# Appendix M | **2023 EAHCP Committee, Subcommittee, and Work Group Meeting Materials**

# Appendix M1 | **Implementing Committee Meeting Materials**

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Implementing Committee

**Thursday, March 23, 2023** | **10:00 AM** | **EAA Board Room and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. EAHCP Program Manager Announcements**

**3.1**

- Hydrologic Update
- EAHCP Budget Reports
- EAHCP Program Management
- Spring Communities Update

**4. Approval of Minutes**

**4.1**

- December 15, 2022

**5. Reports**

**5.1** **Receive report from Mark Enders, Biological Goals Subcommittee Chair, on the Biological Goals Subcommittee.**

**5.2** **Receive report from David Britton, Center Director of the USFWS San Marcos Aquatic Resources Center, on the EAHCP Covered Species mortality event.**

**6. Individual Consideration**

**6.1** **Consider staff recommendation to approve amendments to the City of San Marcos/Texas State University 2023 EAHCP Funding Application and Work Plan.**

**6.2** **Consider staff recommendation to approve amendments to the City of New Braunfels 2023 EAHCP Funding Application and Work Plan.**

**6.3** **Consider staff recommendation to approve an amendment to the Edwards Aquifer Authority EAHCP 2023 Funding Application and Work Plan.**

**6.4** **Consider staff recommendation to approve the Biological Objectives Subcommittee Charge.**

**6.5** **Consider staff recommendation to approve the 2022 Edwards Aquifer Habitat Conservation Plan Annual Report submittal to the U.S. Fish and Wildlife Service.**

## 7. Future Meetings

## 8. Questions from the Public

## 9. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Implementing Committee

**Thursday, March 23, 2023** | **10:00 AM** | **EAA Board Room and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

### 1. Call to Order

*Chairman Donovan Burton called the meeting to order at 10:02 AM. Committee members present: Roland Ruiz, Phillip Quast, Tom Taggart and Robert Mace.*

### 2. Public Comment

*There were no citizens who requested to address the Implementation Committee.*

### 3. EAHCP Program Manager Announcements

3.1

- Hydrologic Update
- EAHCP Budget Reports
- EAHCP Program Management
- Spring Communities Update

*Olivia Ybarra provided the hydrologic update. To date, both the San Marcos and Comal River are under Condition M of the ITP. Scott Storment provided an update on the Covered Activities memo, the State Scientific Area Clarification to USFWS and announced Chuck Ahren's retirement from EAA to the Implementing Committee.*

### 4. Approval of Minutes

4.1

- December 15, 2022

*A motion was made by Robert Mace, seconded by Tom Taggart, to approve the revised meeting minutes from the December 15, 2022 Implementing Committee. There were no objections.*

### 5. Reports

**5.1 Receive report from Mark Enders, Biological Goals Subcommittee Chair, on the Biological Goals Subcommittee.**

*Mark Enders provided an overview of the 2023 Biological Goals Subcommittee Report. Seven biological goals were recommended to be included in the next EAHCP. This report was provided to the Biological Objectives Subcommittee, the Permit Renewal Contractor and the EAHCP Committees.*

**5.2 Receive report from David Britton, Center Director of the USFWS San Marcos Aquatic Resources Center, on the EAHCP Covered Species mortality event.**

*David Britton, Director of the San Marcos Aquatic Resource Center (SMARC), provided an overview of the supersaturation event that occurred at the SMARC facility and resulted in the loss of several threatened and endangered species.*

## 6. Individual Consideration

**6.1 Consider staff recommendation to approve amendments to the City of San Marcos/Texas State University 2023 EAHCP Funding Application and Work Plan.**

**A motion was made by Tom Taggart, seconded by Roland Ruiz, to approve the City of San Marcos 2023 Work Plan amendment. There were no objections.**

**6.2 Consider staff recommendation to approve amendments to the City of New Braunfels 2023 EAHCP Funding Application and Work Plan.**

**A motion was made by Roland Ruiz, seconded by Robert Mace, to approve the City of New Braunfels 2023 Funding Application amendment and 2023 Work Plan amendment. There were no objections.**

**6.3 Consider staff recommendation to approve an amendment to the Edwards Aquifer Authority EAHCP 2023 Funding Application and Work Plan.**

**A motion was made by Robert Mace, seconded by, Tom Taggart to approve the Edwards Aquifer Authority 2023 Funding Application amendment and 2023 Work Plan amendment. There were no objections.**

**6.4 Consider staff recommendation to approve the Biological Objectives Subcommittee Charge.**

**A motion was made by Roland Ruiz, seconded by Robert Mace to approve the Biological Objectives Subcommittee Charge. There were no objections.**

**6.5 Consider staff recommendation to approve the 2022 Edwards Aquifer Habitat Conservation Plan Annual Report submittal to the U.S. Fish and Wildlife Service.**

**Roland Ruiz requested to include the 2013 Critical Period Stage V triggering event that occurred in the Uvalde Pool to the 2022 EAHCP Annual Report. Kristina Tolman acknowledged the edit and confirmed the revision would be applied to the document.**

**A motion was made by Tom Taggart, seconded by Phillip Quast, to approve submittal of the 2022 EAHCP Annual Report to the U.S. Fish and Wildlife Service. There were no objections.**

## 7. Future Meetings

*The next meeting of the EAHCP Implementing Committee will be held on May 3, 2023.*

## 8. Questions from the Public

*None.*

## 9. Adjourn

*There being no further business to discuss, the meeting adjourned at 12:05 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Roland Ruiz*
*Secretary, EAHCP Implementing Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Implementing Committee

**Wednesday, May 3, 2023** **10:00 AM** **Pauline Espinosa Community Hall & Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Approval of Minutes**

**2.1**
- March 23, 2023

**3. Public Comment**

**4. EAHCP Program Manager Announcements**

**4.1**
- Hydrologic Update
- EAHCP Budget Reports
- EAHCP Program Management
- Spring Communities Update

**5. Reports**

**5.1** **Receive report from Ed Oborny, BIO-WEST, on the Net Disturbance and Incidental Take in the San Marcos and Comal Spring systems.**

**6. Individual Consideration**

**6.1** **Consider staff recommendation to approve the 2024 City of San Marcos/Texas State University Work Plan.**

**6.2** **Consider staff recommendation to approve the 2024 City of New Braunfels Work Plan.**

**6.3** **Consider staff recommendation to approve the 2024 Edwards Aquifer Authority Work Plan.**

**6.4** **Consider staff recommendation to accept the EAHCP Covered Activities Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife Service.**

**6.5** **Consider staff recommendation to accept the EAHCP Covered Species Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

## 7. Future Meetings

## 8. Questions from the Public

## 9. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
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## Meeting Minutes

## EAHCP Implementing Committee

**Wednesday, May 3, 2023** **10:00 AM Pauline Espinosa Community Hall & Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

### 1. Call to Order

*Chairman Donovan Burton called the meeting to order at 10:04 AM. Committee members present: Roland Ruiz, Phillip Quast, Tom Taggart, Robert Mace and Jana Gray.*

### 2. Approval of Minutes

**2.1**

- March 23, 2023

**A motion was made by Robert Mace, seconded by Phillip Quast, to approve the meeting minutes from the March 23, 2023 Implementing Committee. There were no objections.**

### 3. Public Comment

*There were no citizens who requested to address the Implementing Committee.*

### 4. EAHCP Program Manager Announcements

**4.1**

- Hydrologic Update
- EAHCP Budget Reports
- EAHCP Program Management
- Spring Communities Update

*Chad Furl provided the hydrologic update. To date, both the San Marcos and Comal River are under Condition M of the ITP. Dr. Furl also provided an update on the progress of the Biological Objectives Subcommittee. Phillip Quast provided an update of EAHCP activities in New Braunfels and Mark Enders provided an update on activities implemented in San Marcos.*

### 5. Reports

**5.1** **Receive report from Ed Oborny, BIO-WEST, on the Net Disturbance and Incidental Take in the San Marcos and Comal Spring systems.**

*Ed Oborny, BIO-WEST, provided an overview of Net Disturbance and Incidental Take of the EAHCP Covered Species throughout 2022. Overall, incidental take of the covered species did not exceed the permitted take amounts allotted in the ITP.*

## 6. Individual Consideration

**6.1** **Consider staff recommendation to approve the 2024 City of San Marcos/Texas State University Work Plan.**

**A motion was made by Tom Taggart, seconded by Robert Mace, to approve the City of San Marcos/Texas State University 2024 Work Plan. There were no objections.**

**6.2** **Consider staff recommendation to approve the 2024 City of New Braunfels Work Plan.**

**A motion was made by Roland Ruiz, seconded by Robert Mace, to approve the City of New Braunfels 2024 Work Plan. There were no objections.**

**6.3** **Consider staff recommendation to approve the 2024 Edwards Aquifer Authority Work Plan.**

**A motion was made by Phillip Quast, seconded by Tom Taggart, to approve the Edwards Aquifer Authority 2024 Work Plan. There were no objections.**

**6.4** **Consider staff recommendation to accept the EAHCP Covered Activities Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife Service.**

**A motion was made by Roland Ruiz, seconded by Tom Taggart, to accept the Covered Activities Memo. There were no objections.**

**6.5** **Consider staff recommendation to accept the EAHCP Covered Species Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

**A motion was made by Tom Taggart, seconded by Roland Ruiz, to accept the Covered Species Memo. There were no objections.**

## 7. Future Meetings

*The next meeting of the EAHCP Implementing Committee will be held on August 10, 2023.*

## 8. Questions from the Public

*None.*

## 9. Adjourn

*There being no further business to discuss, the meeting adjourned at 12:37 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Roland Ruiz*

*Secretary, EAHCP Implementing Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Implementing Committee

**Thursday, August 10, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

1. Call to Order

2. Public Comment

3. Approval of Minutes

3.1 May 3, 2023 - Meeting Minutes

4. Reports

4.1 Receive report from Tom Taggart, Budget Work Group Chair, on the 2023 Budget Work Group Meeting.

4.2 Receive report from Mark Enders, City of San Marcos Habitat Conservation Plan Manager, on the Sessom Creek Restoration Project.

4.3 Receive report from Scott Storment, EAHCP Program Manager, on the ITP Renewal Process.

5. Future Meetings

6. Questions from the Public

7. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Implementing Committee

**Thursday, August 10, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Patrick Shriver called the meeting to order at 12:38 PM. Committee members present: Roland Ruiz, Phillip Quast, Tom Taggart, Robert Mace and Jana Gray.*

### 2. Public Comment

*There were no citizens who requested to address the Implementing Committee.*

### 3. Approval of Minutes

**A motion was made by Robert Mace, seconded by Phillip Quast, to approve the meeting minutes from the May 3, 2023 Implementing Committee meeting. There were no objections**

### 3.1 May 3, 2023 - Meeting Minutes

### 4. Reports

### 4.1 Receive report from Tom Taggart, Budget Work Group Chair, on the 2023 Budget Work Group Meeting.

*Tom Taggart provided an overview of the 2023 Budget Work Group. The Budget Work Group convened on July 27, 2023. A report on recommendations and relative discussions held at the meeting will be presented to the Implementing Committee at the October 2023 meeting.*

### 4.2 Receive report from Mark Enders, City of San Marcos Habitat Conservation Plan Manager, on the Sessom Creek Restoration Project.

