



## Appendix A | **EAHCP Documents**



## Appendix A1 | **Incidental Take Permit**



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Post Office Box 1306  
Albuquerque, New Mexico 87103



In Reply Refer To:  
FWS/R2/ES-ER/059284

JAN 21 2015

Mr. Karl J. Dreher  
Edwards Aquifer Recovery Implementation Program  
dba EARIP  
1615 N. St. Mary's Street  
San Antonio, Texas 78215

Dear Mr. Dreher:

Enclosed is your Fish and Wildlife Service – Endangered Species Act – Incidental Take Permit amendment (TE63663A-1). We would like to extend our sincere appreciation for your participation in the Habitat Conservation Program. Conserving, and ultimately recovering, threatened and endangered species must be a cooperative endeavor, and we thank you for your stewardship efforts.

If you have any comments or questions, please contact Adam Zerrenner at the Austin Ecological Services Field Office of the U.S. Fish and Wildlife Service at 512-490-0057. Thank you again for your commitment to the conservation of endangered species.

Sincerely,

Assistant Regional Director  
Ecological Services

Enclosures



DEPARTMENT OF THE INTERIOR  
U.S. FISH AND WILDLIFE SERVICE

**FEDERAL FISH AND WILDLIFE PERMIT**

3-201  
(1/97)

2. AUTHORITY-STATUTES  
16 USC 1539(a)(1)(B)  
REGULATIONS (Attached)  
50 CFR §§ 13 & 17

3. NUMBER  
TE-63663A-1

4. RENEWABLE  
[ x ] YES  
[ ] NO

5. MAY COPY  
[ x ] YES  
[ ] NO

6. EFFECTIVE  
1/20/2015

7. EXPIRES  
3/31/2028

1. PERMITTEE

Edwards Aquifer Recovery Implementation Program  
dba EA RIP  
1615 N St Mary's Street  
San Antonio, Texas 78215

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)

Karl J. Dreher  
General Manager

9. TYPE OF PERMIT

Endangered & Threatened Species – Incidental  
Take – Habitat Conservation Plan

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED: Within Bexar, Medina, Atascosa, Comal, Caldwell, Hays, and Guadalupe counties, Texas.

11. CONDITIONS AND AUTHORIZATIONS:

- A. General conditions set out in subpart d of 50 CFR 13, and specific conditions contained in Federal regulations cited in block #2, above, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal, of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.
- B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local or other federal law. This permit does not waive the obligation to abide by other foreign, state, local or federal law in carrying out authorized activities.
- C. Valid for use by permittees named above.

12. REPORTING REQUIREMENTS: Annual Report due March 31 of each year the permit is in effect.

ISSUED BY:

*Michelle Shaughnessy*  
Michelle Shaughnessy

TITLE

ARD – Ecological Services

DATE

1/21/15

The Edwards Aquifer Recovery Implementation Plan (EARIP) consists of the Edwards Aquifer Authority (EAA); the City of San Antonio, acting by and through its San Antonio Water System, (hereinafter SAWS); the City of San Marcos; the City of New Braunfels; and Texas State University (Permittees).

- D. Acceptance of the permit serves as evidence that the Permittees agree to abide by all conditions stated. Terms and conditions of the permit are inclusive. Any activity not specifically permitted is prohibited. Please read through these conditions carefully as violations of permit terms and conditions could result in your permit being suspended or revoked. Violations of your permit terms and conditions that contribute to a violation of the Endangered Species Act (ESA) could also subject Permittees to criminal or civil penalties.
- E. The authorization granted by this Permit will be subject to full and complete compliance with, and implementation of, the EARIP HCP and all specific conditions contained herein. The Permit terms and conditions shall supersede and take precedence over any inconsistent provisions in the HCP or other program documents.
- F. This permit does not include incidental take coverage for any federal facility which withdraws groundwater from the Edwards Aquifer.
- G. **COVERED SPECIES:** This permit only authorizes incidental take of animal species, or impacts to plant species of the following 11 species:

| <u>Common Name</u>           | <u>Scientific Name</u>                 | <u>ESA Status</u> |
|------------------------------|--|-------------------|
| Fountain Darter              | <i>Etheostoma fonticola</i>            | Endangered        |
| San Marcos Gambusia          | <i>Gambusia georgei</i>                | Endangered        |
| Comal Springs Dryopid Beetle | <i>Stygoparnus comalensis</i>          | Endangered        |
| Comal Springs Riffle Beetle  | <i>Heterelmis comalensis</i>           | Endangered        |
| Peck's Cave Amphipod         | <i>Stygobromus pecki</i>               | Endangered        |
| Texas Wild Rice              | <i>Zizania texana</i>                  | Endangered        |
| Texas Blind Salamander       | <i>Eurycea (=Typhlomolge) rathbuni</i> | Endangered        |
| San Marcos Salamander        | <i>Eurycea nana</i>                    | Threatened        |
| Texas cave diving beetle     | <i>Haideoporus texanus</i>             | Petitioned        |
| Comal Springs Salamander     | <i>Eurycea sp.</i>                     | Petitioned        |
| Texas Troglotic Water Slater | <i>Lirceolus smithii</i>               | Petitioned        |

H. INCIDENTAL TAKE AUTHORIZATION: The following amount of incidental take is authorized by this permit over the 15 year permit term:

1. No more than 797,000 fountain darters in Comal Springs, Landa Lake and the Comal River, and no more than 549,129 fountain darters in the San Marcos Springs, Spring Lake, and San Marcos River.
2. No more than 11,179 Comal Springs riffle beetles.
3. No more than 1,543 Comal Springs dryopid beetles.
4. No more than 18,224 Peck's cave amphipod.
5. No more than 10 Texas Blind salamanders.
6. No more than 263,857 San Marcos salamanders.
7. Incidental take of the Texas cave diving beetle will be provided for individuals of the species killed, harmed, or harassed by springflows with monthly averages above 50.5 cfs (1.43 cms) during HCP Phase I; and by springflows with monthly averages above 51.2 cfs (1.45 cms) during Phase II at San Marcos Springs, if and when this species is listed as threatened or endangered and as long as the HCP is fully implemented. Take limits will be exceeded if these minimum flow rates are not met.
8. Incidental take of the Texas troglotic water slater will be provided for individuals of the species killed, harmed, or harassed by springflows with monthly averages above 50.5 cfs (1.43 cms) during HCP Phase I; and by springflows with monthly averages above 51.2 cfs (1.45 cms) during Phase II at San Marcos Springs, if and when this species is listed as threatened or endangered and as long as the HCP is fully implemented. Take limits will be exceeded if these minimum flow rates are not met.
9. Incidental take of the Comal Springs salamander will be provided for individuals of the species killed, harmed, or harassed by springflows with monthly averages above 27 cfs (0.76 cms) during HCP Phase I and by monthly averages above 45 cfs (1.27 cms) during Phase II at Comal Springs if and when this species is listed as threatened or endangered, as long as the HCP is fully implemented. Take limits will be exceeded if these minimum flow rates are not met.

I. The endangered San Marcos gambusia has not been collected since 1982 and may no longer exist in the wild, but the Service will provide incidental take coverage for individuals of this species resulting from the covered activities if the species is located or becomes re-established within the Permit Area, as long as the HCP is fully implemented.

- J. **COVERED AREA:** This permit only authorizes incidental take of covered species within all of Bexar, Medina, and Uvalde counties, and parts of Atascosa, Comal, Caldwell, Hays, and Guadalupe counties (Permit Area), Figure 1.2 in the HCP.
- K. The EAA will support, and coordinate with the U.S. Fish and Wildlife Service (Service) on, a series of off-site refugia (Section 6.4 of the HCP). The support of the refugia will augment the existing financial and physical resources of the Service and provide supplementary resources for appropriate research activities, as necessary, to house and protect adequate populations of Covered Species and expanded knowledge of their biology, life histories, and effective reintroduction techniques. The use of this support will be limited to the Covered Species in the EARIP HCP.
- L. **COVERED ACTIVITIES – BY PERMITTEE**
  - 1. Edwards Aquifer Authority (EAA) – Covered activities for which incidental take is authorized:
    - a. Programs that implement the statutory functions of the EAA Act, including:
      - i. Authorization of withdrawals by persons who are both authorized under the EAA Act and the EAA's rules to withdraw groundwater from the Edwards Aquifer within the jurisdictional boundaries of the EAA.
      - ii. Authorization of withdrawals from the Edwards Aquifer pursuant to a change in permit under the EAA's permit administration rules in subchapter L of Chapter 711 and for owners and lessees making withdrawals under such a change in permit.
      - iii. Withdrawals due to the authorization of a "conversion" of "base" water into "unrestricted" water (EAA Rules §§ 711.338-.342) from the irrigator installing water conservation equipment such that less water is required for irrigation of the historically irrigated land (EAA Act § 1.34(b)) or when the historically irrigated lands that provided the basis for the issuance of the initial regular permit have been developed and are no longer farmed under the circumstances described in the EAA rules.
      - iv. Withdrawals from the Edwards Aquifer pursuant to the Critical Period Management Plan described in Section 5.1.4 of the HCP.
    - b. The minimization and mitigation measures that the EAA will either implement, or for which it bears responsibility for having implemented, as identified in Chapter 5 of the HCP include:
      - i. Voluntary Irrigation Suspension Program Option (Section 5.1.2).
      - ii. Regional Water Conservation Program (Section 5.1.3).
      - iii. Critical Period Management – Stage V (Section 5.1.4).
      - iv. Expanded Water Quality Monitoring (Section 5.7.5).
      - v. Impervious Cover/Water Quality Protection (Section 5.7.6)
  - 2. City of New Braunfels – Covered activities for which incidental take is authorized:

- a. Recreational activities within the City of New Braunfels's jurisdiction that are facilitated in any respect by the City of New Braunfels, including, but not limited to swimming, wading, tubing, boating, canoeing, kayaking, scuba diving, snorkeling, and fishing, in accordance with all applicable laws and regulations (Section 2.3.1 of the HCP).
  - i. The City of New Braunfels will limit recreational access to the spring runs to the Wading Pool in Spring Run 2; and prohibit recreation within the old channel with the exception of Schlitterbahn operations within its present location (Section 5.2.3 of the HCP).
  - ii. Where recreation is facilitated by commercial outfitting businesses, the City of New Braunfels will extend their incidental take coverage to participating businesses through Certificates of Inclusion (Section 5.2.3 of the HCP).
- b. Management of the ecosystems of Comal Springs, Landa Lake, and the Comal River. The City operates gates, culverts, and dam structures from Landa Lake to the Old Channel (three culverts), New Channel U.S. Geological Survey (USGS) Weir, Springfed Pool Inlet, Wading Pool Weir, Clemens Dam, USGS Weir (known as "Stinky Falls"), Golf Course Weir, and Mill Pond Dam (joint New Braunfels Utility and City of New Braunfels operation) to maintain constant flow in the Comal River, maintain constant elevations of large pools, and regulate flow regimes in the old and new channels during high and low flow events (Sections 2.3.2 and 2.3.3 of the HCP).
- c. Diversion of water from the Comal River in accordance with State law. The City of New Braunfels is authorized to divert 8 acre feet (9,868 cubic meters) per year of water from the Old Channel and impound it in the pool (TCEQ Permit 18-3826) as a non-consumptive use because the water is returned to the Old Channel (Section 2.3.4 of the HCP).
- d. Maintenance and operation of the spring-fed pool (including routine cleaning, algae removal, chemical application pursuant to label instructions, and filling/emptying) in accordance with the HCP (Section 2.3.4 of the HCP).
- e. The City of New Braunfels' operation of boats on the Comal River and Landa Lake for research, enforcement, litter collection, and maintenance activities (section 2.3.5 of the HCP).
- f. The minimization and mitigation measures that the City of New Braunfels will either implement, or has responsibility for having implemented, as identified in Chapter 5 of the HCP include:
  - i. Management of river flow between old and new channels of the Comal River (Section 5.2.1)
  - ii. Restoration and maintenance of native aquatic vegetation (Section 5.2.2)
  - iii. Management of public recreational use of Comal Springs and the Comal River (Section 5.2.3)



- iv. Removal of decaying vegetation and dissolved oxygen management (Section 5.2.4)
- v. Management of harmful non-native animal species (Sections 5.2.5 and 5.2.9)
- vi. Monitoring and management of the non-native introduced trematode *Centrocestus formosanus* that parasitizes the fountain darter (Sections 5.2.6 and 6.3.6 of the HCP).
- vii. Prohibition of hazardous materials transport across the Comal River and its tributaries (Section 5.2.7)
- viii. Restoration of native riparian vegetation (Section 5.2.8 and 5.7.1)
- ix. Reduction of non-native species introduction and live bait prohibitions (Section 5.2.9)
- x. Litter Collection and Floating Vegetation Management (Section 5.2.10)
- xi. Management of Golf Course Diversions and Operations (5.2.11)
- xii. Management of Household Hazardous Wastes (Section 5.7.5)
- xiii. Impervious Cover/Water Quality Protection (Section 5.7.6)
- xiv. Removal of sediment (Section 5.2.2.1)

