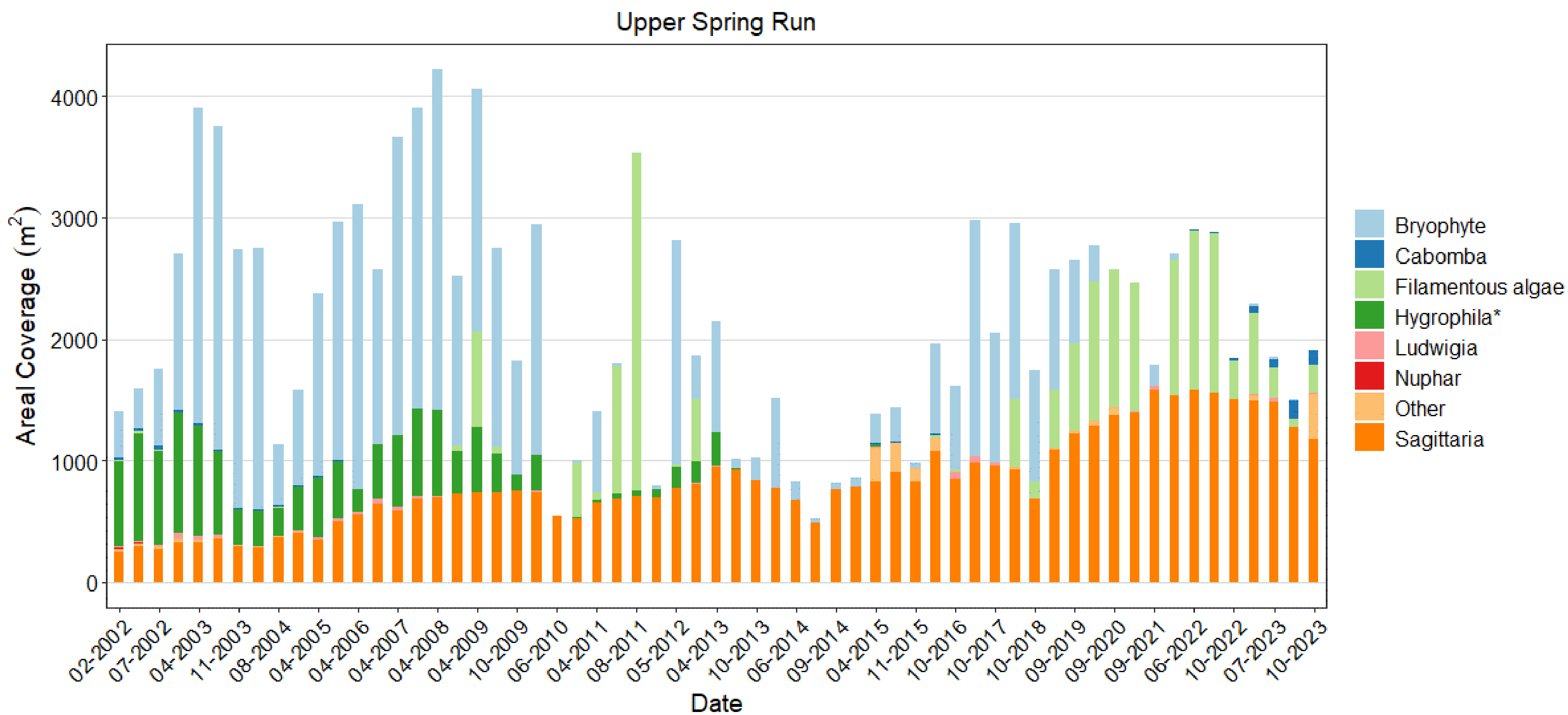


**Figure E2.** **Aquatic vegetation composition ($m^2$) among select taxa from 2002–2023 at the Upper Spring Run.**

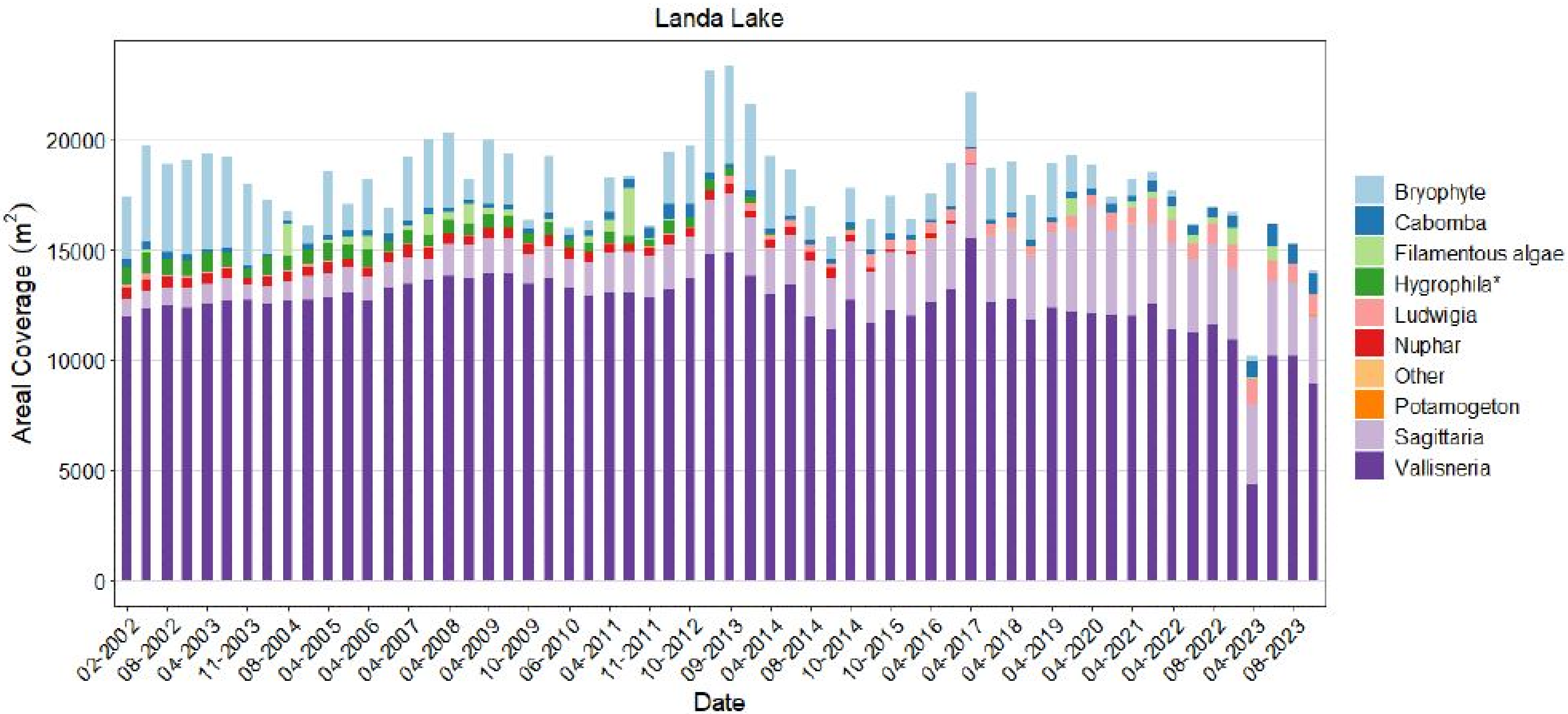


**Figure E3.** **Aquatic vegetation composition ($m^2$) among select taxa from 2002–2023 at Landa Lake**

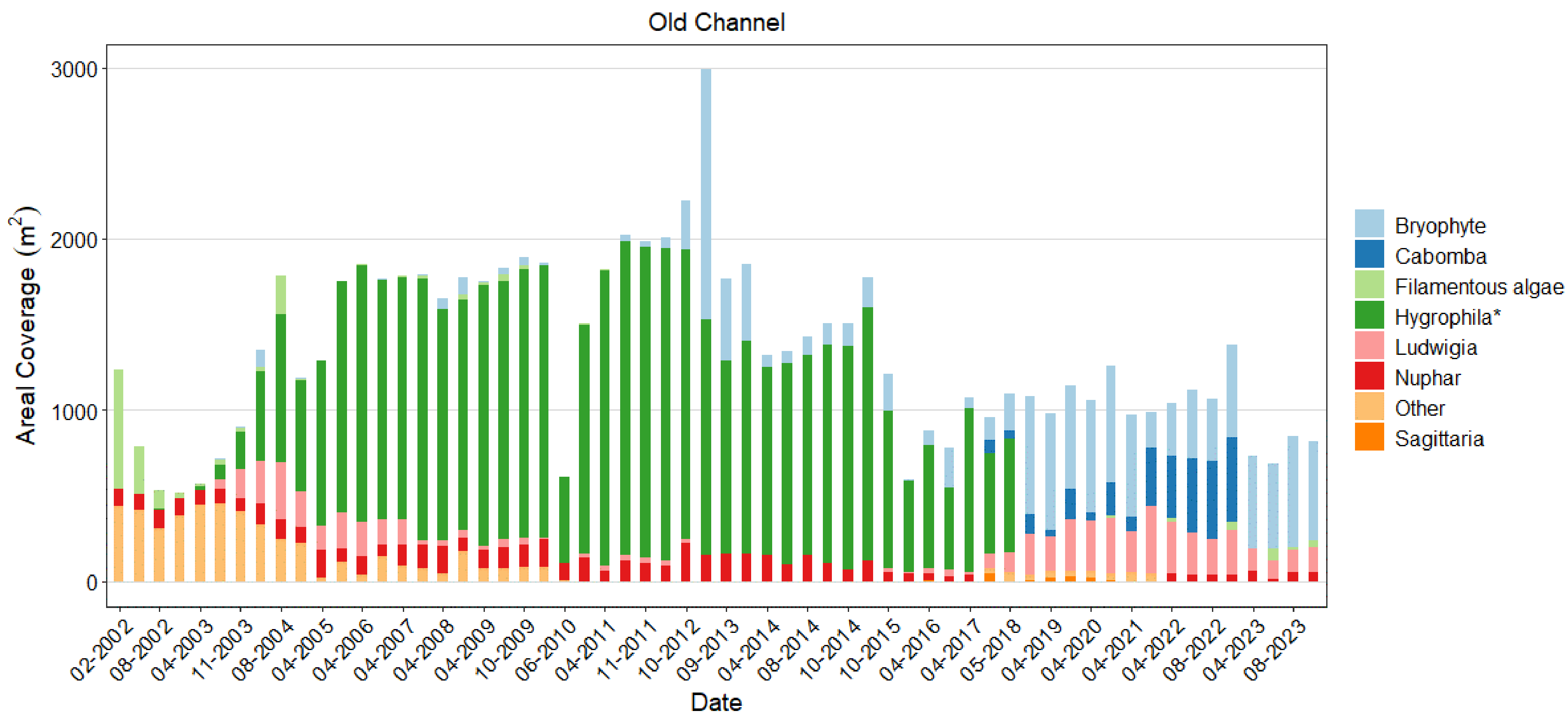


**Figure E4. Aquatic vegetation composition ($m^2$) among select taxa from 2002–2023 at the Old Channel.**

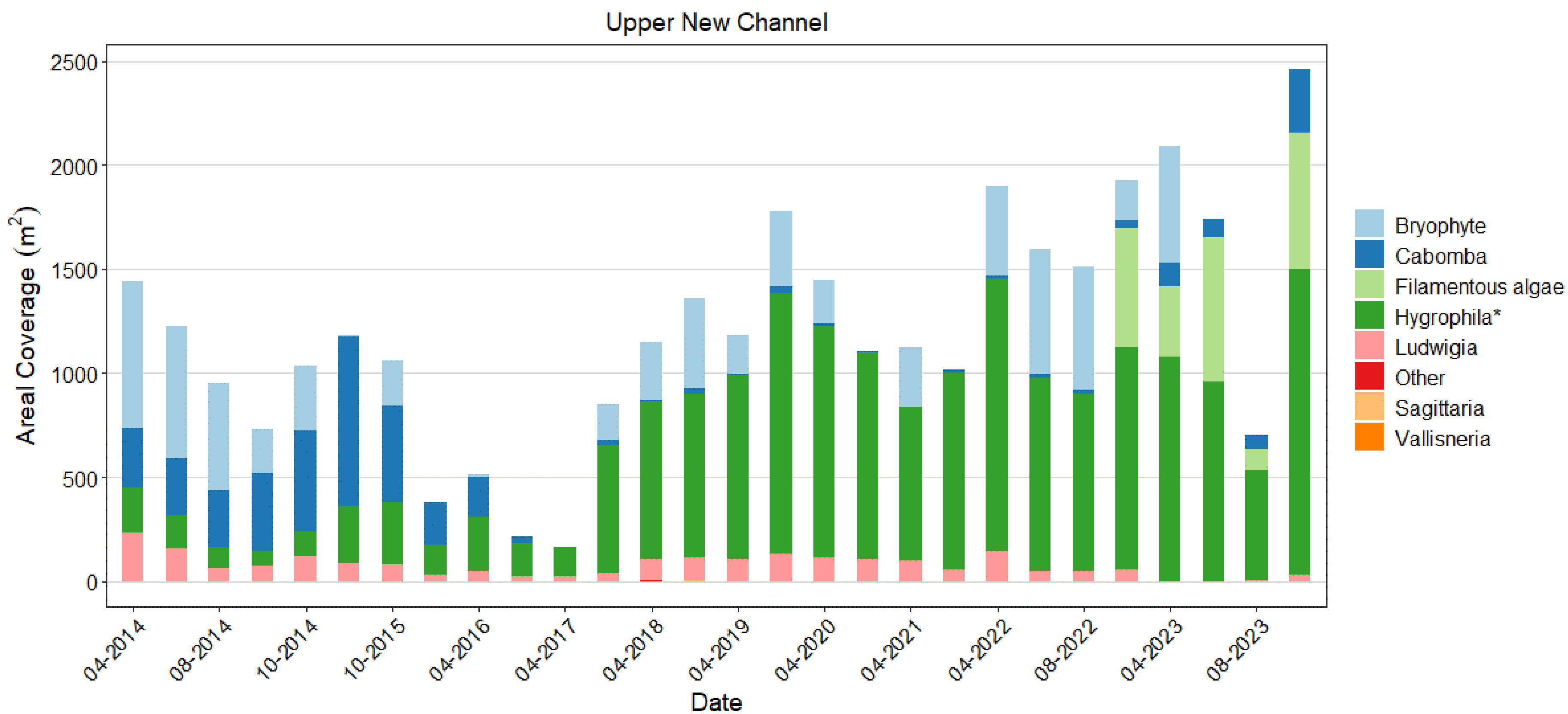


**Figure E5. Aquatic vegetation composition ($m^2$) among select taxa from 2014–2023 at the Upper New Channel.**

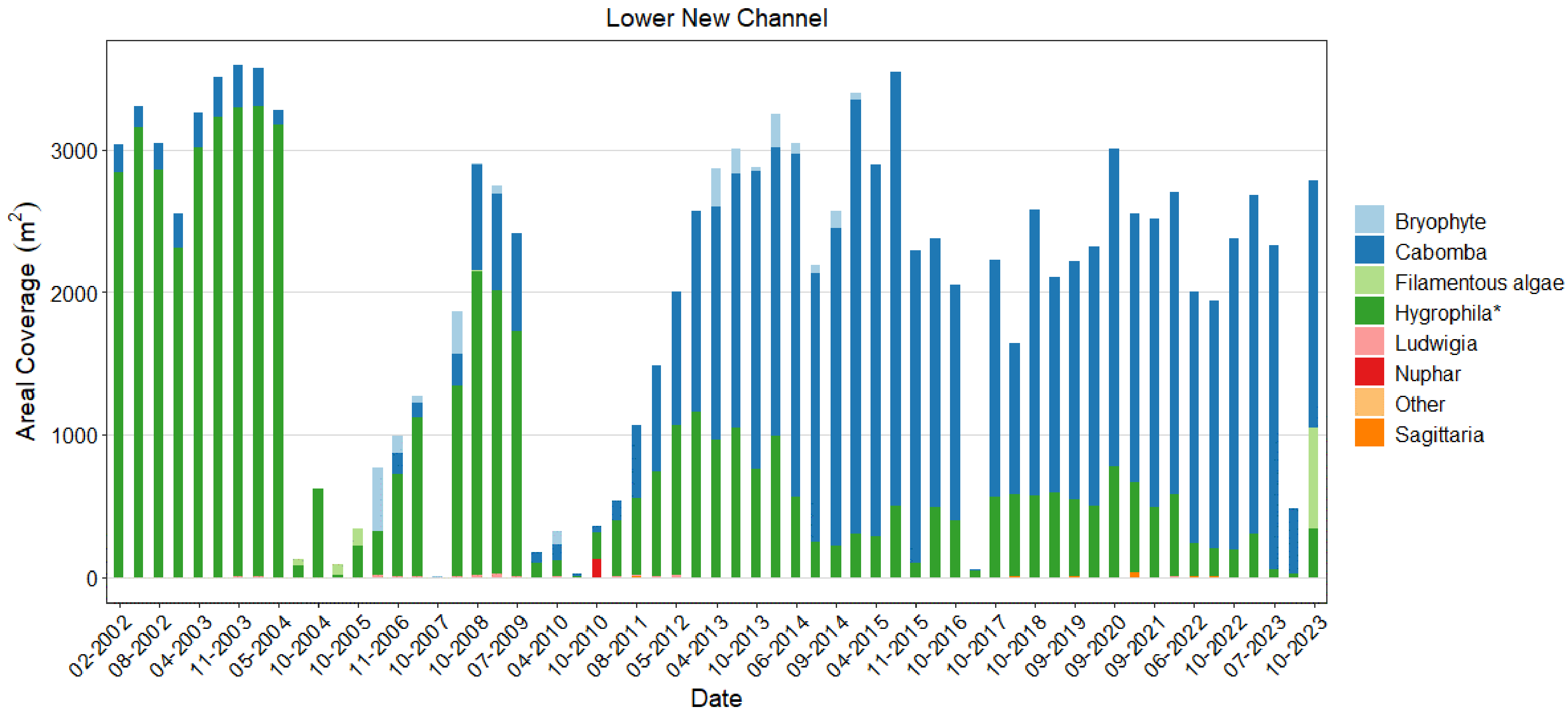


**Figure E6.** **Aquatic vegetation composition ($m^2$) among select taxa from 2002–2023 at the Lower New Channel. (*) in the legend denotes non-native taxa.**

# Fountain Darter

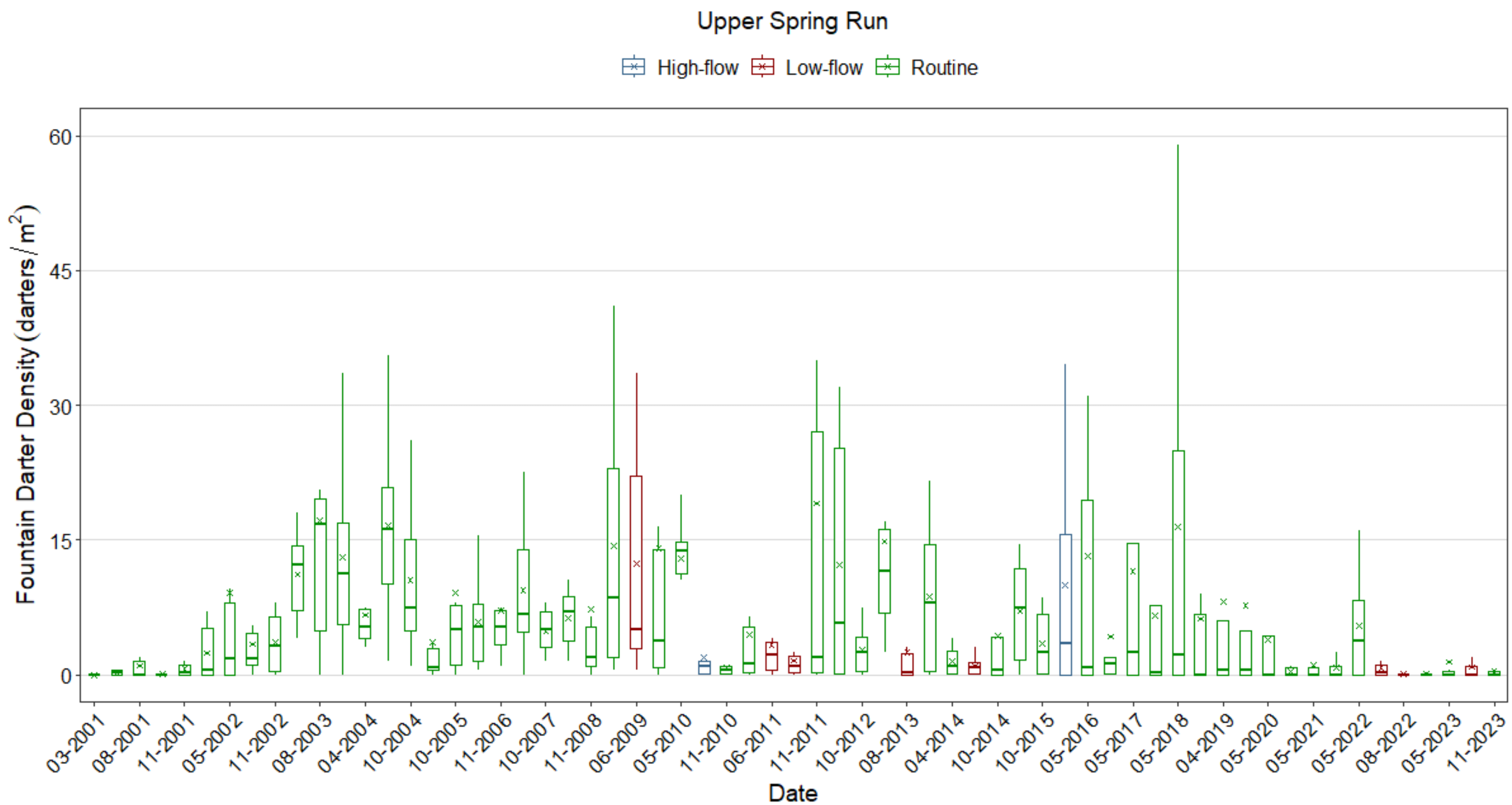


**Figure E7.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m$^2$) from 2001–2023 during drop-net sampling at Upper Spring Run. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

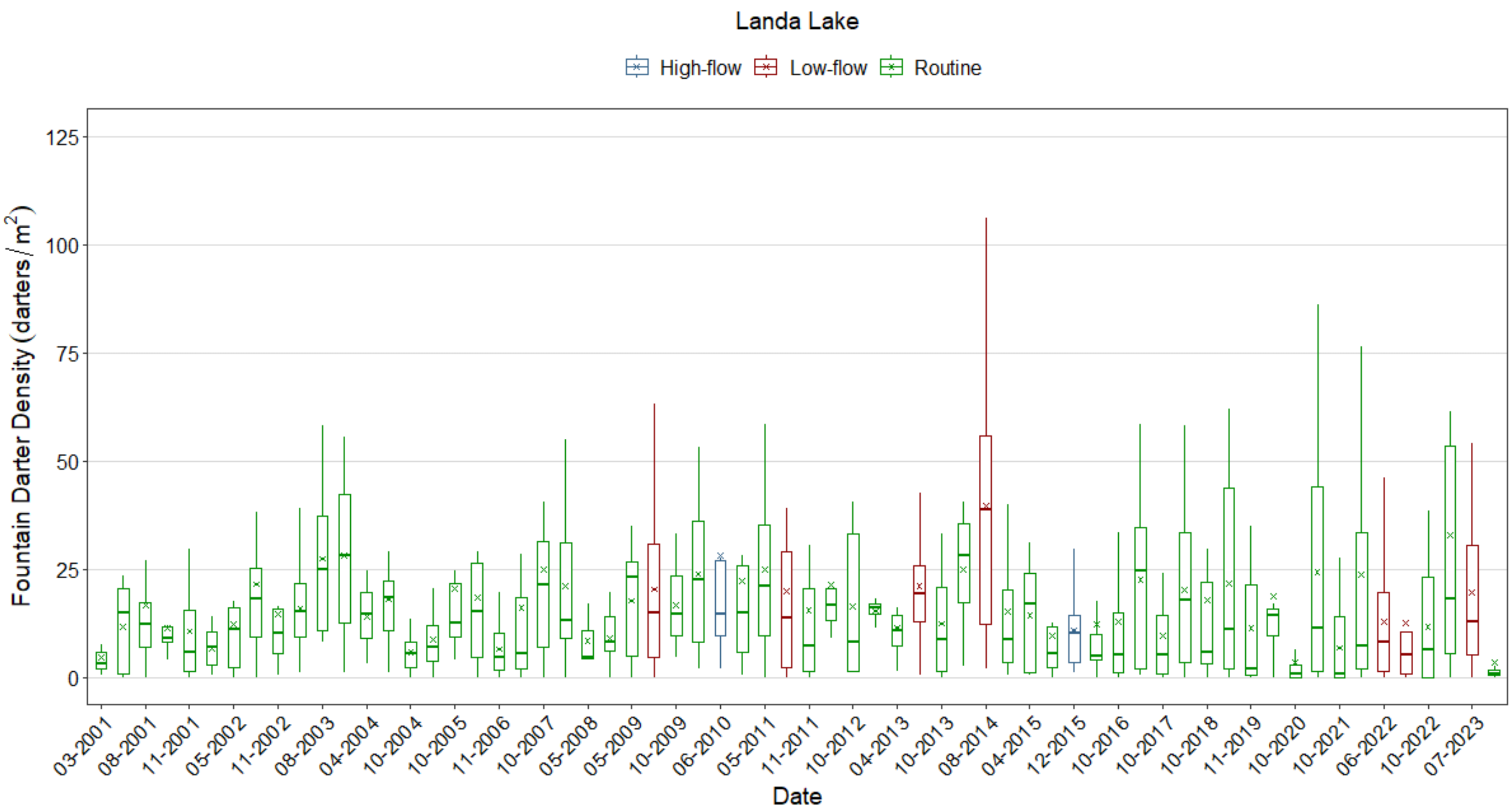


**Figure E8.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m$^2$) from 2001–2023 during drop-net sampling at Landa Lake. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

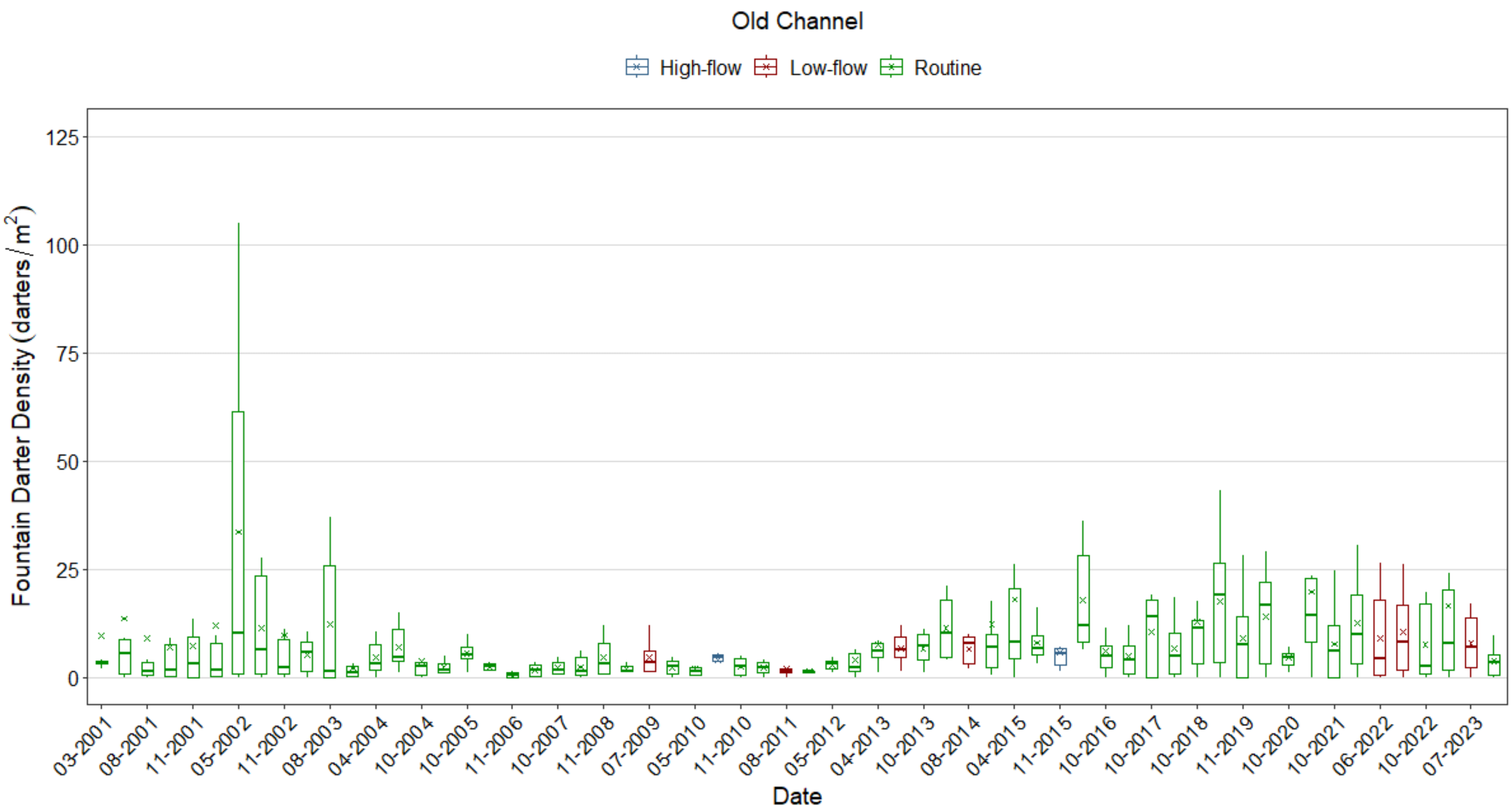


**Figure E9.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m²) from 2001–2023 during drop-net sampling at Old Channel. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

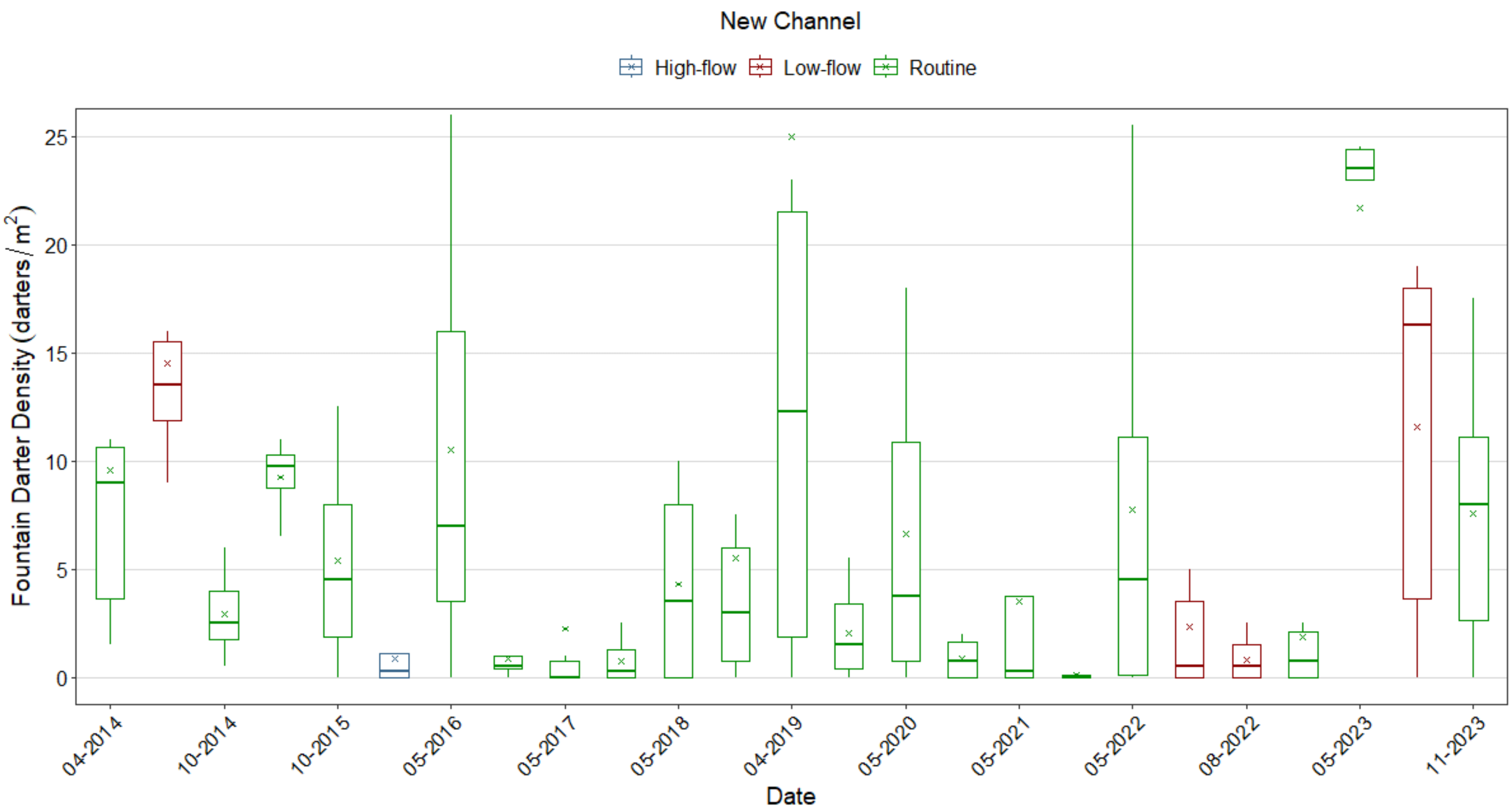


**Figure E10.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m$^2$) from 2014–2023 during drop-net sampling at New Channel. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