*Mark Enders, City of San Marcos Habitat Conservation Plan Manager, provided an update on the Sessom Creek Restoration Project and the completion of Phase I.*

**4.3 Receive report from Scott Storment, EAHCP Program Manager, on the ITP Renewal Process.**

*Scott Storment, EAHCP Program Manager, provided an updated timeline of the ITP Renewal Process.*

## 5. Future Meetings

*The next meeting of the EAHCP Implementing Committee will be held on October 5, 2023.*

## 6. Questions from the Public

*None.*

## 7. Adjourn

*There being no further business to discuss, the meeting adjourned at 1:35 PM*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Roland Ruiz*
*Secretary, EAHCP Implementing Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Implementing Committee

**Thursday, October 5, 2023** **10:00 AM** **Pauline Espinosa Community Hall - San Marcos, TX and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. EAHCP Program Manager Announcements**

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

**4. Approval of Minutes**

**4.1** August 10, 2023

**5. Individual Consideration**

**5.1** **Receive a report for discussion and consider recommendations from the 2023 EAHCP Budget Work Group for possible submittal to the Edwards Aquifer Authority Board of Directors.**

**5.2** **Consider staff recommendation to accept the EAHCP Existing Conditions Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

**5.3** **Consider staff recommendation to approve the establishment of the Conservation Measures Subcommittee and charge.**

**5.4** **Consider staff recommendation to approve the City of New Braunfels 2023 EAHCP Work Plan amendment.**

**5.5** **Consider staff recommendation to approve the City of New Braunfels EAHCP 2024 Funding Application and Work Plan.**

**5.6** **Consider staff recommendation to approve the Edwards Aquifer Authority EAHCP 2024 Funding Application and Work Plan.**

**5.7** **Consider staff recommendation to approve the City of San Marcos EAHCP 2024 Funding Application and Work Plan Amendment.**

## 6. Future Meetings

## 7. Questions from the Public

## 8. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
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## Meeting Minutes

## EAHCP Implementing Committee

**Thursday, October 5, 2023** **10:00 AM** **Pauline Espinosa Community Hall - San Marcos, TX and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Chairman Donovan Burton called the meeting to order at 11:37 AM. Committee members present: Robert Mace, Tom Taggart, Phillip Quast, Nathan Pence, and Roland Ruiz.*

### 2. Public Comment

*There were no citizens who requested to address the Implementing Committee.*

### 3. EAHCP Program Manager Announcements

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

*Chad Furl provided a hydrologic update of the Comal and San Marcos spring systems. Scott Storment shared the expense reports for May, June, and July 2023. Mr. Storment also provided an update on the recent USFWS proposed rule on the Toothless Blindcat and Widemouth Blindcat species and the implementation of VISPO due to low springflow conditions. Phillip Quast and Mark Enders provided a spring community update on the City of New Braunfels and the City of San Marcos, respectively.*

### 4. Approval of Minutes

**4.1** August 10, 2023

*A motion was made by Robert Mace, seconded by Tom Taggart, to approve the meeting minutes from the August 10, 2023, Implementing Committee meeting. There were no objections.*

## 5. Individual Consideration

**5.1** **Receive a report for discussion and consider recommendations from the 2023 EAHCP Budget Work Group for possible submittal to the Edwards Aquifer Authority Board of Directors.**

A motion was made by Tom Taggart, and seconded by Robert Mace, to approve the items for consideration described in the revised 2023 EAHCP Budget Work Group Report and submittal to the Edwards Aquifer Authority Board of Directors.

**5.2** **Consider staff recommendation to accept the EAHCP Existing Conditions Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

The EAHCP Existing Conditions Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife Service was not accepted by the Implementing Committee. Robert Mace suggested revisions to the memorandum and the Committee received an extension to review the document. This action item will be included in the December 14th Implementing Committee meeting.

**5.3** **Consider staff recommendation to approve the establishment of the Conservation Measures Subcommittee and charge.**

This item was postponed for discussion and approval at the December 14th Implementing Committee.

**5.4** **Consider staff recommendation to approve the City of New Braunfels 2023 EAHCP Work Plan amendment.**

A motion was made by Robert Mace, and seconded by Tom Taggart, to approve the City of New Braunfels 2023 Work Plan amendments.

**5.5** **Consider staff recommendation to approve the City of New Braunfels EAHCP 2024 Funding Application and Work Plan.**

A motion was made by Tom Taggart, and seconded by Robert Mace, to approve the City of New Braunfels 2024 Funding Application and Work Plan amendments.

**5.6** **Consider staff recommendation to approve the Edwards Aquifer Authority EAHCP 2024 Funding Application and Work Plan.**

A motion was made by Tom Taggart, and seconded by Robert Mace, to approve the Edwards Aquifer Authority 2024 Funding Application and Work Plan amendments.

**5.7** **Consider staff recommendation to approve the City of San Marcos EAHCP 2024 Funding Application and Work Plan Amendment.**

**A motion was made by Tom Taggart, and seconded by Philiip Quast, to approve the City of San Marcos/Texas State University 2024 Funding Application and Work Plan amendments.**

## 6. Future Meetings

*The next Implementing Committee meeting will be held on December 14, 2023.*

## 7. Questions from the Public

*There were no citizens who requested to address the Implementing Committee.*

## 8. Adjourn

*There being no further business to discuss, the meeting was adjourned at 1:57 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Roland Ruiz*
*Secretary, EAHCP Implementing Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Implementing Committee

**Thursday, December 14, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. EAHCP Program Manager Announcements**

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

**4. Approval of Minutes**

**4.1**

- **October 5, 2023**

**5. Reports**

**5.1** **Receive report from Dr. Adrienne Wootten, South Central Climate Adaptation Science Center research scientist, and Dr. Suzanne Van Cooten, South Central Climate Adaptation Science Center regional administrator, on downscaling CMIP5/6 climate projections for the Edwards Aquifer Authority.**

**5.2** **Receive report from Lucas Bare, ICF Project Manager, and Scott Storment, EAHCP Program Manager, on the Incidental Take Permit Renewal Process and timeline.**

**6. Individual Consideration**

**6.1** **Consider staff recommendation to accept the revised EAHCP Existing Conditions Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

**6.2** **Consider staff recommendation to approve the establishment of the Conservation Measures Subcommittee and charge.**

**6.3** **Consider staff recommendation to approve the EAHCP Incidental Take Permit cover disturbance from fountain darter habitat restoration activities implemented by Texas State University and funded by Texas Parks and Wildlife Department.**

**6.4** **Consider staff recommendation to approve the EAHCP Incidental Take Permit cover disturbance from fountain darter habitat restoration activities implemented by Texas State University and funded by the University's Environmental Service Committee.**

**6.5** **Consider staff recommendation to approve the City of San Marcos/Texas State University 2024 Work Plan amendments.**

**6.6** **Election of 2024 Implementing Committee officers.**

## 7. Future Meetings

**7.1** 2024 EAHCP Committee Meeting Calendar

## 8. Questions from the Public

## 9. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Implementing Committee

**Thursday, December 14, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**



### 1. Call to Order

*Patrick Shriver called the meeting to order at 11:30AM. Committee members present: Robert Mace, Tom Taggart, Marc Friberg, Greg Malatek, Jana Gray, and Roland Ruiz.*

### 2. Public Comment

*There were no citizens who requested to address the Implementing Committee.*

### 3. EAHCP Program Manager Announcements

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

*Chad Furl provided a hydrologic update and J17 forecast. Scott Storment provided an update on the EAHCP budget reports, changes to the EAHCP Covered Species ESA listings (San Marcos gambusia and the Troglobitic water slater), a recap of the National Habitat Conservation Plan Coalition Conference. Kristina Tolman provided an update on the EAHCP Annual Report and Texas Aquatic Plant Management Society. Phillip Quast and Mark Enders gave a spring community update of New Braunfels and San Marcos, respectively.*

### 4. Approval of Minutes

**4.1**

- **October 5, 2023**

**A motion was made by Tom Taggart, seconded by Roland Ruiz, to approve the meeting minutes from the October 5, 2023 Implementing Committee meeting. There were no objections.**

## 5. Reports

**5.1 Receive report from Dr. Adrienne Wootten, South Central Climate Adaptation Science Center research scientist, and Dr. Suzanne Van Cooten, South Central Climate Adaptation Science Center regional administrator, on downscaling CMIP5/6 climate projections for the Edwards Aquifer Authority.**

*Dr. Van Cooten provided an introduction to the South Central Climate Adaptation Science Center (CASC) and their message to deliver science to help fish, wildlife, water, land, and people adapt to a changing climate. Dr. Wootten provided an overview of the South Central CASC project for developing local climate projections for the Edwards Aquifer system.*

**5.2 Receive report from Lucas Bare, ICF Project Manager, and Scott Storment, EAHCP Program Manager, on the Incidental Take Permit Renewal Process and timeline.**

*Chad Furl provided an overview of the climate change and springflow projections projects that will be included in the ITP renewal process. Several members of the Implementing Committee recommended the Science Committee review the climate change and springflow projections. Lucas Bare provided an overview on the Biological Goals and Objectives in relation to the permit renewal process. Ed Oborny discussed the development of the Biological Goals by the Biological Goals Subcommittee and the Biological Objectives by the Biological Objectives Subcommittee and in collaboration with the USFWS. Mr. Oborny also presented a summary of highlighted changes to the goals and objectives.*

## 6. Individual Consideration

**6.1 Consider staff recommendation to accept the revised EAHCP Existing Conditions Memorandum for use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife.**

**A motion was made by Roland Ruiz, seconded by Tom Taggart, to accept the EAHCP Existing Conditions Memorandum use in the Incidental Take Permit Amendment Application process with the U.S. Fish and Wildlife Service. There were no objections.**

**6.2 Consider staff recommendation to approve the establishment of the Conservation Measures Subcommittee and charge.**

**A motion was made by Robert Mace, seconded by Roland Ruiz to approve the Conservation Measures Subcommittee Charge and Membership. There were no objections.**

**6.3** **Consider staff recommendation to approve the EAHCP Incidental Take Permit cover disturbance from fountain darter habitat restoration activities implemented by Texas State University and funded by Texas Parks and Wildlife Department.**

**A motion was made by Tom Taggart, seconded by Roland Ruiz, to approve the EAHCP Incidental Take Permit cover fountain darter take from the aquatic vegetation restoration disturbance implemented by Texas State University and funded through the Texas Parks and Wildlife Department. There were no objections.**

**6.4** **Consider staff recommendation to approve the EAHCP Incidental Take Permit cover disturbance from fountain darter habitat restoration activities implemented by Texas State University and funded by the University's Environmental Service Committee.**

**Incidental Take Permit cover fountain darter take from the aquatic vegetation restoration disturbance implemented by Texas State University and funded through the University's Environmental Service Committee. There were no objections.**

**6.5** **Consider staff recommendation to approve the City of San Marcos/Texas State University 2024 Work Plan amendments.**

**A motion was made by Tom Taggart, seconded by Roland Ruiz, to approve the amendments to the 2024 City of San Marcos/Texas State University Work Plan. There were no objections.**

**6.6** **Election of 2024 Implementing Committee officers.**

**A motion was made by Roland Mace, seconded by Tom Taggart, to approve the 2024 Implementing Committee Officers. There were no objections.**

## 7. Future Meetings

**7.1** 2024 EAHCP Committee Meeting Calendar

*The next Implementing Committee meeting will be held on February 1, 2024.The next Implementing Committee meeting will be held on February 1, 2024.*

## 8. Questions from the Public

*There were no citizens who requested to address the Implementing Committee.*

## 9. Adjourn

*There being no further business to discuss, the meeting adjourned at 3:27 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

_____

*Greg Malatek*
*Secretary, EAHCP Implementing Committee*

# Appendix M2 | **Budget Work Group Meeting Materials**


Edwards Aquifer Habitat Conservation Plan

# Report of the 2023 Budget Work Group

To: Edwards Aquifer Habitat Conservation Plan Implementing Committee

From: Edwards Aquifer Habitat Conservation Plan Budget Work Group

Date: September 26, 2023

## Overview:

On July 27, 2023, an annual meeting of the Edwards Aquifer Habitat Conservation Plan (EAHCP) Budget Work Group was held to receive a report from Edwards Aquifer Authority (EAA) staff pertaining to the EAA's Financial Forecast and to make recommendations regarding the EAHCP program budget. The Budget Work Group has been charged by the EAHCP Implementing Committee to "collaborate with and inform the EAA budget process, as it relates to the EAHCP, EAHCP Reserve and EAHCP Aquifer Management Fee and to address fiscal issues as they arise and are referred by the Implementing Committee".