3. City of San Marcos – Covered activities for which incidental take is authorized:

- a. Recreational activities within the City of San Marcos's jurisdiction, including, but not limited to, swimming, wading, tubing, boating, canoeing, kayaking, golfing, snorkeling, SCUBA diving, and fishing, in accordance with all applicable laws and regulations (Section 2.4. of the HCP).
  - i. Establishment of permanent access points for recreation and closure of unauthorized access points (Sections 5.3.2 and 5.3.7 of the HCP).
  - ii. Where recreation is facilitated by commercial outfitting businesses, the City of San Marcos will extend their incidental take coverage to participating businesses through Certificates of Inclusion (Section 5.3.2.1 of the HCP).
  - iii. The City of San Marcos will enforce trespassing laws to prevent the public from accessing the river via private property, without property owner's permission (Section 5.3.2.1 of the HCP).
  - iv. The City of San Marcos will create an appropriate buffer zone by location to keep picnic tables, pop-up tents, shelters, and portable grills away from the river to reduce litter in the river and decrease bank compaction and /or erosion (Section 5.3.2.1 of the HCP).
  - v. The City of San Marcos will educate river users and the community about applicable regulations and the importance of protecting the area's natural resources (section 5.3.2.1 of the HCP).
- b. The City of San Marcos' operation of boats on the San Marcos River and Spring Lake for research, enforcement, litter collection, and maintenance activities (section 2.4.2 of the HCP). Only electric trolling motors are permitted and no gasoline or petroleum fueled boats are allowed on Spring Lake.
- c. Routine, minor repairs of infrastructure and facilities associated with or located on City of San Marcos property that are adjacent to or directly affect the San Marcos

Springs and River ecosystem (Section 2.4.3 of the HCP). Routine, minor repairs would include activities such as repairs to access points along the river, but would not involve any activity requiring a U.S. Army Corps of Engineers (USACE) § 404 permit or authorization which may require a section 7 consultation by the USACE.

- d. The mitigation and minimization measures that the City of San Marcos will either implement, or has the responsibility of having implemented, as identified in Chapter 5 of the HCP include:
  - i. Enhancement and restoration of Texas Wild-rice (Section 5.3.1 of the HCP)
  - ii. Management of public recreation at San Marcos Springs and the San Marcos River (Section 5.3.2 of the HCP)
  - iii. Management of aquatic vegetation and litter below Sewell Park (Section 5.3.3)
  - iv. Prohibition of hazardous materials transport across the San Marcos River and its tributaries (Section 5.3.4 of the HCP)
  - v. Reduction of non-native species introduction (Section 5.3.5 of the HCP)
  - vi. Removal of harmful erosion-related sediment below Sewell Park (Section 5.3.6 of the HCP)
  - vii. Designation of permanent access points and bank stabilization (Section 5.3.7 of the HCP)
  - viii. Management of non-native plant species (Section 5.3.8 of the HCP)
  - ix. Management of harmful non-native and predator species (Section 5.3.9 of the HCP)
  - x. Restoration of native riparian vegetation (Section 5.7.1 of the HCP)
  - xi. Implementation of a City of San Marcos septic system registration and permitting program (Section 5.7.3 of the HCP)
  - xii. Management of potentially contaminated runoff (Section 5.7.4 of the HCP)
  - xiii. Implementation of a City of San Marcos household hazardous waste program (Section 5.7.5 of the HCP)
  - xiv. Implementation of water quality protection and an impervious cover limitation program (Section 5.7.6 of the HCP)

4. Texas State University – Covered activities for which incidental take is authorized:

- a. Recreational activities within the University's jurisdiction in the San Marcos River and Spring Lake; including, but not limited to, swimming, wading, tubing, boating, canoeing, kayaking, golf, diving, snorkeling and fishing, in accordance with all applicable laws and regulations (Section 2.5.1 of the HCP).
  - i. Establishment of permanent access points for recreation, and closure of unauthorized access points (Section 5.4.2 of the HCP).
  - ii. Remove floating vegetation mats and litter from the River (Section 5.4.3.1 of the HCP).
  - iii. Inorganic litter will be picked up weekly from the San Marcos River from Sewell Park to City Park during the recreational season (Memorial Day to Labor Day) and monthly during off-season (Section 5.4.3.2 of the HCP).