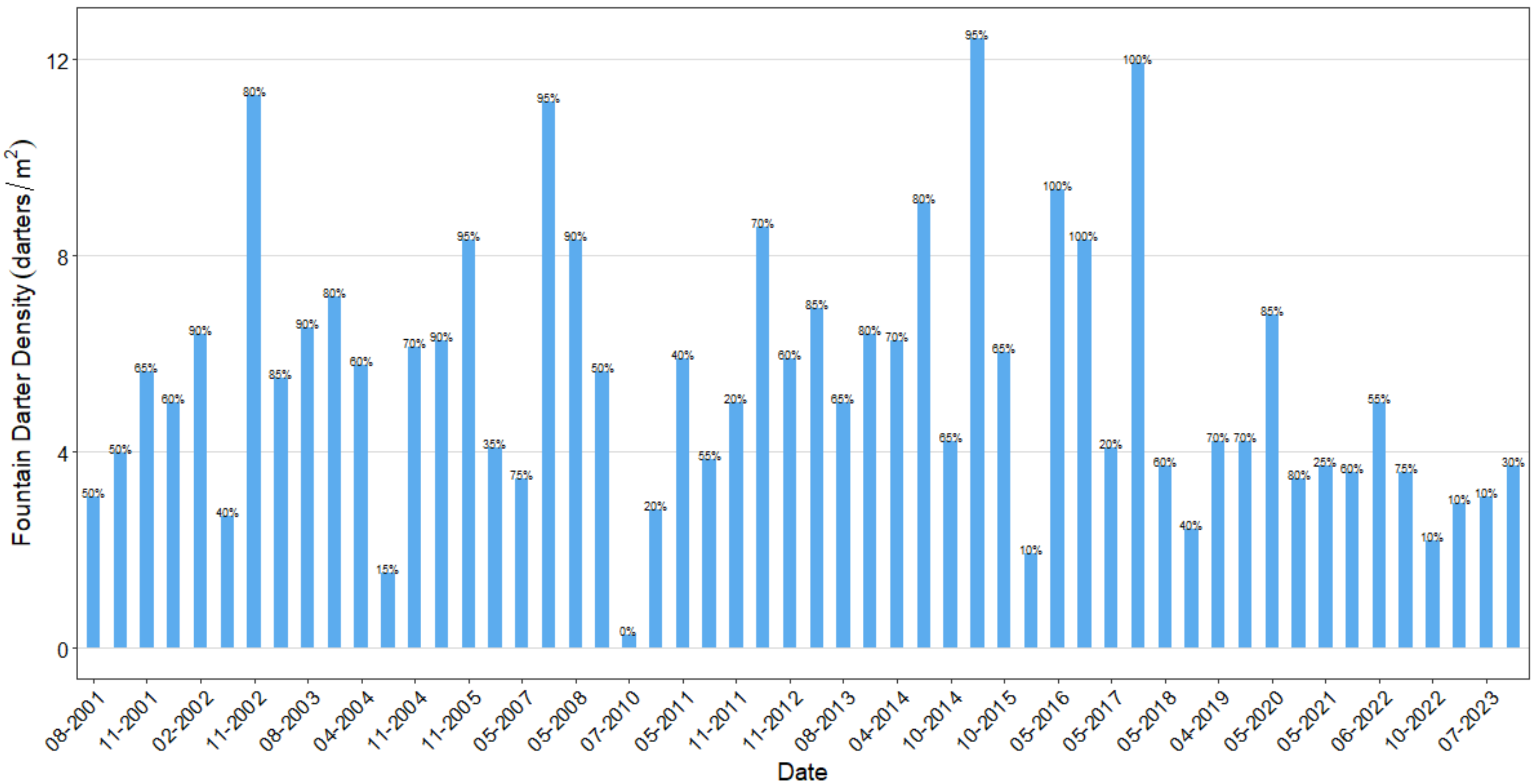


**Figure E11.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m²) from 2001–2023 during visual surveys at Landa Lake. Percentages above the bars represent bryophyte coverage observed during each survey event.**

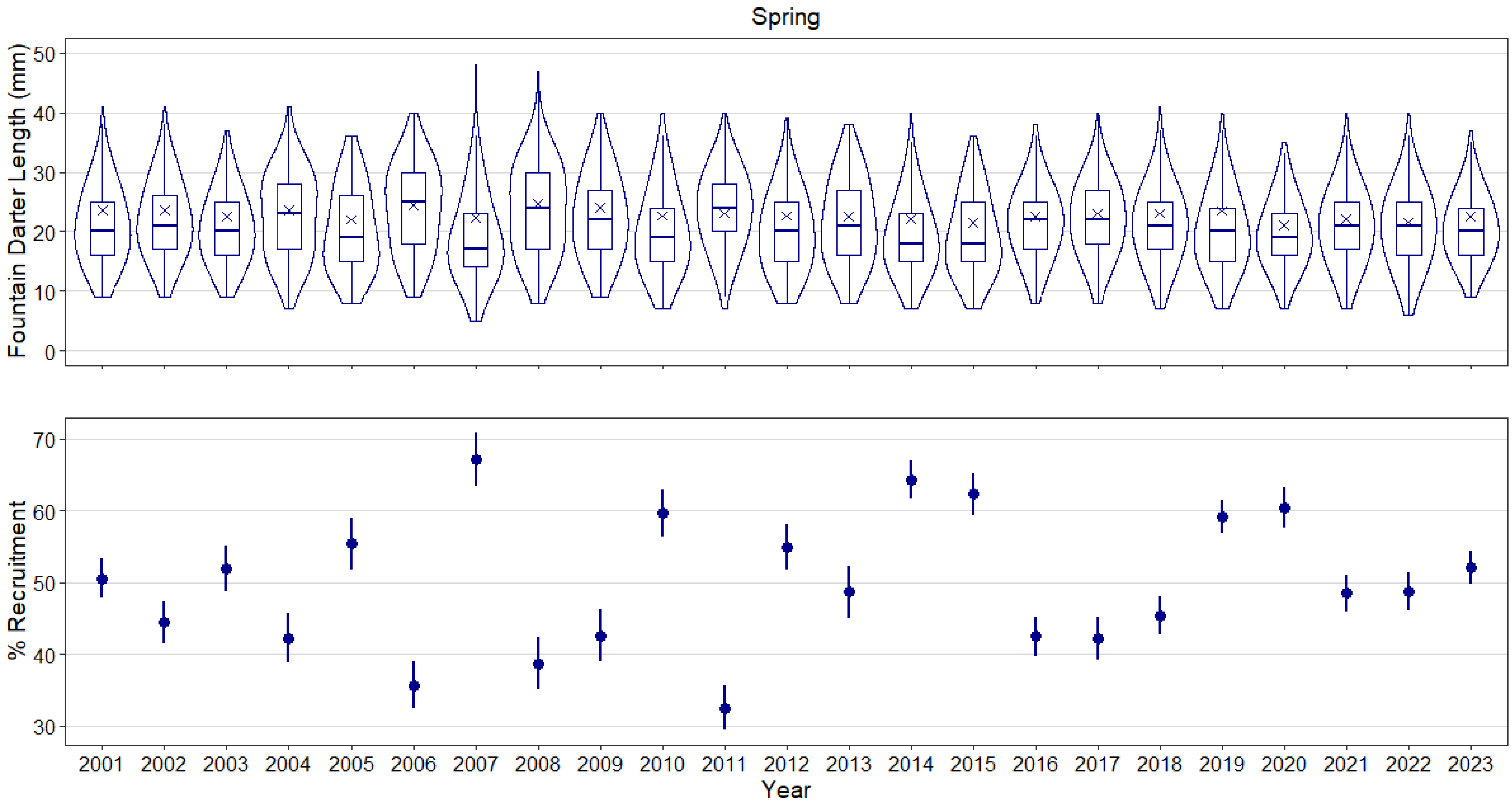


**Figure E12.** **Fountain Darter size structure (mm; top row) and percent recruitment (bottom row) in the Comal Springs and River during spring sampling (i.e., drop-net and timed dip-net data) events from 2001–2023. Size structure is displayed with boxplots (median, quartiles, range) and violin plots (probability density; polygons outlining boxplots). The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. Recruitment is the percent relative abundance (± 95% CI) of darters ≤20 mm.**

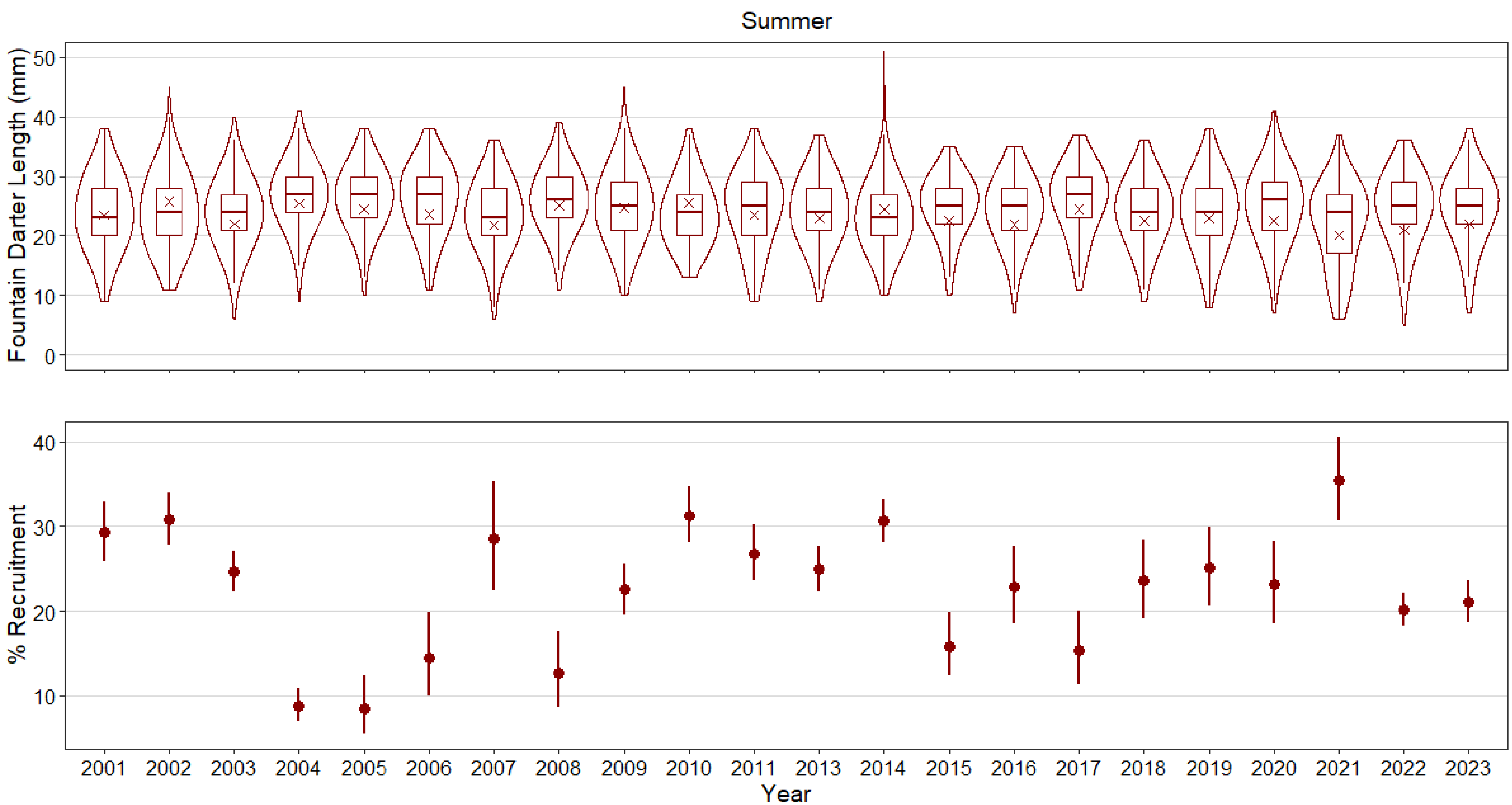


**Figure E13.** **Fountain Darter size structure (mm; top row) and percent recruitment (bottom row) in the Comal Springs and River during summer sampling (i.e., drop-net and timed dip-net data) events from 2001–2023. Size structure is displayed with boxplots (median, quartiles, range) and violin plots (probability density; polygons outlining boxplots). The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. Recruitment is the percent relative abundance (± 95% CI) of darters ≤20 mm.**

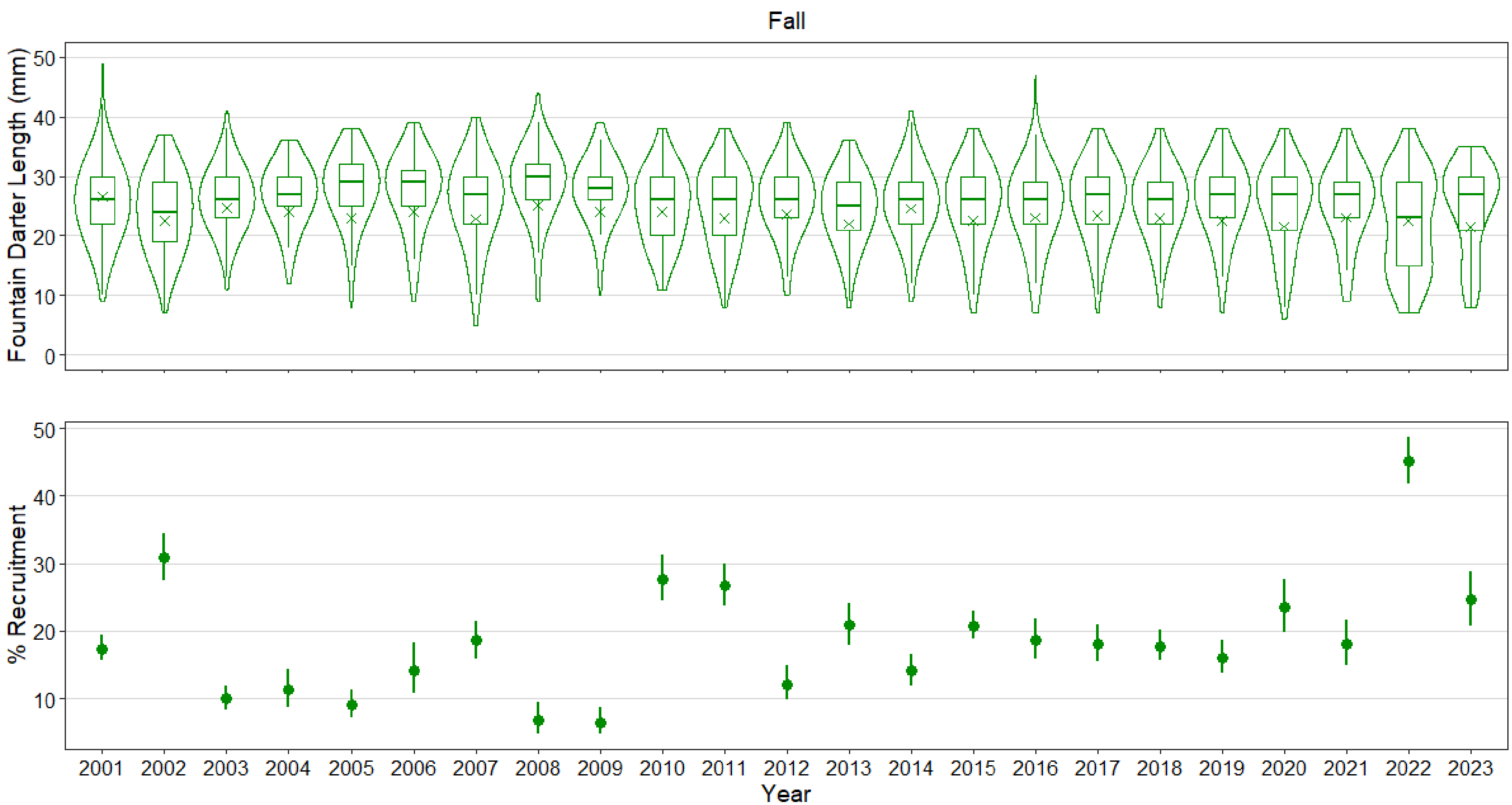


**Figure E14.** **Fountain Darter size structure (mm; top row) and percent recruitment (bottom row) in the Comal Springs and River during fall sampling (i.e., drop-net and timed dip-net data) events from 2001–2023. Size structure is displayed with boxplots (median, quartiles, range) and violin plots (probability density; polygons outlining boxplots). The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range. Recruitment is the percent relative abundance (± 95% CI) of darters ≤20 mm.**

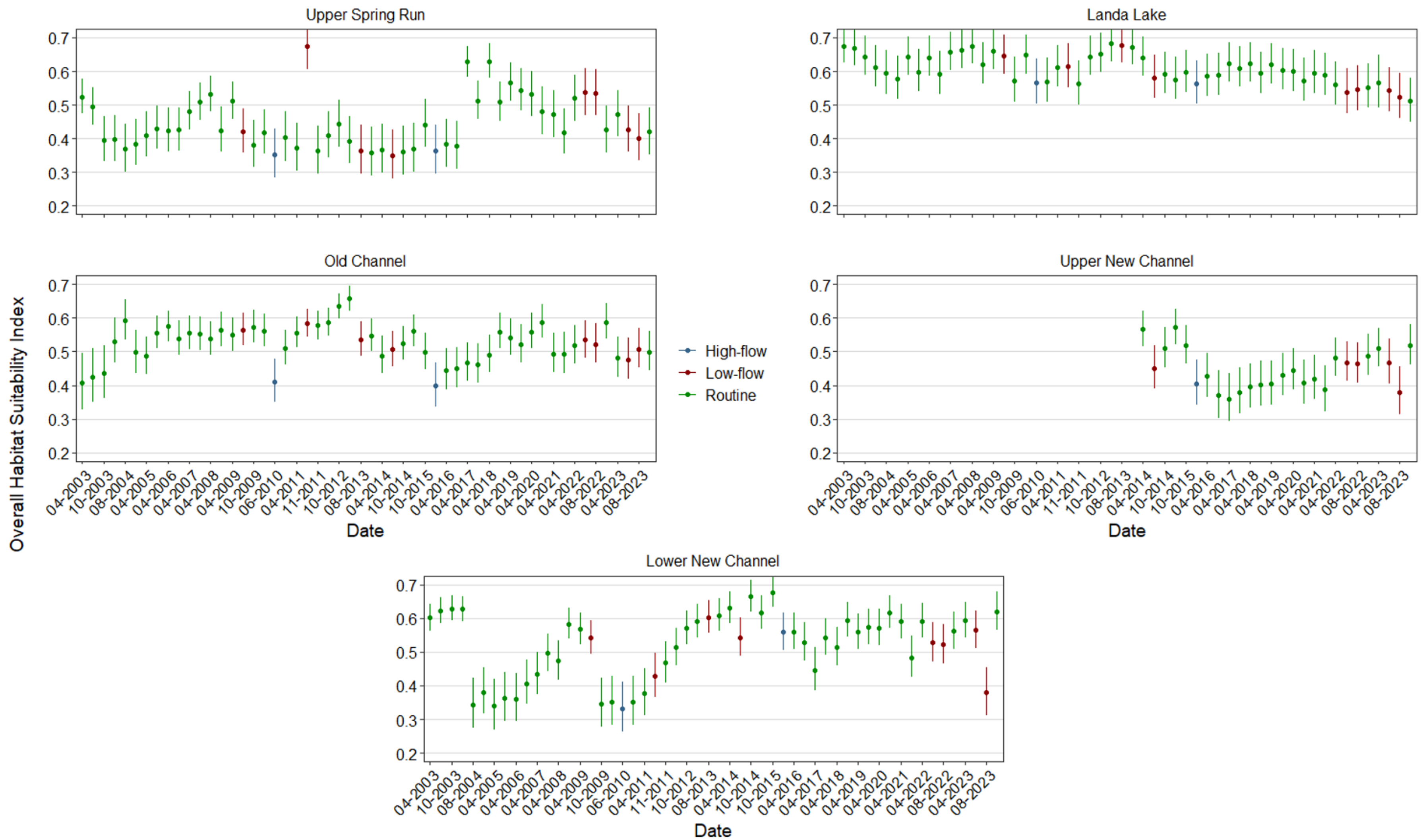


**Figure E15. Overall Habitat Suitability Index (OHSI) (±95% CI) from 2003–2023 among study reaches in the Comal Springs/River.**

# Fish Community

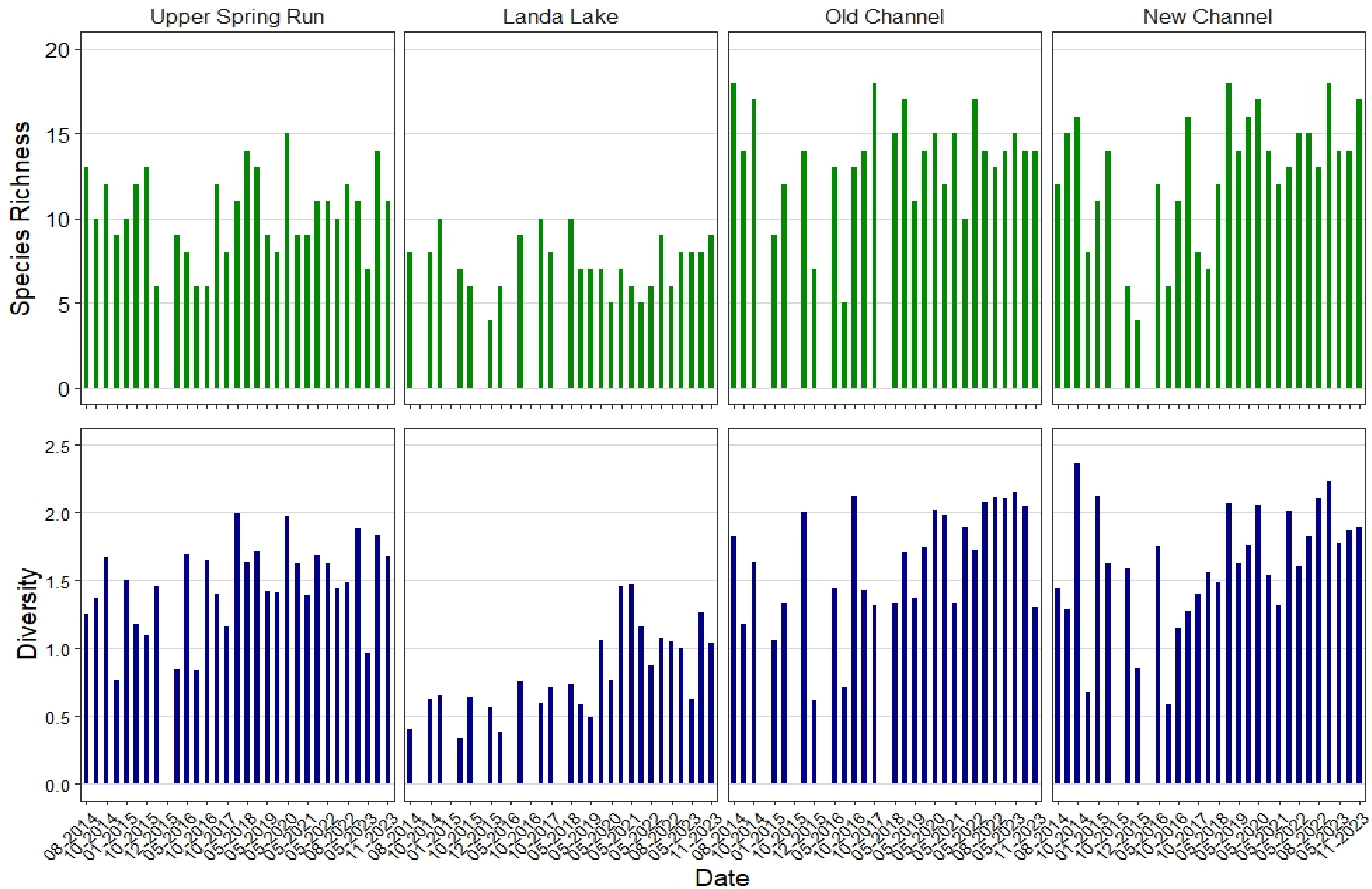


**Figure E16.** **Bar graphs displaying temporal trends in species richness and diversity among study reaches from 2014–2023 during fish community sampling in the Comal Springs/River.**

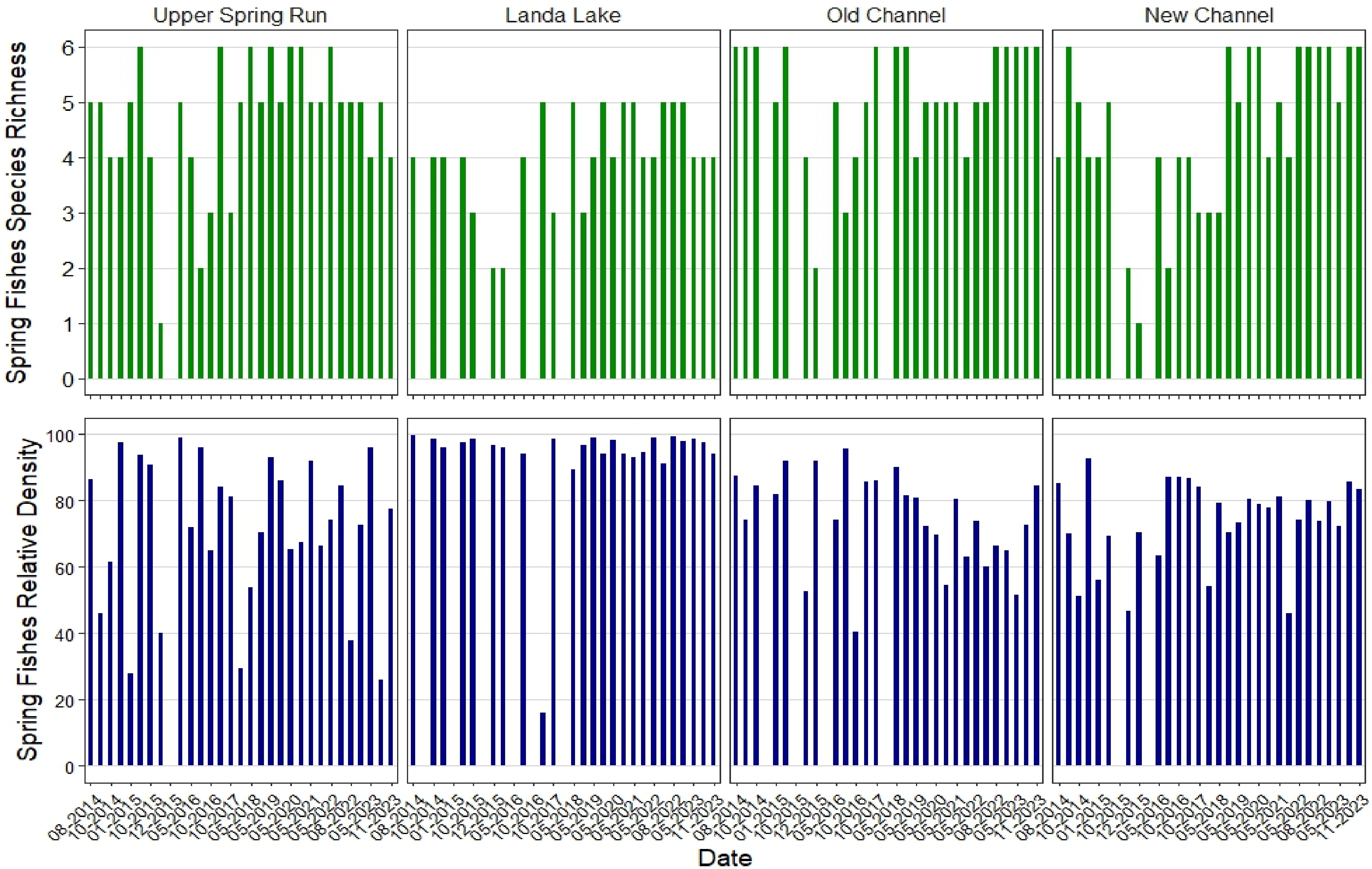


**Figure E17.** **Bar graphs displaying temporal trends in spring fishes species richness and percent relative density among study reaches from 2014–2023 during fish community sampling in the Comal Springs/River.**