Members of this Work Group include:

- Tom Taggart, EAHCP Implementing Committee (IC) Member (City of San Marcos – Chair)
- Myron Hess, EAHCP Stakeholder member (Living Waters Project)
- Marc Friberg, EAA designee
- Cecilia Velasquez, San Antonio Water System designee
- Adam Yablonski, Member-at-Large, Medina County Farm Bureau

## Work Group Discussions:

EAA staff presented information on the following items at the meetings:

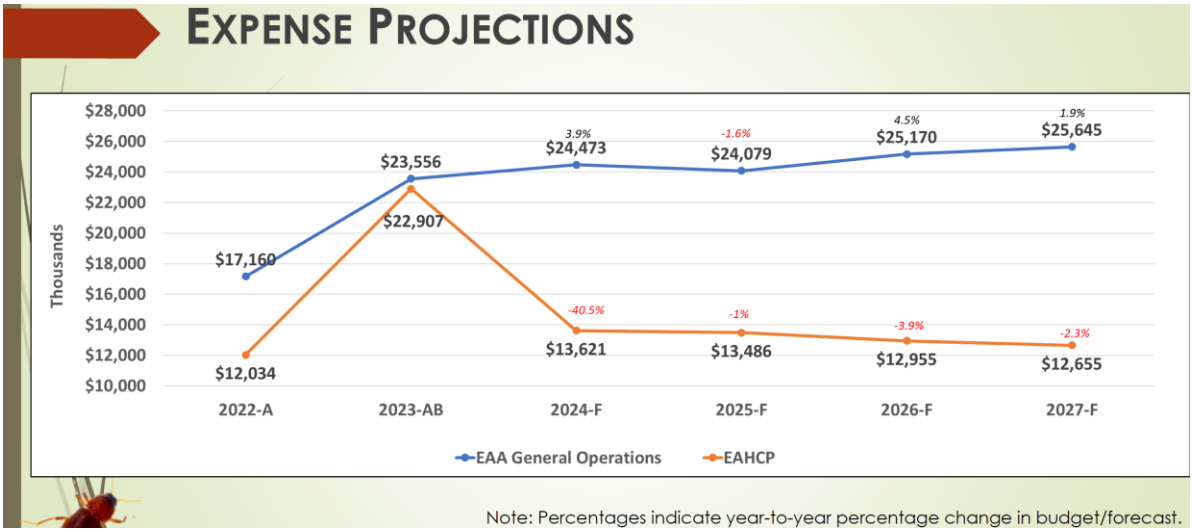
- Financial Forecast (2024-2027)
- Update of potential insurance products/debt instruments discussion

## Financial Forecast (2024-2027):

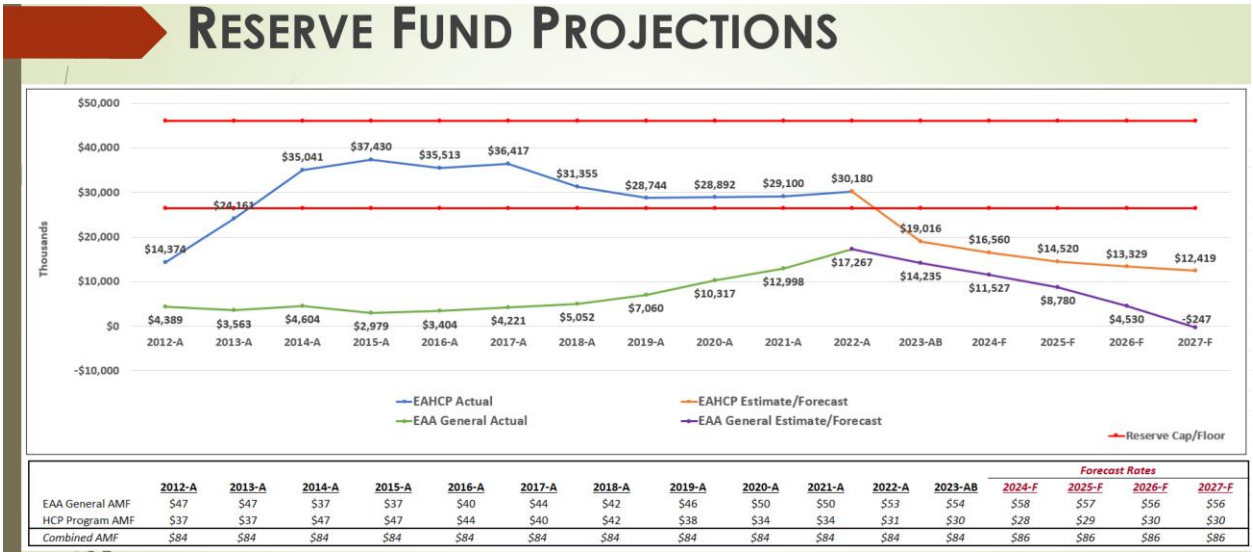
EAA staff presented a projected Financial Forecast for the EAA, including both the EAA General Operations and Habitat Conservation Program budgets. A detailed illustration was given of how the 7.1 Budget compares to actual expenses (Table 7.1A) thus far and projected through 2027. Excluding costs for additional triggering events of VISPO or ASR recovery before 2027, the current projections show the EAHCP will be about $45.2 million under budget by the end of that timeframe. No inflationary adjustments to the

Table 7.1 amounts, as allowed in the EAHCP and the Funding and Management Agreement (FMA), are included in the projection through 2027.

A comparative look at the combined EAA/EAHCP expense projections through 2027 was provided. The EAA operating budget is projected to incur small increases each year whereas the EAHCP budget is projected to experience a decrease by over $9 million in 2024 and then continue to slightly decrease each year as it reaches the end of the current Incidental Take Permit (ITP). This decline in EAHCP budget is largely predicated on an expected decrease in programmatic expenses but it must be noted that it does not include any additional VISPO trigger occurrences or ASR triggered recovery expenses.




EAA staff provided additional information regarding current trigger probabilities for both VISPO and ASR. Based on an analysis of historical data, conditions as of the date of the meeting indicated a 43-58% probability of triggering VISPO forbearance for 2024. The additional cost of triggering VISPO forbearance in 2024 would be approximately $6.9 million, which would be paid from the EAHCP Reserve. Other VISPO forbearance events would carry comparable costs. There is no chance of ASR triggering in 2024 or 2025, as it is mathematically impossible for the 10-year rolling average to drop below the trigger value of 500,000 acre-feet for either of those years.

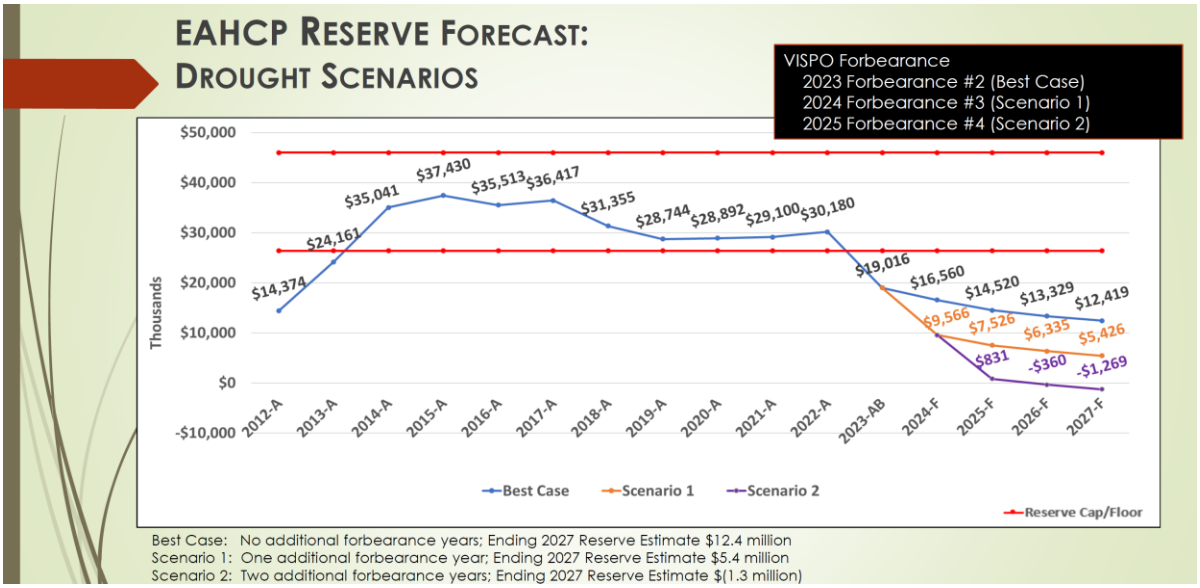



| | 2012-A | 2013-A | 2014-A | 2015-A | 2016-A | 2017-A | 2018-A | 2019-A | 2020-A | 2021-A | 2022-A | 2023-AB | Forecast Rates 2024-F | 2025-F | 2026-F | 2027-F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EAA General AMF | $47 | $47 | $37 | $37 | $40 | $44 | $42 | $46 | $50 | $50 | $53 | $54 | $58 | $57 | $56 | $56 |
| HCP Program AMF | $37 | $37 | $47 | $47 | $44 | $40 | $42 | $38 | $34 | $34 | $31 | $30 | $28 | $29 | $30 | $30 |
| *Combined AMF* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$86* | *$86* | *$86* | *$86* |

In past years, the Work Group has stressed the importance of continuously evaluating the declining AMF portion allocated to HCP vs. EAA operations and the resulting negative effect on the reserve balance. The FMA language related to carryover approval of reserve balances or the default return of funds to the permit holders raises the question of what approach is acceptable and if carryover of funds is desired, what amount would be needed. This issue, once again, engendered a lengthy discussion of the combined EAA Aquifer Management Fee rate and Reserve Forecast, illustrating both past performance and the proposed EAA budget. At the time of the Work Group meeting the EAA proposed a $2 *overall* increase to the EAA's Aquifer Management Fee rate for 2024, going from $84 to $86. This will be the first increase since the start of the EAHCP. The allocation to HCP Program expenses is projected to decrease from current levels in 2024 and 2025. While future overall increases are likely to occur, the current Reserve projections do not reflect any further increases through 2027 - as EAA staff intends to continue to evaluate program expenses and how they affect the reserve fund each year. This approach is a departure from past years in the information provided the workgroup as 5-year forecasts were the standard. The year 2025 was stated by EAA as a pivotal year to re-assess VISPO or ASR probabilities and to recast Aquifer Management Fee rate projections, which are intended to be implemented in a stair-step fashion. The San Antonio Water System expressed frustration that those stair-step increases were not provided in the projection. However, the EAA's position was that such projections in previous years did not come to fruition – potentially leading to unrealistic expectations with both the regulated community and interested parties associated with the EAHCP. A countervailing concern noted was that projections showing no increases after 2025 also create the potential for unrealistic expectations.