- iv. Operation and management of boating and kayaking activities at Spring Lake (Section 5.4.10 of the HCP).
- b. Educational activities, including:
- i. Diving for Science Program – trains volunteers to SCUBA in Spring Lake in a manner that protects listed species in order to assist with ecosystem maintenance activities including, but not limited to, algae and litter removal. Participants are required to be under the supervision of the Diving Supervisor, who will be an employee or representative of the Permittee (Texas State University) (Section 2.5.3.1 of the HCP).
  - ii. Texas State University Continuing Education SCUBA Classes – use of Spring Lake for no more than 10 check-out dives per semester. This use is limited to the Dive Training Area (approximately 0.5 acres [2,140 square meters] in size) (Section 2.5.3.2 in the HCP).
  - iii. Texas State University SCUBA Classes – SCUBA classes limited to a maximum of 3 classes per day, with no more than 12 students per class. This use is limited to the Dive Training Area (Section 2.5.3.3 of the HCP).
  - iv. Research activities in Spring Lake, in accordance with all applicable laws and regulations (Section 2.5.4 of the HCP).
  - v. Texas State University canoeing and kayaking classes in Spring Lake and Sewell Park (Section 2.5.7 of the HCP).
- c. Management of the ecosystems of the San Marcos River and Springs, its boating activities in Spring Lake and Sewall Park.
- d. The permitted diversion of water from Spring Lake and the San Marcos River in accordance with applicable laws and regulations (Section 2.5.5 of the HCP).
- e. Ongoing operation and maintenance of the existing nine-hole University golf course and grounds (section 2.5.6 of the HCP).
- e. Minimization and mitigation measures that the University will either implement, or has responsibility for having implemented, as identified in Chapter 5 of the HCP include:
- i. Enhancement and restoration of Texas Wild-rice (Sections 5.3.1 & 5.4.1 of the HCP)
  - ii. Management of public recreation at San Marcos Springs and in the San Marcos River (Section 5.4.2 of the HCP)
  - iii. Management of aquatic vegetation from Sewell Park to City Park (Section 5.4.3 of the HCP)
  - iv. Removal of harmful erosion-related sediment in Spring Lake and from Spring Lake Dam to City Park (Section 5.4.4 of the HCP)
  - v. Management of surface water diversion (Section 5.4.5 of the HCP)
  - vi. Restoration of native riparian vegetation (Section 5.7.1 of the HCP)

- vii. Removal of harmful erosion-related sand bar in Sessom Creek Sand (Section 5.4.6 of the HCP)
- viii. Management of research programs in Spring Lake (Section 5.4.8 of the HCP)
- ix. Reduction of non-native species introduction (Sections 5.4.11 & 5.7.1 of the HCP)
- x. Management of non-native plant species (Section 5.4.12 of the HCP)
- xi. Management of harmful non-native and predator species (Section 5.4.13 of the HCP)

5. San Antonio Water System (SAWS) – Covered activities for which incidental take is authorized:

- a. Pumping from the Edwards Aquifer and for use and operation of the SAWS ASR (Section 2.6 of the HCP).
- b. Minimization and mitigation measures and measures that SAWS will either implement, or has responsibility for having implemented, as identified in Chapter 5 of the HCP include:
  - i. Use of the SAWS ASR for Springflow Protection. (Section 5.5.1).
  - ii. Phase II Expanded Use of the SAWS ASR and Water Resources Integration Program Pipeline. (Section 5.5.2).

M. The Permittees are jointly responsible for the following measures that specifically contribute to recovery and for which incidental take is authorized:

1. Comal Springs, Landa Lake, and the Comal River:

- a. The Permittees will limit disturbance of the (a) substrate, (b) water quality, (c) plants, and (d) animals, including invertebrates, of the Comal Springs, Landa Lake, and Comal River to no more than 10% of the occupied habitat on an annual basis when implementing HCP measures such as habitat and riparian restoration efforts that may directly or indirectly affect species considered here; and,
- b. The Permittees will suspend activities such as habitat restoration and riparian restoration that may result in disturbance of the (a) substrate, (b) water quality, (c) plants, and (d) animals, including invertebrates, of the Comal Springs, Landa Lake, and the Comal River when Comal Springflows decline to 130 cfs or lower.