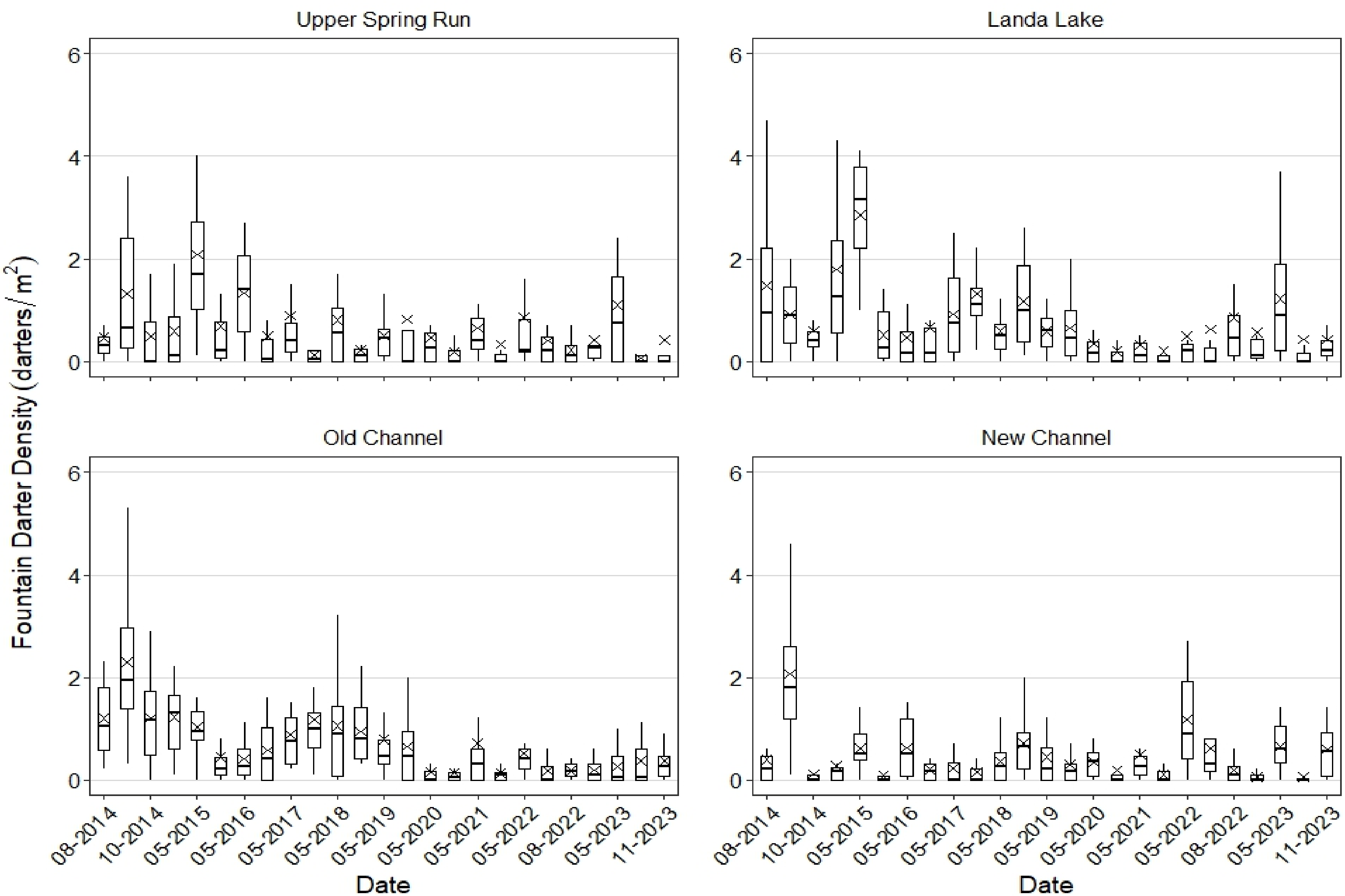


**Figure E18.** **Boxplots displaying temporal trends in Fountain Darter density (darters/m²) among study reaches from 2014–2023 during fish community microhabitat sampling in the Comal Springs/River. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

# Comal Springs Salamander

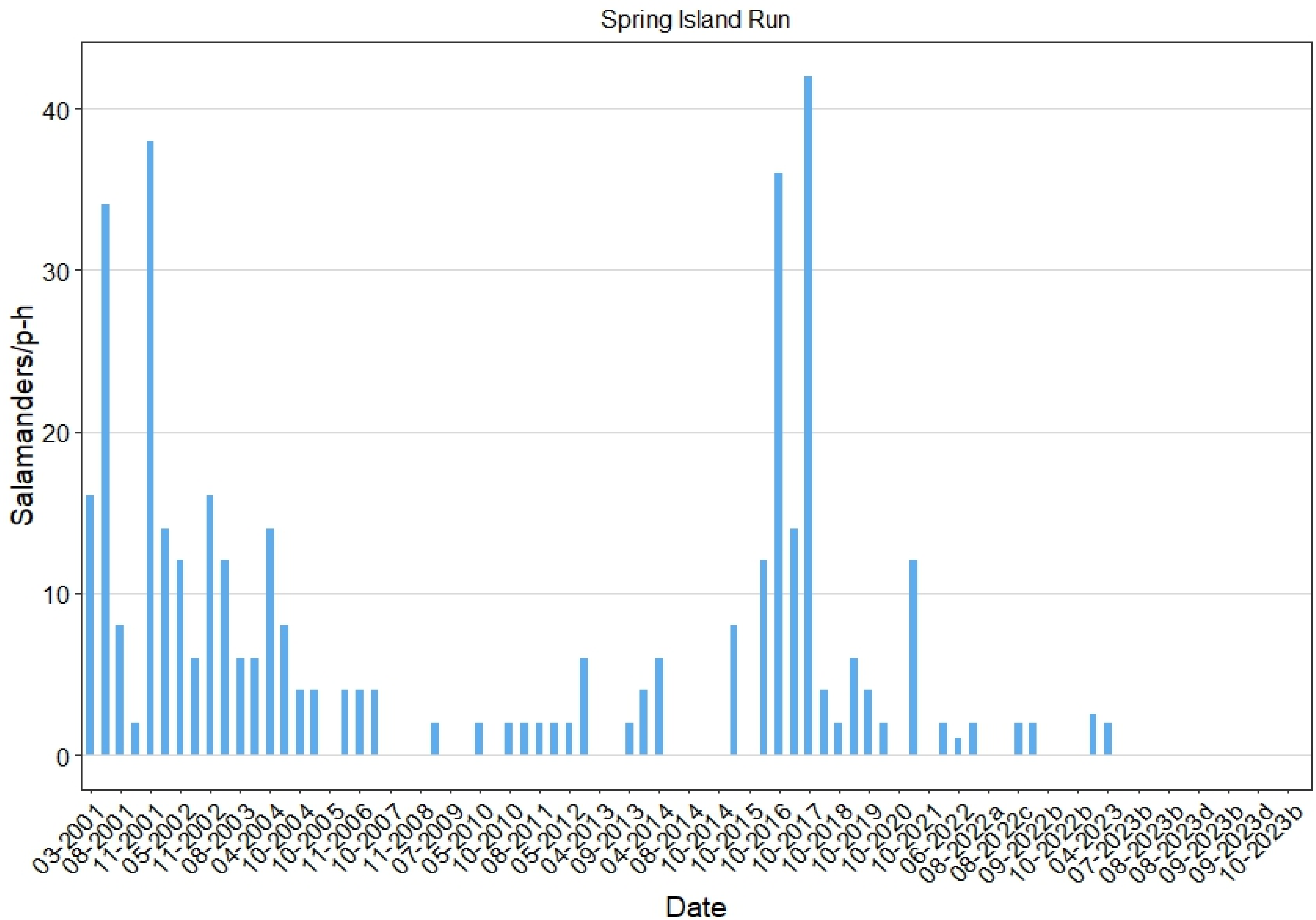


**Figure E19.** **Comal Springs Salamander catch-per-unit-effort (CPUE; salamanders/person-hr) from 2001–2023 at Spring Island Run.**

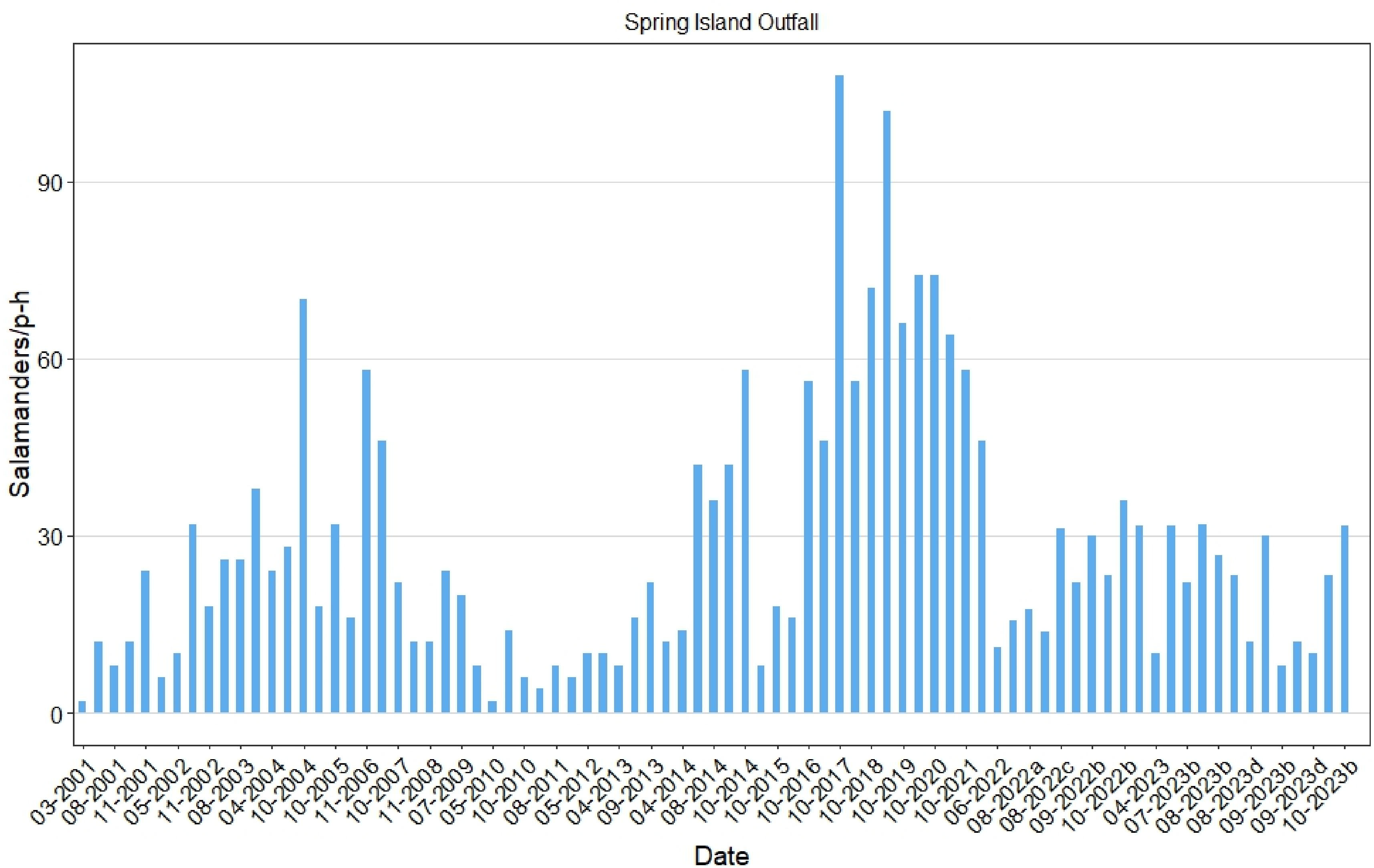


**Figure E20.** **Comal Springs Salamander catch-per-unit-effort (CPUE; salamanders/person-hr) from 2001–2023 at Spring Island Outfall.**

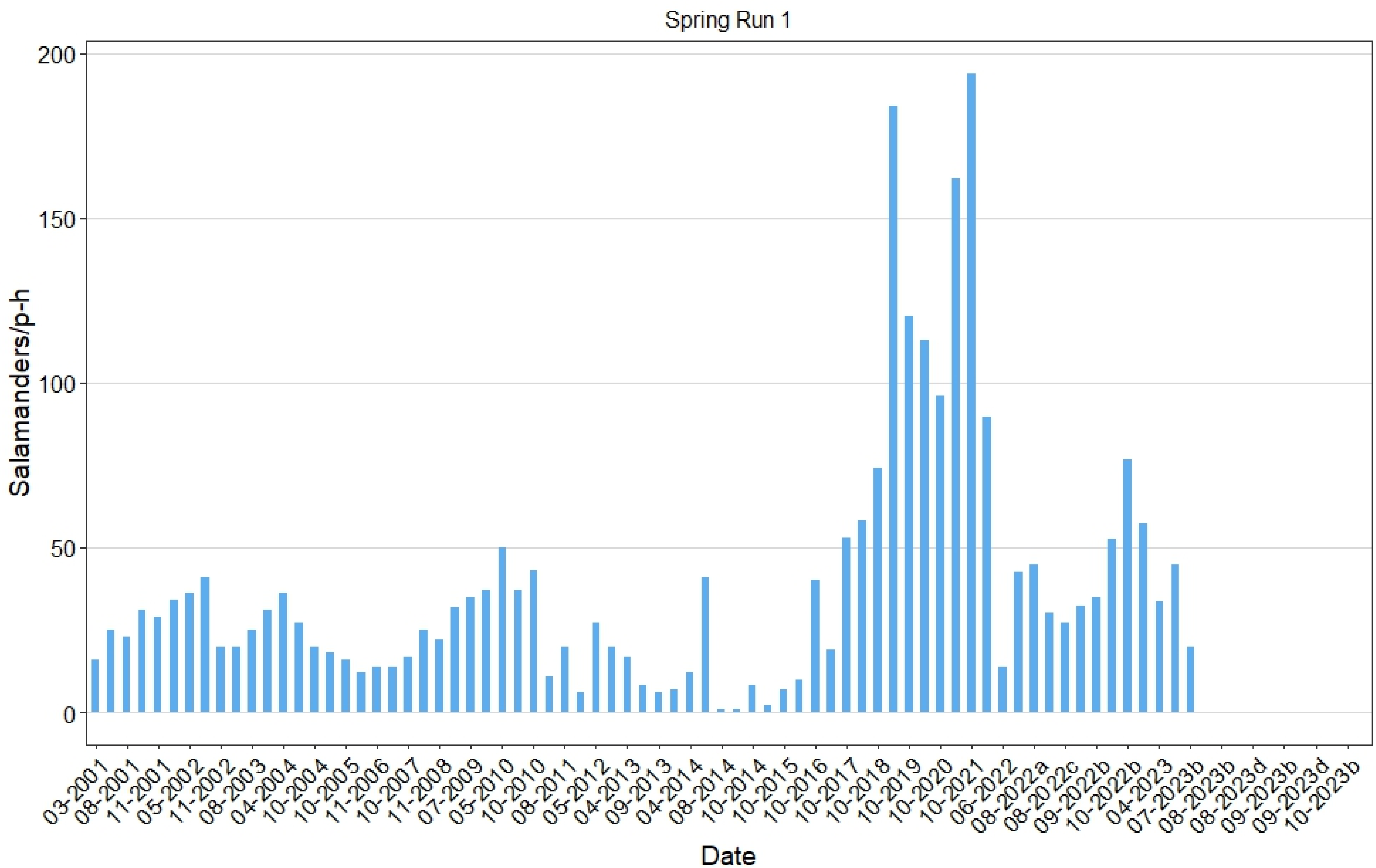


**Figure E21. Comal Springs Salamander catch-per-unit-effort (CPUE; salamanders/person-hr) from 2001–2023 at Spring Run 1.**

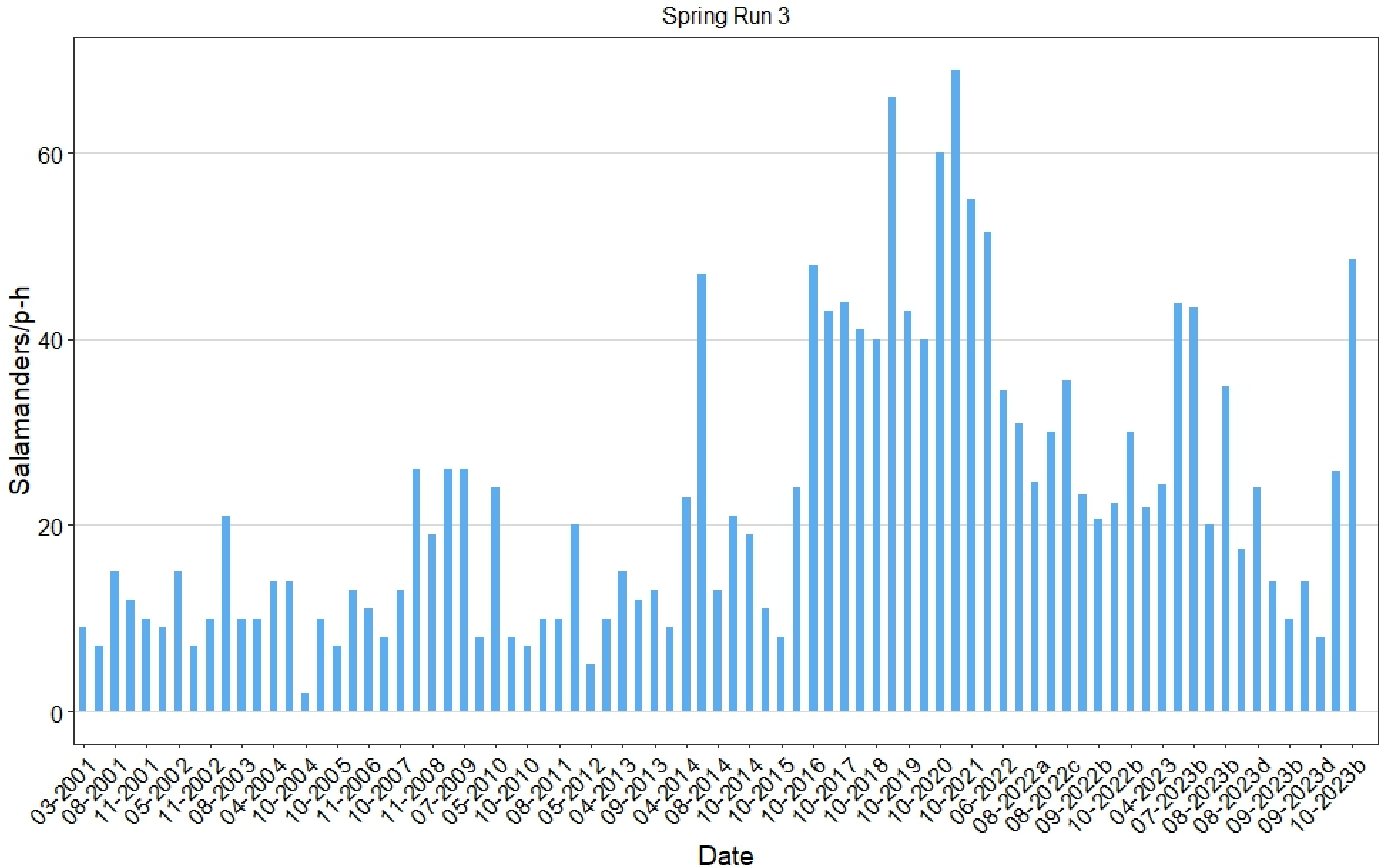


**Figure E22.** **Comal Springs Salamander catch-per-unit-effort (CPUE; salamanders/person-hr) from 2001–2023 at Spring Run 3.**

# Macroinvertebrates

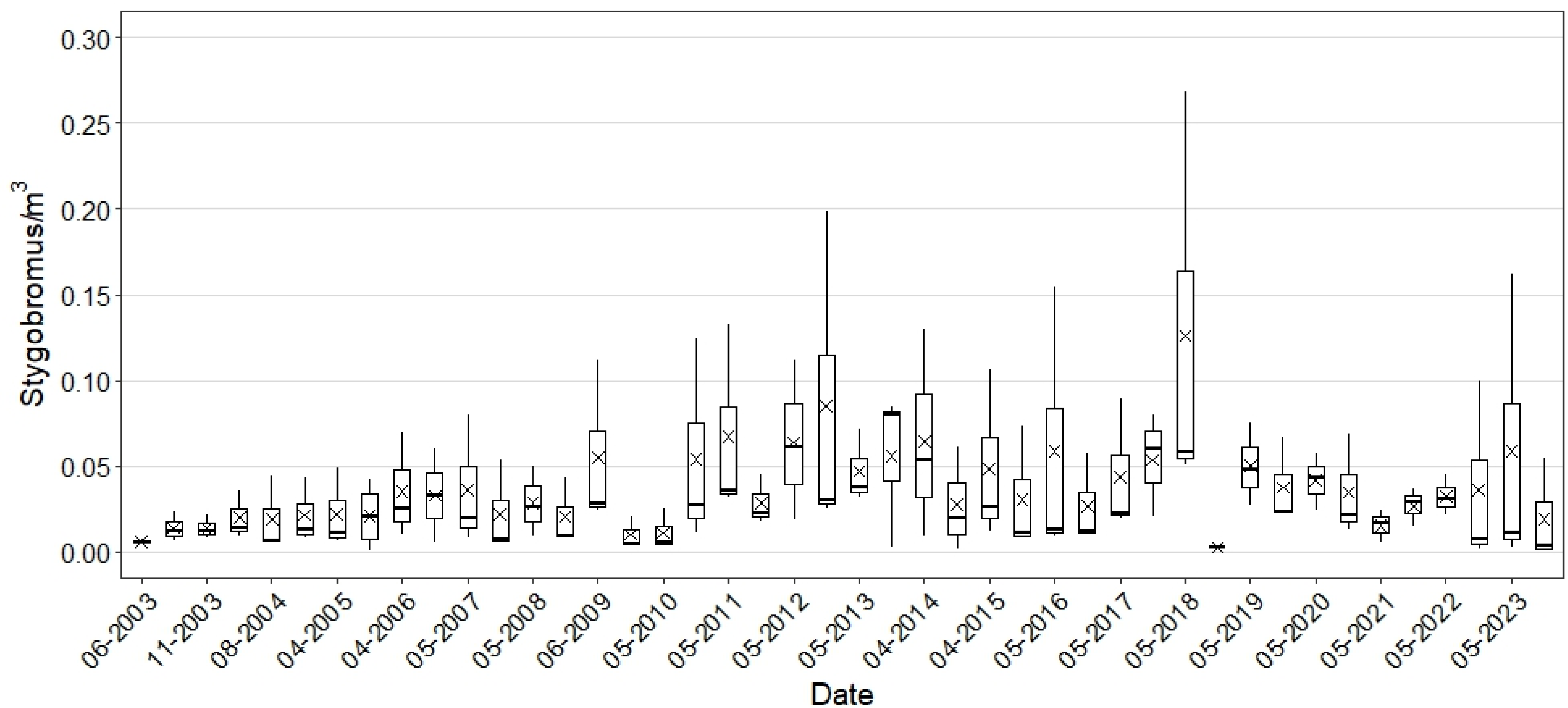


**Figure E23.** **Boxplots displaying *Stygobromus* sp. per cubic meters of water at Western Upwelling, Spring Run 1, and Spring Run 3 from 2003–2023. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

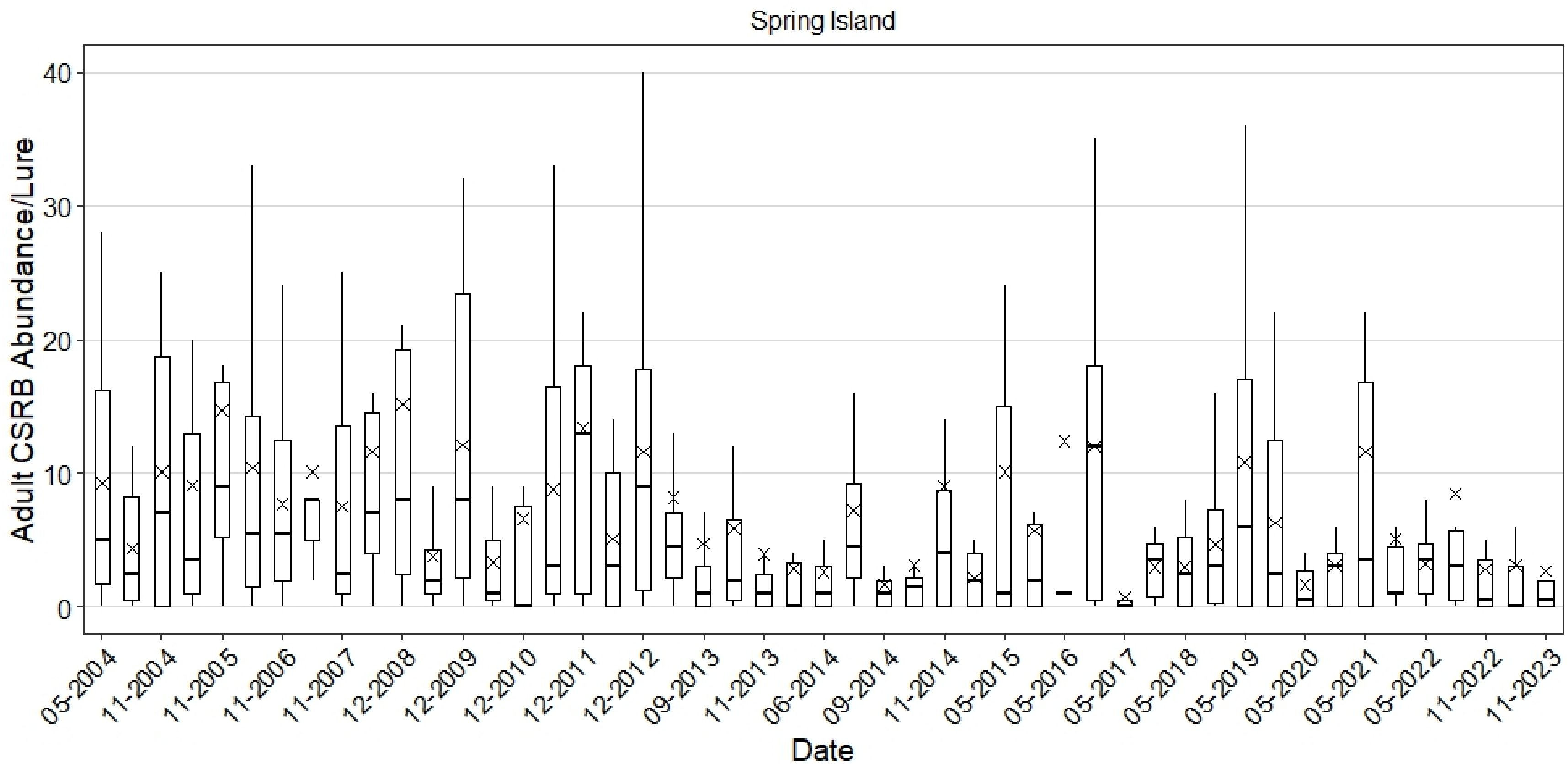


**Figure E24.** **Boxplots displaying temporal trends in adult CSRB abundance per retrieved at Spring Island from 2004–2023 during lure sampling in Comal Springs. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

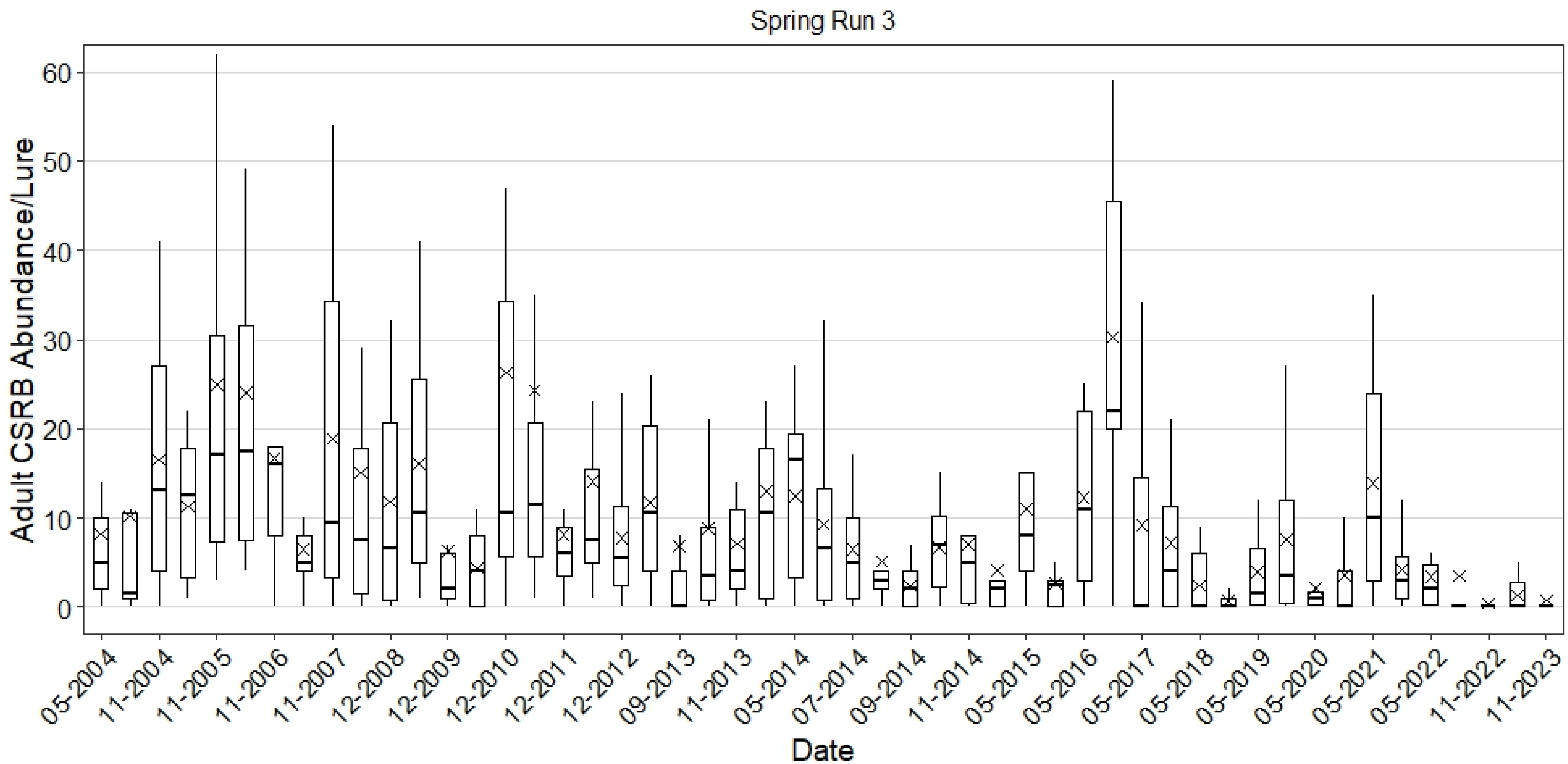


**Figure E25.** **Boxplots displaying temporal trends in adult CSRB abundance per retrieved at Spring Run 3 from 2004–2023 during lure sampling in Comal Springs. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

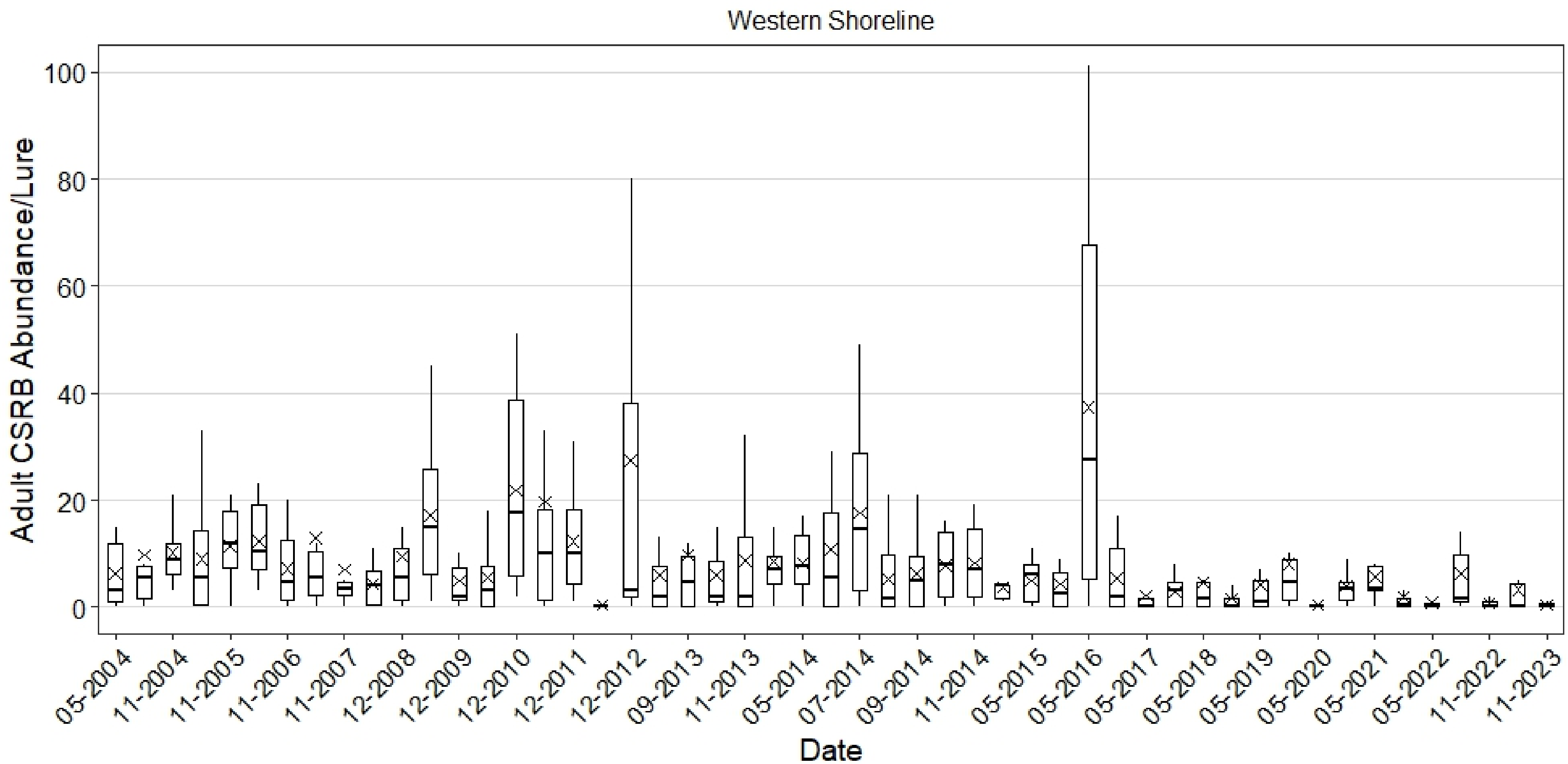


**Figure E26.** **Boxplots displaying temporal trends in adult CSRB abundance per retrieved at the Western Shoreline from 2004–2023 during lure sampling in Comal Springs. The thick horizontal line in each box is the median, x represents the mean, and the upper/lower bounds of each box represents the interquartile range. Whiskers represent minimum/maximum values up to 1.5 times the interquartile range.**