For additional context, some members requested more transparency related to the existing information, including caveats as to what assumptions were made in the projections shared by the EAA. To that end, the Work Group requested that EAA staff provide additional slides providing such caveats and showing Reserve forecasts reflecting different scenarios regarding VISPO forbearance through 2027. These new slides were shared with the Work Group via email and the Work Group chair subsequently shared those slides in a presentation to the EAHCP Implementing Committee at its August 10, 2023, meeting.

The first scenario, which is the best-case scenario, and is currently included in budget projections, does not include any additional VISPO trigger events and estimates a final Reserve balance of $12.4 million. The second scenario projects one additional VISPO trigger event, leaving an estimated final Reserve balance of $5.4 million. The third scenario projects two additional VISPO trigger events, leaving an estimated final Reserve deficit of $1.3 million. In this scenario, an estimated $3.50 would need to be added at some point to the Program Aquifer Management Fee rate to account for that occurrence.




As mentioned above, the original Financial Forecast that was presented to the Work Group on July 27th and the discussion regarding the Reserve balance, including the additional slides showing the three VISPO triggering scenarios were presented to the EAHCP Implementing Committee at its August 10, 2023, meeting. Many of the issues discussed and opinions provided during that meeting are included in the issues recommended to be referred to the Implementing Committee at the end of this report – creating some redundancy in the reporting. These issues include a referred discussion regarding a review of funding dynamics to be included in the remaining years of the current HCP and the new/renewed HCP and the disappointment expressed by the City of San Marcos and others in how the AMF has been allocated, the 2023 transfer to EAA reserves, and the Reserve fund level vs. potential drought costs. This issue is core to some and continues to be discussed with no consensus of resolution reached among the work group.

**Update of potential insurance products/debt instruments discussion:**

While continued due diligence is being done to measure the viability of alternative funding strategies, there is no current intention to employ any over the course of the next four years, and alternative strategies are only being considered for impact beyond 2027 for the onset of the new/renewed HCP. EAA Management intends to continue to review the practicality of other funding options and will keep the Implementing and Stakeholders Committees fully apprised.

**Findings:**

- The current financial projections and cost estimates presented to the Budget Work Group indicate an adequate budget for the EAHCP program for fiscal year 2024.
- There was an understanding amongst the group that after 12 years of no change in the overall AMF amount, there will be, at least, a $2 overall AMF rate increase in 2024. The group also acknowledged that the AMF rates shown for years after 2025 are not to be interpreted as the actual proposed rate.
- The group agreed that if/when additional AMF rate hikes occur, they should be in a "stair-step" fashion (i.e. smaller and more frequent). However, to address the concerns raised by San Antonio Water System, the EAA will also attempt to present rate projections in the best way possible for planning purposes as it provides such information in the future.
- The work group did acknowledge that possible alternative funding methods including the grants discussed by EAA or debt may be possible, there was no consensus that such a funding mechanism was an appropriate strategy. San Marcos was opposed and voiced concerns with the potential perception by USFW of weakening the financial guarantee that the HCP measures can be performed.
- The final reserve amount for disposition is affected by funding decisions in AMF "toggling" in the intervening years until 2028. The Implementing Committee should resolve this per the FMA in this budget cycle to assist future budget planning. This should be revisited regularly through 2028 as more information about expenditures and future conservation measures becomes available.
- The Budget Work Group will continue to convene as early in the budget process as reasonable each year and the EAHCP Implementing Committee should appoint a chair for the Work Group for 2024.

**Items for Consideration[1]:**

In a departure from previous years, the Work Group makes no finalized recommendation for the EAHCP Implementing Committee to forward to the EAA Board , but rather, the Work Group refers the items listed below to the Implementing Committee for discussion, consideration, and action in formulating a recommendation to the EAA Board regarding the 2024 budget. The Work Group recommends the Implementing Committee consider and discuss the following issues related to funding:

### 1. Disposition of reserve funds in relation to the new/renewed HCP

This issue has several discussion points. The first, is whether funds, if any, remaining in the Reserve at the expiration of the current EAHCP should be utilized for programs associated with the new/renewed HCP, or should such funds be refunded to all permit holders on a pro rata basis per an option in the FMA? The second is whether the Reserve should be managed in a way that ensures adequate funding is available on a decreasing scale in relation to the years remaining for the current EAHCP or to maintain a robust

[1] Final Revised – EAHCP Implementing Committee Approved October 5, 2023

reserve, with an eye toward a future use – whether that be a refund or costs associated with the new/renewed HCP. As part of the 2023 Work Group discussion, the City of San Marcos advocated for needed fee increases for EAA operations with the assertion that utilities have prepaid for drought costs in the original fee and additional costs of financing funds needed due to reserve methodology moving funds to EAA operations is paying twice. The default FMA requirement of a refund of remaining reserves is in keeping with the original AMF increase EAA board action on entering the program. The EAA, on the other hand, would prefer to let the Reserve decline over time as current EAHCP programs expire, with an eye toward adjusting conservation measures in a way that would eliminate or minimize the need for a Reserve in the new/renewed HCP.

**2. Clarification of funding mechanisms expectations to avoid the current disparate understandings regarding intent and implementation when developing a new/renewed HCPT**

The Budget Work Group report has expressed concerns on the AMF portioning and other budget actions with the resulting effects on reserve levels. The City of San Marcos articulated disappointment in how the EAA has managed the Reserve over the last six years in relation to its understanding of the intent of the EAHCP's FMA. There certainly is no current consensus between the parties on how the EAHCP, and its associated FMA, should be implemented. To minimize disagreements about intent and implementation of funding mechanisms, clarification should be sought on what is required now by the FMA and, critically, what changes may be appropriate to minimize the potential for continued disagreements and competing interpretations as we move to a new/renewed HCP.

**3. The necessity of irregular funding requirements associated with conservation measure "trigger" events, and if necessary, how those funding requirements may best be met.**

Is there a better way to design the same or similar conservation measures to avoid irregular funding requirements? This question was raised by the EAA during the Work Group discussion, with the stated intent to evaluate the funding mechanisms for the springflow protection measures during the HCP renewal process. The EAA's contention is that programs designed to incur more consistent yearly expenses make for a more certain and manageable funding process with less reserves required, pointing out that such a change has already been successfully accomplished for the ASR Program's lease/forbearance agreements. The City of San Marcos expressed concerns that such an approach would lead to more costly measures in the new/renewed HCP.

# APPENDIX A
# SLIDE PRESENTATIONS

# EAHCP Budget Work Group

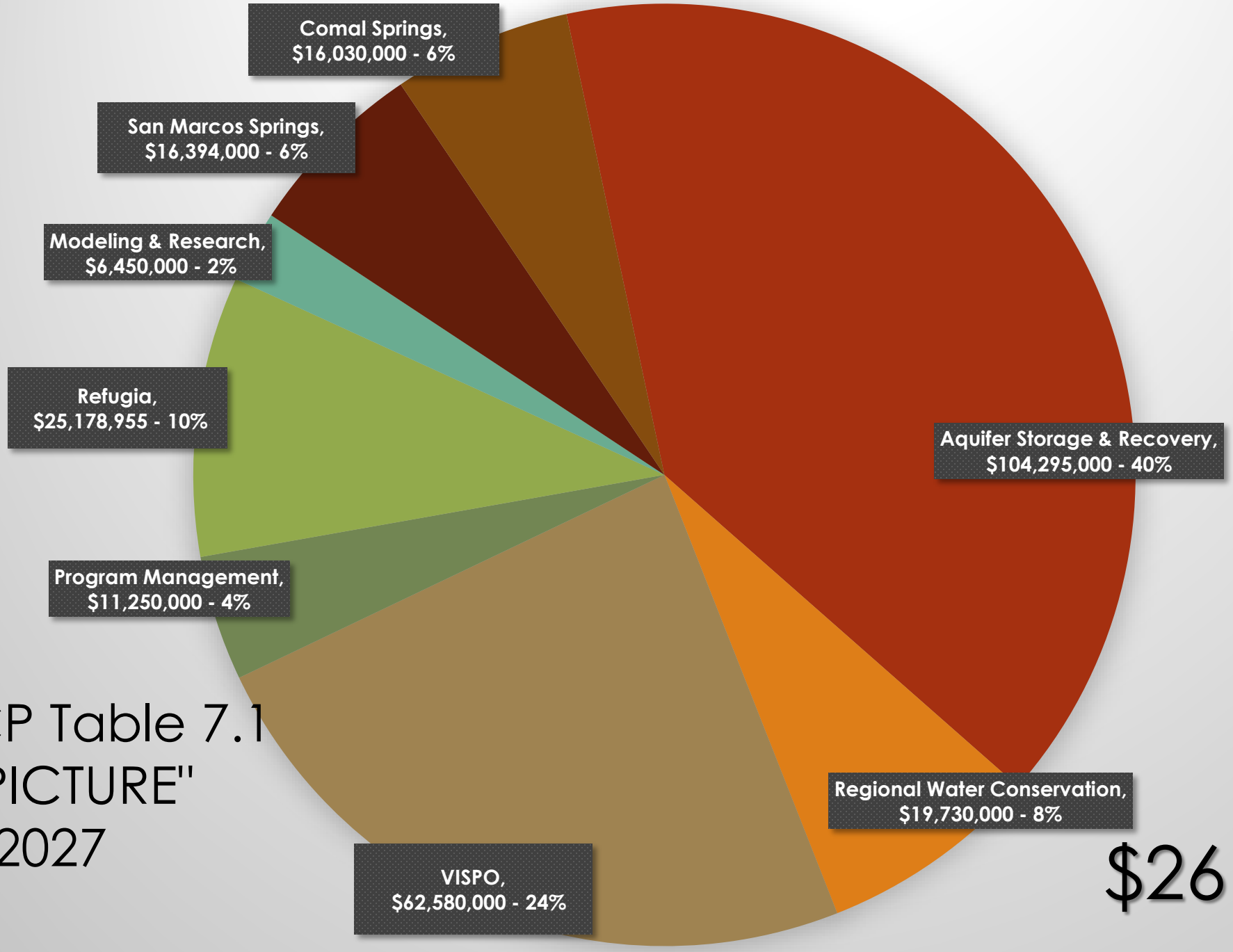
July 27, 2023

# Charge of the EAHCP Budget Work Group

- Collaborate with and inform the EAA Budget Process, as it relates to the EAHCP, EAHCP reserve and EAHCP aquifer management fee.

- Address fiscal issues as they arise and are referred by the Implementing Committee.