2. San Marcos Springs, Spring Lake, and the San Marcos River:

- a. The Permittees will limit disturbance of the (a) substrate, (b) water quality, (c) plants, and (d) animals, including invertebrates, of the San Marcos Springs, Spring Lake, and the San Marcos River to no more than 10% of the occupied habitat on an annual basis when implementing HCP measures such as habitat and riparian restoration efforts that may directly or indirectly affect species considered here; and,

- b. The Permittees will suspend activities such as habitat restoration and riparian restoration that may result in disturbance of the (a) substrate, (b) water quality, (c) plants, and (d) animals, including invertebrates, of the San Marcos Springs, Spring Lake, and the San Marcos River when San Marcos Springflows decline to 120 cfs or lower.
- N. Upon locating a dead, injured, or sick individual of the covered species, or any other endangered or threatened species, the Permittee is required to contact the Service's Law Enforcement Office in Austin, Texas, (512) 490-0948 for care and disposition instructions. Extreme care should be taken in handling sick or injured individuals to ensure effective and proper treatment. Care should also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered/threatened species, or preservation of biological materials from a dead specimen, the Permittee and any contractor/subcontractor has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.
- O. Conditions of the permit shall be binding on, and for the benefit of, the Permittees and any successors and/or assignees. If the permit requires an amendment because of change of ownership, the Service will process it in accordance with regulations (50 CFR 13.23). Any new Permittee must meet issuance criteria per regulations at 50 CFR 13.25. The covered activities proposed or in progress under the original permit may not be interrupted, provided the conditions of the permit are being followed and authorized incidental take limits will not be exceeded (See Term and Condition Q).
- P. If, during the tenure of the permit, the project design and/or the extent of the habitat impacts is altered, such that there may be an increase in the anticipated take of covered species, the Permittees are required to contact the Service's Austin Ecological Services Office (ESFO) and obtain an amendment to this permit before commencing any construction or other activities that might result in take beyond that authorized by this permit. If authorized take is exceeded, all activities that are shown to cause take must immediately cease and any take above that authorized shall be reported to the Austin Ecological Services Field Office (505/490-0057) within 48 hours.
- Q. If actions associated with implementation of the EARIP HCP are shown to result in incidental take of listed species not covered by this permit, those activities that are shown to cause take must immediately cease and any take that has occurred shall be reported to the Austin Ecological Services Field Office (505/490-0057) within 48 hours.
- R. **CHANGED CIRCUMSTANCES**
  - 1. The EARIP provides measures for the following changed circumstances (Section 8.8.1 – Table 8-8 of the HCP):
    - a. New species listings or new critical habitat designations
    - b. Covered Species adversely affected by an acute pollution event

- c. Covered Species adversely affected by invasive species
  - d. Covered Species adversely affected by flooding
  - e. Inability to use the Phase I SAWS ASR as set out in Section 5.5 to achieve springflow protection
  - f. Recreational activities having adverse effects
  - g. Provision of financial assurances for any necessary Phase II measures
  - h. The Phase II presumptive measure is unable to function as expected within the stated assumptions.
  - i. EAA-Specific Changed Circumstances regarding water withdrawal (i.e. pumping) permits:
    - i. EAA authorization of withdrawals from the Edwards Aquifer for the owners or lessees making such withdrawals pursuant to a term permit (Section 8.1 of the HCP).
    - ii. EAA authorization of any withdrawals under an emergency permit and for the owners or lessees making the authorized withdrawals under any emergency permit (Section 8.1 of the HCP).
    - iii. EAA authorization of any withdrawals under recharge recovery permits and for the owners or lessees of the water making the authorized withdrawals under any recharge recovery permit (Section 8.1 of the HCP).
2. Changed Circumstances not provided for in the HCP (Section 8.1.2):
- a. Invasion by exotic species and/or habitat-specific or species-specific disease that threaten Covered Species or their habitats and which cannot be effectively controlled by currently available methods or technologies or which cannot be effectively controlled without resulting in greater harm to other Covered Species than to the affected Covered Species.

T. MONITORING REQUIREMENTS

- 1. The Permittees will monitor compliance with the HCP and provide an annual report as described below.
- 2. The Permittees will develop a monitoring program to determine whether progress is being made toward meeting the long-term biological goals and objectives.
- 3. The Permittees will develop and oversee a monitoring program to identify and assess potential impacts, including incidental take, from Covered Activities and provide a better

understanding and knowledge of the species' life cycles and desirable water quality- and springflow-related habitat requirements of the Covered Species (section 6.3 of the HCP).