# APPENDIX F: MACROINVERTEBRATE RAW DATA

| Site | Date | Class | Order | Family | FinalID | Counts |
|---|---|---|---|---|---|---|
| Upper Spring Run | 2023-05-03 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 68 |
| Upper Spring Run | 2023-05-03 | Insecta | Coleoptera | Dytiscidae | Neoclypeodytes discretus | 5 |
| Upper Spring Run | 2023-05-03 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 45 |
| Upper Spring Run | 2023-05-03 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 1 |
| Upper Spring Run | 2023-05-03 | Insecta | Diptera | Ceratopogonidae | Bezzia complex | 3 |
| Upper Spring Run | 2023-05-03 | Insecta | Diptera | Chironomidae | Chironomidae | 13 |
| Upper Spring Run | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 4 |
| Upper Spring Run | 2023-05-03 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 8 |
| Upper Spring Run | 2023-05-03 | Insecta | Ephemeroptera | Leptophlebiidae | Thraulodes | 5 |
| Upper Spring Run | 2023-05-03 | | Tricladida | Dugesiidae | Dugesia | 4 |
| Upper Spring Run | 2023-05-03 | Gastropoda | | Physidae | Physa | 2 |
| Upper Spring Run | 2023-05-03 | Gastropoda | | Planorbidae | Planorbella | 1 |
| Upper Spring Run | 2023-05-03 | Gastropoda | | Thiaridae | Melanoides tuberculata | 6 |
| Upper Spring Run | 2023-05-03 | Clitellata | | | Oligochaeta | 6 |
| Upper Spring Run | 2023-11-01 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 47 |
| Upper Spring Run | 2023-11-01 | Insecta | Coleoptera | Dytiscidae | Neoclypeodytes discretus | 8 |
| Upper Spring Run | 2023-11-01 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 2 |
| Upper Spring Run | 2023-11-01 | Insecta | Diptera | Ceratopogonidae | Bezzia complex | 3 |
| Upper Spring Run | 2023-11-01 | Insecta | Diptera | Chironomidae | Chironomidae | 9 |
| Upper Spring Run | 2023-11-01 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 27 |
| Upper Spring Run | 2023-11-01 | Insecta | Ephemeroptera | Caenidae | Caenis | 10 |
| Upper Spring Run | 2023-11-01 | Insecta | Ephemeroptera | Ephemeridae | Hexagenia | 1 |
| Upper Spring Run | 2023-11-01 | Insecta | Ephemeroptera | Heptageniidae | Stenonema | 8 |
| Upper Spring Run | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 1 |
| Upper Spring Run | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Argia | 1 |
| Upper Spring Run | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Enallagma | 5 |
| Upper Spring Run | 2023-11-01 | Insecta | Odonata | Gomphidae | Arigomphus | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Upper Spring Run | 2023-11-01 | Insecta | Odonata | Libellulidae | Perithemis | 3 |
| Upper Spring Run | 2023-11-01 | | Tricladida | Dugesiidae | Dugesia | 1 |
| Upper Spring Run | 2023-11-01 | Gastropoda | | Thiaridae | Melanoides tuberculata | 10 |
| Upper Spring Run | 2023-11-01 | Clitellata | | | Hirudinea | 3 |
| Upper Spring Run | 2023-11-01 | Clitellata | | | Oligochaeta | 9 |
| Landa Lake | 2023-05-03 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 64 |
| Landa Lake | 2023-05-03 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 1 |
| Landa Lake | 2023-05-03 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 4 |
| Landa Lake | 2023-05-03 | Malacostraca | Decapoda | Palaemonidae | Palaemon | 4 |
| Landa Lake | 2023-05-03 | Insecta | Diptera | Chironomidae | Chironomidae | 3 |
| Landa Lake | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 53 |
| Landa Lake | 2023-05-03 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 3 |
| Landa Lake | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Argia | 1 |
| Landa Lake | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Enallagma | 3 |
| Landa Lake | 2023-05-03 | Gastropoda | | Physidae | Physa | 2 |
| Landa Lake | 2023-05-03 | Gastropoda | | Planorbidae | Planorbella | 2 |
| Landa Lake | 2023-05-03 | Gastropoda | | Thiaridae | Melanoides tuberculata | 16 |
| Landa Lake | 2023-05-03 | Clitellata | | | Oligochaeta | 2 |
| Landa Lake | 2023-11-01 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 92 |
| Landa Lake | 2023-11-01 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 1 |
| Landa Lake | 2023-11-01 | Malacostraca | Decapoda | Palaemonidae | Palaemon | 1 |
| Landa Lake | 2023-11-01 | Insecta | Diptera | Chironomidae | Chironomidae | 2 |
| Landa Lake | 2023-11-01 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 2 |
| Landa Lake | 2023-11-01 | Insecta | Ephemeroptera | Caenidae | Caenis | 1 |
| Landa Lake | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 2 |
| Landa Lake | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Enallagma | 3 |
| Landa Lake | 2023-11-01 | Insecta | Trichoptera | Helicopsychidae | Helicopsyche | 1 |
| Landa Lake | 2023-11-01 | Gastropoda | | Planorbidae | Planorbella | 1 |
| Landa Lake | 2023-11-01 | Gastropoda | | Pleuroceridae | Elimia | 1 |
| Landa Lake | 2023-11-01 | Gastropoda | | Thiaridae | Melanoides tuberculata | 45 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Landa Lake | 2023-11-01 | Clitellata | | | Hirudinea | 6 |
| Landa Lake | 2023-11-01 | Clitellata | | | Oligochaeta | 2 |
| Old Channel | 2023-05-03 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 44 |
| Old Channel | 2023-05-03 | Insecta | Coleoptera | Elmidae | Heterelmis | 1 |
| Old Channel | 2023-05-03 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 4 |
| Old Channel | 2023-05-03 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 1 |
| Old Channel | 2023-05-03 | Insecta | Diptera | Ceratopogonidae | Bezzia complex | 3 |
| Old Channel | 2023-05-03 | Insecta | Diptera | Chironomidae | Chironomidae | 1 |
| Old Channel | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 3 |
| Old Channel | 2023-05-03 | Insecta | Ephemeroptera | Ephemeridae | Hexagenia | 6 |
| Old Channel | 2023-05-03 | Insecta | Ephemeroptera | Heptageniidae | Stenonema | 4 |
| Old Channel | 2023-05-03 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 45 |
| Old Channel | 2023-05-03 | Insecta | Lepidoptera | Crambidae | Oxyelophila callista | 1 |
| Old Channel | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Argia | 4 |
| Old Channel | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Neoneura aaroni | 2 |
| Old Channel | 2023-05-03 | Insecta | Odonata | Libellulidae | Sympetrum | 1 |
| Old Channel | 2023-05-03 | Insecta | Trichoptera | Helicopsychidae | Helicopsyche | 1 |
| Old Channel | 2023-05-03 | Gastropoda | | Pleuroceridae | Elimia | 4 |
| Old Channel | 2023-05-03 | Gastropoda | | Thiaridae | Melanoides tuberculata | 14 |
| Old Channel | 2023-05-03 | Clitellata | | | Oligochaeta | 4 |
| Old Channel | 2023-11-01 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 75 |
| Old Channel | 2023-11-01 | Insecta | Coleoptera | Elmidae | Phanocerus clavicornis | 1 |
| Old Channel | 2023-11-01 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 2 |
| Old Channel | 2023-11-01 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 5 |
| Old Channel | 2023-11-01 | Insecta | Ephemeroptera | Caenidae | Caenis | 4 |
| Old Channel | 2023-11-01 | Insecta | Ephemeroptera | Heptageniidae | Stenonema | 8 |
| Old Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 3 |
| Old Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptophlebiidae | Thraulodes | 1 |
| Old Channel | 2023-11-01 | Gastropoda | Littorinimorpha | Hydrobiidae | Hydrobiidae | 2 |
| Old Channel | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Argia | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Old Channel | 2023-11-01 | Insecta | Odonata | Libellulidae | Perithemis | 2 |
| Old Channel | 2023-11-01 | Insecta | Trichoptera | Helicopsychidae | Helicopsyche | 4 |
| Old Channel | 2023-11-01 | Insecta | Trichoptera | Hydropsychidae | Smicridea | 1 |
| Old Channel | 2023-11-01 | Insecta | Trichoptera | Philopotamidae | Chimarra | 1 |
| Old Channel | 2023-11-01 | Gastropoda | | Pleuroceridae | Elimia | 2 |
| Old Channel | 2023-11-01 | Gastropoda | | Thiaridae | Melanoides tuberculata | 3 |
| Old Channel | 2023-11-01 | Clitellata | | | Hirudinea | 1 |
| Old Channel | 2023-11-01 | Clitellata | | | Oligochaeta | 12 |
| Upper New Channel | 2023-05-03 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 46 |
| Upper New Channel | 2023-05-03 | Insecta | Coleoptera | Elmidae | Macrelmis texana | 4 |
| Upper New Channel | 2023-05-03 | Insecta | Coleoptera | Haliplidae | Peltodytes | 3 |
| Upper New Channel | 2023-05-03 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 4 |
| Upper New Channel | 2023-05-03 | Malacostraca | Decapoda | Palaemonidae | Palaemon | 1 |
| Upper New Channel | 2023-05-03 | Insecta | Diptera | Ceratopogonidae | Bezzia complex | 1 |
| Upper New Channel | 2023-05-03 | Insecta | Diptera | Chironomidae | Chironomidae | 2 |
| Upper New Channel | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 3 |
| Upper New Channel | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Camelobaetidius | 6 |
| Upper New Channel | 2023-05-03 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 30 |
| Upper New Channel | 2023-05-03 | Insecta | Hemiptera | Naucoridae | Ambrysus lunatus | 3 |
| Upper New Channel | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Argia | 4 |
| Upper New Channel | 2023-05-03 | Insecta | Odonata | Coenagrionidae | Enallagma | 7 |
| Upper New Channel | 2023-05-03 | Insecta | Odonata | Libellulidae | Erythrodiplax | 1 |
| Upper New Channel | 2023-05-03 | Insecta | Trichoptera | Helicopsychidae | Helicopsyche | 13 |
| Upper New Channel | 2023-05-03 | Insecta | Trichoptera | Leptoceridae | Nectopsyche | 5 |
| Upper New Channel | 2023-05-03 | | Tricladida | Dugesiidae | Dugesia | 3 |
| Upper New Channel | 2023-05-03 | Gastropoda | | Physidae | Physa | 5 |
| Upper New Channel | 2023-05-03 | Gastropoda | | Pleuroceridae | Elimia | 11 |
| Upper New Channel | 2023-05-03 | Gastropoda | | Thiaridae | Melanoides tuberculata | 8 |
| Upper New Channel | 2023-05-03 | Clitellata | | | Oligochaeta | 1 |
| Upper New Channel | 2023-11-01 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 88 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Upper New Channel | 2023-11-01 | Insecta | Coleoptera | Elmidae | Macrelmis texana | 13 |
| Upper New Channel | 2023-11-01 | Insecta | Coleoptera | Elmidae | Microcylloepus | 3 |
| Upper New Channel | 2023-11-01 | Insecta | Coleoptera | Elmidae | Stenelmis | 2 |
| Upper New Channel | 2023-11-01 | Insecta | Coleoptera | Haliplidae | Peltodytes | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Coleoptera | Psephenidae | Psephenus texanus | 5 |
| Upper New Channel | 2023-11-01 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Diptera | Chironomidae | Chironomidae | 6 |
| Upper New Channel | 2023-11-01 | Insecta | Ephemeroptera | Baetidae | Fallceon | 3 |
| Upper New Channel | 2023-11-01 | Insecta | Ephemeroptera | Heptageniidae | Stenonema | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Leptohyphes | 2 |
| Upper New Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 4 |
| Upper New Channel | 2023-11-01 | Insecta | Hemiptera | Naucoridae | Ambrysus lunatus | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Odonata | Aeshnidae | Aeshnidae | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Argia | 10 |
| Upper New Channel | 2023-11-01 | Insecta | Odonata | Libellulidae | Erythemis | 4 |
| Upper New Channel | 2023-11-01 | Insecta | Trichoptera | Helicopsychidae | Helicopsyche | 5 |
| Upper New Channel | 2023-11-01 | Insecta | Trichoptera | Leptoceridae | Nectopsyche | 1 |
| Upper New Channel | 2023-11-01 | Insecta | Trichoptera | Philopotamidae | Chimarra | 3 |
| Upper New Channel | 2023-11-01 | | Tricladida | Dugesiidae | Dugesia | 1 |
| Upper New Channel | 2023-11-01 | Gastropoda | | Pleuroceridae | Elimia | 2 |
| Upper New Channel | 2023-11-01 | Gastropoda | | Thiaridae | Melanoides tuberculata | 1 |
| Upper New Channel | 2023-11-01 | Clitellata | | | Hirudinea | 5 |
| Upper New Channel | 2023-11-01 | Clitellata | | | Oligochaeta | 2 |
| Lower New Channel | 2023-05-03 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 67 |
| Lower New Channel | 2023-05-03 | Insecta | Coleoptera | Elmidae | Heterelmis | 1 |
| Lower New Channel | 2023-05-03 | Malacostraca | Decapoda | Cambaridae | Cambaridae | 1 |
| Lower New Channel | 2023-05-03 | Insecta | Diptera | Chironomidae | Chironomidae | 4 |
| Lower New Channel | 2023-05-03 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 2 |
| Lower New Channel | 2023-05-03 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 20 |
| Lower New Channel | 2023-05-03 | Insecta | Hemiptera | Corixidae | Corixini nymph | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Lower New Channel | 2023-05-03 | Insecta | Hemiptera | Naucoridae | Limnocoris lutzi | 1 |
| Lower New Channel | 2023-05-03 | Insecta | Hemiptera | Nepidae | Ranatra | 1 |
| Lower New Channel | 2023-05-03 | Gastropoda | Littorinimorpha | Hydrobiidae | Hydrobiidae | 2 |
| Lower New Channel | 2023-05-03 | Insecta | Trichoptera | Leptoceridae | Nectopsyche | 8 |
| Lower New Channel | 2023-05-03 | Gastropoda | | Thiaridae | Melanoides tuberculata | 43 |
| Lower New Channel | 2023-05-03 | Clitellata | | | Oligochaeta | 3 |
| Lower New Channel | 2023-11-01 | Malacostraca | Aphipoda | Hyalellidae | Hyalella | 33 |
| Lower New Channel | 2023-11-01 | Insecta | Diptera | Ceratopogonidae | Bezzia complex | 2 |
| Lower New Channel | 2023-11-01 | Insecta | Diptera | Chironomidae | Chironomidae | 8 |
| Lower New Channel | 2023-11-01 | Insecta | Ephemeroptera | Baetidae | Callibaetis | 5 |
| Lower New Channel | 2023-11-01 | Insecta | Ephemeroptera | Heptageniidae | Stenonema | 1 |
| Lower New Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Leptohyphes | 7 |
| Lower New Channel | 2023-11-01 | Insecta | Ephemeroptera | Leptohyphidae | Tricorythodes | 58 |
| Lower New Channel | 2023-11-01 | Insecta | Odonata | Coenagrionidae | Argia | 1 |
| Lower New Channel | 2023-11-01 | Insecta | Odonata | Libellulidae | Perithemis | 1 |
| Lower New Channel | 2023-11-01 | Insecta | Trichoptera | Leptoceridae | Nectopsyche | 2 |
| Lower New Channel | 2023-11-01 | Gastropoda | | Thiaridae | Melanoides tuberculata | 22 |
| Lower New Channel | 2023-11-01 | Clitellata | | | Hirudinea | 1 |

# APPENDIX G: DROP-NET RAW DATA

| SiteCode | Reach | Site_No | Date | Dip_Net | Species | Length | Count |
|---|---|---|---|---|---|---|---|
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis sp. | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis miniatus | 34 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis miniatus | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis miniatus | 23 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis miniatus | 10 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Lepomis miniatus | 11 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Dionda nigrotaeniata | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Dionda nigrotaeniata | 23 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Palaemonetes sp. |  | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Procambarus sp. |  | 3 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 19 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 16 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 18 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 26 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 22 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 17 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 24 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Lepomis miniatus | 25 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Lepomis miniatus | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Palaemonetes sp. |  | 3 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Procambarus sp. |  | 4 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Lepomis miniatus | 34 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Lepomis miniatus | 32 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Lepomis miniatus | 30 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Lepomis miniatus | 22 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Etheostoma fonticola | 23 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Etheostoma fonticola | 20 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 3 | Etheostoma fonticola | 26 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 4 | Procambarus sp. | | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 4 | Etheostoma fonticola | 22 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 4 | Astyanax mexicanus | 28 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 27 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 15 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Procambarus sp. | | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Palaemonetes sp. | | 2 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Procambarus sp. | | 6 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Etheostoma fonticola | 24 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Etheostoma fonticola | 23 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Etheostoma fonticola | 15 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Etheostoma fonticola | 17 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 6 | Palaemonetes sp. | | 2 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 7 | Procambarus sp. | | 5 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 7 | Palaemonetes sp. | | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 7 | Etheostoma fonticola | 19 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Procambarus sp. | | 3 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Etheostoma fonticola | 19 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Etheostoma fonticola | 15 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Etheostoma fonticola | 25 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Etheostoma fonticola | 28 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 8 | Etheostoma fonticola | 23 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 9 | Procambarus sp. | | 5 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 9 | Etheostoma fonticola | 24 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 10 | Procambarus sp. | | 2 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 11 | Procambarus sp. | | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 11 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 11 | Palaemonetes sp. | | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 12 | Etheostoma fonticola | 26 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 12 | Etheostoma fonticola | 19 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 12 | Etheostoma fonticola | 18 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 12 | Procambarus sp. | | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 13 | Procambarus sp. | | 2 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 14 | Procambarus sp. | | 3 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 14 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 14 | Etheostoma fonticola | 18 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 14 | Palaemonetes sp. | | 4 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 15 | Procambarus sp. | | 2 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 15 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 15 | Etheostoma fonticola | 24 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 16 | No fish collected | | |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 18 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 21 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 20 | 1 |
| 2989 | Landa Lake | Sag-1 | 2023-05-02 | 5 | Etheostoma fonticola | 20 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Procambarus sp. | | 5 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Palaemonetes sp. | | 13 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 21 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 16 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 24 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 20 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 23 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 22 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 17 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Lepomis sp. | 14 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 2 | Lepomis miniatus | 112 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 2 | Procambarus sp. | | 4 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 2 | Palaemonetes sp. | | 5 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 2 | Etheostoma fonticola | 25 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 3 | Procambarus sp. | | 7 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 3 | Palaemonetes sp. | | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 3 | Gambusia sp. | 12 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 4 | Procambarus sp. | | 3 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 4 | Etheostoma fonticola | 14 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 5 | Procambarus sp. | | 8 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 5 | Palaemonetes sp. | | 3 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 5 | Ameiurus natalis | 12 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 6 | Procambarus sp. | | 2 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 6 | Lepomis miniatus | 70 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 6 | Etheostoma fonticola | 21 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 7 | Procambarus sp. | | 6 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 8 | Procambarus sp. | | 5 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 8 | Etheostoma fonticola | 24 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 8 | Etheostoma fonticola | 21 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 8 | Palaemonetes sp. | | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 9 | Procambarus sp. | | 3 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Procambarus sp. | | 2 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Palaemonetes sp. | | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 37 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 22 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 19 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 25 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 20 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 11 | Lepomis miniatus | 69 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 11 | Etheostoma fonticola | 20 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 11 | Etheostoma fonticola | 14 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 12 | Procambarus sp. | | 2 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 12 | Etheostoma fonticola | 20 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 12 | Etheostoma fonticola | 24 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 12 | Etheostoma fonticola | 22 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 13 | Procambarus sp. | | 3 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 14 | Procambarus sp. | | 2 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 14 | Etheostoma fonticola | 23 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 15 | Procambarus sp. | | 4 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 1 | Etheostoma fonticola | 21 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 6 | Etheostoma fonticola | 21 | 1 |
| 2990 | Landa Lake | Lud-1 | 2023-05-02 | 10 | Etheostoma fonticola | 22 | 1 |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 1 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 2 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 3 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 4 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 5 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 6 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 7 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 8 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 9 | No fish collected | | |
| 2991 | Landa Lake | Open-1 | 2023-05-02 | 10 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 1 | Palaemonetes sp. | | 1 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 2 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 3 | Palaemonetes sp. | | 2 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 4 | Palaemonetes sp. | | 2 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 4 | Procambarus sp. | | 2 |

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|---|---|---|---|---|---|---|---|
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 5 | Palaemonetes sp. | | 1 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 6 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 7 | Etheostoma fonticola | 20 | 1 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 8 | Procambarus sp. | | 1 |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 9 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 10 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 11 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 12 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 13 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 14 | No fish collected | | |
| 2992 | Landa Lake | Val-1 | 2023-05-02 | 15 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 26 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 23 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 11 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 14 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 12 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Micropterus salmoides | 15 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Dionda nigrotaeniata | 46 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Gambusia sp. | 13 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 2 | Etheostoma fonticola | 27 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 3 | Etheostoma fonticola | 22 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 4 | Procambarus sp. | | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 5 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 6 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 7 | Procambarus sp. | | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 7 | Etheostoma fonticola | 28 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 8 | Etheostoma fonticola | 15 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 9 | Micropterus salmoides | 108 | |

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|---|---|---|---|---|---|---|---|
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 10 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 11 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 12 | Procambarus sp. | | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 13 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 14 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 15 | No fish collected | | |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 1 | Etheostoma fonticola | 26 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2993 | Landa Lake | Val-2 | 2023-05-02 | 2 | Etheostoma fonticola | 20 | 1 |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 1 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 2 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 3 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 4 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 5 | Gambusia sp. | 31 | 1 |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 6 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 7 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 8 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 9 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 10 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 11 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 12 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 13 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 14 | No fish collected | | |
| 2994 | Landa Lake | Open-2 | 2023-05-02 | 15 | No fish collected | | |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Procambarus sp. | | 8 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Lepomis miniatus | 95 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Lepomis miniatus | 70 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Lepomis miniatus | 71 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 19 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 22 | 1 |

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|---|---|---|---|---|---|---|---|
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 18 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 24 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Etheostoma fonticola | 16 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 1 | Palaemonetes sp. | | 2 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 2 | Procambarus sp. | | 3 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 2 | Lepomis miniatus | 96 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 2 | Etheostoma fonticola | 19 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 3 | Etheostoma fonticola | 16 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 3 | Etheostoma fonticola | 21 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 3 | Etheostoma fonticola | 26 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 3 | Palaemonetes sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 4 | Etheostoma fonticola | 20 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 4 | Etheostoma fonticola | 14 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 4 | Etheostoma fonticola | 18 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 4 | Palaemonetes sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 18 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 22 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 16 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 21 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 25 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 6 | Etheostoma fonticola | 22 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Etheostoma fonticola | 28 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Etheostoma fonticola | 24 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Etheostoma fonticola | 18 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Etheostoma fonticola | 21 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Etheostoma fonticola | 17 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Palaemonetes sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 7 | Procambarus sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 8 | Procambarus sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 8 | Palaemonetes sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 9 | Procambarus sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 10 | Procambarus sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 11 | Lepomis miniatus | 87 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 5 | Etheostoma fonticola | 18 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 12 | No fish collected | | |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 13 | No fish collected | | |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 14 | Palaemonetes sp. | | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 14 | Etheostoma fonticola | 16 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 14 | Etheostoma fonticola | 17 | 1 |
| 2995 | Landa Lake | Sag-2 | 2023-05-02 | 15 | No fish collected | | |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 11 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Dionda nigrotaeniata | 29 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Gambusia sp. | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Lepomis sp. | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 1 | Palaemonetes sp. | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Procambarus sp. | | 3 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Palaemonetes sp. | | 56 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Lepomis miniatus | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Lepomis miniatus | 22 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Lepomis miniatus | 36 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Lepomis miniatus | 21 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 13 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |

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| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 2 | Gambusia sp. | 11 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 3 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 3 | Gambusia sp. | 14 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 3 | Palaemonetes sp. | | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Lepomis miniatus | 25 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Lepomis miniatus | 32 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 29 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 21 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 12 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 22 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 4 | Palaemonetes sp. | | 11 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 5 | Lepomis miniatus | 32 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 5 | Palaemonetes sp. | 19 | |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Palaemonetes sp. | | 6 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Procambarus sp. | | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 14 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 26 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 20 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 17 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 7 | Palaemonetes sp. | | 6 |

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| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 8 | Palaemonetes sp. | | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 8 | Etheostoma fonticola | 23 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 9 | Etheostoma fonticola | 17 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 9 | Palaemonetes sp. | | 2 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 28 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 28 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 21 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 21 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 17 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 22 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 13 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 14 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Lepomis miniatus | 26 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Gambusia sp. | 12 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 10 | Palaemonetes sp. | | 26 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 19 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 23 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Lepomis miniatus | 26 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Gambusia sp. | 11 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Procambarus sp. | | 1 |

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| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 11 | Palaemonetes sp. | | 24 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 12 | Palaemonetes sp. | | 2 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 13 | Etheostoma fonticola | 21 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 13 | Palaemonetes sp. | | 2 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Procambarus sp. | | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 31 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 14 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 24 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 19 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 15 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 19 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 14 | Palaemonetes sp. | | 10 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 15 | Etheostoma fonticola | 25 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 15 | Etheostoma fonticola | 25 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 15 | Etheostoma fonticola | 16 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 15 | Palaemonetes sp. | | 5 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 16 | Etheostoma fonticola | 27 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 16 | Etheostoma fonticola | 18 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 16 | Etheostoma fonticola | 12 | 1 |
| 2996 | Landa Lake | Lud-2 | 2023-05-03 | 17 | No fish collected | | |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |

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|---|---|---|---|---|---|---|---|
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 1 | Palaemonetes sp. | | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Procambarus sp. | | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 31 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 11 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |

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|---|---|---|---|---|---|---|---|
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 27 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 24 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 29 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 17 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 24 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Etheostoma fonticola | 28 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Etheostoma fonticola | 32 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Etheostoma fonticola | 13 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 4 | Gambusia sp. | 13 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 24 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |

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|---|---|---|---|---|---|---|---|
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 14 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 6 | Etheostoma fonticola | 14 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 7 | Etheostoma fonticola | 30 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 7 | Etheostoma fonticola | 12 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 7 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 7 | Etheostoma fonticola | 11 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 8 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 9 | Etheostoma fonticola | 27 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 24 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 34 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 13 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 21 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 22 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 10 | Etheostoma fonticola | 17 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 11 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 11 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 11 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 11 | Etheostoma fonticola | 20 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 11 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 12 | No fish collected | | |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 13 | Etheostoma fonticola | 18 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 13 | Etheostoma fonticola | 22 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 13 | Etheostoma fonticola | 17 | 1 |

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|---|---|---|---|---|---|---|---|
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 13 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Procambarus sp. | | 3 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 14 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 23 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 26 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 22 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 19 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 16 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 14 | Etheostoma fonticola | 19 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 15 | Procambarus sp. | | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 15 | Etheostoma fonticola | | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 16 | Etheostoma fonticola | 15 | 1 |
| 2997 | Landa Lake | Cab-1 | 2023-05-03 | 17 | No fish collected | | |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |

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|---|---|---|---|---|---|---|---|
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Etheostoma fonticola | 9 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Palaemonetes sp. | | 5 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 1 | Procambarus sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Procambarus sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Palaemonetes sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 29 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 22 | 1 |

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|---|---|---|---|---|---|---|---|
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Procambarus sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Palaemonetes sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 24 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 17 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 23 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 4 | Procambarus sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 4 | Etheostoma fonticola | 30 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Procambarus sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Palaemonetes sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |

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|---|---|---|---|---|---|---|---|
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 30 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 23 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 13 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 5 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Procambarus sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Procambarus sp. | | 3 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 29 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 28 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 19 | 1 |

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| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 7 | Etheostoma fonticola | 26 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 8 | Procambarus sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 8 | Etheostoma fonticola | 17 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 34 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 27 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 31 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 23 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 9 | Etheostoma fonticola | 22 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 10 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 30 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 25 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 14 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 21 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 11 | Etheostoma fonticola | 15 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 12 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 12 | Palaemonetes sp. | | 2 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 13 | Etheostoma fonticola | 16 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 13 | Etheostoma fonticola | 18 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 14 | Procambarus sp. | | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 15 | Etheostoma fonticola | 20 | 1 |
| 2998 | Landa Lake | Cab-2 | 2023-05-03 | 16 | No fish collected | | |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Procambarus sp. | | 4 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Palaemonetes sp. | | 5 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Gambusia sp. | 10 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 12 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |

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|---|---|---|---|---|---|---|---|
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Palaemonetes sp. | | 5 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Gambusia sp. | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 29 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 29 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 12 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | | |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Palaemonetes sp. | | 3 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Procambarus sp. | | 5 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 13 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 30 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 12 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 3 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Procambarus sp. | | 4 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Palaemonetes sp. | | 6 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 32 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 29 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 30 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 24 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Procambarus sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Palaemonetes sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 27 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 6 | Procambarus sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 6 | Palaemonetes sp. | | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 6 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Procambarus sp. | | 16 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Palaemonetes sp. | | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 35 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 14 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 22 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 28 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 7 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Procambarus sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Palaemonetes sp. | | 4 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 30 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 28 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 26 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 19 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 9 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Procambarus sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 10 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Procambarus sp. | | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 31 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 12 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 22 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 11 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Procambarus sp. | | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Palaemonetes sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 27 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 19 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 20 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 30 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 14 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 19 | 1 |

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| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 12 | Etheostoma fonticola | 17 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 13 | Procambarus sp. | | 2 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 13 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 13 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 24 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 21 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 18 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 15 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 23 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 15 | Etheostoma fonticola | 29 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 15 | Etheostoma fonticola | 16 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 15 | Etheostoma fonticola | 25 | 1 |
| 2999 | Landa Lake | Bryo-1 | 2023-05-03 | 16 | No fish collected | | |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Procambarus sp. | | 3 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 30 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |

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|---|---|---|---|---|---|---|---|
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Procambarus sp. | | 5 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 27 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 13 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |

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|---|---|---|---|---|---|---|---|
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Procambarus sp. | | 3 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Palaemonetes sp. | | 2 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 18 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 23 | 1 |

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|---|---|---|---|---|---|---|---|
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Procambarus sp. | | 6 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Procambarus sp. | | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 23 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 15 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Procambarus sp. | | 2 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 17 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 34 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |

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|---|---|---|---|---|---|---|---|
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 25 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Procambarus sp. | | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 27 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 8 | Procambarus sp. | | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 8 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 8 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 19 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 22 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 26 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 10 | Procambarus sp. | | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 11 | Etheostoma fonticola | 16 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 11 | Etheostoma fonticola | 31 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 31 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 30 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 28 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 13 | Etheostoma fonticola | 20 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 13 | Etheostoma fonticola | 24 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 14 | Etheostoma fonticola | 29 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 14 | Etheostoma fonticola | 21 | 1 |
| 3000 | Landa Lake | Bryo-2 | 2023-05-03 | 15 | No fish collected | | |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Procambarus sp. | | 7 |

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|---|---|---|---|---|---|---|---|
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 21 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 31 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 29 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | | | | |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Palaemonetes sp. | | 11 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 17 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 27 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 35 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 42 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 23 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 12 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 9 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 1 | Gambusia sp. | 18 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Procambarus sp. | | 6 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Palaemonetes sp. | | 8 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 25 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 25 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 17 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Gambusia sp. | 22 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 2 | Gambusia sp. | 9 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Procambarus sp. | | 7 |

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| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Palaemonetes sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Etheostoma fonticola | 34 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Etheostoma fonticola | 29 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Etheostoma fonticola | 18 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Gambusia sp. | 12 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Gambusia sp. | 18 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 3 | Gambusia sp. | 14 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 4 | Gambusia sp. | 36 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 4 | Micropterus salmoides | 66 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 4 | Palaemonetes sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 5 | Gambusia sp. | 12 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 5 | Gambusia sp. | 10 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 6 | Procambarus sp. | | 2 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 6 | Palaemonetes sp. | | 3 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 6 | Etheostoma fonticola | 30 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 7 | Procambarus sp. | | 2 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 7 | Palaemonetes sp. | | 2 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 8 | Palaemonetes sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 8 | Procambarus sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 8 | Etheostoma fonticola | 35 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 8 | Etheostoma fonticola | 38 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 8 | Procambarus sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 9 | Procambarus sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 9 | Palaemonetes sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 9 | Etheostoma fonticola | 31 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 10 | Procambarus sp. | | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 10 | Etheostoma fonticola | 22 | 1 |

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| 3021 | Landa Lake | Val-1 | 2023-07-26 | 11 | Procambarus sp. | | 2 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 12 | Palaemonetes sp. | | 3 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 12 | Etheostoma fonticola | 23 | 1 |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 13 | No fish collected | | |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 14 | No fish collected | | |
| 3021 | Landa Lake | Val-1 | 2023-07-26 | 15 | No fish collected | | |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Procambarus sp. | | 2 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 16 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 29 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 18 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 16 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 17 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 1 | Etheostoma fonticola | 17 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Procambarus sp. | | 2 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 32 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 21 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 23 | 1 |

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|---|---|---|---|---|---|---|---|
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 2 | Etheostoma fonticola | 16 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Procambarus sp. | | 6 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Etheostoma fonticola | 13 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Procambarus sp. | | 13 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 27 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 23 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 27 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 22 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 30 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 15 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 28 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 4 | Etheostoma fonticola | 24 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 23 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 23 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 27 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 21 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 18 | 1 |

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|---|---|---|---|---|---|---|---|
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 5 | Etheostoma fonticola | 26 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Procambarus sp. | | 2 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 21 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 18 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 21 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 17 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 6 | Etheostoma fonticola | 17 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 7 | Procambarus sp. | | 3 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 7 | Etheostoma fonticola | 25 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 7 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 7 | Etheostoma fonticola | 19 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 8 | Etheostoma fonticola | 16 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 8 | Etheostoma fonticola | 21 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 8 | Etheostoma fonticola | 20 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 9 | No fish collected | | |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 10 | Procambarus sp. | | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 10 | Gambusia sp. | 12 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 11 | Procambarus sp. | | 3 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 11 | Etheostoma fonticola | 23 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 11 | Etheostoma fonticola | 23 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 11 | Etheostoma fonticola | 10 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 12 | Procambarus sp. | | 3 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 12 | Etheostoma fonticola | 9 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 13 | Procambarus sp. | | 3 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 13 | Etheostoma fonticola | 34 | 1 |

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|---|---|---|---|---|---|---|---|
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 14 | Etheostoma fonticola | 28 | 1 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 14 | Procambarus sp. | | 2 |
| 3022 | Landa Lake | Bryo-1 | 2023-07-26 | 15 | No fish collected | | |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 11 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Etheostoma fonticola | 21 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Micropterus salmoides | 53 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 1 | Dionda nigrotaeniata | 10 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 2 | Etheostoma fonticola | 29 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 2 | Etheostoma fonticola | 21 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 28 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 21 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 18 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 3 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 4 | No fish collected | | |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 5 | Etheostoma fonticola | 15 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 5 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 6 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 6 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 6 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 6 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Procambarus sp. | | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 20 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 20 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 22 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 7 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 8 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 8 | Etheostoma fonticola | 20 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 8 | Etheostoma fonticola | 30 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 8 | Etheostoma fonticola | 20 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 19 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 34 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 29 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 21 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Etheostoma fonticola | 20 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 9 | Procambarus sp. | | 2 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 10 | Etheostoma fonticola | 22 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 10 | Etheostoma fonticola | 26 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 10 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 11 | Procambarus sp. | | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 12 | Etheostoma fonticola | 20 | 1 |

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|---|---|---|---|---|---|---|---|
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 12 | Etheostoma fonticola | 26 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 12 | Etheostoma fonticola | 27 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 13 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 14 | Etheostoma fonticola | 23 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 14 | Etheostoma fonticola | 19 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 14 | Etheostoma fonticola | 24 | 1 |
| 3023 | Landa Lake | Bryo-2 | 2023-07-26 | 15 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 1 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 2 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 3 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 4 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 5 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 6 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 7 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 8 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 9 | No fish collected | | |
| 3024 | Landa Lake | Open-1 | 2023-07-26 | 10 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 1 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 2 | Etheostoma fonticola | 23 | 1 |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 3 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 4 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 5 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 6 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 7 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 8 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 9 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 10 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 11 | Etheostoma fonticola | 17 | 1 |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 12 | No fish collected | | |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 13 | No fish collected | | |

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| 3025 | Landa Lake | Open-2 | 2023-07-26 | 14 | Etheostoma fonticola | 25 | 1 |
| 3025 | Landa Lake | Open-2 | 2023-07-26 | 15 | No fish collected | | |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 1 | Etheostoma fonticola | 31 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 2 | Etheostoma fonticola | 19 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 2 | Etheostoma fonticola | 27 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 2 | Gambusia sp. | 10 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 2 | Palaemonetes sp. | | 2 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 3 | Procambarus sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 3 | Palaemonetes sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 3 | Etheostoma fonticola | 31 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 3 | Micropterus salmoides | 53 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 4 | Palaemonetes sp. | | 2 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 5 | Procambarus sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Procambarus sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 26 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 27 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 28 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 28 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 20 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Etheostoma fonticola | 7 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 6 | Micropterus salmoides | 55 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 7 | Procambarus sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 7 | Etheostoma fonticola | 32 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 8 | Procambarus sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 9 | No fish collected | | |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 10 | Palaemonetes sp. | | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 11 | No fish collected | | |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 12 | Etheostoma fonticola | 14 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 12 | Etheostoma fonticola | 226 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 12 | Gambusia sp. | 13 | 1 |

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| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 13 | Etheostoma fonticola | 30 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 13 | Etheostoma fonticola | 28 | 1 |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 14 | No fish collected | | |
| 3026 | Landa Lake | Cab-1 | 2023-07-26 | 15 | No fish collected | | |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 1 | Procambarus sp. | | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 1 | Palaemonetes sp. | | 3 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 2 | Etheostoma fonticola | 29 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 2 | Etheostoma fonticola | 25 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 2 | Etheostoma fonticola | 20 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 2 | Etheostoma fonticola | 32 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 3 | Procambarus sp. | | 3 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 4 | No fish collected | | |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 5 | No fish collected | | |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 6 | Etheostoma fonticola | 19 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 7 | Etheostoma fonticola | 25 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Procambarus sp. | | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Lepomis miniatus | | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Etheostoma fonticola | 30 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Etheostoma fonticola | 29 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Etheostoma fonticola | 33 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Etheostoma fonticola | 25 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 8 | Etheostoma fonticola | 15 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 9 | Procambarus sp. | | 2 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 10 | Procambarus sp. | | 5 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 10 | Etheostoma fonticola | 25 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 10 | Etheostoma fonticola | 29 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 10 | Etheostoma fonticola | 27 | 1 |

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| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 10 | Etheostoma fonticola | 24 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 11 | Etheostoma fonticola | 33 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 12 | No fish collected | | |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 13 | Etheostoma fonticola | 30 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 13 | Etheostoma fonticola | 23 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 13 | Etheostoma fonticola | 23 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 13 | Etheostoma fonticola | 28 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 14 | Etheostoma fonticola | 26 | 1 |
| 3027 | Landa Lake | Cab-2 | 2023-07-26 | 15 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 1 | Procambarus sp. | | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 2 | Micropterus salmoides | 34 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 2 | Micropterus salmoides | 29 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 3 | Lepomis miniatus | 35 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 3 | Procambarus sp. | | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 4 | Procambarus sp. | | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 5 | Micropterus salmoides | 20 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 6 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 7 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 8 | Procambarus sp. | | 2 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 8 | Micropterus salmoides | 57 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 8 | Micropterus salmoides | 43 | 1 |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 9 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 10 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 11 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 12 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 13 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 14 | No fish collected | | |
| 3028 | Landa Lake | Sag-1 | 2023-07-26 | 15 | No fish collected | | |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Procambarus sp. | | 6 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 21 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 21 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Etheostoma fonticola | 16 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Procambarus sp. | | 41 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Gambusia sp. | 11 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 1 | Gambusia sp. | 12 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Procambarus sp. | | 4 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Palaemonetes sp. | | 13 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |

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|---|---|---|---|---|---|---|---|
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 23 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 31 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 20 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 20 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 2 | Gambusia sp. | 9 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Procambarus sp. | | 7 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Palaemonetes sp. | | 5 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 36 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 32 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 27 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 33 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 28 | 1 |

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|---|---|---|---|---|---|---|---|
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 31 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 23 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Procambarus sp. | | 6 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Palaemonetes sp. | | 2 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 21 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 23 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 20 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 16 | 1 |

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|---|---|---|---|---|---|---|---|
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 4 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 5 | Procambarus sp. | | 2 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 5 | Palaemonetes sp. | | 4 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 5 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 6 | Procambarus sp. | | 19 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 6 | Palaemonetes sp. | | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 6 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 6 | Etheostoma fonticola | 31 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 6 | Etheostoma fonticola | 31 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 7 | Procambarus sp. | | 11 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 7 | Palaemonetes sp. | | 2 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 7 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 7 | Etheostoma fonticola | 16 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Procambarus sp. | | 5 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Palaemonetes sp. | | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Etheostoma fonticola | 21 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Gambusia sp. | 13 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 8 | Gambusia sp. | 12 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 9 | Procambarus sp. | | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 9 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Procambarus sp. | | 6 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Micropterus salmoides | 76 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 10 | Gambusia sp. | 10 | 1 |

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|---|---|---|---|---|---|---|---|
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 11 | Procambarus sp. | | 5 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 11 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 11 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 12 | Procambarus sp. | | 7 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 13 | Procambarus sp. | | 5 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 13 | Etheostoma fonticola | 24 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 14 | Procambarus sp. | | 6 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 14 | Palaemonetes sp. | | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 14 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 15 | Procambarus sp. | | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 15 | Etheostoma fonticola | 27 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 15 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 15 | Etheostoma fonticola | 28 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 15 | Etheostoma fonticola | 27 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 16 | Procambarus sp. | | 2 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 16 | Etheostoma fonticola | 18 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 16 | Etheostoma fonticola | 22 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 17 | Etheostoma fonticola | 30 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 17 | Etheostoma fonticola | 25 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 17 | Etheostoma fonticola | 26 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 17 | Gambusia sp. | 10 | 1 |
| 3029 | Landa Lake | Lud-1 | 2023-07-26 | 18 | Procambarus sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 33 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 33 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |

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| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 21 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Etheostoma fonticola | 17 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |

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| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 8 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 10 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 8 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 8 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 15 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Gambusia sp. | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Procambarus sp. | | 6 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 1 | Palaemonetes sp. | | 15 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 22 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 20 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 15 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Etheostoma fonticola | 15 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Procambarus sp. | | 4 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 2 | Palaemonetes sp. | | 7 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Procambarus sp. | | 10 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Palaemonetes sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 22 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 33 | 1 |

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|---|---|---|---|---|---|---|---|
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 20 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 3 | Gambusia sp. | 10 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 4 | Procambarus sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 4 | Palaemonetes sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Procambarus sp. | | 7 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Palaemonetes sp. | | 2 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Lepomis miniatus | 163 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 26 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 24 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 14 | 1 |

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| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 19 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 5 | Etheostoma fonticola | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Procambarus sp. | | 2 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Palaemonetes sp. | | 2 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Etheostoma fonticola | 31 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 6 | Etheostoma fonticola | 12 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Procambarus sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 22 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 30 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 32 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 23 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 7 | Etheostoma fonticola | 24 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 8 | Procambarus sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 8 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 8 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 8 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 8 | Etheostoma fonticola | 29 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 9 | Procambarus sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 9 | Palaemonetes sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 9 | Etheostoma fonticola | 28 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 9 | Etheostoma fonticola | 25 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 9 | Etheostoma fonticola | 24 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 10 | Procambarus sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 10 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 10 | Etheostoma fonticola | 25 | 1 |

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| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 10 | Etheostoma fonticola | 27 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 11 | Procambarus sp. | | 5 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 11 | Palaemonetes sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 12 | Procambarus sp. | | 2 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 12 | Palaemonetes sp. | | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 12 | Lepomis miniatus | 79 | 1 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 13 | Procambarus sp. | | 3 |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 14 | No fish collected | | |
| 3030 | Landa Lake | Lud-2 | 2023-07-26 | 15 | Procambarus sp. | | |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 1 | Palaemonetes sp. | | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 1 | Gambusia sp. | 8 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 1 | Lepomis miniatus | 68 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 1 | Etheostoma fonticola | 22 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Procambarus sp. | | 3 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Gambusia sp. | 14 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Micropterus salmoides | 54 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Lepomis miniatus | 76 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Lepomis miniatus | 108 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 2 | Etheostoma fonticola | 36 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 3 | Procambarus sp. | | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 4 | Etheostoma fonticola | 29 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 4 | Etheostoma fonticola | 21 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 4 | Etheostoma fonticola | 28 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 5 | Procambarus sp. | | 2 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 6 | Procambarus sp. | | 6 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 6 | Etheostoma fonticola | 27 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 6 | Etheostoma fonticola | 16 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 6 | Lepomis sp. | 13 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 7 | Procambarus sp. | | 1 |

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| 3031 | Landa Lake | Val-2 | 2023-07-26 | 7 | Etheostoma fonticola | 18 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 7 | Etheostoma fonticola | 14 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 8 | Procambarus sp. | | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 9 | Procambarus sp. | | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 9 | Etheostoma fonticola | 12 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 9 | Lepomis sp. | 14 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 10 | No fish collected | | |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 11 | Procambarus sp. | | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 12 | No fish collected | | |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 13 | Etheostoma fonticola | 15 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 14 | No fish collected | | |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 15 | Etheostoma fonticola | 26 | 1 |
| 3031 | Landa Lake | Val-2 | 2023-07-26 | 16 | No fish collected | | |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Ameiurus natalis | 47 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Ameiurus natalis | 40 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Ameiurus natalis | 167 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Ameiurus natalis | 44 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Herichthys cyanoguttatus | 39 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Lepomis miniatus | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Micropterus salmoides | 51 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 30 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 20 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |

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| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 23 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 19 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 25 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Procambarus sp. | | 22 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 1 | Palaemonetes sp. | | 8 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Procambarus sp. | | 31 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Palaemonetes sp. | | 2 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 32 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 30 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 27 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Etheostoma fonticola | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 2 | Herichthys cyanoguttatus | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Procambarus sp. | | 17 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Ameiurus natalis | 51 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 29 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 29 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 31 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 21 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 3 | Etheostoma fonticola | 30 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 4 | Procambarus sp. | | 13 |

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| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 4 | Palaemonetes sp. | | 2 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 4 | Etheostoma fonticola | 27 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 4 | Etheostoma fonticola | 18 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 5 | Procambarus sp. | | 5 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 5 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 5 | Etheostoma fonticola | 18 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 5 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 5 | Etheostoma fonticola | 22 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Procambarus sp. | | 11 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Etheostoma fonticola | 27 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Etheostoma fonticola | 33 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Etheostoma fonticola | 22 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Etheostoma fonticola | 30 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 6 | Palaemonetes sp. | | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 7 | Procambarus sp. | | 5 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 7 | Etheostoma fonticola | 21 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 8 | Procambarus sp. | | 5 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 8 | Etheostoma fonticola | 22 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 9 | Procambarus sp. | | 9 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 9 | Etheostoma fonticola | 26 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 10 | Procambarus sp. | | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 10 | Etheostoma fonticola | 29 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 11 | Procambarus sp. | | 8 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 11 | Etheostoma fonticola | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 12 | Procambarus sp. | | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 12 | Etheostoma fonticola | 23 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 12 | Etheostoma fonticola | 29 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 12 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 13 | Procambarus sp. | | 6 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 14 | Procambarus sp. | | 2 |

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| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 15 | Procambarus sp. | | 4 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 15 | Etheostoma fonticola | 22 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 16 | Procambarus sp. | | 2 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 16 | Etheostoma fonticola | 24 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 17 | Procambarus sp. | | 3 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 17 | Etheostoma fonticola | 28 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 18 | Procambarus sp. | | 3 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 18 | Etheostoma fonticola | 29 | 1 |
| 3032 | Landa Lake | Sag-2 | 2023-07-26 | 19 | Procambarus sp. | | 2 |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 1 | Palaemonetes sp. | | 1 |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 2 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 3 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 4 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 5 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 6 | Herichthys cyanoguttatus | 52 | 1 |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 7 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 8 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 9 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 10 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 11 | Palaemonetes sp. | | 1 |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 12 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 13 | Gambusia sp. | 36 | 1 |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 14 | No fish collected | | |
| 3078 | Landa Lake | Algae-2 | 2023-11-02 | 15 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 1 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 2 | Lepomis miniatus | 31 | 1 |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 3 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 4 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 5 | Procambarus sp. | | 1 |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 6 | No fish collected | | |

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| 3079 | Landa Lake | Val-1 | 2023-11-02 | 7 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 8 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 9 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 10 | Etheostoma fonticola | 28 | 1 |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 11 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 12 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 13 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 14 | No fish collected | | |
| 3079 | Landa Lake | Val-1 | 2023-11-02 | 15 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 1 | Etheostoma fonticola | 30 | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 1 | Procambarus sp. | | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 2 | Procambarus sp. | | 2 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 2 | Lepomis miniatus | 115 | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 3 | Procambarus sp. | | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 4 | Procambarus sp. | | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 4 | Etheostoma fonticola | 28 | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 5 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 6 | Procambarus sp. | | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 7 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 8 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 9 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 10 | Procambarus sp. | | 1 |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 11 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 12 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 13 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 14 | No fish collected | | |
| 3080 | Landa Lake | Val-2 | 2023-11-02 | 15 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 1 | Lepomis miniatus | 131 | 1 |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 1 | Lepomis miniatus | 94 | 1 |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 1 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 2 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 3 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 4 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 5 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 6 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 7 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 8 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 9 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 10 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 11 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 12 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 13 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 14 | No fish collected | | |
| 3081 | Landa Lake | Cab-1 | 2023-11-02 | 15 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Astyanax mexicanus | 51 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Astyanax mexicanus | 32 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Lepomis miniatus | 36 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Lepomis miniatus | 30 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Dionda nigrotaeniata | 33 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 1 | Palaemonetes sp. | | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 2 | Astyanax mexicanus | 26 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 3 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 4 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 5 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 6 | Etheostoma fonticola | 26 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 7 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 8 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 9 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 10 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 11 | Etheostoma fonticola | 32 | 1 |

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|---|---|---|---|---|---|---|---|
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 11 | Etheostoma fonticola | 28 | 1 |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 12 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 13 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 14 | No fish collected | | |
| 3082 | Landa Lake | Cab-2 | 2023-11-02 | 15 | No fish collected | | |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Procambarus sp. | | 4 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Palaemonetes sp. | | 18 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Etheostoma fonticola | 31 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Lepomis miniatus | 25 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Lepomis sp. | 13 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 1 | Gambusia sp. | 15 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Lepomis miniatus | 78 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 28 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 25 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 32 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 31 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Etheostoma fonticola | 31 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 2 | Palaemonetes sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Procambarus sp. | | 3 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Palaemonetes sp. | | 16 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 29 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 27 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 29 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 23 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Etheostoma fonticola | 12 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Gambusia sp. | 20 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 3 | Gambusia sp. | 17 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 4 | Procambarus sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 4 | Palaemonetes sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 4 | Etheostoma fonticola | 26 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 4 | Etheostoma fonticola | 10 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Procambarus sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Palaemonetes sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Etheostoma fonticola | 25 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Etheostoma fonticola | 12 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 5 | Gambusia sp. | 22 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 6 | Procambarus sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 6 | Palaemonetes sp. | | 4 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 6 | Etheostoma fonticola | 30 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 7 | Procambarus sp. | | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 7 | Palaemonetes sp. | | 4 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 7 | Etheostoma fonticola | 25 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 8 | Procambarus sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 9 | Procambarus sp. | | 4 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 9 | Etheostoma fonticola | 10 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 10 | Procambarus sp. | | 3 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 11 | Palaemonetes sp. | | 3 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 12 | Etheostoma fonticola | 25 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 13 | Procambarus sp. | | 2 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 14 | Etheostoma fonticola | 31 | 1 |
| 3083 | Landa Lake | Lud-1 | 2023-11-02 | 15 | Palaemonetes sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Procambarus sp. | | 11 |

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|---|---|---|---|---|---|---|---|
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Palaemonetes sp. | | 27 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 22 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 24 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Herichthys cyanoguttatus | 32 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Lepomis miniatus | 35 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Gambusia sp. | 13 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Gambusia sp. | 17 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Gambusia sp. | 22 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Gambusia sp. | 8 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 1 | Gambusia sp. | 11 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Procambarus sp. | | 12 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Palaemonetes sp. | | 6 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 35 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |

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|---|---|---|---|---|---|---|---|
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Lepomis miniatus | 20 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 2 | Gambusia sp. | 11 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Procambarus sp. | | 8 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Palaemonetes sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Gambusia sp. | 21 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Herichthys cyanoguttatus | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 3 | Etheostoma fonticola | 25 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 4 | Procambarus sp. | | 5 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 4 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 5 | Procambarus sp. | | 2 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 5 | Palaemonetes sp. | | 3 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 5 | Etheostoma fonticola | 34 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 5 | Etheostoma fonticola | 25 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 5 | Lepomis miniatus | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 6 | Procambarus sp. | | 3 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 6 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 6 | Etheostoma fonticola | 32 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 6 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 7 | Procambarus sp. | | 3 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 7 | Palaemonetes sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 7 | Etheostoma fonticola | 30 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 7 | Etheostoma fonticola | 28 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 7 | Etheostoma fonticola | 27 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 8 | Etheostoma fonticola | 32 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 8 | Etheostoma fonticola | 26 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 8 | Procambarus sp. | | 2 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 9 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 9 | Etheostoma fonticola | 26 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 10 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 10 | Etheostoma fonticola | 25 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 11 | Procambarus sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 12 | Procambarus sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 12 | Etheostoma fonticola | 29 | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 13 | No fish collected | | |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 14 | Procambarus sp. | | 1 |
| 3084 | Landa Lake | Lud-2 | 2023-11-02 | 15 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 1 | Lepomis miniatus | 54 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 1 | Lepomis miniatus | 71 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 1 | Lepomis miniatus | 60 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 2 | Procambarus sp. | | 2 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 2 | Lepomis miniatus | 53 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 2 | Lepomis miniatus | 67 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 3 | Procambarus sp. | | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 4 | Procambarus sp. | | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 4 | Lepomis miniatus | 73 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 4 | Lepomis miniatus | 25 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 5 | Procambarus sp. | | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 5 | Lepomis miniatus | 85 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 6 | Lepomis miniatus | 88 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 7 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 8 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 9 | Procambarus sp. | | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 10 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 11 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 12 | No fish collected | | |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 13 | Procambarus sp. | | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 14 | Lepomis miniatus | 100 | 1 |

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|---|---|---|---|---|---|---|---|
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 14 | Lepomis miniatus | 67 | 1 |
| 3085 | Landa Lake | Sag-1 | 2023-11-02 | 15 | Lepomis miniatus | 134 | 1 |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 2 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 3 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 4 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 5 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 6 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 7 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 8 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 9 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 10 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 11 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 12 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 13 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 14 | No fish collected | | |
| 3086 | Landa Lake | Open-1 | 2023-11-02 | 15 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 1 | Procambarus sp. | | 4 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 1 | Lepomis miniatus | 25 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 1 | Palaemonetes sp. | | 3 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 2 | Procambarus sp. | | 2 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 2 | Palaemonetes sp. | | 3 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 2 | Etheostoma fonticola | 22 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 2 | Etheostoma fonticola | 30 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 3 | Procambarus sp. | | 2 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 4 | Procambarus sp. | | 3 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 4 | Palaemonetes sp. | | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 5 | Procambarus sp. | | 2 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 5 | Micropterus salmoides | 70 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 5 | Palaemonetes sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 6 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 7 | Procambarus sp. | | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 7 | Palaemonetes sp. | | 2 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 7 | Etheostoma fonticola | 35 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 7 | Etheostoma fonticola | 35 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 7 | Etheostoma fonticola | 31 | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 8 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 9 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 10 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 11 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 12 | Procambarus sp. | | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 13 | Procambarus sp. | | 1 |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 14 | No fish collected | | |
| 3087 | Landa Lake | Sag-2 | 2023-11-02 | 15 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 1 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 2 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 3 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 4 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 5 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 6 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 7 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 8 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 9 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | 10 | No fish collected | | |
| 3088 | Landa Lake | Open-2 | 2023-11-02 | | | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 1 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 2 | Palaemonetes sp. | | 1 |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 3 | Etheostoma fonticola | 28 | 1 |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 4 | Palaemonetes sp. | | 1 |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 4 | Procambarus sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 5 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 6 | Etheostoma fonticola | 26 | 1 |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 7 | Etheostoma fonticola | 26 | 1 |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 8 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 9 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 10 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 11 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 12 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 13 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 14 | No fish collected | | |
| 3077 | Landa Lake | Algae-1 | 2023-11-02 | 15 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 1 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 2 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 3 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 4 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 5 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 6 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 7 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 8 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 9 | No fish collected | | |
| 3001 | Old Channel Reach | Open-1 | 2023-05-03 | 10 | No fish collected | | |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Palaemonetes sp. | | 25 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Gambusia sp. | 12 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Gambusia sp. | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 34 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |

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|---|---|---|---|---|---|---|---|
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |

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|---|---|---|---|---|---|---|---|
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Palaemonetes sp. | | 12 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Procambarus sp. | | 3 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 30 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |

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|---|---|---|---|---|---|---|---|
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 27 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 21 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 29 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 12 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 11 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 2 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Palaemonetes sp. | | 8 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Procambarus sp. | | 4 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 28 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 23 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 20 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 12 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 3 | Etheostoma fonticola | 12 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Palaemonetes sp. | | 7 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Procambarus sp. | | 2 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 5 | Procambarus sp. | | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 5 | Palaemonetes sp. | | 3 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 5 | Etheostoma fonticola | 24 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 6 | Herichthys cyanoguttatus | 50 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 16 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 17 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 6 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 6 | Palaemonetes sp. | | 3 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 27 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 15 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 7 | Etheostoma fonticola | 25 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 8 | Procambarus sp. | | 3 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 8 | Palaemonetes sp. | | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 9 | Procambarus sp. | | 4 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 9 | Palaemonetes sp. | | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 9 | Etheostoma fonticola | 24 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Procambarus sp. | | 6 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Etheostoma fonticola | 14 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Etheostoma fonticola | 15 | 1 |

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|---|---|---|---|---|---|---|---|
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Etheostoma fonticola | 26 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Etheostoma fonticola | 20 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 10 | Etheostoma fonticola | 13 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 11 | Procambarus sp. | | 3 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 11 | Palaemonetes sp. | | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 32 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 31 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 18 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 28 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Etheostoma fonticola | 24 | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 12 | Procambarus sp. | | 1 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 13 | No fish collected | | |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 14 | Procambarus sp. | | 5 |
| 3002 | Old Channel Reach | Bryo-2 | 2023-05-03 | 15 | Procambarus sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Procambarus sp. | | 2 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Palaemonetes sp. | | 7 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 27 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 17 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Lepomis miniatus | 30 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 1 | Lepomis miniatus | 18 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 2 | Palaemonetes sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 2 | Procambarus sp. | | 2 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 16 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 2 | Etheostoma fonticola | 30 | 1 |

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|---|---|---|---|---|---|---|---|
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 3 | Procambarus sp. | | 2 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 4 | Procambarus sp. | | 3 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 30 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 5 | Procambarus sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 20 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 5 | Etheostoma fonticola | 24 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 6 | No fish collected | | |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 7 | Lepomis miniatus | 54 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 18 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 8 | Etheostoma fonticola | 24 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 8 | Palaemonetes sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 9 | No fish collected | | |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 10 | Palaemonetes sp. | | 2 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 10 | Procambarus sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 11 | Palaemonetes sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 12 | No fish collected | | |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 13 | Etheostoma fonticola | 30 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 14 | Etheostoma fonticola | 28 | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 14 | Procambarus sp. | | 1 |
| 3003 | Old Channel Reach | Bryo-1 | 2023-05-03 | 15 | No fish collected | | |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Procambarus sp. | | 11 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Palaemonetes sp. | | 24 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Procambarus sp. | | 12 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Palaemonetes sp. | | 24 |

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|---|---|---|---|---|---|---|---|
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Ameiurus natalis | 22 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 2 | Etheostoma fonticola | 20 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 3 | Palaemonetes sp. | | 8 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 3 | Procambarus sp. | | 3 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 3 | Gambusia sp. | 24 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 3 | Astyanax mexicanus | 16 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 4 | Procambarus sp. | | 2 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 4 | Palaemonetes sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 5 | Procambarus sp. | | 3 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 5 | Palaemonetes sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 6 | Etheostoma fonticola | 19 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 7 | Procambarus sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 8 | Procambarus sp. | | 2 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 8 | Palaemonetes sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 9 | No fish collected | | |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 10 | Procambarus sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 10 | Etheostoma fonticola | 15 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 11 | Etheostoma fonticola | 21 | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 12 | Procambarus sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 13 | Procambarus sp. | | 1 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 14 | Procambarus sp. | | 2 |
| 3004 | Old Channel Reach | Lud-1 | 2023-05-03 | 15 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 1 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 2 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 3 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 4 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 5 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 6 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 7 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 8 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 9 | No fish collected | | |
| 3005 | Old Channel Reach | Open-2 | 2023-05-03 | 10 | No fish collected | | |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Procambarus sp. | | 3 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Palaemonetes sp. | | 9 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 30 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 12 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 19 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 16 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 18 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |

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|---|---|---|---|---|---|---|---|
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 21 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 15 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 1 | Etheostoma fonticola | 14 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Procambarus sp. | | 5 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Palaemonetes sp. | | 6 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 24 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 19 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 18 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 3 | Procambarus sp. | | 6 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 3 | Palaemonetes sp. | | 3 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 3 | Etheostoma fonticola | 20 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 3 | Etheostoma fonticola | 30 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 3 | Etheostoma fonticola | 23 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Procambarus sp. | | 3 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Palaemonetes sp. | | 3 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 27 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 31 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 27 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 4 | Etheostoma fonticola | 18 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 5 | Procambarus sp. | | 2 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 5 | Etheostoma fonticola | 17 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 5 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 6 | Palaemonetes sp. | | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 6 | Etheostoma fonticola | 22 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 7 | Procambarus sp. | | 5 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 8 | Procambarus sp. | | 2 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 9 | Procambarus sp. | | 1 |