# EAHCP 7.1A Analysis and Forecast




# EAHCP Table 7.1 "BIG PICTURE" 2013-2027

$261,907,955

# 7.1 Adjusted

## "Table 7.1A"

*Tracks actuals for closed years and forecasted periods through the end of the ITP.*

# Table 7.1 and Table 7.1A Comparison

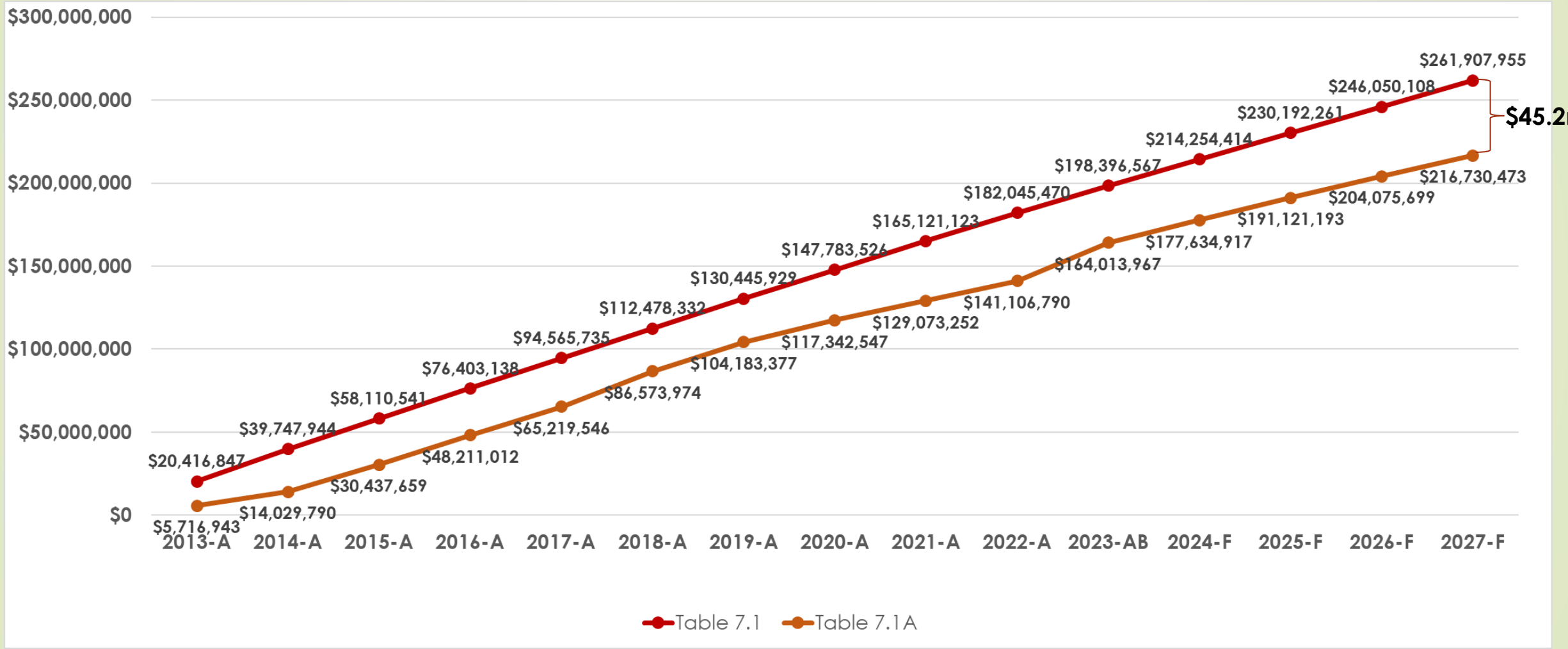



Table 7.1A Updated with 2024 – 2027 Forecast

# PROGRAM TOTALS | TABLE 7.1 AND TABLE 7.1A COMPARISON

| EAHCP Measure | Table 7.1 Totals | Table 7.1A Projected Totals | ▲ Between Table 7.1 to 7.1A |
|---|---|---|---|
| Program Administration | $11,250,000 | $16,264,373 | ($5,014,373) |
| ASR - Leasing/Forbearance | 71,385,000 | 71,360,174 | 24,826 |
| ASR - O & M | 32,910,000 | 4,709,262 | 28,200,738 |
| Regional Water Conservation | 19,730,000 | 19,414,103 | 315,897 |
| VISPO | 62,580,000 | 45,351,492 | 17,228,508 |
| San Marcos Springs | 16,394,000 | 18,101,666 | (1,707,666) |
| Comal Springs | 16,030,000 | 16,515,977 | (485,977) |
| Modeling & Research | 6,450,000 | 6,048,281 | 401,719 |
| Refugia | 25,178,955 | 18,965,145 | 6,213,810 |
| **Total** | **$261,907,955** | **$216,730,473** | **$45,177,482** |

| Entity | Table 7.1 Totals | Table 7.1A Projected Totals | ▲ Between Table 7.1 to 7.1A |
|---|---|---|---|
| Edwards Aquifer Authority | $238,483,955 | $192,932,246 | $45,551,709 |
| City of San Marcos - Texas State University | 11,894,000 | 12,770,112 | (876,112) |
| City of New Braunfels | 11,530,000 | 11,028,116 | 501,884 |
| **Total** | **$261,907,955** | **$216,730,473** | **$45,177,482** |

Table 7.1A Updated with 2022 Actual, 2023 Amended Budget, 2024-2027 Forecast

# TABLE 7.1 AND TABLE 7.1A COMPARISON

## EDWARDS AQUIFER AUTHORITY

| EAHCP Measure | Table 7.1 Totals | Table 7.1A Projected Totals | ▲ Between Table 7.1 to 7.1A |
|---|---|---|---|
| ASR - Leasing/Forbearance | $71,385,000 | $71,360,174 | $24,826 |
| ASR - O & M | 32,910,000 | 4,709,262 | 28,200,738 |
| Regional Municipal Water Conservation | 19,730,000 | 19,414,103 | 315,897 |
| VISPO | 62,580,000 | 45,351,492 | 17,228,508 |
| Biological Monitoring | 6,000,000 | 8,136,242 | (2,136,242) |
| Water Quality Monitoring | 3,000,000 | 2,683,175 | 316,825 |
| Ecological Modeling | 1,150,000 | 1,127,758 | 22,242 |
| Applied Research (Research & Facility) | 4,750,000 | 3,562,010 | 1,187,990 |
| Refugia | 25,178,955 | 18,965,145 | 6,213,810 |
| Program Management | 11,250,000 | 16,264,373 | (5,014,373) |
| Science Review Panel | 550,000 | 1,358,513 | (808,513) |
| **Total** | **$238,483,955** | **$192,932,246** | **$45,551,709** |

Table 7.1A Updated with 2022 Actual, 2023 Amended Budget, 2024-2027 Forecast

# TABLE 7.1 AND TABLE 7.1A COMPARISON

## CITY OF SAN MARCOS/TEXAS STATE UNIVERSITY

| EAHCP Measure | Table 7.1 Totals | Table 7.1A Projected Totals | ▲ Between Table 7.1 to 7.1A |
|---|---|---|---|
| TX Wild Rice Enhancement/Restoration | $1,850,000 | $1,230,665 | $619,335 |
| Sediment Removal | 850,000 | 744,292 | 105,708 |
| Non-Native Plant Species Control | 1,375,000 | 3,034,096 | (1,659,096) |
| Litter Control/Floating Vegetation | 1,200,000 | 676,703 | 523,297 |
| Non-Native Animal Species Control | 525,000 | 393,668 | 131,332 |
| Bank Stabilization/Perm Access Points | 780,000 | 1,153,492 | (373,492) |
| Restoration - Riparian Zones | 380,000 | 651,836 | (271,836) |
| Management - Key Public Rec Areas | 784,000 | 845,487 | (61,487) |
| LID/BMP Management | 3,600,000 | 3,512,099 | 87,901 |
| Household Hazardous Waste Program | 450,000 | 412,426 | 37,574 |
| Sessom Creek Sand Bar | 100,000 | 100,000 | 0 |
| Education | 0 | 15,349 | (15,349) |
| **Total** | **$11,894,000** | **12,770,112** | **($876,112)** |

Table 7.1A Updated with 2022 Actual, 2023 Amended Budget, 2024-2027 Forecast

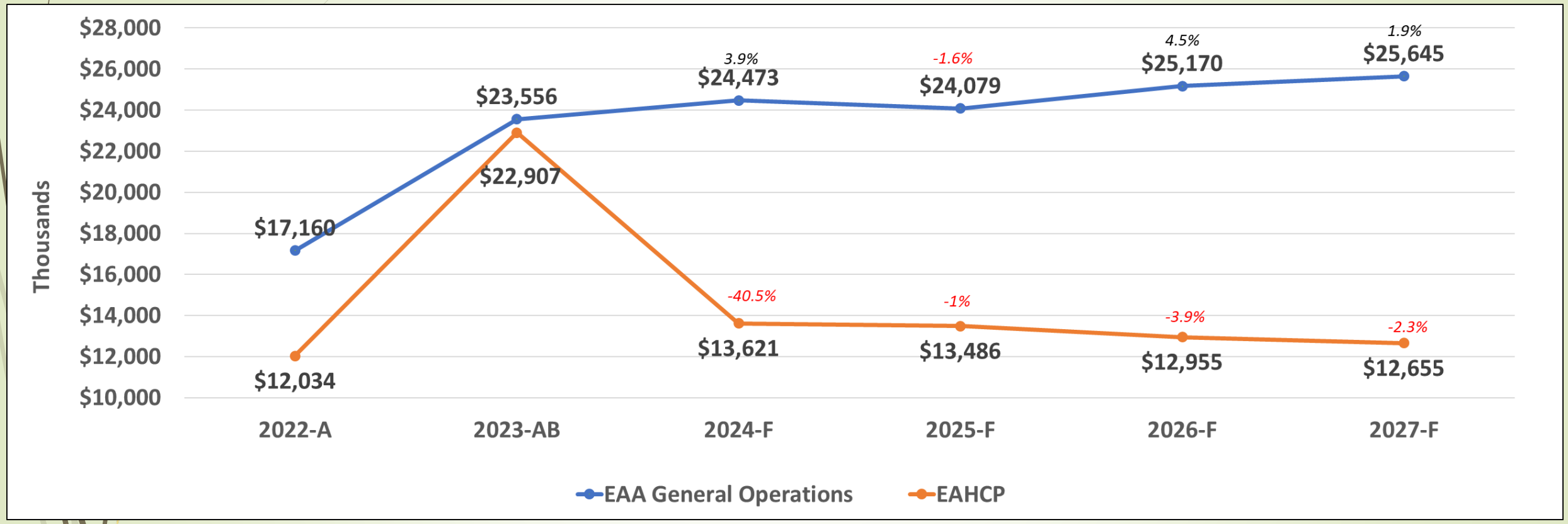
# Table 7.1 and Table 7.1A Comparison

## City of New Braunfels

| EAHCP Measure | Table 7.1 Totals | Table 7.1A Projected Totals | ▲ Between Table 7.1 to 7.1A |
|---|---|---|---|
| Old Channel Restoration | $2,000,000 | $1,709,004 | $290,996 |
| Flow Split Management | 270,000 | 352,878 | (82,878) |
| Aquatic Vegetation Restoration | 1,245,000 | 1,471,608 | (226,608) |
| Non-Native Animal Species Control | 1,245,000 | 974,722 | 270,278 |
| Decaying Vegetation Removal | 960,000 | 390,513 | 569,487 |
| Riparian Impr - Riffle Beetle | 525,000 | 482,539 | 42,461 |
| Gill Parasite Control | 1,325,000 | 814,790 | 510,210 |
| Restoration - Riparian Zones | 1,600,000 | 2,142,668 | (542,668) |
| LID/BMP Management | 1,900,000 | 1,860,039 | 39,961 |
| Household Hazardous Waste Program | 450,000 | 528,629 | (78,629) |
| Litter Control/Floating Vegetation | 0 | 297,376 | (297,376) |
| Prohibition - Hazardous Materials Route | 10,000 | 0 | 10,000 |
| Education | 0 | 3,349 | (3,349) |
| **Total** | **$11,530,000** | **$11,028,116** | **$501,884** |