U. Annual Reporting:

1. The EARIP Applicants will provide an annual report, due on March 31 of each year, to:

U.S. Fish and Wildlife Service  
Austin Ecological Services Field Office  
10711 Burnet Road, Suite 200  
Austin, Texas 78758

U.S. Fish and Wildlife Service, Region 2  
Habitat Conservation Plans and Research Permits  
P.O. Box 1306, Room 6034  
Albuquerque, New Mexico 87103

2. The report will document the Permittees' activities and permit compliance for the previous year, thus documenting progress toward the goals and objectives of the EARIP HCP and demonstrating compliance with the terms and conditions of this incidental take permit. The annual report will include:
  - a. EAA Permitted withdrawals
  - b. Reference well levels
  - c. Springflows at Comal and San Marcos Springs
  - d. Aquifer recharge
  - e. Aquifer discharge from wells and springflow
  - f. Critical period management reductions
  - g. Water quality data
  - h. Location of sampling sites
  - i. Methods for data collection and variables measured
  - j. Frequency, timing, and duration of sampling for the variables
  - k. Description of the data analysis and who conducted the analysis
3. The report will document HCP Management activities, including:
  - a. Adaptive management activities undertaken during the year

- b. Expenditures by the EAA on implementation activities
  - c. Proposed activities for the next year
  - d. Report on the status of implementation of minimization and mitigation measures and their effectiveness
  - e. Interim updates and final copies of any research, thesis or dissertation, or published studies accomplished in association with the EARIP or HCP
  - f. Description of species-specific research and management actions undertaken with specific reference to the biological goals and objectives identified for each species
  - g. Any changes to the Biological Goals and Key Management and Flow-related Objectives of the HCP and the reasons for such changes
  - h. Any changes to the objectives for the monitoring program
  - i. Effects on the Covered Species or Permit Area
  - j. Evaluation of progress toward achieving the Biological Goals and Objectives.
  - k. Any recommendations regarding actions to be taken
4. Information provided in the annual report will be used to determine what, if any, adaptive management strategies should be implemented to most effectively implement the conservation program outlined in the EARIP HCP and to ensure that management changes in response to new, appropriate data are implemented in a timely fashion.

\*\*\*\*\* End of Permit TE-63663A-1 \*\*\*\*\*





## Appendix A2 | **Table of Amendments and Clarifications**

**Table of Approved ITP, EAHCP, and/or EAHCP Appendix Amendments  
and Clarifications November 2012 through December 2023**

| <b>PAGE(S)<br/>MODIFIED</b> | <b>TYPE OF<br/>CHANGE</b>      | <b>SUMMARY</b>  | <b>DATE<br/>APPROVED BY<br/>USFWS</b> |
|-----------------------------|--------------------------------|---|---------------------------------------|
| <b><u>4-4</u></b>           | Clarification and<br>Amendment | <u>Clarification regarding specified vegetation for fountain darter habitat in the Comal River:</u> This clarification involved EAHCP Table 4-1, which provides guidance to the permittees in square meter coverage of specified aquatic vegetation for designated Long-Term Biological Goal (LTBG) reaches for the Comal Springs ecosystem.  | October 24,<br>2016                   |
| <b><u>4-5</u></b>           | Clarification                  | <u>Clarification to EAHCP Key Management Objective of “proportional expansion” and creation of “restoration reaches” for the Comal and San Marcos rivers:</u> This clarification involved a Key Management Objective for fountain darter protection, which calls for extending aquatic vegetation restoration “effort” in equal proportion beyond the established LTBG reaches.   | October 24,<br>2016                   |
| <b><u>4-29</u></b>          | Amendment                      | <u>Amendment regarding fountain darter population counts:</u> This amendment was associated with changes in the fountain darter population counts resulting from adjusting the vegetation specifications in Table 4-21.   | October 24,<br>2016                   |
| <b><u>4-30</u></b>          | Clarification                  | <u>Clarification regarding specified vegetation for fountain darter habitat in the San Marcos River:</u> The clarification associated with this request proposed certain changes to Table 4-21, with the justification that the changes were warranted to properly maintain a diverse community of native aquatic vegetation to maximize fountain darter habitat. The changes included the complete removal of all non-native aquatic vegetation and replacing those goals with native vegetation (EAHCP §§ 4.1.1.1 and 4.1.1.2). | October 24,<br>2016                   |