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| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 9 | Palaemonetes sp. | | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 9 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 9 | Etheostoma fonticola | 29 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 10 | Procambarus sp. | | 4 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 17 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 10 | Etheostoma fonticola | 25 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 10 | Palaemonetes sp. | | 2 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 17 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 11 | Etheostoma fonticola | 19 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 11 | Procambarus sp. | | 2 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 12 | Procambarus sp. | | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 13 | No fish collected | | |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 14 | Etheostoma fonticola | 16 | 1 |
| 3006 | Old Channel Reach | Lud-2 | 2023-05-03 | 15 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 1 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 2 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 3 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 4 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 5 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 6 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 7 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 8 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 9 | No fish collected | | |
| 3033 | Old Channel Reach | Open-1 | 2023-07-25 | 10 | No fish collected | | |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Procambarus sp. | | 6 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Palaemonetes sp. | | 14 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 24 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |

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| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 26 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 35 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 31 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 27 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 24 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 27 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 19 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 18 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 20 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 1 | Etheostoma fonticola | 15 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 2 | Procambarus sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 2 | Palaemonetes sp. | | 3 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 2 | Etheostoma fonticola | 29 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 2 | Etheostoma fonticola | 20 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 3 | Palaemonetes sp. | | 7 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 3 | Etheostoma fonticola | 24 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 3 | Etheostoma fonticola | 30 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 3 | Etheostoma fonticola | 25 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 3 | Etheostoma fonticola | 31 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 4 | Palaemonetes sp. | | 6 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 4 | Etheostoma fonticola | 23 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 4 | Etheostoma fonticola | 23 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Procambarus sp. | | 3 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Palaemonetes sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Lepomis sp. | 12 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Etheostoma fonticola | 34 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Etheostoma fonticola | 24 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Etheostoma fonticola | 25 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 5 | Etheostoma fonticola | 23 | 1 |

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| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 6 | Procambarus sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 6 | Palaemonetes sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 6 | Astyanax mexicanus | 17 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 7 | Procambarus sp. | | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 7 | Lepomis sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 7 | Etheostoma fonticola | 30 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 8 | No fish collected | | |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 9 | Procambarus sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 9 | Palaemonetes sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 10 | Procambarus sp. | | 3 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 10 | Palaemonetes sp. | | 4 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 11 | Palaemonetes sp. | | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 12 | Palaemonetes sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 12 | Procambarus sp. | | 3 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 12 | Astyanax mexicanus | 14 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 13 | Procambarus sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 13 | Palaemonetes sp. | | 2 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 13 | Etheostoma fonticola | 26 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 13 | Etheostoma fonticola | 33 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 13 | Etheostoma fonticola | 22 | 1 |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 14 | No fish collected | | |
| 3034 | Old Channel Reach | Bryo-1 | 2023-07-25 | 15 | No fish collected | | |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Procambarus sp. | | 8 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Palaemonetes sp. | | 12 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Lepomis sp. | 12 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Lepomis miniatus | 23 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Etheostoma fonticola | 32 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Etheostoma fonticola | 28 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Etheostoma fonticola | 14 | 1 |

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| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 1 | Etheostoma fonticola | | |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 2 | Palaemonetes sp. | | 9 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 2 | Lepomis miniatus | 27 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 2 | Gambusia sp. | 13 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 3 | Palaemonetes sp. | | 10 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 3 | Procambarus sp. | | 2 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 3 | Etheostoma fonticola | 31 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 4 | Procambarus sp. | | 4 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 4 | Palaemonetes sp. | | 4 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 4 | Etheostoma fonticola | 30 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 4 | Etheostoma fonticola | 30 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 5 | Procambarus sp. | | 2 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 5 | Palaemonetes sp. | | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 6 | Procambarus sp. | | 4 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 6 | Etheostoma fonticola | 31 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 6 | Etheostoma fonticola | 27 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 7 | Procambarus sp. | | 2 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 7 | Palaemonetes sp. | | 4 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 7 | Lepomis sp. | 20 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 7 | Etheostoma fonticola | 22 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 8 | Palaemonetes sp. | | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 8 | Procambarus sp. | | 2 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 9 | Procambarus sp. | | 3 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 9 | Palaemonetes sp. | | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 9 | Lepomis miniatus | 15 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 10 | Palaemonetes sp. | | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 10 | Procambarus sp. | | 3 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 11 | Palaemonetes sp. | | 2 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 12 | Lepomis miniatus | 15 | 1 |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 13 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 14 | No fish collected | | |
| 3035 | Old Channel Reach | Bryo-2 | 2023-07-25 | 15 | No fish collected | | |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Procambarus sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Palaemonetes sp. | | 13 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Etheostoma fonticola | 27 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Etheostoma fonticola | 36 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 1 | Etheostoma fonticola | 17 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 2 | Palaemonetes sp. | | 13 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 2 | Procambarus sp. | | 6 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 2 | Etheostoma fonticola | 28 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Palaemonetes sp. | | 9 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Procambarus sp. | | 5 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Etheostoma fonticola | 27 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Etheostoma fonticola | 28 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Etheostoma fonticola | 29 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 3 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 4 | Palaemonetes sp. | | 4 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 4 | Procambarus sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 4 | Etheostoma fonticola | 23 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 5 | Palaemonetes sp. | | 3 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 5 | Procambarus sp. | | 2 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 5 | Etheostoma fonticola | 31 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 5 | Etheostoma fonticola | 25 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 6 | Procambarus sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 6 | Palaemonetes sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 6 | Etheostoma fonticola | 24 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 7 | Procambarus sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 7 | Etheostoma fonticola | 31 | 1 |

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| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 7 | Etheostoma fonticola | 26 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 7 | Etheostoma fonticola | 26 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 7 | Etheostoma fonticola | 25 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Procambarus sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Lepomis miniatus | 20 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Etheostoma fonticola | 24 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Etheostoma fonticola | 23 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Etheostoma fonticola | 31 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 8 | Etheostoma fonticola | 16 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Palaemonetes sp. | | 2 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Procambarus sp. | | 3 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Ameiurus natalis | 15 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Etheostoma fonticola | 24 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 9 | Etheostoma fonticola | 25 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 10 | Procambarus sp. | | 3 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 10 | Etheostoma fonticola | 29 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 11 | Palaemonetes sp. | | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 11 | Lepomis miniatus | 35 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 11 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 12 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 12 | Etheostoma fonticola | 34 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 12 | Etheostoma fonticola | 25 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 12 | Etheostoma fonticola | 28 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 13 | Etheostoma fonticola | 28 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 13 | Etheostoma fonticola | 29 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 13 | Etheostoma fonticola | 30 | 1 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 13 | Procambarus sp. | | 2 |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 14 | No fish collected | | |
| 3036 | Old Channel Reach | Lud-1 | 2023-07-25 | 15 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 1 | Procambarus sp. | | 3 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 1 | Palaemonetes sp. | | 13 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 1 | Etheostoma fonticola | 23 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 1 | Etheostoma fonticola | 27 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 1 | Etheostoma fonticola | 20 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 2 | Procambarus sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 2 | Palaemonetes sp. | | 5 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | 21 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 2 | Etheostoma fonticola | 25 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 3 | Palaemonetes sp. | | 3 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | 16 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | 15 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Procambarus sp. | | 4 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Palaemonetes sp. | | 6 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Etheostoma fonticola | 25 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Etheostoma fonticola | 30 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Etheostoma fonticola | 31 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 4 | Etheostoma fonticola | 26 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 5 | Palaemonetes sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 5 | Herichthys cyanoguttatus | 16 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 5 | Etheostoma fonticola | 19 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 5 | Etheostoma fonticola | 32 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 6 | Procambarus sp. | | 3 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 6 | Palaemonetes sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 6 | Etheostoma fonticola | 22 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 7 | Palaemonetes sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 7 | Etheostoma fonticola | 31 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 8 | Procambarus sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 8 | Palaemonetes sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 8 | Etheostoma fonticola | 32 | 1 |

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|---|---|---|---|---|---|---|---|
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 8 | Etheostoma fonticola | 24 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 9 | Palaemonetes sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 9 | Procambarus sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 9 | Etheostoma fonticola | 25 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 10 | Procambarus sp. | | 4 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 10 | Palaemonetes sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 10 | Etheostoma fonticola | 25 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 10 | Etheostoma fonticola | 30 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 11 | No fish collected | | |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 12 | Palaemonetes sp. | | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 13 | Ameiurus natalis | 20 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 14 | Procambarus sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 14 | Palaemonetes sp. | | 2 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 14 | Lepomis miniatus | 35 | 1 |
| 3037 | Old Channel Reach | Lud-2 | 2023-07-25 | 15 | Palaemonetes sp. | | 1 |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 1 | Etheostoma fonticola | 26 | 1 |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 2 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 3 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 4 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 5 | Etheostoma fonticola | 31 | 1 |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 6 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 7 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 8 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 9 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 10 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 11 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 12 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 13 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 14 | No fish collected | | |
| 3038 | Old Channel Reach | Open-2 | 2023-07-25 | 15 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 1 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 2 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 3 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 4 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 5 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 6 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 7 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 8 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 9 | No fish collected | | |
| 3089 | Old Channel Reach | Open-1 | 2023-11-01 | 10 | No fish collected | | |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Lepomis sp. | 15 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Palaemonetes sp. | | 35 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Procambarus sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Etheostoma fonticola | 16 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Etheostoma fonticola | 15 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Etheostoma fonticola | 30 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Etheostoma fonticola | 16 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Etheostoma fonticola | 16 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 1 | Lepomis miniatus | 35 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Etheostoma fonticola | 13 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Etheostoma fonticola | 24 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Etheostoma fonticola | 27 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Palaemonetes sp. | | 23 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Procambarus sp. | | 8 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 2 | Gambusia sp. | 15 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 3 | Procambarus sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 3 | Palaemonetes sp. | | 11 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 4 | Palaemonetes sp. | | 4 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 5 | Procambarus sp. | | 2 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 5 | Palaemonetes sp. | | 9 |

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|---|---|---|---|---|---|---|---|
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 6 | Lepomis miniatus | 23 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 6 | Procambarus sp. | | 2 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 7 | Procambarus sp. | | 2 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 8 | No fish collected | | |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 9 | Lepomis miniatus | 30 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 9 | Procambarus sp. | | 2 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 9 | Palaemonetes sp. | | 6 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 10 | Etheostoma fonticola | 28 | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 10 | Palaemonetes sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 11 | Palaemonetes sp. | | 3 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 11 | Procambarus sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 12 | No fish collected | | |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 13 | Procambarus sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 13 | Palaemonetes sp. | | 1 |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 14 | No fish collected | | |
| 3090 | Old Channel Reach | Bryo-1 | 2023-11-01 | 15 | Palaemonetes sp. | | 1 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 1 | Palaemonetes sp. | | 1 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 2 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 3 | Palaemonetes sp. | | 1 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 4 | Notropis volucellus | 38 | 1 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 4 | Palaemonetes sp. | | 4 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 5 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 6 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 7 | Notropis volucellus | 43 | 1 |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 8 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 9 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 10 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 11 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 12 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 13 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 14 | No fish collected | | |
| 3091 | Old Channel Reach | Open-2 | 2023-11-01 | 15 | | 56 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Procambarus sp. | | 14 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Etheostoma fonticola | 21 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Etheostoma fonticola | 26 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Palaemonetes sp. | | 21 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Lepomis miniatus | 54 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 1 | Lepomis miniatus | 38 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 2 | Procambarus sp. | | 8 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 3 | Procambarus sp. | | 5 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 3 | Etheostoma fonticola | 20 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 4 | Palaemonetes sp. | | 2 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 5 | Palaemonetes sp. | | 3 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 5 | Etheostoma fonticola | 30 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 5 | Etheostoma fonticola | 32 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 6 | Etheostoma fonticola | 33 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 6 | Etheostoma fonticola | 30 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 6 | Procambarus sp. | | 3 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 6 | Palaemonetes sp. | | 13 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 7 | Lepomis miniatus | 29 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 7 | Palaemonetes sp. | | 6 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 8 | Palaemonetes sp. | | 4 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 9 | Palaemonetes sp. | | 8 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 9 | Procambarus sp. | | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 9 | Etheostoma fonticola | 29 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 10 | Palaemonetes sp. | | 2 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 11 | Palaemonetes sp. | | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 12 | Palaemonetes sp. | | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 13 | Palaemonetes sp. | | 2 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 14 | Palaemonetes sp. | | 3 |

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|---|---|---|---|---|---|---|---|
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 14 | Etheostoma fonticola | 28 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 14 | Etheostoma fonticola | 25 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 14 | Etheostoma fonticola | 28 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 14 | Lepomis miniatus | 41 | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 15 | Palaemonetes sp. | | 1 |
| 3092 | Old Channel Reach | Bryo-2 | 2023-11-01 | 15 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 1 | Lepomis miniatus | 28 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 1 | Lepomis miniatus | 26 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 1 | Lepomis miniatus | 24 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 1 | Lepomis sp. | 12 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 1 | Palaemonetes sp. | | 4 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 2 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 2 | Palaemonetes sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 2 | Herichthys cyanoguttatus | 45 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 2 | Lepomis miniatus | 24 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 3 | Palaemonetes sp. | | 3 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 3 | Etheostoma fonticola | 31 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 3 | Procambarus sp. | | 3 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 4 | Lepomis sp. | 17 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 4 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 5 | Etheostoma fonticola | 22 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 6 | Etheostoma fonticola | 29 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 6 | Procambarus sp. | | 2 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 6 | Palaemonetes sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 7 | No fish collected | | |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 8 | Procambarus sp. | | 2 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 9 | Etheostoma fonticola | 22 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 9 | Etheostoma fonticola | 21 | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 10 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 11 | Procambarus sp. | | 2 |

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|---|---|---|---|---|---|---|---|
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 12 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 13 | Procambarus sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 13 | Palaemonetes sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 14 | Palaemonetes sp. | | 1 |
| 3093 | Old Channel Reach | Lud-1 | 2023-11-01 | 15 | No fish collected | | |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Palaemonetes sp. | | 17 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 28 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 35 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 21 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 15 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Etheostoma fonticola | 30 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Etheostoma fonticola | 26 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Etheostoma fonticola | 30 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Palaemonetes sp. | | 24 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Herichthys cyanoguttatus | 23 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 2 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 3 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 3 | Palaemonetes sp. | | 4 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 3 | Etheostoma fonticola | 33 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 3 | Etheostoma fonticola | 28 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 3 | Etheostoma fonticola | 25 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Procambarus sp. | | 4 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Palaemonetes sp. | | 5 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Etheostoma fonticola | 28 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Etheostoma fonticola | 26 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Etheostoma fonticola | 27 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Etheostoma fonticola | 32 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 4 | Lepomis miniatus | 26 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 5 | Palaemonetes sp. | | 3 |

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|---|---|---|---|---|---|---|---|
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 6 | Etheostoma fonticola | 30 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 6 | Procambarus sp. | | 2 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 7 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 7 | Palaemonetes sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 7 | Lepomis miniatus | 28 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 7 | Etheostoma fonticola | 25 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 8 | Etheostoma fonticola | 35 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 8 | Etheostoma fonticola | 26 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 8 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 9 | Procambarus sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 9 | Palaemonetes sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 9 | Etheostoma fonticola | 16 | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 10 | Palaemonetes sp. | | 3 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 10 | Procambarus sp. | | 3 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 11 | Procambarus sp. | | 3 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 12 | No fish collected | | |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 13 | No fish collected | | |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 14 | Procambarus sp. | | 4 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 14 | Palaemonetes sp. | | 1 |
| 3094 | Old Channel Reach | Lud-2 | 2023-11-01 | 15 | Procambarus sp. | | 3 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Procambarus sp. | | 10 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Palaemonetes sp. | | 31 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 22 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Astyanax mexicanus | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 26 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 30 | 1 |

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|---|---|---|---|---|---|---|---|
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 17 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 27 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 17 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 23 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 27 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 26 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 23 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 30 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 17 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 13 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 12 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 1 | Etheostoma fonticola | 11 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 2 | Procambarus sp. | | 6 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 2 | Palaemonetes sp. | | 5 |

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|---|---|---|---|---|---|---|---|
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 2 | Etheostoma fonticola | 30 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 3 | Procambarus sp. | | 2 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 3 | Palaemonetes sp. | | 3 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 3 | Etheostoma fonticola | 31 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 3 | Etheostoma fonticola | 16 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 3 | Etheostoma fonticola | 18 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 4 | Procambarus sp. | | 2 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 4 | Palaemonetes sp. | | 4 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 4 | Etheostoma fonticola | 25 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 4 | Etheostoma fonticola | 10 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Herichthys cyanoguttatus | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Procambarus sp. | | 5 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Etheostoma fonticola | 18 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Etheostoma fonticola | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Etheostoma fonticola | 27 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 5 | Etheostoma fonticola | 22 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 6 | Procambarus sp. | | 2 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 6 | Palaemonetes sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 7 | Procambarus sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 7 | Palaemonetes sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 7 | Etheostoma fonticola | 15 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 8 | Procambarus sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 9 | No fish collected | | |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 10 | Etheostoma fonticola | 19 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Procambarus sp. | | 2 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Palaemonetes sp. | | 2 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 26 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 15 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 18 | 1 |

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|---|---|---|---|---|---|---|---|
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 29 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 17 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 11 | Etheostoma fonticola | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 12 | Procambarus sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 12 | Etheostoma fonticola | 26 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 12 | Etheostoma fonticola | 21 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 12 | Etheostoma fonticola | 22 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 12 | Etheostoma fonticola | 19 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 13 | Procambarus sp. | | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 13 | Etheostoma fonticola | 29 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 13 | Etheostoma fonticola | 24 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 14 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 14 | Etheostoma fonticola | 20 | 1 |
| 3007 | Upper New Channel Reach | Hyg-1 | 2023-05-04 | 15 | No fish collected | | |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Astyanax mexicanus | 31 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Astyanax mexicanus | 67 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Astyanax mexicanus | 32 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 22 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 26 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 46 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 28 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 34 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 25 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 9 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 9 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Gambusia sp. | 15 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Lepomis miniatus | 28 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Lepomis miniatus | 27 | 1 |

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|---|---|---|---|---|---|---|---|
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Lepomis sp. | 15 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 1 | Micropterus salmoides | 29 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Lepomis miniatus | 42 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Lepomis miniatus | 44 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Micropterus salmoides | 40 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Palaemonetes sp. | | 7 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 18 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 26 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 30 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 45 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 29 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Etheostoma fonticola | 25 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Astyanax mexicanus | 26 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 25 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 22 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 9 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 15 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 2 | Gambusia sp. | 17 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Astyanax mexicanus | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 35 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 25 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 30 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 32 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 30 | 1 |

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|---|---|---|---|---|---|---|---|
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Gambusia sp. | 15 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Lepomis sp. | 17 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 3 | Lepomis sp. | 12 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Herichthys cyanoguttatus | 18 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Herichthys cyanoguttatus | 21 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Micropterus salmoides | 47 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Micropterus salmoides | 32 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Astyanax mexicanus | 22 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Lepomis miniatus | 54 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Lepomis miniatus | 42 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Gambusia sp. | 28 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Gambusia sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Etheostoma fonticola | 17 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Etheostoma fonticola | 22 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 4 | Palaemonetes sp. | | 3 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 5 | Micropterus salmoides | 25 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 5 | Lepomis sp. | 24 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 5 | Lepomis sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 5 | Palaemonetes sp. | | 3 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Astyanax mexicanus | 74 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Herichthys cyanoguttatus | 27 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Etheostoma fonticola | 31 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Etheostoma fonticola | 27 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Palaemonetes sp. | | 6 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 6 | Procambarus sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 7 | Procambarus sp. | | 6 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 7 | Herichthys cyanoguttatus | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 7 | Lepomis sp. | 20 | 1 |

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|---|---|---|---|---|---|---|---|
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 7 | Lepomis sp. | 17 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 7 | Etheostoma fonticola | 10 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 8 | Lepomis miniatus | 42 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 8 | Herichthys cyanoguttatus | 21 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 8 | Palaemonetes sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 8 | Etheostoma fonticola | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 9 | Lepomis sp. | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 9 | Astyanax mexicanus | 47 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 9 | Etheostoma fonticola | 29 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 9 | Etheostoma fonticola | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 10 | Procambarus sp. | | 2 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 10 | Palaemonetes sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 11 | No fish collected | | |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 12 | Astyanax mexicanus | 41 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 12 | Etheostoma fonticola | 20 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 12 | Procambarus sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 13 | Lepomis sp. | 16 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 13 | Astyanax mexicanus | 64 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 13 | Procambarus sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 14 | Procambarus sp. | | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 15 | Etheostoma fonticola | 29 | 1 |
| 3008 | Upper New Channel Reach | Hyg-2 | 2023-05-04 | 16 | No fish collected | | |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 27 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Herichthys cyanoguttatus | 22 | 1 |

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|---|---|---|---|---|---|---|---|
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Lepomis miniatus | 31 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Lepomis miniatus | 30 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Astyanax mexicanus | 35 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Procambarus sp. | | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 1 | Palaemonetes sp. | | 10 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Procambarus sp. | | 3 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Palaemonetes sp. | | 8 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 23 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 31 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 26 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 27 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 25 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 17 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 16 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Etheostoma fonticola | 29 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Lepomis miniatus | 48 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 2 | Lepomis sp. | 17 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Procambarus sp. | | 3 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Palaemonetes sp. | | 5 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 26 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 29 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 31 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 29 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 19 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Etheostoma fonticola | 25 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Lepomis miniatus | 54 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Lepomis miniatus | 29 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 3 | Lepomis sp. | 23 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 4 | Palaemonetes sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 4 | Lepomis miniatus | 60 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 4 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 4 | Etheostoma fonticola | 21 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 4 | Etheostoma fonticola | 29 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Procambarus sp. | | 3 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Lepomis miniatus | 44 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Lepomis miniatus | 31 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Etheostoma fonticola | 23 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Etheostoma fonticola | 19 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 5 | Etheostoma fonticola | 12 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 6 | Procambarus sp. | | 3 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 6 | Palaemonetes sp. | | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 6 | Etheostoma fonticola | 12 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 6 | Etheostoma fonticola | 16 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Procambarus sp. | | 5 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 17 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 19 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 15 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 23 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 34 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 7 | Etheostoma fonticola | 20 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 8 | Procambarus sp. | | 5 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 8 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 9 | Palaemonetes sp. | | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 9 | Lepomis sp. | 19 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 9 | Etheostoma fonticola | 21 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 9 | Etheostoma fonticola | 30 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 9 | Etheostoma fonticola | 27 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 10 | Palaemonetes sp. | | 3 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 10 | Etheostoma fonticola | 31 | 1 |

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|---|---|---|---|---|---|---|---|
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 11 | Procambarus sp. | | 2 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 11 | Etheostoma fonticola | 26 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 12 | Procambarus sp. | | 2 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 12 | Etheostoma fonticola | 26 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 13 | Procambarus sp. | | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 13 | Etheostoma fonticola | 24 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 13 | Etheostoma fonticola | 25 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 14 | Procambarus sp. | | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 14 | Etheostoma fonticola | 27 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 15 | Lepomis miniatus | 26 | 1 |
| 3009 | Upper New Channel Reach | Cab-1 | 2023-05-04 | 15 | Procambarus sp. | | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Palaemonetes sp. | | 13 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Procambarus sp. | | 7 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Lepomis miniatus | 29 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Lepomis miniatus | 63 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Lepomis miniatus | 26 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Lepomis sp. | 25 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Gambusia sp. | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 24 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 23 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 31 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 15 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |

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|---|---|---|---|---|---|---|---|
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Procambarus sp. | | 9 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Palaemonetes sp. | | 2 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Herichthys cyanoguttatus | 13 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Lepomis miniatus | 29 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Lepomis sp. | 25 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Lepomis sp. | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 2 | Etheostoma fonticola | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 34 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 27 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 26 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Procambarus sp. | | 3 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Palaemonetes sp. | | 2 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Herichthys cyanoguttatus | 17 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis miniatus | 31 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis miniatus | 30 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis miniatus | 32 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis sp. | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis sp. | 18 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Lepomis sp. | 19 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Micropterus salmoides | 38 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Etheostoma fonticola | 28 | 1 |

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|---|---|---|---|---|---|---|---|
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Etheostoma fonticola | 25 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 3 | Etheostoma fonticola | 11 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 4 | Procambarus sp. | | 6 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 4 | Palaemonetes sp. | | 4 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 4 | Lepomis miniatus | 31 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 4 | Etheostoma fonticola | 24 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 4 | Etheostoma fonticola | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Procambarus sp. | | 4 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Palaemonetes sp. | | 8 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Lepomis sp. | 19 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Lepomis sp. | 25 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Herichthys cyanoguttatus | 18 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Herichthys cyanoguttatus | 17 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 5 | Etheostoma fonticola | 17 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Palaemonetes sp. | | 3 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Lepomis sp. | 26 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Lepomis sp. | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Micropterus salmoides | 31 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Etheostoma fonticola | 18 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 6 | Etheostoma fonticola | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Procambarus sp. | | 3 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Palaemonetes sp. | | 6 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Herichthys cyanoguttatus | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Lepomis sp. | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 24 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 23 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 23 | 1 |

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|---|---|---|---|---|---|---|---|
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 29 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 20 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 7 | Etheostoma fonticola | 22 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 8 | Procambarus sp. | | 4 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 8 | Etheostoma fonticola | 21 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 9 | Procambarus sp. | | 7 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 9 | Palaemonetes sp. | | 2 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 9 | Etheostoma fonticola | 23 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 9 | Etheostoma fonticola | 26 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 10 | Procambarus sp. | | 3 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 10 | Etheostoma fonticola | 27 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 10 | Etheostoma fonticola | 18 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 11 | Procambarus sp. | | 4 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 11 | Palaemonetes sp. | | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 12 | Procambarus sp. | | 5 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 13 | Procambarus sp. | | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 14 | Procambarus sp. | | 2 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 14 | Palaemonetes sp. | | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 14 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 15 | Etheostoma fonticola | 16 | 1 |
| 3010 | Upper New Channel Reach | Cab-2 | 2023-05-04 | 16 | Lepomis miniatus | 30 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Procambarus sp. | | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 29 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 23 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 25 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 23 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 32 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 21 | 1 |

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|---|---|---|---|---|---|---|---|
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 13 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 11 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 28 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 19 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 15 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 20 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 15 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 17 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 1 | Etheostoma fonticola | 13 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 2 | Etheostoma fonticola | 13 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 2 | Etheostoma fonticola | 18 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 3 | Etheostoma fonticola | 15 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 3 | Etheostoma fonticola | 18 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 3 | Etheostoma fonticola | 21 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 4 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 4 | Etheostoma fonticola | 17 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 4 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 4 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 4 | Etheostoma fonticola | 17 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 25 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 11 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 22 | 1 |

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|---|---|---|---|---|---|---|---|
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 15 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 5 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 6 | Etheostoma fonticola | 17 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 6 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 6 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 7 | Etheostoma fonticola | 14 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 8 | No fish collected | | |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 9 | Etheostoma fonticola | 15 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 10 | Etheostoma fonticola | 22 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 11 | No fish collected | | |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 12 | Etheostoma fonticola | 19 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 13 | No fish collected | | |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 14 | No fish collected | | |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 15 | Etheostoma fonticola | 16 | 1 |
| 3011 | Upper New Channel Reach | Bryo-1 | 2023-05-04 | 16 | No fish collected | | |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Procambarus sp. | | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 22 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 18 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 14 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 15 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 1 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Procambarus sp. | | 2 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 34 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 27 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 25 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 22 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 17 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 25 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 19 | 1 |

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|---|---|---|---|---|---|---|---|
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 26 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 18 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 2 | Etheostoma fonticola | 17 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 3 | Etheostoma fonticola | 25 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 3 | Etheostoma fonticola | 21 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 3 | Etheostoma fonticola | 21 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 4 | Etheostoma fonticola | 18 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 5 | Procambarus sp. | | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 5 | Etheostoma fonticola | 29 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 5 | Etheostoma fonticola | 17 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 6 | Etheostoma fonticola | 15 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 6 | Etheostoma fonticola | 19 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 6 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 7 | Etheostoma fonticola | 24 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 7 | Etheostoma fonticola | 15 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 7 | Etheostoma fonticola | 17 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 8 | Procambarus sp. | | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 8 | Etheostoma fonticola | 20 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 9 | Etheostoma fonticola | 22 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 9 | Etheostoma fonticola | 17 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 10 | No fish collected | | |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 11 | Etheostoma fonticola | 19 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 11 | Etheostoma fonticola | 23 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 12 | Procambarus sp. | | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 13 | Etheostoma fonticola | 14 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 13 | Etheostoma fonticola | 25 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 14 | Etheostoma fonticola | 15 | 1 |

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|---|---|---|---|---|---|---|---|
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 15 | Etheostoma fonticola | 16 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 15 | Etheostoma fonticola | 27 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 16 | Etheostoma fonticola | 20 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 16 | Etheostoma fonticola | 21 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 17 | Procambarus sp. | | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 17 | Etheostoma fonticola | 28 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 18 | Etheostoma fonticola | 18 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 18 | Etheostoma fonticola | 24 | 1 |
| 3012 | Upper New Channel Reach | Bryo-2 | 2023-05-04 | 19 | No fish collected | | |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Palaemonetes sp. | | 5 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Herichthys cyanoguttatus | 20 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Etheostoma fonticola | 28 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Etheostoma fonticola | 22 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 1 | Etheostoma fonticola | 24 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Procambarus sp. | | 3 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Palaemonetes sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Micropterus salmoides | 126 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Lepomis miniatus | 94 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Ameiurus natalis | 19 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Herichthys cyanoguttatus | 22 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Herichthys cyanoguttatus | 36 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Herichthys cyanoguttatus | 24 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Hypostomus plecostomus | 22 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Etheostoma fonticola | 29 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 2 | Etheostoma fonticola | 22 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Procambarus sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Lepomis miniatus | 34 | 1 |

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|---|---|---|---|---|---|---|---|
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 28 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 27 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 27 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 27 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 3 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Procambarus sp. | | 3 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Palaemonetes sp. | | 2 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Etheostoma fonticola | 29 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 4 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Procambarus sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Palaemonetes sp. | | 2 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Lepomis miniatus | 52 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Etheostoma fonticola | 29 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Etheostoma fonticola | 19 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 5 | Etheostoma fonticola | 19 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 6 | Procambarus sp. | | 2 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 6 | Palaemonetes sp. | | 4 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 6 | Etheostoma fonticola | 27 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 7 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 7 | Etheostoma fonticola | 20 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 7 | Etheostoma fonticola | 32 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 8 | Lepomis miniatus | 15 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 8 | Etheostoma fonticola | 27 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 8 | Etheostoma fonticola | 26 | 1 |

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|---|---|---|---|---|---|---|---|
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 9 | Palaemonetes sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 9 | Etheostoma fonticola | 25 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 9 | Etheostoma fonticola | 20 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 9 | Etheostoma fonticola | 22 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 9 | Etheostoma fonticola | 30 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 10 | Palaemonetes sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 11 | Procambarus sp. | | 4 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 11 | Etheostoma fonticola | 24 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 12 | Procambarus sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 12 | Palaemonetes sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 13 | Procambarus sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 13 | Palaemonetes sp. | | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 13 | Etheostoma fonticola | 26 | 1 |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 14 | No fish collected | | |
| 3039 | Upper New Channel Reach | Hyg-1 | 2023-07-27 | 15 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Palaemonetes sp. | | 13 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Dionda nigrotaeniata | 56 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Herichthys cyanoguttatus | 15 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Etheostoma fonticola | 30 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 1 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Palaemonetes sp. | | 34 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Hypostomus plecostomus | 23 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Herichthys cyanoguttatus | 33 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 29 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 30 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 17 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 29 | 1 |