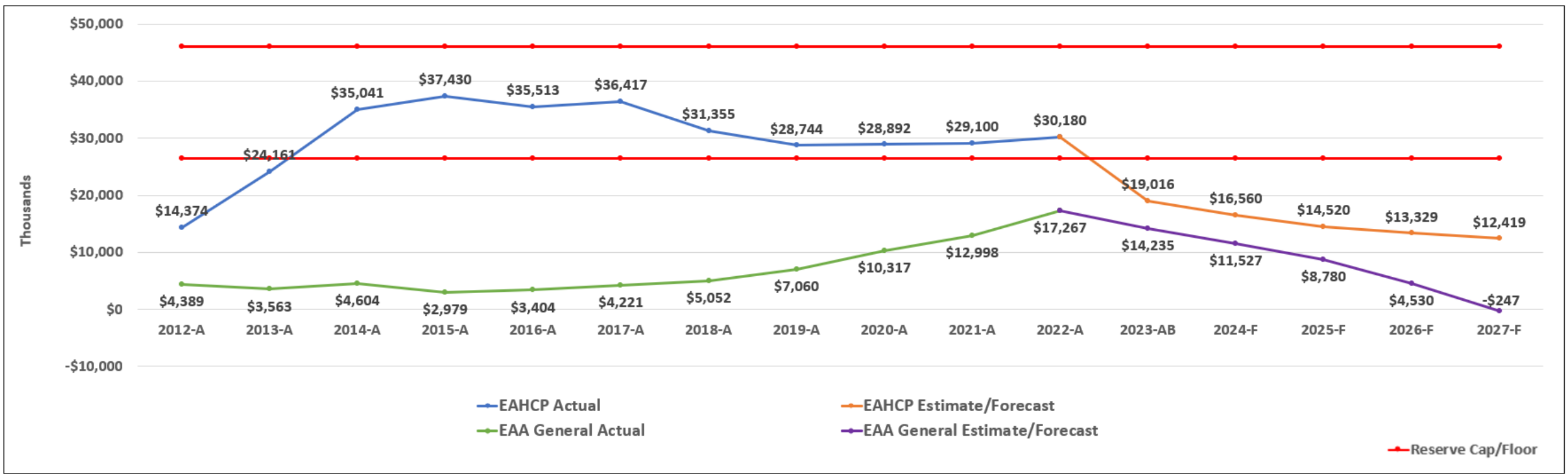
Table 7.1A Updated with 2022 Actual, 2023 Amended Budget, 2024-2027 Forecast

# Expense Projections




Note: Percentages indicate year-to-year percentage change in budget/forecast.

# Reserve Fund Projections




| | 2012-A | 2013-A | 2014-A | 2015-A | 2016-A | 2017-A | 2018-A | 2019-A | 2020-A | 2021-A | 2022-A | 2023-AB | *Forecast Rates* 2024-F | 2025-F | 2026-F | 2027-F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EAA General AMF | $47 | $47 | $37 | $37 | $40 | $44 | $42 | $46 | $50 | $50 | *$53* | *$54* | *$58* | *$57* | *$56* | *$56* |
| HCP Program AMF | $37 | $37 | $47 | $47 | $44 | $40 | $42 | $38 | $34 | $34 | *$31* | *$30* | *$28* | *$29* | *$30* | *$30* |
| *Combined AMF* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$84* | *$86* | *$86* | *$86* | *$86* |

*** NOTE: This slide represents worst-case, conservative estimates. It should be interpreted in light of the July 2023 Budget Workgroup discussion in order to understand the scenarios presented, impacts to reserve and plans to mitigate in years 2025 – 2027.**

# EAHCP Drought Probabilities: VISPO & ASR Forbearance

## VISPO Forbearance

- **VISPO Trigger:** "If, *on October 1st of a year, the J-17 Index well water level is at or below 635 feet msl, the General Manager of the EAA shall issue a notice of a Forbearance Year. A Forbearance Year commences on January 1st of the year following the year in which the General Manager issued a notice of a Forbearance Year."*

  - Considering historical data through 2022, the probability of reaching the VISPO trigger would be about 8% and for the 6 years (2023-2028), the chances of VISPO triggering are:
    - 1 or more VISPO trigger years = 39.2 percent
    - 2 or more = 7.7 percent
    - 3 or more = 0.8 percent
    - 4 or more = 0.1 percent

  - As of July 1, 2023, water levels in J-17 were low (less than 635 ft msl). This condition on July 1 has occurred 12 times over the 88 years on record, and in 7 of those years, the October 1 water level at J-17 was at or below the VISPO trigger of 635 ft msl.
    - The probability of reaching the VISPO trigger in 2023, for forbearance in 2024, is likely to be closer to 58% using those criteria.
    - A broader analysis that expands the range of dates (±10 days) and water levels (±7 ft) on July 1 of any given year also provides an estimate of the probability of triggering VISPO forbearance. There were 14 years that meet the date and level criteria. VISPO would have been triggered in 6 of those years, resulting in a probability of 43%.
    - In summary, the probability of triggering VISPO in 2023, for forbearance in 2024, is likely to be between 43–58%.

# EAHCP Drought Probabilities: VISPO & ASR Forbearance

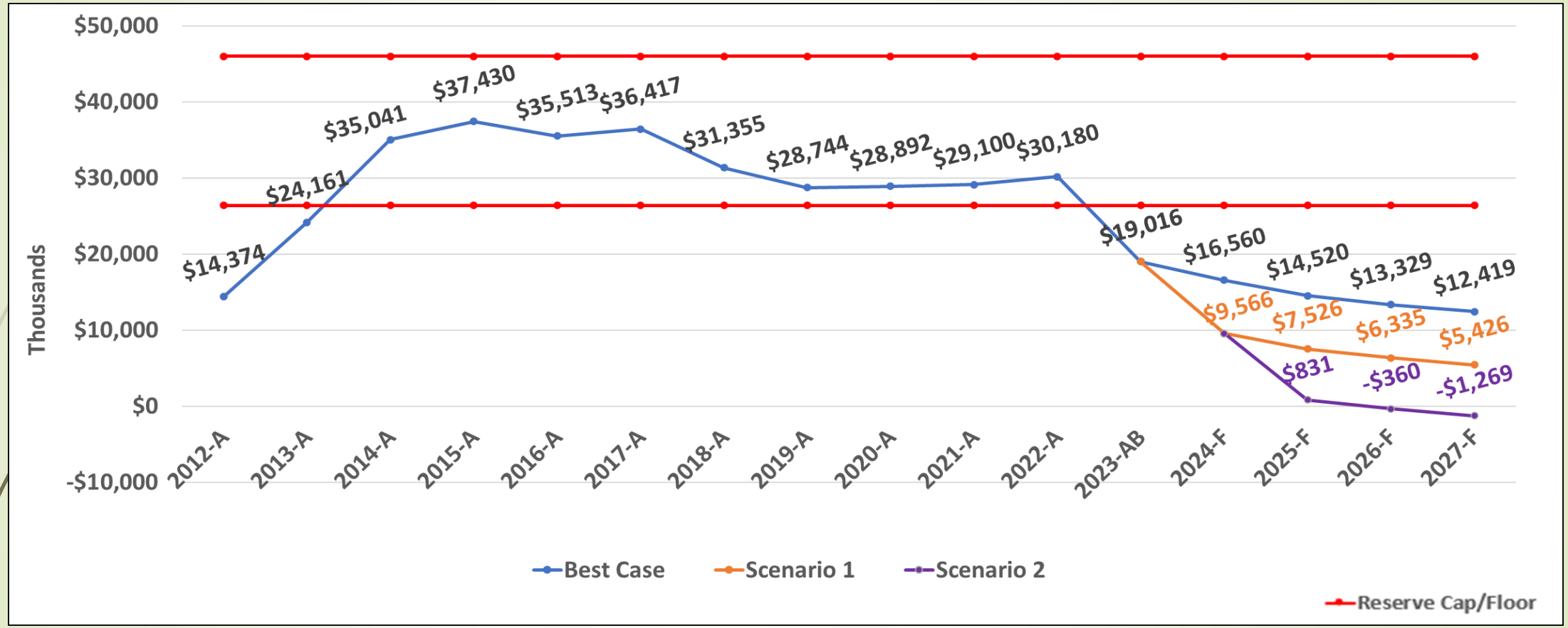
## ASR Forbearance

- **ASR Trigger:** "If, *on June 1st of a year, the Ten-year Rolling Average of the Estimated Annual Recharge to the Aquifer is equal to or less than 500,000 AF/annum, the General Manager of the EAA shall issue a notice of a Forbearance Year. A Forbearance Year commences on January 1st of the year following the year in which the General Manager issued a notice of a Forbearance Year*."

  - The 10-year rolling average recharge calculated on June 1, 2023, based on recharge estimates for years 2013–2022, was 553,200 acre-feet, indicating that 2024 will ***not*** be a Forbearance year.
  - There is zero chance of ASR triggering in the years of 2024 and 2025, even if recharge were zero for 2 of the preceding years, the 10-year average would still be above 500,000 acre-feet.
  - The chance of triggering in the year 2026, for forbearance in 2027, is about 15.8%.
  - The chances of triggering in 2027, for forbearance in 2028, is about 46%.

# EAHCP Reserve Forecast: Drought Scenarios

VISPO Forbearance
- Current 2023 Forbearance (Best Case)
- Additional Forbearance in 2024 (Scenario 1)
- Second Additional Forbearance in 2025 (Scenario 2)




Best Case: No additional forbearance years; Ending 2027 Reserve Estimate $12.4 million
Scenario 1: One additional forbearance year; Ending 2027 Reserve Estimate $5.4 million
Scenario 2: Two additional forbearance years; Ending 2027 Reserve Estimate -$1.3 million

*** NOTE: This slide represents worst-case, conservative estimates. It should be interpreted in light of the July 2023 Budget Workgroup discussion in order to understand the scenarios presented, impacts to reserve and plans to mitigate in years 2025 – 2027.**

# Questions?

# APPENDIX B
# MEETING AGENDA

# 2023 EAHCP Budget Work Group

## Meeting Agenda
## Thursday, July 27, 2023
## 2:00 - 4:00 p.m.

1. **Confirm attendance**
2. **Public comment**
3. **Receive presentation and consider possible action associated with the EAHCP Table 7.1A Analysis and Forecast**
4. **Update of potential insurance products/debt instruments discussion**
5. **Public comment**
6. **Future meetings**
7. **Adjourn**

# APPENDIX C
# MEETING MINUTES

# 2023 EAHCP Budget Work Group

## Meeting Minutes
## Thursday, July 27, 2023

Members of this Work Group include Tom Taggart (Acting Chair - City of San Marcos), Marc Friberg (Edwards Aquifer Authority), Adam Yablonski (Medina County Farm Bureau), Myron Hess (Texas Living Waters Project), and Cecilia Velasquez (SAWS).

1. **Confirm attendance.**
   Tom Taggart called the meeting to order at 2:03 p.m. All Work Group members were present.

2. **Public comment.**
   There were no comments from the public.

3. **Receive presentation and consider possible action associated with the EAA's Financial Forecast (2024-2027)**

   Shelly Hendrix presented the EAA's financial forecast that was presented to the EAA Board on 7-11-23.

   Provided an overview of how the EAHCP budget is allocated amongst its various programs and expense categories. It should be noted that the forecast is predicated on assumptions and rate considerations & reserves. A comparative look at the projections between Table 7.1 and Table 7.1A indicates expenditures at $45.2 million below Table 7.1 values. These forecast updates are based on estimates to the end of the Incidental Take Permit (ITP) and 2024 EAHCP budget. Myron noted that this comparison is made without considering the inflation adjustment provided in the HCP for the Table 7.1 values and complimented that, while this may be partially due to good fortune, it is a testament to our careful financial stewardship.