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| <u>5-3</u>                      | Amendment         | <u>Refugia program contractor:</u> Minor administrative amendment to change the language of both the EAHCP (Section 5.1.1) and the ITP (Condition K) to allow the EAA to develop a Refugia Program with contractors other than the Service.  | January 21,<br>2015          |
| <u>5-3 and<br/>5-5</u>          | Amendment         | <u>Amendment to the VISPO flow protection conservation measure of the EAHCP:</u> This amendment changes the VISPO forbearance rate by increasing it from 40,000 ac-ft/year to 41,795 ac-ft/yr. Groundwater modeling indicates that that this volume increase, in conjunction with the three other springflow protection measures (RWCP, SAWS ASR and CPMP Stage V), achieves the 30 cubic feet per second daily average minimum springflow in the Comal Springs system during a repeat of the drought-of-record scenario. This amendment allows the Permittees to meet the EAHCP minimum flows during a drought-of-record. | June 26, 2019                |
| <u>5-11<br/>Table 5-3</u>       | Amendment         | <u>Amendment to Table 5-3 of the EAHCP Flow-Split Management for the Old and New Channel of the Comal River:</u> This amendment related to modifications to Table 5-3 of the EAHCP Flow-Split Management for the Old and New Channel of the Comal River. The amendment was designed to address the EAHCP requirement of (Table 5-3) prescribed flows measuring from 70 to 80 cfs be diverted into the Old Channel.   | October 24,<br>2016          |
| <u>5-44, 5-26,<br/>and 5-33</u> | Amendment         | <u>Amendment regarding the City of San Marcos and Texas State University Sediment Removal Conservation Measures as well as the Impervious Cover/Water Quality Protection Measure:</u> This amendment allowed alterations to the Sediment Removal (EAHCP §§ 5.3.6 and 5.4.4) and Impervious Cover & Water Quality Protection (EAHCP § 5.7.6) Conservation Measures to reflect a redirection of effort to watershed  | December 12,<br>2017         |

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|                     |                   | protection and implementation of LID BMPs to reduce future sedimentation and other potential threats due to stormwater flows in both the San Marcos and Comal ecosystems.   |                              |
| <u>5-38</u>         | Amendment         | <u>Amendment to the Use of the SAWS ASR for Springflow Protection measure:</u> This amendment changed the ASR leasing structure by replacing the existing three-tiered lease option structure with a simplified two-tiered leasing/forbearance agreement structure.   | February 23, 2018            |
| <u>5-40</u>         | Clarification     | <u>SAWS ASR Regional Advisory Committee:</u> EAHCP submitted a letter to the USFWS to clarify that the ASR Regional Advisory Group (EAHCP § 5.5.1) was not limited to quarterly meetings, but could hold meetings as needed, and no less than annually.   | June 13, 2016                |
| <u>5-44</u>         | Amendment         | <u>Amendment regarding the requirements for two specific sedimentation ponds to be constructed along the San Marcos River:</u> This amendment allowed for two alternative ponds to those specified in the Minimization of Impacts of Contaminated Runoff Conservation Measure (EAHCP § 5.7.4) to provide increased water quality protection benefits relative to the current provisions in the EAHCP to minimize impacts of contaminated runoff into the San Marcos river.          | April 10, 2017               |
| <u>7-5</u>          | Memorandum        | <u>Updates to language regarding third-party Joint Funding Agreement (JFA):</u> Third parties originally pledged \$735,000 annually over the term of the ITP. In 2020, the Guadalupe-Blanco River Authority proposed to reduce their annual contribution from \$400,000 to \$150,000 and negotiated amendments with parties to the JFA. This reduction of \$485,000 was approved by all of the parties, and by the EAA's Board of Directors May 11, 2021 effective January 1, 2021. | October 28, 2021             |

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|                     | Clarification     | Clarification regarding the establishment of a TPWD State Scientific Area (SSA) in the Comal Spring System as discussed in Sections 2.7, 5.2.2.2, 5.6.1, 5.8.3.1, and 9.1.1 of the EAHCP. City of New Braunfels' Code of Ordinances include several sections that limit or prohibit recreation in portions of Landa Lake, the Old Channel of the Comal River and the Mill Race of the Comal River. Due to the implementation of city ordinances, the establishment of an SSA in Landa Lake and Comal River is no longer necessary for these areas. | November 30, 2022            |