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|---|---|---|---|---|---|---|---|
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 2 | Etheostoma fonticola | 27 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Procambarus sp. | | 3 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Palaemonetes sp. | | 17 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Etheostoma fonticola | 24 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Lepomis miniatus | 43 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 3 | Herichthys cyanoguttatus | 29 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 4 | Procambarus sp. | | 2 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 4 | Palaemonetes sp. | | 14 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 4 | Etheostoma fonticola | 26 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 4 | Etheostoma fonticola | 29 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 4 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 5 | Procambarus sp. | | 2 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 5 | Palaemonetes sp. | | 25 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 5 | Etheostoma fonticola | 30 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 5 | Micropterus salmoides | 274 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 5 | Gambusia sp. | 18 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 6 | Procambarus sp. | | 5 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 6 | Palaemonetes sp. | | 2 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 6 | Lepomis miniatus | 39 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 6 | Lepomis miniatus | 29 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 7 | Palaemonetes sp. | | 8 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 7 | Lepomis sp. | 17 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 7 | Etheostoma fonticola | 32 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 7 | Etheostoma fonticola | 12 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 8 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 8 | Palaemonetes sp. | | 10 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Palaemonetes sp. | | 16 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Herichthys cyanoguttatus | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Etheostoma fonticola | 29 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Etheostoma fonticola | 27 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Etheostoma fonticola | 26 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Etheostoma fonticola | 20 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 9 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 10 | Procambarus sp. | | 2 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 10 | Palaemonetes sp. | | 10 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 10 | Herichthys cyanoguttatus | 19 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 10 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 10 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Palaemonetes sp. | | 3 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Procambarus sp. | | 3 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Dionda nigrotaeniata | 45 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Etheostoma fonticola | 23 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Etheostoma fonticola | 22 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Etheostoma fonticola | 22 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 11 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 12 | Etheostoma fonticola | 21 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 13 | Palaemonetes sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 13 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 14 | Palaemonetes sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 14 | Etheostoma fonticola | 23 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 14 | Etheostoma fonticola | 25 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 15 | Palaemonetes sp. | | 2 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 15 | Etheostoma fonticola | 22 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 15 | Etheostoma fonticola | 31 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 15 | Etheostoma fonticola | 28 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 16 | Procambarus sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 16 | Etheostoma fonticola | 27 | 1 |

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|---|---|---|---|---|---|---|---|
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 17 | Palaemonetes sp. | | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 17 | Etheostoma fonticola | 30 | 1 |
| 3040 | Upper New Channel Reach | Hyg-2 | 2023-07-27 | 18 | Procambarus sp. | | 1 |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 1 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 2 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 3 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 4 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 5 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 6 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 7 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 8 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 9 | No fish collected | | |
| 3041 | Upper New Channel Reach | Open-1 | 2023-07-27 | 10 | No fish collected | | |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Palaemonetes sp. | | 11 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Herichthys cyanoguttatus | 40 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Herichthys cyanoguttatus | 15 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Gambusia sp. | 15 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Gambusia sp. | 10 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 1 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Lepomis miniatus | 45 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Lepomis cyanellus | 44 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 32 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 32 | 1 |

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|---|---|---|---|---|---|---|---|
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 21 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 35 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 2 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Palaemonetes sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Herichthys cyanoguttatus | 24 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Gambusia sp. | 13 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Gambusia sp. | 15 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 3 | Etheostoma fonticola | 26 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 4 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 4 | Etheostoma fonticola | 34 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 4 | Etheostoma fonticola | 33 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Procambarus sp. | | 2 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Palaemonetes sp. | | 4 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Lepomis cyanellus | 48 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Lepomis cyanellus | 45 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Etheostoma fonticola | 34 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Lepomis miniatus | 35 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Lepomis miniatus | 36 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 5 | Micropterus salmoides | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Procambarus sp. | | 5 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Palaemonetes sp. | | 2 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Lepomis cyanellus | 52 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Lepomis miniatus | 54 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 6 | Etheostoma fonticola | 25 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Procambarus sp. | | 7 |

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|---|---|---|---|---|---|---|---|
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Palaemonetes sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Lepomis miniatus | 47 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Etheostoma fonticola | 32 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 7 | Etheostoma fonticola | 31 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 8 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 8 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 9 | Etheostoma fonticola | 31 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 9 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 9 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 10 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 10 | Etheostoma fonticola | 26 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 10 | Etheostoma fonticola | 24 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Procambarus sp. | | 2 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 34 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 31 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 25 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 32 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 32 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 11 | Etheostoma fonticola | 26 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 12 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 12 | Etheostoma lepidum | 43 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 13 | Procambarus sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 13 | Lepomis miniatus | 34 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 13 | Lepomis cyanellus | 54 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 13 | Etheostoma fonticola | 32 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 13 | Etheostoma fonticola | 30 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 14 | Etheostoma fonticola | 28 | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 14 | Palaemonetes sp. | | 1 |
| 3042 | Upper New Channel Reach | Cab-1 | 2023-07-27 | 15 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Procambarus sp. | | 2 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Palaemonetes sp. | | 13 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Lepomis cyanellus | 88 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Lepomis cyanellus | 60 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Lepomis cyanellus | 106 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Lepomis cyanellus | 42 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Lepomis cyanellus | 47 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Herichthys cyanoguttatus | 28 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Micropterus salmoides | 47 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Micropterus salmoides | 38 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Micropterus salmoides | 35 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Micropterus salmoides | 39 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Micropterus salmoides | 51 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Gambusia sp. | 10 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Gambusia sp. | 25 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Gambusia sp. | 23 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Gambusia sp. | 10 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 1 | Gambusia sp. | 19 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Procambarus sp. | | 3 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Palaemonetes sp. | | 9 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis miniatus | 55 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis miniatus | 50 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis miniatus | 55 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis miniatus | 55 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis cyanellus | 43 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis cyanellus | 54 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis cyanellus | 35 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis cyanellus | 63 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Lepomis cyanellus | 45 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Herichthys cyanoguttatus | 25 | 1 |

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|---|---|---|---|---|---|---|---|
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 26 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 28 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 25 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 31 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 21 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 2 | Etheostoma fonticola | 10 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Palaemonetes sp. | | 3 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Etheostoma fonticola | 28 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Etheostoma fonticola | 29 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Lepomis miniatus | 42 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Lepomis miniatus | 40 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Micropterus salmoides | 45 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 3 | Lepomis cyanellus | 40 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Procambarus sp. | | 2 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Palaemonetes sp. | | 4 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 28 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 32 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 27 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 27 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Poecilia latipinna | 25 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Lepomis miniatus | 50 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 4 | Lepomis cyanellus | 35 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis cyanellus | 48 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis cyanellus | 55 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis cyanellus | 50 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis miniatus | 65 | 1 |

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|---|---|---|---|---|---|---|---|
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis miniatus | 61 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis miniatus | 60 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Lepomis miniatus | 41 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Etheostoma fonticola | 31 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 5 | Palaemonetes sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Procambarus sp. | | 4 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Palaemonetes sp. | | 2 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Lepomis miniatus | 44 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Lepomis miniatus | 32 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Lepomis cyanellus | 58 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Etheostoma fonticola | 29 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Herichthys cyanoguttatus | 29 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 6 | Lepomis sp. | 18 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 7 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 7 | Palaemonetes sp. | | 2 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 7 | Astyanax mexicanus | 7 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 7 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Lepomis cyanellus | 75 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Lepomis cyanellus | 50 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Lepomis cyanellus | 53 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Procambarus sp. | | 5 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Palaemonetes sp. | | 3 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Astyanax mexicanus | 19 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 8 | Etheostoma fonticola | 30 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Lepomis miniatus | 68 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Lepomis miniatus | 65 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Palaemonetes sp. | | 1 |

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| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Lepomis sp. | 10 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Etheostoma fonticola | 25 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Etheostoma fonticola | 31 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 9 | Lepomis cyanellus | 45 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 10 | Procambarus sp. | | 3 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 10 | Palaemonetes sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 10 | Micropterus salmoides | 45 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 10 | Etheostoma fonticola | 22 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 11 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 12 | Lepomis cyanellus | 44 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 12 | Procambarus sp. | | 3 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 13 | Lepomis cyanellus | 89 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 14 | No fish collected | | |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 15 | Etheostoma fonticola | 29 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 15 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 16 | Etheostoma fonticola | 32 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 16 | Lepomis miniatus | 109 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 16 | Palaemonetes sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 17 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 17 | Etheostoma fonticola | 26 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 18 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 18 | Etheostoma fonticola | 28 | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 19 | Procambarus sp. | | 1 |
| 3043 | Upper New Channel Reach | Cab-2 | 2023-07-27 | 19 | Lepomis cyanellus | 53 | 1 |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 1 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 2 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 3 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 4 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 5 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 6 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 7 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 8 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 9 | No fish collected | | |
| 3044 | Upper New Channel Reach | Open-2 | 2023-07-27 | 10 | No fish collected | | |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 1 | Lepomis miniatus | 56 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 2 | Etheostoma fonticola | 23 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 2 | Etheostoma fonticola | 25 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 2 | Procambarus sp. | | 2 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 33 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 30 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 30 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 30 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 10 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 3 | Etheostoma fonticola | 10 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 4 | Etheostoma fonticola | 15 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 5 | Procambarus sp. | | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 5 | Etheostoma fonticola | 31 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 6 | Lepomis cyanellus | 72 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 7 | Herichthys cyanoguttatus | 30 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 8 | No fish collected | | |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 9 | No fish collected | | |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 10 | Etheostoma lepidum | 40 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 11 | No fish collected | | |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 12 | Etheostoma fonticola | 24 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 12 | Etheostoma fonticola | 25 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 13 | No fish collected | | |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 14 | Etheostoma fonticola | 26 | 1 |
| 3098 | Upper New Channel Reach | Bryo-2 | 2023-11-03 | 15 | No fish collected | | |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 2 | Etheostoma fonticola | 32 | 1 |

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|---|---|---|---|---|---|---|---|
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 2 | Herichthys cyanoguttatus | 23 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 2 | Palaemonetes sp. | | 4 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 2 | Procambarus sp. | | 4 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 3 | Herichthys cyanoguttatus | 28 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 3 | Etheostoma fonticola | 29 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 3 | Etheostoma fonticola | 28 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 3 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 4 | Palaemonetes sp. | | 2 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 4 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 4 | Lepomis miniatus | 65 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 5 | Procambarus sp. | | 3 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 5 | Etheostoma fonticola | 31 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 5 | Etheostoma fonticola | 34 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 5 | Etheostoma fonticola | 27 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 6 | Etheostoma lepidum | 46 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 6 | Etheostoma fonticola | 26 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 7 | Etheostoma fonticola | 30 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 7 | Etheostoma fonticola | 30 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 7 | Lepomis miniatus | 100 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Etheostoma fonticola | 31 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Etheostoma fonticola | 28 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Etheostoma fonticola | 33 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Etheostoma fonticola | 32 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Etheostoma fonticola | 11 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Palaemonetes sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 8 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 9 | Palaemonetes sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 9 | Etheostoma fonticola | 26 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 9 | Etheostoma fonticola | 31 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 10 | Herichthys cyanoguttatus | 26 | 1 |

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|---|---|---|---|---|---|---|---|
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 11 | Lepomis miniatus | 52 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 11 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 11 | Etheostoma fonticola | 31 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 12 | Lepomis miniatus | 30 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 12 | Lepomis cyanellus | 54 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 12 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 13 | Procambarus sp. | | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 13 | Etheostoma fonticola | 29 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 14 | Lepomis miniatus | 83 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 14 | Etheostoma fonticola | 27 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 14 | Etheostoma fonticola | 27 | 1 |
| 3099 | Upper New Channel Reach | Lud-1 | 2023-11-03 | 15 | No fish collected | | |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 1 | Herichthys cyanoguttatus | 26 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 1 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 2 | Palaemonetes sp. | | 2 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 2 | Gambusia sp. | 12 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 2 | Gambusia sp. | 20 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 2 | Etheostoma fonticola | 31 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 3 | Procambarus sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 3 | Palaemonetes sp. | | 2 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 3 | Etheostoma fonticola | 13 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 4 | Procambarus sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 4 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 5 | Procambarus sp. | | 3 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 5 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 6 | Procambarus sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 6 | Etheostoma fonticola | 32 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 7 | Procambarus sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 7 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 7 | Etheostoma fonticola | 32 | 1 |

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|---|---|---|---|---|---|---|---|
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 7 | Etheostoma fonticola | 30 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 8 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 9 | Etheostoma fonticola | 33 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 9 | Herichthys cyanoguttatus | 22 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 10 | Etheostoma fonticola | 29 | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 11 | No fish collected | | |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 12 | Procambarus sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 12 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 13 | No fish collected | | |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 14 | Palaemonetes sp. | | 1 |
| 3100 | Upper New Channel Reach | Lud-2 | 2023-11-03 | 15 | Procambarus sp. | | 1 |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 1 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 2 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 3 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 4 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 5 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 6 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 7 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 8 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 9 | No fish collected | | |
| 3101 | Upper New Channel Reach | Open-1 | 2023-11-03 | 10 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 1 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 2 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 3 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 4 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 5 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 6 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 7 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 8 | No fish collected | | |
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 9 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3102 | Upper New Channel Reach | Open-2 | 2023-11-03 | 10 | No fish collected | | |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Procambarus sp. | | 3 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Lepomis miniatus | 105 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Lepomis miniatus | 54 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Lepomis miniatus | 37 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Herichthys cyanoguttatus | 42 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Palaemonetes sp. | | 26 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 1 | Gambusia sp. | 9 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Herichthys cyanoguttatus | 52 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Herichthys cyanoguttatus | 20 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Palaemonetes sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Procambarus sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Etheostoma fonticola | 15 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 2 | Etheostoma fonticola | 14 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 3 | Palaemonetes sp. | | 5 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 3 | Etheostoma fonticola | 10 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 3 | Etheostoma fonticola | 11 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 4 | Herichthys cyanoguttatus | 30 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 4 | Astyanax mexicanus | 21 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 4 | Etheostoma fonticola | 33 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Procambarus sp. | | 2 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Lepomis sp. | 16 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Etheostoma fonticola | 15 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Etheostoma fonticola | 9 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Etheostoma fonticola | 10 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 5 | Astyanax mexicanus | 14 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 6 | Procambarus sp. | | 2 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Palaemonetes sp. | | 2 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Etheostoma fonticola | 31 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Etheostoma fonticola | 10 | 1 |

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|---|---|---|---|---|---|---|---|
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Etheostoma fonticola | 28 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Etheostoma fonticola | 12 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 7 | Procambarus sp. | | 2 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Procambarus sp. | | 3 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Etheostoma fonticola | 25 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Etheostoma fonticola | 12 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Etheostoma fonticola | 18 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Etheostoma fonticola | 13 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 8 | Etheostoma fonticola | 13 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 9 | Procambarus sp. | | 2 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 9 | Palaemonetes sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 10 | Procambarus sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 10 | Etheostoma fonticola | 29 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 11 | Procambarus sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 11 | Lepomis sp. | 16 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 12 | Etheostoma fonticola | 24 | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 12 | Procambarus sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 13 | No fish collected | | |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 14 | Procambarus sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 14 | Palaemonetes sp. | | 1 |
| 3095 | Upper New Channel Reach | Hyg-1 | 2023-11-03 | 15 | Palaemonetes sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 4 | Procambarus sp. | | 2 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 4 | Etheostoma fonticola | 21 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Procambarus sp. | | 5 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Palaemonetes sp. | | 5 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 10 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 14 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 31 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 35 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 16 | 1 |

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|---|---|---|---|---|---|---|---|
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Etheostoma fonticola | 13 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 5 | Lepomis miniatus | 41 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 6 | Procambarus sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 6 | Palaemonetes sp. | | 7 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 6 | Etheostoma fonticola | 14 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 6 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 6 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 7 | Palaemonetes sp. | | 2 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 8 | Herichthys cyanoguttatus | 26 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 8 | Etheostoma fonticola | 15 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 8 | Palaemonetes sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 9 | Palaemonetes sp. | | 6 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 9 | Herichthys cyanoguttatus | 32 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 9 | Lepomis miniatus | 26 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 9 | Etheostoma fonticola | 18 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 10 | Procambarus sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 10 | Palaemonetes sp. | | 3 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 10 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 11 | Procambarus sp. | | 4 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 11 | Lepomis miniatus | 74 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 12 | Etheostoma fonticola | 19 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 12 | Etheostoma fonticola | 30 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 12 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 12 | Lepomis miniatus | 16 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 13 | Etheostoma fonticola | 30 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 13 | Etheostoma fonticola | 10 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 14 | Palaemonetes sp. | | 2 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 14 | Procambarus sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 15 | Palaemonetes sp. | | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 15 | Procambarus sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 15 | Etheostoma fonticola | 11 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 16 | No fish collected | | |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 1 | Palaemonetes sp. | | 9 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 1 | Astyanax mexicanus | 20 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 1 | Etheostoma fonticola | 11 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 1 | Etheostoma fonticola | 13 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 2 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 2 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 2 | Palaemonetes sp. | | 18 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Etheostoma fonticola | 32 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Etheostoma fonticola | 13 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Etheostoma fonticola | 12 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Palaemonetes sp. | | 5 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Herichthys cyanoguttatus | 32 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Gambusia sp. | 22 | 1 |
| 3096 | Upper New Channel Reach | Hyg-2 | 2023-11-03 | 3 | Gambusia sp. | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 24 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 33 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 31 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 29 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 33 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 26 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 31 | 1 |

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|---|---|---|---|---|---|---|---|
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 23 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 33 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 20 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 25 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Etheostoma fonticola | 22 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 1 | Palaemonetes sp. | | 3 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 2 | Etheostoma fonticola | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 3 | No fish collected | | |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 4 | Etheostoma fonticola | 11 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 5 | Etheostoma fonticola | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 5 | Procambarus sp. | | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 6 | Etheostoma fonticola | 24 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 7 | No fish collected | | |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 8 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 9 | Etheostoma fonticola | 33 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 10 | No fish collected | | |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 11 | Etheostoma fonticola | 25 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 12 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 12 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 13 | No fish collected | | |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 14 | Etheostoma fonticola | 25 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 15 | Etheostoma fonticola | 28 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 15 | Etheostoma fonticola | 26 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 15 | Etheostoma fonticola | 30 | 1 |
| 3097 | Upper New Channel Reach | Bryo-1 | 2023-11-03 | 16 | No fish collected | | |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 1 | Procambarus sp. | | 14 |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 2 | Procambarus sp. | | 9 |

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|---|---|---|---|---|---|---|---|
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 3 | Procambarus sp. | | 6 |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 4 | No fish collected | | |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 5 | Procambarus sp. | | 2 |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 6 | No fish collected | | |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 7 | Procambarus sp. | | 1 |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 8 | No fish collected | | |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 9 | Procambarus sp. | | 1 |
| 2979 | Upper Spring Run | Lud-1 | 2023-05-02 | 10 | No fish collected | | |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 1 | Procambarus sp. | | 2 |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 2 | Procambarus sp. | | 2 |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 3 | No fish collected | | |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 4 | No fish collected | | |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 5 | Procambarus sp. | | 2 |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 6 | Procambarus sp. | | 3 |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 7 | No fish collected | | |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 8 | Procambarus sp. | | 1 |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 9 | No fish collected | | |
| 2980 | Upper Spring Run | Lud-2 | 2023-05-02 | 10 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 1 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 2 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 3 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 4 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 5 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 6 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 7 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 8 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 9 | No fish collected | | |
| 2981 | Upper Spring Run | Open-1 | 2023-05-02 | 10 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 1 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 2 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 3 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 4 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 5 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 6 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 7 | Procambarus sp. | | 1 |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 8 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 9 | No fish collected | | |
| 2983 | Upper Spring Run | Open-2 | 2023-05-02 | 10 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 1 | Lepomis miniatus | 20 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 2 | Procambarus sp. | | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 2 | Micropterus salmoides | 45 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 2 | Lepomis sp. | 17 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 3 | Procambarus sp. | | 2 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 3 | Micropterus salmoides | 42 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 4 | Micropterus salmoides | 42 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 4 | Lepomis miniatus | 35 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 5 | Procambarus sp. | | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 6 | Procambarus sp. | | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 7 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 8 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 9 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 10 | Micropterus salmoides | 38 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 11 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 12 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 13 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 14 | Etheostoma fonticola | 32 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 14 | Lepomis miniatus | 26 | 1 |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 15 | No fish collected | | |
| 2984 | Upper Spring Run | Cabo-2 | 2023-05-02 | 1 | Lepomis miniatus | 20 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 40 | 1 |

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|---|---|---|---|---|---|---|---|
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 59 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 30 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 42 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 44 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 30 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 38 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 24 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 33 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 36 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 41 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 34 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma lepidum | 38 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 26 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 27 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 24 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Palaemonetes sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 2 | Micropterus salmoides | 50 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 2 | Etheostoma lepidum | 35 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 2 | Procambarus sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 33 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 32 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 35 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 36 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 38 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma lepidum | 41 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Micropterus salmoides | 41 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Micropterus salmoides | 39 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma fonticola | 17 | 1 |

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|---|---|---|---|---|---|---|---|
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma fonticola | 20 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Palaemonetes sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 4 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 4 | Etheostoma fonticola | 32 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 4 | Etheostoma fonticola | 17 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 5 | Procambarus sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 5 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 6 | Procambarus sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 6 | Micropterus salmoides | 55 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 6 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 7 | Procambarus sp. | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 7 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 8 | No fish collected | | |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 9 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 10 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 11 | Etheostoma fonticola | 22 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 12 | No fish collected | | |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 13 | No fish collected | | |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 14 | No fish collected | | |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 15 | Etheostoma fonticola | 21 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 16 | No fish collected | | |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 27 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 1 | Etheostoma fonticola | 26 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 3 | Etheostoma fonticola | 33 | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 10 | Etheostoma lepidum | | 1 |
| 2985 | Upper Spring Run | Bryo-1 | 2023-05-02 | 10 | Etheostoma lepidum | | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Procambarus sp. | | 2 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma lepidum | 30 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma lepidum | 43 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma lepidum | 24 | 1 |

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|---|---|---|---|---|---|---|---|
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma lepidum | 26 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma lepidum | 19 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 29 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 28 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 24 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 14 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 2 | Etheostoma lepidum | 37 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 2 | Etheostoma lepidum | 36 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 3 | Procambarus sp. | | 2 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 3 | Etheostoma fonticola | 25 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 3 | Etheostoma fonticola | 22 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 4 | Etheostoma fonticola | 27 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 4 | Etheostoma lepidum | 35 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 5 | Etheostoma fonticola | 31 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 6 | Etheostoma fonticola | 24 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 7 | No fish collected | | |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 8 | Micropterus salmoides | 38 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 9 | Procambarus sp. | | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 10 | No fish collected | | |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 11 | No fish collected | | |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 12 | No fish collected | | |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 13 | Etheostoma fonticola | 30 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 14 | Procambarus sp. | | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 15 | Procambarus sp. | | 2 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 25 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 1 | Etheostoma fonticola | 29 | 1 |
| 2986 | Upper Spring Run | Bryo-2 | 2023-05-02 | 3 | Etheostoma fonticola | 25 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 1 | Micropterus salmoides | 38 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 2 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 3 | Lepomis miniatus | 41 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 4 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 5 | Micropterus salmoides | 40 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 6 | Micropterus salmoides | 42 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 7 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 8 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 9 | Lepomis miniatus | 40 | 1 |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 10 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 11 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 12 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 13 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 14 | No fish collected | | |
| 2987 | Upper Spring Run | Sag-1 | 2023-05-02 | 15 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 1 | Dionda nigrotaeniata | 32 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 1 | Dionda nigrotaeniata | 25 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 1 | Astyanax mexicanus | 30 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 2 | Astyanax mexicanus | 35 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 2 | Dionda nigrotaeniata | 24 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 2 | Dionda nigrotaeniata | 25 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 3 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 4 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 5 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 6 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 7 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 8 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 9 | Micropterus salmoides | 47 | 1 |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 10 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 11 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 12 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 13 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 14 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 15 | No fish collected | | |
| 2988 | Upper Spring Run | Sag-2 | 2023-05-02 | 2 | Dionda nigrotaeniata | 24 | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 1 | Procambarus sp. | | 4 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 2 | Procambarus sp. | | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 3 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 4 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 5 | Palaemonetes sp. | | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 6 | Procambarus sp. | | 2 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 7 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 8 | Lepomis miniatus | 35 | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 9 | Procambarus sp. | | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 10 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 11 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 12 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 13 | Procambarus sp. | | 1 |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 14 | No fish collected | | |
| 2982 | Upper Spring Run | Cabo-1 | 2023-05-23 | 15 | Procambarus sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Procambarus sp. | | 8 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 40 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 45 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 38 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 43 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 28 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 20 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 16 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 24 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 26 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 8 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 15 | 1 |

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|---|---|---|---|---|---|---|---|
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 18 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 20 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 30 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 16 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 16 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 16 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 21 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 22 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 32 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Gambusia sp. | | 10 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 30 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 26 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 25 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 22 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 15 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Astyanax mexicanus | 12 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Oreochromis aureus | 35 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Oreochromis aureus | 38 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Lepomis sp. | 12 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Palaemonetes sp. | | 2 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Micropterus salmoides | 34 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 1 | Etheostoma fonticola | 13 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Procambarus sp. | | 2 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Lepomis sp. | 14 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Lepomis sp. | 12 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Lepomis sp. | 11 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 3 | Lepomis sp. | 16 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 3 | Herichthys cyanoguttatus | 18 | 1 |

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|---|---|---|---|---|---|---|---|
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 4 | Palaemonetes sp. | | 2 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Procambarus sp. | | 2 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Lepomis sp. | 12 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Lepomis sp. | 10 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Lepomis sp. | 19 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 6 | Lepomis sp. | 15 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 9 | Procambarus sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 10 | Procambarus sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 11 | Herichthys cyanoguttatus | 74 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 12 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 13 | Procambarus sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 14 | No fish collected | | |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 15 | Lepomis sp. | 9 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 15 | Etheostoma lepidum | 45 | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 4 | Gambusia sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Gambusia sp. | | 1 |
| 3013 | Upper Spring Run | Lud-1 | 2023-07-25 | 5 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Procambarus sp. | | 6 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 11 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 11 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 12 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 14 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 11 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 14 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 9 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 8 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Gambusia sp. | 8 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Oreochromis aureus | 36 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Oreochromis aureus | 18 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Oreochromis aureus | 17 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Lepomis sp. | 15 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Lepomis sp. | 17 | 1 |

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|---|---|---|---|---|---|---|---|
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Lepomis sp. | 11 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Lepomis sp. | 12 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 1 | Lepomis sp. | 12 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Lepomis sp. | 18 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Lepomis sp. | 18 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Procambarus sp. | | 5 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 2 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Ameiurus natalis | 25 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Lepomis sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 3 | Oreochromis aureus | 26 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 4 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 5 | Herichthys cyanoguttatus | 16 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 6 | Procambarus sp. | | 2 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Ameiurus natalis | 54 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Oreochromis aureus | 12 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Oreochromis aureus | 15 | 1 |

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|---|---|---|---|---|---|---|---|
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 7 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Oreochromis aureus | 16 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Procambarus sp. | | 2 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 8 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 9 | Herichthys cyanoguttatus | 18 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 9 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 9 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 9 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 10 | Oreochromis aureus | 10 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 10 | Oreochromis aureus | 15 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 10 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 11 | Oreochromis aureus | 21 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 11 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 12 | Procambarus sp. | | 3 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 12 | Lepomis sp. | 16 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 12 | Oreochromis aureus | 16 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 12 | Oreochromis aureus | 16 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 13 | Procambarus sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 13 | Oreochromis aureus | 11 | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 13 | Gambusia sp. | | 1 |

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|---|---|---|---|---|---|---|---|
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 13 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 14 | Procambarus sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 14 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 14 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 14 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 14 | Gambusia sp. | | 1 |
| 3014 | Upper Spring Run | Lud-2 | 2023-07-25 | 15 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 1 | Procambarus sp. | | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 2 | Etheostoma fonticola | 27 | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 2 | Palaemonetes sp. | | 2 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 3 | Palaemonetes sp. | | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 4 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 5 | Etheostoma fonticola | 12 | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 6 | Etheostoma fonticola | 11 | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 7 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 8 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 9 | Etheostoma fonticola | 11 | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 10 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 11 | Gambusia sp. | 11 | 1 |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 12 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 13 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 14 | No fish collected | | |
| 3015 | Upper Spring Run | Algae-1 | 2023-07-25 | 15 | No fish collected | | |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 1 | Etheostoma fonticola | 12 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 1 | Etheostoma lepidum | 49 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 1 | Lepomis sp. | 8 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 2 | Etheostoma lepidum | 34 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 2 | Etheostoma lepidum | 38 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 2 | Palaemonetes sp. | | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 3 | Procambarus sp. | | 1 |

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| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 3 | Etheostoma lepidum | 36 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 3 | Etheostoma lepidum | 31 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 3 | Etheostoma fonticola | 15 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 4 | No fish collected | | |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 5 | Etheostoma fonticola | 34 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 5 | Etheostoma lepidum | 32 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 6 | Etheostoma lepidum | 37 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 7 | Procambarus sp. | | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 7 | Oreochromis aureus | 18 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 8 | Procambarus sp. | | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 8 | Etheostoma fonticola | 29 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 8 | Etheostoma fonticola | 19 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 9 | Procambarus sp. | | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 9 | Etheostoma fonticola | 14 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 10 | Etheostoma lepidum | 34 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 11 | Etheostoma lepidum | 41 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 11 | Etheostoma fonticola | 12 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 12 | No fish collected | | |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 13 | No fish collected | | |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 14 | Etheostoma fonticola | 8 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 15 | Etheostoma fonticola | 10 | 1 |
| 3016 | Upper Spring Run | Algae-2 | 2023-07-25 | 16 | Procambarus sp. | | 1 |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 1 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 2 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 3 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 4 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 5 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 6 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 7 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 8 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 9 | No fish collected | | |
| 3017 | Upper Spring Run | Open-1 | 2023-07-25 | 10 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 1 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 2 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 3 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 4 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 5 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 6 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 7 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 8 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 9 | No fish collected | | |
| 3018 | Upper Spring Run | Open-2 | 2023-07-25 | 10 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 1 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 2 | Procambarus sp. | | 2 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 2 | Lepomis miniatus | 43 | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 2 | Palaemonetes sp. | | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 2 | Lepomis sp. | 9 | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 3 | Procambarus sp. | | 2 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 4 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 5 | Procambarus sp. | | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 6 | Lepomis miniatus | 79 | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 6 | Procambarus sp. | | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 7 | Procambarus sp. | | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 7 | Dionda nigrotaeniata | 26 | 1 |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 8 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 9 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 10 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 11 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 12 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 13 | Procambarus sp. | | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 14 | No fish collected | | |
| 3019 | Upper Spring Run | Sag-1 | 2023-07-25 | 15 | No fish collected | | |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 1 | Ameiurus natalis | 38 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 2 | Lepomis sp. | 14 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 3 | Procambarus sp. | | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 3 | Lepomis miniatus | 85 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 3 | Lepomis miniatus | 52 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 3 | Lepomis miniatus | 102 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 4 | Lepomis miniatus | 80 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 4 | Lepomis miniatus | 91 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 4 | Micropterus salmoides | 65 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 4 | Procambarus sp. | | 3 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 5 | Procambarus sp. | | 3 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 5 | Lepomis miniatus | 80 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 5 | Herichthys cyanoguttatus | 107 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 6 | Procambarus sp. | | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 7 | Procambarus sp. | | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 8 | Procambarus sp. | | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 9 | No fish collected | | |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 10 | Lepomis sp. | 56 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 11 | Procambarus sp. | | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 12 | Lepomis miniatus | 62 | 1 |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 13 | No fish collected | | |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 14 | No fish collected | | |
| 3020 | Upper Spring Run | Sag-2 | 2023-07-25 | 15 | Procambarus sp. | | 1 |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 1 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 2 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 3 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 4 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 5 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 6 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 7 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 8 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 9 | No fish collected | | |
| 3067 | Upper Spring Run | Lud-1 | 2023-11-01 | 10 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 1 | Palaemonetes sp. | | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 32 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 1 | Etheostoma fonticola | 28 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 2 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 3 | Etheostoma lepidum | 47 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 3 | Procambarus sp. | | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 4 | Procambarus sp. | | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 4 | Etheostoma fonticola | 30 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 4 | Palaemonetes sp. | | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 5 | Procambarus sp. | | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 6 | Etheostoma fonticola | 27 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 7 | Etheostoma lepidum | 44 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 8 | Etheostoma fonticola | 25 | 1 |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 9 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 10 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 11 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 12 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 13 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 14 | No fish collected | | |
| 3068 | Upper Spring Run | Lud-2 | 2023-11-01 | 15 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 1 | Etheostoma fonticola | 30 | 1 |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 2 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 3 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 4 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 5 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 6 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 7 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 8 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 9 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 10 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 11 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 12 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 13 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 14 | No fish collected | | |
| 3069 | Upper Spring Run | Open-1 | 2023-11-01 | 15 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 1 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 2 | Etheostoma fonticola | 32 | 1 |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 3 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 4 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 5 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 6 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 7 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 8 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 9 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 10 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 11 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 12 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 13 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 14 | No fish collected | | |
| 3070 | Upper Spring Run | Open-2 | 2023-11-01 | 15 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 1 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 2 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 3 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 4 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 5 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 6 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 7 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 8 | Procambarus sp. | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 9 | No fish collected | | |
| 3071 | Upper Spring Run | Alg-1 | 2023-11-01 | 10 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 1 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 2 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 3 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 4 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 5 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 6 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 7 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 8 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 9 | No fish collected | | |
| 3072 | Upper Spring Run | Alg-2 | 2023-11-01 | 10 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 1 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 2 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 3 | Micropterus salmoides | 58 | 1 |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 4 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 5 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 6 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 7 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 8 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 9 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 10 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 11 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 12 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 13 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 14 | No fish collected | | |
| 3073 | Upper Spring Run | Cab-1 | 2023-11-01 | 15 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 6 | Lepomis miniatus | 45 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 6 | Lepomis miniatus | 45 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 7 | Lepomis miniatus | 20 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 8 | Procambarus sp. | | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 8 | Lepomis miniatus | 25 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 9 | Etheostoma lepidum | 37 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 10 | No fish collected | | |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 11 | Lepomis miniatus | 93 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 12 | Lepomis miniatus | 64 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 12 | Lepomis sp. | 15 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 13 | No fish collected | | |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 14 | No fish collected | | |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 15 | No fish collected | | |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 1 | Lepomis miniatus | 73 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 1 | Lepomis miniatus | 25 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 1 | Lepomis miniatus | 21 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 1 | Lepomis sp. | 13 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 2 | Lepomis miniatus | 40 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 3 | Herichthys cyanoguttatus | 50 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 3 | Lepomis miniatus | 38 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 3 | Procambarus sp. | | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 4 | No fish collected | | |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 5 | Lepomis miniatus | 56 | 1 |
| 3074 | Upper Spring Run | Cab-2 | 2023-11-01 | 5 | Lepomis miniatus | 51 | 1 |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 1 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 2 | Lepomis sp. | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 3 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 4 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 5 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 6 | No fish collected | | |

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|---|---|---|---|---|---|---|---|
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 7 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 8 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 9 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 10 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 11 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 12 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 13 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 14 | No fish collected | | |
| 3075 | Upper Spring Run | Sag-1 | 2023-11-01 | 15 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 1 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 2 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 3 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 4 | Lepomis miniatus | 43 | 1 |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 5 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 6 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 7 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 8 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 9 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 10 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 11 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 12 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 13 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 14 | No fish collected | | |
| 3076 | Upper Spring Run | Sag-2 | 2023-11-01 | 15 | No fish collected | | |

# APPENDIX H: FOUNTAIN DARTER HABITAT SUITABILITY ANALYTICAL FRAMEWORK

## OBJECTIVES

The goal of this analysis was to develop an index to quantify Fountain Darter habitat suitability within biological monitoring study reaches based on aquatic vegetation composition. Specific objectives included: (1) build Habitat Suitability Criteria (HSC) for each vegetation taxa; (2) use HSC to calculate an Overall Habitat Suitability Index (OHSI) based on vegetation community composition mapped at a given study reach during each monitoring event; (3) evaluate the efficacy of OHSI as a measure of Fountain Darter habitat suitability by testing whether Fountain Darter occurrence can be predicted based on OHSI.