   The combined EAA General Operations/EAHCP expense projections through 2027 were provided. The annual expenses for EAA General Operations are projected to slightly increase whereas the EAHCP expenses are projected to slightly decrease each year through the rest of the ITP, which is due to a general decline in programmatic expenses as we approach the end of the permit.

   The EAHCP Budget Reserve Fund projections were presented to the Workgroup, which were received positively by some and negatively by other members. As previewed last year, the AMF rate will increase from $84 to $86 in 2024, which is the first rate increase since the inception of the EAHCP in 2012. While future

AMF rate increases are expected prior to 2027, the reserve fund projections provided do not currently reflect any further increases through 2027 as the EAA would like to continue to evaluate program expenses and how they affect the reserve fund each year, instead of potentially giving false expectations at this point. Marc stated that 2025 will be an opportune year to gain a more accurate understanding of likely triggers of VISPO or ASR under the current ITP and what conservation measures and funding needs will be needed for the next ITP and, accordingly, to re-evaluate our AMF rate projections at that time. Any rate increases will be done in a stair-step manner. Tom stated that no stair-step increase approach had been used since the program started.

Adam asked if the EAA had any updated odds on another VISPO trigger and Marc replied that current statistical analysis shows anywhere between a 40-50% probability. Adam asked if the EAA had any updated odds on another ASR trigger and Marc replied that it is mathematically impossible for the next two years because of the recharge calculation—even with zero recharge, five-year average would not hit the ASR forbearance trigger. Also, even with a trigger, ASR forbearance costs would only come into play if there were SAWS Operation and Maintenance (O&M) withdrawal costs. ASR has a 2-3 year projection window. Tom expressed concern that the current approach to use the reserve balance to offset any VISPO trigger pay-outs as well as support higher EAA operations costs is not conservative enough to address this potential issue, given the drought conditions we may continue to face. He also maintains the FMA does not provide for reserve uses outside the program.

There was discussion of the value of the Work Group noting, in a future report, some lessons learned under the current HCP and FMA provisions that should inform the next iteration of the HCP and help to minimize the potential for disparate understandings and expectations about funding mechanisms.

4. **Update of potential insurance products/debt instruments discussion**

Marc gave an update on any possible alternative financial mechanisms that could be used to pay any debt events. He remarked that EAA leadership is still doing their due diligence to find avenues to secure additional funding when needed. With effectively only 4 years left on the current ITP and the belief that there is ample funding to absorb any unexpected program costs, these alternative financial instruments are unlikely to be pursued. Those types of instruments are not being considered for the next ITP.

Cecilia asked why the expected stair-step increase is not shown in the forecast. Shelly replied that we are waiting until 2025 to re-evaluate our projections to reflect any forecasted rate changes. Cecilia pointed out that we previously reflected such projected increases in previous Budget Workgroup meetings but Marc stated that we have adopted this different approach this year. Tom questioned if USFWS would look at these projections and question if we have

fiscal surety going into the next HCP with our reserve balance depleted. Marc contended that USFWS would positively view our current financial outlook, with enough reserves to pay for at least 2 more VISPO triggers along with the ability to raise funds to cover anything beyond that. It was later clarified that, without an additional increase in the AMF allocated to the HCP, 2 additional VISPO triggers would result in a negative reserve balance.

Tom asked what is to be reported to the Implementing Committee. Myron said we should lay out all of the projections and what options can be taken to address any changes. Adam expressed further concern as well that if we do have multiple VISPO triggers before 2027 if AMF rate increases are enough to address any exorbitant program expenditures. After discussion, it was acknowledged that it likely would be appropriate to indicate that the level AMP rates shown for years after 2025 should not be interpreted as the actual proposed rate.

Tom and Marc agreed that an insurance policy is unrealistic with today's rates and the high probability of a claim on our part. A line of credit is a more plausible option.

Myron asked if multiple scenarios for the reserve fund projections can be provided as in depictions for previous years and that was agreed to.

Tom stated that the issue of final reserve disposition in 2028 is both an IC and EAA decision and given the proposed direction of reserves with the EAA budget approach, perhaps it is now timely to have that discussion as these topics are coupled.

Dianne Wassenich of the San Marcos River Foundation requested if the meeting presentation slides can be provided to her for our review. Scott indicated the slides would be made available online.

5. **Public comment**
   There were no comments from the public.

6. **Future meetings**
   No date was set for any additional Work Group meetings in 2023.

7. **Adjourn** – 3:07 p.m.

# Appendix M3 | **Biological Objectives Subcommittee Meeting Materials**

# Biological Objectives Subcommittee Charge

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is currently in the process of renewing U.S. Fish and Wildlife Service Incidental Take Permit TE63663A-1, which expires March 31, 2028. As part of the permit renewal process, existing components of the Habitat Conservation Plan (HCP) will be reassessed and potentially modified. The purpose of this Biological Objectives Subcommittee is to develop recommendations for updating species biological objectives for consideration in the HCP permit renewal application.

**Charge Topics:**

The Subcommittee will conduct the following tasks:

- Review USFWS guidance on developing biological objectives provided in the *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (HCP handbook).

- Examine existing biological objectives and develop updated draft biological objectives adhering to the HCP handbook recommendations while incorporating best available science surrounding the current EAHCP Covered Species.

- Produce a report detailing recommendations for updating biological objectives as part of the renewal effort.

**Members:**

The Subcommittee is subdivided into three species topical areas to ensure adequate expert coverage on the range of species included in the EAHCP Incidental Take Permit. The three species areas include submerged aquatic vegetation/fish, salamanders, and macroinvertebrates.

The EAHCP Chief Science Officer, in consultation with the EAHCP Science Committee chairs, will develop recommendations for membership in each of these three areas. Members will consist of individuals serving on the EAHCP Science Committee and other regional experts with specific knowledge on the Covered Species.

**Meeting Organization:**

The Subcommittee will meet to develop biological objective recommendations between March and August 2023. All meetings will be open to the public and held in-person and virtually via Microsoft Teams.

A final report to the EAHCP permit renewal contractor, Program Manager, EAHCP Committees and the Conservation Measures Subcommittee is anticipated no later than August 15, 2023.

# Biological Objectives Subcommittee

Fountain darter/TWR Meeting 1 Agenda
March 28, 2023
9:30AM - 12:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Overview of the Biological Objectives Subcommittee Charge and meeting process.**

4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals and Chapter 9.2: Biological Objectives.**

5. **Review and discussion of the current EAHCP Biological Goals and Objectives.**

6. **Review and discussion of EAHCP Biological Goals Subcommittee Report.**

7. **Questions from the public.**

8. **Future meetings.**

9. **Adjourn.**

# Biological Objectives Subcommittee

Fountain darter/TWR Meeting 2 Agenda
April 21, 2023
9:30AM - 12:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Review and discussion of the current and proposed EAHCP Biological Goals and Objectives.**

4. **Questions from the public.**

5. **Future meetings.**

6. **Adjourn.**

# Biological Objectives Subcommittee

Fountain Darter/TWR - Meeting 3 Agenda
Pauline Espinosa Community Hall
May 1, 2023
12:30 - 3:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Review and discussion of the current and proposed EAHCP Biological Goals and Objectives.**

4. **Questions from the public.**

5. **Future meetings.**

6. **Adjourn.**

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## Microsoft Teams meeting

**Join on your computer, mobile app or room device**
Click here to join the meeting
Meeting ID: 210 952 933 075
Passcode: 8zq7TA
Download Teams | Join on the web

**Or call in (audio only)**
+1 210-729-0064
Phone Conference ID: 744 481 108#

# Biological Objectives Subcommittee

EAHCP Salamanders Meeting 1 Agenda
April 18, 2023
9:30AM - 12:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Overview of the Biological Objectives Subcommittee Charge and meeting process.**

4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals and Chapter 9.2: Biological Objectives.**

5. **Review and discussion of the current EAHCP Biological Goals and Objectives.**

6. **Review and discussion of EAHCP Biological Goals Subcommittee Report.**

7. **Questions from the public.**

8. **Future meetings.**

9. **Adjourn.**

# Biological Objectives Subcommittee

Salamanders - Meeting 2 Agenda
Pauline Espinosa Community Hall
May 2, 2023
9:30 AM - 12:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Review and discussion of the current and proposed EAHCP Biological Goals and Objectives.**

4. **Questions from the public.**

5. **Future meetings.**

6. **Adjourn.**

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## Microsoft Teams meeting

Click here to join the meeting
Meeting ID: 292 853 686 694
Passcode: gHD9ez
Download Teams | Join on the web
**Or call in (audio only)**
1 210-729-0064
Phone Conference ID: 338 256 179#

# Biological Objectives Subcommittee

EAHCP Macroinvertebrates Meeting 1 Agenda
April 20, 2023
12:30 PM - 3:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Overview of the Biological Objectives Subcommittee Charge and meeting process.**

4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals and Chapter 9.2: Biological Objectives.**

5. **Review and discussion of the current EAHCP Biological Goals and Objectives.**

6. **Review and discussion of EAHCP Biological Goals Subcommittee Report.**

7. **Questions from the public.**

8. **Future meetings.**

9. **Adjourn.**

# Biological Objectives Subcommittee

EAHCP Macroinvertebrates Meeting 2 Agenda
May 18, 2023
12:30 PM - 3:30 PM

1. **Confirm attendance.**

2. **Meeting logistics.**

    a. Virtual meeting logistics
    b. Meeting POCs
    c. Subcommittee logistics

3. **Overview of the Biological Objectives Subcommittee Charge and meeting process.**

4. **Review and discussion of proposed EAHCP Biological Objectives.**

5. **Questions from the public.**

6. **Future meetings.**

7. **Adjourn.**

# Appendix M4 | **Conservation Measures Subcommittee Charge**

## Conservation Measures Subcommittee Charge

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is in the process of renewing an Incidental Take Permit with the U.S. Fish and Wildlife Service. As part of that process, the existing components of the Habitat Conservation Plan (HCP) conservation strategy will be reassessed, new elements recommended, and modifications discussed. As a required component of HCPs, Conservation Measures describe specific actions that Permittees will implement to achieve biological objectives in support of the biological goals.

The purpose of this Subcommittee is to review and discuss the Conservation Measures that should be considered for inclusion in the next EAHCP.

**Specifically, the Subcommittee will:**

- Elect a Chair of the Subcommittee.
- Review the HCP Handbook as it pertains to Conservation Measure purpose and structure.
- Receive an overview of the Biological Goals and Biological Objectives Subcommittee recommendations.
- Use the best available science and knowledge of the current HCP experience to determine the needed Conservation Measures.
- Review the current EAHCP Conservation Measures (EAHCP § 5.0).
- Consider the effects of climate change and other potential variables relative to the proposed HCP period.
- Review and provide feedback on draft Conservation Measures developed and provided by EAHCP staff.
- Finalize and approve Conservation Measure recommendations to be provided to the EAHCP Implementing Committee before submission to the EAHCP Permit Renewal contractor (ICF).

**Membership:**

- Texas State University: *Represented by Kimberly Meitzen*
- City of San Marcos: *Represented by Mark Enders*
- City of New Braunfels: *Represented by Phillip Quast*
- San Antonio Water System: *Represented by Linda Bevis*
- Edwards Aquifer Authority: *Represented by Marc Friberg*
- Guadalupe-Blanco River Authority: *Represented by Daniel Large*
- EAHCP Stakeholder Committee Member (Bexar County Interest): *Kerim Jacaman*
- EAHCP Stakeholder Committee Member (Recreational Interest)*: Melani Howard*
- EAHCP Stakeholder Committee Member (Agricultural Interest)*: Adam Yablonski*
- EAHCP Stakeholder Committee Member (Environmental Interest)*: Myron Hess*

**Subcommittee Organization:**

The Conservation Measures Subcommittee is authorized to meet through virtual means, or any combination of virtual and in-person meetings, and to finalize previously discussed drafts through email communications.