## METHODS

### Habitat Suitability Criteria

HSC are a form of resource selection function (RSF) defined as any function that is proportional to the probability of use by an organism (Manly et al. 1993). HSC were built separately for the Comal and San Marcos river/springs systems using logistic regression based on random-station dip-net data and drop-net data converted to presence/absence. Logistic regression is a form of classification model that uses presence/absence data to predict probabilities based on a set of covariates (Hastie et al. 2009). The response variable for this analysis, probability of darter occurrence, was used to quantify criteria for each vegetation type, ranging from 0 (i.e., not suitable) to 1 (i.e., most suitable) (Figure H1).

### OHSI Calculation

To calculate the OHSI for each monitoring event, HSC values for each vegetation strata were first multiplied by the areal coverage of that vegetation strata, and these values were summed across all vegetation strata within each study reach, to generate a Weighted Usable Area (WUA) of vegetation only as follows:

Eq. 1 $$WUA = \sum_{i=1}^{N}(A_i \ x \ HSC_i)$$

where $N$ is the total number of vegetation types, $A_i$ is the areal coverage of a single vegetation type, and $HSC_i$ is the habitat suitability criteria of that single vegetation type (Yao & Bamal 2014).

This WUA was then divided by the total wetted area within the reach to generate OHSI, as follows:

Eq. 2 $$OHSI = \frac{WUA}{\sum_{i=1}^{N}(A_i)}$$

In this way, OHSI can also be thought of as the proportion of weighted usable area (Yao & Bamal 2014), ranging from 0 (unsuitable overall habitat) to 1 (most suitable overall habitat). Standardizing by reach size allows for a comparison of habitat quality between reaches of different sizes.

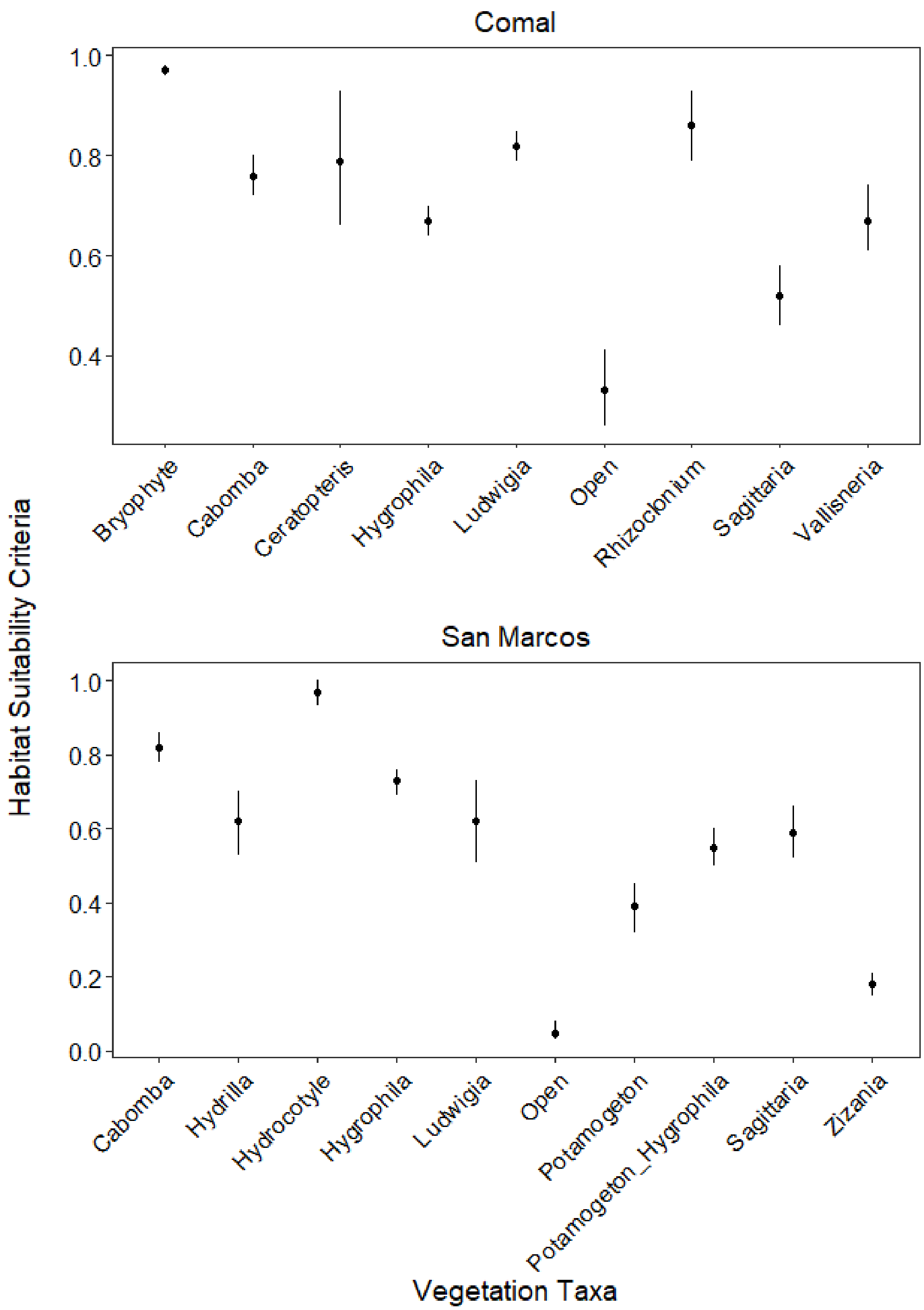


**Figure H1. Aquatic vegetation habitat suitability criteria (±95% CI) built with drop-net and random dip-net datasets using logistic regression.**

## OHSI Evaluation

### *OHSI Evaluation Methods*

To examine the relationship between OHSI and Fountain Darter population metrics, random-station dip-net data from 2017-2020 was organized in a way that treats each monitoring event per study reach as independent. This results in the response variable quantified as the proportional occurrence of Fountain Darters per reach at a given monitoring event based on the independent variable OHSI.

To predict Fountain Darter occurrence, two modeling approaches that are able to analyze proportions were used, which included: (1) GLM with a binomial distribution and (2) Random Forest Regression (RF). RF is an ensemble learning technique that builds many decision trees to predict a response variable (Breiman et al. 1984). Each decision tree of the "forest" is built by selecting a random subset of the dataset with replacement and a random set of covariates (Liaw & Wiener 2002). RF are considered more advantageous compared to traditional decision tree models and GLM because they correct for overfitting (Breiman 2001) and can provide more accurate predictions with many covariates (Cutler et al. 2007). For this analysis, we built RF models with 500 trees.

GLMs and RFs were built separately for the Comal and San Marcos systems. First, 50% of each dataset was randomly selected to train each model. Second, 5-fold cross validation (CV) was used to independently test the predictive performance of each model with the remaining 50% of the dataset (i.e., test data). Predictive performance was compared among models based on the correlation (R) and deviance (D) between observed and predicted values. Mean CV R ± standard error (SE) and CV D ± SE were calculated based on predictions from the 5 CV folds. Models with the highest CV R were considered as the best models for making predictions and elaborated on further in the results.

Lastly, figures were built to display fitted predictions across observed OHSI values to examine if there was a positive relationship between Fountain Darter occurrence and OHSI. Fitted predictions were also presented with a LOWESS smoothed function to visualize if trends of OHSI are linear or nonlinear (Milborrow 2020). In sum, if the models displayed strong predictive power and Fountain Darter occurrence showed a positive relationship with OHSI, then OHSI was considered a useful measurement of habitat suitability for Fountain Darters.

## OHSI Evaluation Results

Predictive performance for the Comal models showed that RF (0.81 ± 0.18) predictions were more accurate than GLM (0.62 ± 0.20). San Marcos models were similar, showing better predictive accuracy for RF (0.97 ± 0.02) compared to GLM (0.93 ± 0.06) (Table H1). Comparisons between observed vs. predicted occurrence for the RF 5-fold CV demonstrated lowest predictive accuracy at observed proportions about 0.20 or less for the Comal and San Marcos (Figure H2).

Fitted predictions of occurrence as a function of OHSI showed that occurrence increased with increasing OHSI for the Comal and San Marcos. In the Comal, LOWESS smoothed predictions exhibited a non-linear asymptotic trend. Occurrence increased about 0.60 to 0.80 when OHSI increased from about 0.65 to 0.75 and remained around 0.80 at OHSI values >0.75. In the San Marcos, LOWESS smoothed predictions exhibited a more linear trend compared to the Comal and occurrence increased from about 0.25 to 0.55 as OHSI increased from 0.25 to 0.60 (Figure H3).

**Table H1. Summary model performance statistics for predicting Fountain Darter occurrence based on OHSI. Summary statistics includes deviance (D) and correlation (R) for training data and 5-fold cross-validation (SE).**

| | Comal | | San Marcos | |
|---|---|---|---|---|
| | GLM | RF | GLM | RF |
| Training Data | | | | |
| Deviance | 1.10 | 1.03 | 1.23 | 1.20 |
| Correlation | 0.48 | 0.77 | 0.70 | 0.89 |
| Cross-Validation | | | | |
| Deviance | 1.12 (0.05) | 1.05 (0.06) | 1.24 (0.07) | 1.21 (0.05) |
| Correlation | 0.62 (0.20) | 0.81 (0.18) | 0.93 (0.06) | 0.97 (0.02) |

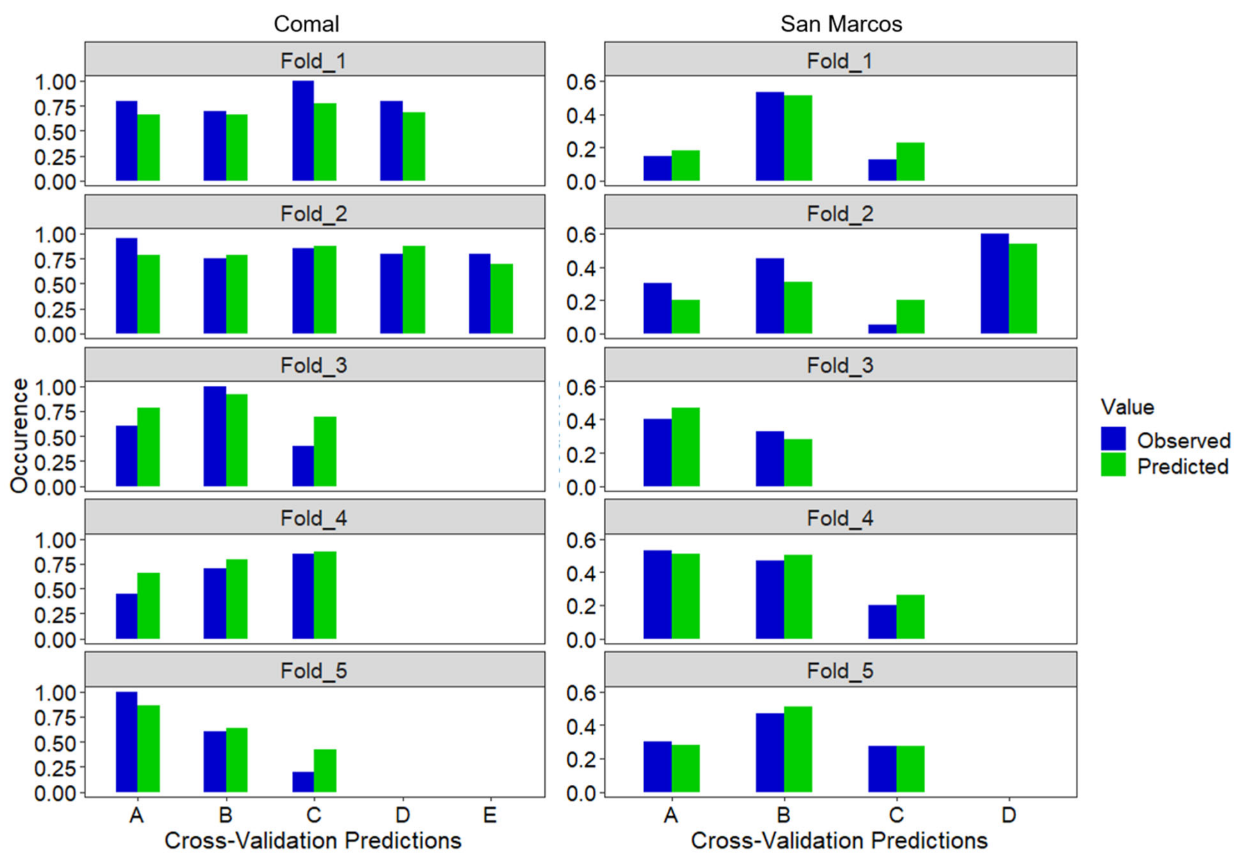


**Figure H2. Observed vs. predicted Fountain Darter occurrence in relationship to OHSI from Random Forest 5-fold cross-validation.**

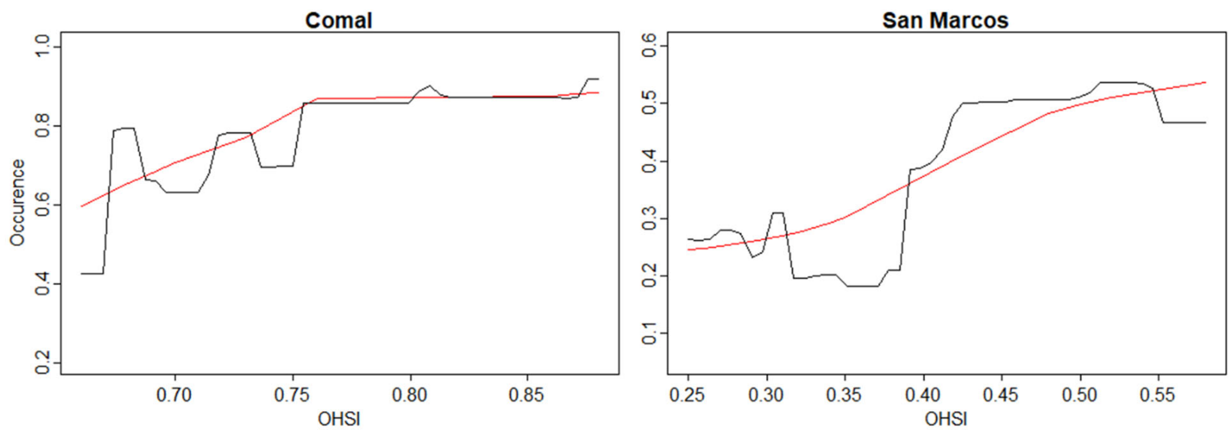


**Figure H3. Fitted occurrence predictions for OHSI in the Comal Springs/River and San Marcos River. The red lines are LOWESS smoothed fitted predictions used to visualize nonlinear trends.**

# OHSI EVALUATION DISCUSSION

Model CV R >0.80 for all RFs demonstrate good model performance and that Fountain Darter occurrence can be accurately predicted based on OHSI. Further, similar performance statistics for training data and test data via cross-validation indicated that the training models were not overfit and can reliably predict independent observations in the future. That being said, predictions were least accurate at observed occurrence values about 0.20 or less, which is likely due to smaller sample sizes in this range. As random station dip-net sampling continues during future biomonitoring activities, predictions at these lower occurrence values will likely improve. Fountain Darter occurrence also increased with increasing OHSI. The positive relationship between occurrence and OHSI and good model performance supports that OHSI is an ecologically relevant index for evaluating Fountain Darter habitat suitability based on vegetation community composition.

In sum, this analysis demonstrated that OHSI based on vegetation-specific HSC and reach-level vegetation composition data can accurately predict Fountain Darter occurrence and is a useful measurement for quantifying habitat suitability. However, additional data collection can assist in addressing multiple limitations of this analysis. Firstly, random station dip-net data with simple random sampling is only available from about 2017-2020, which limits the ability to predict occurrence from historical observations. Further, model performance would likely improve at lower occurrence values as additional data are collected and a more robust dataset is generated. Secondly, this analysis assumed that vegetation alone determines Fountain Darter occurrence. For example, decreased predictive accuracy at lower darter occurrence values may be due to other habitat factors (e.g., depth-flow conditions, river discharge) or biotic factors (e.g., competition, predation) rather than due to smaller sample sizes of lower occurrence values; however, a multi-factor ecological model is beyond the scope of this work. In addition, OHSI can only be assessed for vegetation taxa that have been sampled previously and building HSC for rare vegetation taxa not represented may improve predictions. That being said, RF models demonstrated that occurrence can be predicted accurately without including additional habitat variables or vegetation types, supporting that this assumption does not hinder this analysis and does not appear to restrict the inference value of OHSI.

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# APPENDIX I: COMAL SPRINGS RIFFLE BEETLE DROUGHT HABITAT OCCUPANCY

# Introduction

Springflow in 2023 reached its lowest levels at Comal Springs in over 30 years, prior to the federal listing of the Comal Springs Riffle Beetle (CSRB). Monthly median discharge at Comal Springs was 127 cfs in January 2023 and decreased to 67 cfs in August of 2023. As such, one Critical Period and two low-flow, species-specific sampling events, were triggered in July and August-October, respectively. The second low-flow event from September 11$^{th}$ through October 11$^{th}$ presented a unique opportunity to evaluate the habitat use of CSRB under extreme low-flow conditions by modifying current sampling methods. The purpose of this modification was to better understand habitat use of the CSRB under severe drought conditions that have not been observed since its listing under the Endangered Species Act or since extensive study of the species began. While CSRB are known to inhabit spring surface habitats, it is unknown where they move when springs are dry during drought conditions. The objectives of this effort were to assess if CSRB remained present in the vicinity of recently occupied springs once flows decrease and to determine their spatial movement to occupy subsurface wetted space.

# Methods

A total of 12 springs were chosen where CSRB were previously recorded. Four springs were chosen at three sites: Spring Run 3, Western Shoreline, and Spring Island. All chosen springs were terrestrial margin springs because these springs experienced the most drastic changes in water level during the current drought. In contrast, upwelling springs remained submerged during the drought and also typically have fine sediment possibly creating inhospitable lures once buried. Springs were selected based on conditions that were conducive to the adjustment design and lure placement described below, as well as recent occurrence of CSRB based on semiannual biomonitoring and an ongoing population assessment.

Larval and adult beetles were collected from each spring using the Cotton Lure standard operating procedure developed for the EAHCP (EAA 2017). Standard polycotton cloth lures (60% cotton/40% polyester) were used to assess CSRB presence/absence and abundance. Four lures were placed at each spring site based on current conditions and typical historic lure placement under normal flow (Figure 1). The first lure was placed near the lure placement location under normal flow conditions. Due to drought conditions, these lures were set above the water surface but below rocks. The purpose of Lure 1 was to capture beetles that move upward if flows increase substantially during the course of the study. The second lure was placed just below the water surface level (underground) where there was detectable springflow and in close proximity to the original spring location (i.e., Lure 1). Lure 2 was set at a location to detect if the primary beetle response to changing water levels was vertical movement. Lure 3 was placed below Lure 2, under the water surface. This lure was placed at least as far below Lure 2 as Lure 2 was placed below Lure 1. The purpose of this third lure was to detect beetles that moved further below current conditions or to detect their presence if water levels continued to drop, leaving lure 2 above water. Finally, Lure 4 was placed approximately 1 meter away from the other lures near the current surface water level at each spring site where there was detectable water movement. This lure was placed in a location to detect potential horizontal movement if the beetles remain closer to ground level rather than move deeper underground.

Lures remained in springs for approximately four weeks from mid-September through mid-October 2023, following the standard timing used in semiannual biological monitoring. During this time, the lures became inoculated with local organic and inorganic matter, biofilms, and invertebrates, including CSRB. Upon retrieval from the springs, all beetles (CSRB and any others), *Lirceolus* spp., and Peck's cave amphipods were removed from the lures, identified, counted, and then returned to the site they were collected from.

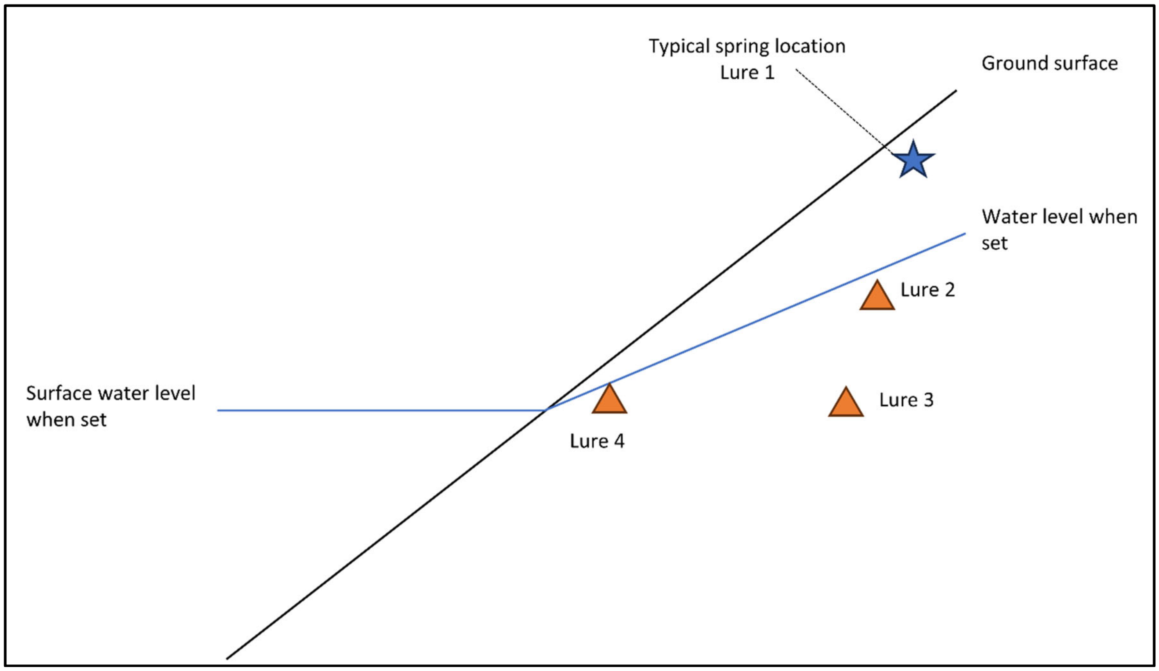


**Figure 1. Lateral view of the lure placement locations at a terrestrial margin spring site. Lure 1 was the original spring site (dry at time lures were set). Lure 2 was placed directly below Lure 1. Lure 3 was placed directly below Lure 2. Lure 4 was placed approximately 1 meter away from Lures 1-3 at the water surface level.**

# Results and Discussion

A total of 48 lures were placed in 12 springs at Spring Island, Western Shoreline, and Spring Run 3 from September 11$^{th}$ to October 11$^{th}$, 2023. A total of 16 adult and 16 larval CSRB were found on lures across all springs (Table 1). CSRB were found at 11 of the 12 springs; the one site without beetles was excluded from analyses.

Among lures in which beetles were present, mean beetle abundance ranged from 0.1 to 2.1 CSRB/lure. Lure 2 had the highest mean number of beetles per lure (2.1 CSRB/lure), followed by Lure 4 (0.7 CSRB/lure), and Lure 3 (0.1 CSRB/lure) (Figure 2). No beetles were recorded on Lure 1 (i.e., original spring surface water level) at any of the 12 springs, despite the fact that all of these lures were back underwater at the time of retrieval. This suggests the beetles likely did not move upward with slight increases in flows. Lure 2 and Lure 4 were positioned closest to the water surface level and had a higher mean number of beetles per lure than lures placed farther below or above the water surface. Lure 2 was considered the most optimal placement for the beetles at the time of deployment because these lures were located below the original spring lure location and at the observed water surface level. Numbers of other organisms were too low to analyze: *Microcylloepus pusilius* (N = 3), *Stygoparnus comalensis* (N = 1), *Stygobromus* spp. (N = 4), and *Lirceolus* spp. (N = 5). However, it was interesting that four of the five *Lirceolus* spp. individuals were observed on the deepest lure (Lure 3) at Spring Run 3.

**Table 1. Total number of Comal Springs Riffle Beetle adults and larvae found on each lure by region. Lure 1 is excluded because no beetles were found in that location.**

| | Lure 2 | | Lure 3 | | Lure 4 | |
|---|---|---|---|---|---|---|
| **Region** | **Larvae** | **Adults** | **Larvae** | **Adults** | **Larvae** | **Adults** |
| Spring Island | 8 | 5 | 0 | 0 | 1 | 0 |
| Spring Run 3 | 2 | 1 | 0 | 1 | 1 | 0 |
| Western Shoreline | 3 | 4 | 0 | 0 | 1 | 5 |

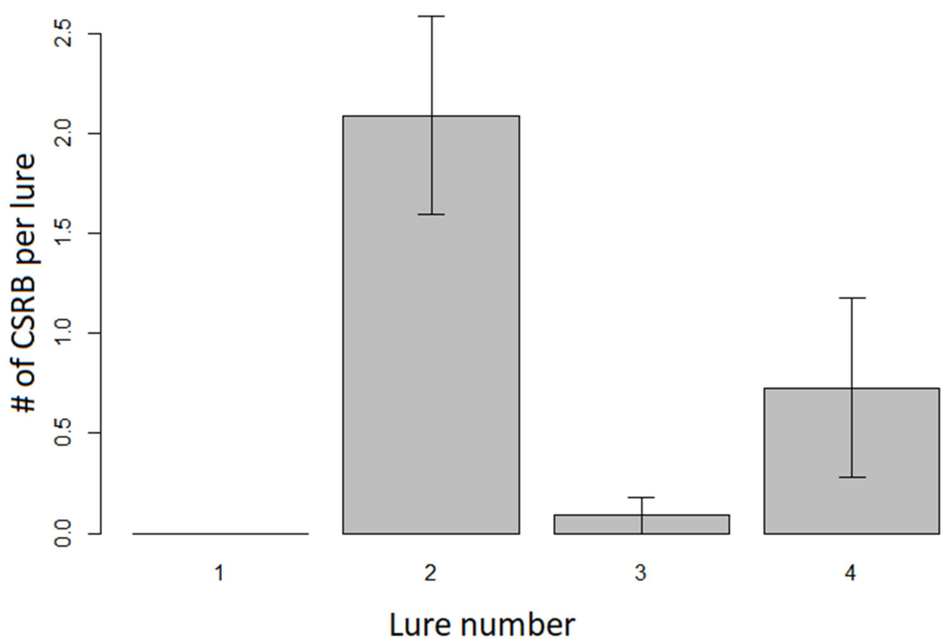


**Figure 2. Mean (±SE) number of CSRB (adults + larvae) per lure during the drought habitat occupancy study.**

# Conclusion

This modified study was designed to assess CSRB habitat occupancy during the drought conditions of 2023 that were characterized by some of the lowest springflow conditions observed over the past 30 years. Results illustrated that CSRB occupied habitats closer to the water surface, which were considered to be the most favorable habitats at the time lures were set. Although drastic drought conditions were observed, this study did not indicate movement of beetles to deeper locations other than was necessary in order to occupy favorable conditions. Despite water levels rising during the study, particularly over the last 1–2 weeks, and covering

Lure 1 at all springs, no beetles were observed on these higher lures. This potentially indicates a lagged migratory response to flow or a response not detectable on a 1–2 week timescale. Preliminary estimates of biofilm coverage suggest relatively equal coverage among all four lure positions (30–35% coverage), so lure quality and potential attractiveness seems unlikely to have varied among lures. Full understanding of the distributional patterns observed in this study requires replication of this study design with identical lure placement when flows are higher such that all lures are submerged from the beginning. Results of this follow-up study would shed light on the vertical migration by CSRB explored here.

# References

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