The Subcommittee shall strive to achieve consensus on its recommendations, but, if consensus cannot be achieved by the October 10, 2024 deadline, despite the Subcommittee's best efforts, the recommendations and report may be approved by a 75% vote of the full Subcommittee as long as any member dissenting from approval is provided a reasonable opportunity to provide a succinct summary of the objections to the recommendations, which shall be included in the report.

The purpose of the October 10, 2024, deadline is to finalize a report that can be submitted to the Permit Renewal Contractor prior to the start of the Contractor's preliminary analysis of the EAHCP Conservation Strategy.

# Appendix M5 | **Adaptive Management Stakeholder Committee Meeting Materials**

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Stakeholder Committee

**Thursday, February 9, 2023** | **10:00 AM** | **EAA Board Room and Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. EAHCP Program Manager Announcements**

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

**4. Approval of Minutes**

**4.1**

- December 15, 2022

**5. Reports**

**5.1** Receive report from Mark Enders, EAHCP Biological Goals Subcommittee Chair, on the first meeting of the Biological Goals Subcommittee.

**5.2** Receive report from Lucas Bare, ICF Project Manager, on the ITP Renewal Process.

**6. Future Meetings**

**7. Questions from the Public**

**8. Adjourn**

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Stakeholder Committee

**Thursday, February 9, 2023** | **10:00 AM** | **EAA Board Room and Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

### 1. Call to Order

*Chuck Ahrens, Bruce Alexander, Michael Short, Julie Lewey, James Dodson, Phillip Quast, Adam Yablonski, Kerim Jacaman, Myron Hess, Cindy Hooper, Mark Enders, David Villarreal, Kevin Mayes, Glenn Lord, Kimberley Meitzen, Gary Middleton, Carol Patterson, Humberto Ramos, Patrick Shriver, Rachel Sanborn.*

### 2. Public Comment

*There were no citizens who requested to address the Stakeholder Committee.*

### 3. EAHCP Program Manager Announcements

3.1

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

*Chad Furl provided a hydrologic update and reminded the Committee that the spring communities are currently in Condition M, Scott Storment notified the Committee of the State Scientific Area Clarification in the Comal River Memo to USFWS, Kristina Tolman provided an update on the 2022 Annual Report, Olivia Ybarra gave an update on the Steward Newsletter, and a spring community update on the Comal and San Marcos River was provided by Phillip Quast and Mark Enders, respectively.*

### 4. Approval of Minutes

4.1

- December 15, 2022

**A motion was made by Rachel Sanborn and seconded by Carol Patterson, to approve the meeting minutes from the December 15, 2022, Stakeholder Committee meeting. There were no objections.**

## 5. Reports

**5.1** Receive report from Mark Enders, EAHCP Biological Goals Subcommittee Chair, on the first meeting of the Biological Goals Subcommittee.

*Mark Enders, Biological Goals Subcommittee Chair, provided an update and overview of the first meeting of the Biological Goals Subcommittee. The first meeting included a presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook and a review of the current EAHCP Biological Goals.*

**5.2** Receive report from Lucas Bare, ICF Project Manager, on the ITP Renewal Process.

*Lucas Bare, ICF Project Manager, provided an update on the ITP renewal process, an overview of work done to date, and next steps. Currently, the draft Covered Activities memo identifying changes to the current activities to be considered in the renewed HCP is being prepared by ICF. The Covered Activities memo will receive EAHCP Staff, Committees and USFWS review.*

## 6. Future Meetings

*The next Stakeholder Committee meeting will be held on August 10, 2023.*

## 7. Questions from the Public

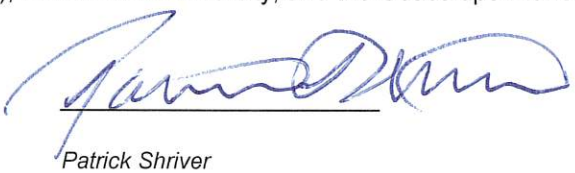
*There were no citizens who requested to address the Stakeholder Committee.*

## 8. Adjourn

*There being no further business to discuss, the meeting adjourned at 11:10 A.M.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).



*Patrick Shriver*

*Secretary, EAHCP Stakeholder Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Stakeholder Committee

**Thursday, August 10, 2023** **10:00 AM** **Edwards Aquifer Authority & Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

**1. Call to Order**

**2. Public Comment**

**3. EAHCP Program Manager Announcements**

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
  - City of New Braunfels
  - City of San Marcos

**4. Approval of Minutes**

**4.1** February 9, 2023

**5. Reports**

**5.1** **Receive report from Graham Moore, Alliance Regional Water Authority Executive Director, on the Water Alliance Project.**

**5.2** **Receive report from EAHCP staff on the Biological Goals and Biological Objectives Subcommittees.**

**6. Individual Considerations**

**6.1** **Consider recommendation of three Stakeholder Committee representatives to serve on the Conservation Measures Subcommittee to be created by the Implementing Committee.**

**7. Future Meetings**

**8. Questions from the Public**

## 9. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Stakeholder Committee

**Thursday, August 10, 2023** **10:00 AM** **Edwards Aquifer Authority & Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Chairman Myron Hess called the meeting to order at 10:04 AM. Committee members present: Melani Howard, Javier Hernandez, Bruce Alexander, Buck Benson, Michael Short, Doris Cooksey, James Dodson, Phillip Quast, Adam Yablonski, Myron Hess, Cindy Hooper, Mark Enders, David Villarreal, Kevin Mayes, Glenn Lord, Shaun Donovan, Kimberley Meitzen, Gary Middleton, Carol Patterson, Ray Joy Pfannstiel, Patrick Shriver, Jana Gray, and Rachel Sanborn.*

### 2. Public Comment

*There were no citizens who requested to address the Stakeholder Committee.*

### 3. EAHCP Program Manager Announcements

**3.1**

- Hydrologic Update
- EAHCP Program Management
- Spring Communities Update
    - City of New Braunfels
    - City of San Marcos

*Chad Furl provided a hydrologic update and reminded the Committee that the spring communities are currently in Condition M, Scott Storment notified the Committee of the Conservation Measures Subcommittee, Olivia Ybarra gave an update on the Steward Newsletter and the National HCP Coalition Conference, and a spring community update on the Comal and San Marcos River was provided by Phillip Quast and Mark Enders, respectively.*

### 4. Approval of Minutes

**4.1** February 9, 2023

**A motion was made by Rachel Sanborn and seconded by Glenn Lord, to approve the meeting minutes from the February 9, 2023, Stakeholder Committee meeting. There were no objections.**

## 5. Reports

### 5.1 Receive report from Graham Moore, Alliance Regional Water Authority Executive Director, on the Water Alliance Project.

*Graham Moore, Alliance Regional Water Authority Executive Director, provided an overview and timeline of the Water Alliance Project. This project is aimed to support the increasing water demand throughout central Texas with sustainable water solutions.*

### 5.2 Receive report from EAHCP staff on the Biological Goals and Biological Objectives Subcommittees.

*Olivia Ybarra and Chad Furl provided a report on the Biological Goals and Biological Objectives Subcommittees. A Biological Objectives memorandum is expected to be completed by Fall 2023.*

## 6. Individual Considerations

### 6.1 Consider recommendation of three Stakeholder Committee representatives to serve on the Conservation Measures Subcommittee to be created by the Implementing Committee.

*The consideration to appoint three Stakeholder Committee representatives to serve on the Conservation Measures Subcommittee was postponed due to lack of consensus among the committee members. A special meeting of the Stakeholder Committee will be held on October 5, 2023, prior to the Implementing Committee.*

## 7. Future Meetings

*The next Stakeholder Committee meeting will be held on October 5, 2023.*

## 8. Questions from the Public

*There were no citizens who requested to address the Stakeholder Committee.*

## 9. Adjourn

*There being no further business to discuss, the meeting adjourned at 12:15 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Patrick Shriver*
*Secretary, EAHCP Stakeholder Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Stakeholder Committee

**Thursday, October 5, 2023** **10:00 AM** **Pauline Espinosa Community Hall - San Marcos, TX & Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. Approval of Minutes**

**3.1** August 10, 2023

**4. Individual Consideration**

**4.1** **Consider recommendation of three Stakeholder Committee representatives to serve on the Conservation Measures Subcommittee to be created by the Implementing Committee.**

**5. Future Meetings**

**6. Questions from the Public**

**7. Adjourn**

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Stakeholder Committee

**Thursday, October 5, 2023** **10:00 AM** **Pauline Espinosa Community Hall - San Marcos, TX & Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Chairman Myron Hess called the meeting to order at 10:16 AM. Committee members present: Melani Howard, Javier Hernandez, Buck Benson, Ryan Kelso, Doris Cooksey, Phillip Quast, Adam Yablonski, Kerim Jacaman, Myron Hess, Cindy Hooper, Mark Enders, David Villarreal, Kevin Mayes, Glenn Lord, Brian Mast, Kimberly Meitzen, Carol Patterson, Ray Joy Pfannstiel, Patrick Shriver, Nathan Pence, and Rachel Sanborn.*

### 2. Public Comment

*There were no citizens who requested to address the Stakeholder Committee.*

### 3. Approval of Minutes

**3.1** August 10, 2023

**A motion was made by Ryan Kelso, and seconded by Kimberly Meitzen, to approve the meeting minutes from the August 10, 2023, Stakeholder Committee meeting. There were no objections.**

### 4. Individual Consideration

**4.1 Consider recommendation of three Stakeholder Committee representatives to serve on the Conservation Measures Subcommittee to be created by the Implementing Committee.**

*Although a majority of the Stakeholder Committee members did not attend in person, pursuant to Subsection 7.15.2 of the Committee's rules, without objection that requirement was waived for this item.*

**The following three members of the Stakeholder Committee were selected to serve on the Conservation Measures Subcommittee: Melani Howard (recreation interest), Adam Yablonski (agricultural interest) and Myron Hess (environmental interest). This motion was made by Myron Hess and seconded by Kimberly Meitzen. There were no objections.**

**The Stakeholder Committee requested a Bexar County Stakeholder representative to also serve on the Conservation Measures Subcommittee. This member will be considered for recommendation at the December 14th meeting.**

## 5. Future Meetings

*The next Stakeholder Committee meeting will be held on December 14, 2023.*

## 6. Questions from the Public

*There were no citizens who requested to address the Stakeholder Committee.*

## 7. Adjourn

*There being no further business to discuss, the meeting was adjourned at 11:12 PM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

*Patrick Shriver*
*Secretary, EAHCP Stakeholder Committee*

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Stakeholder Committee

**Thursday, December 14, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

**1. Call to Order**

**2. Public Comment**

**3. Approval of Minutes**

**3.1**
- **October 5, 2023**

**4. Reports**

**4.1** **Receive reports from Desiree Moore, USFWS Research Biologist, and Adam Daw, USFWS Refugia Lead for Husbandry, on research projects conducted at the EAHCP refugia facilities.**

**4.2** **Receive report from Dr. Kimberly Meitzen, Texas State University Stakeholder Representative, on the Texas Parks and Wildlife Department's Habitat and Angler Access Program grant and funding from Texas State University's Environmental Service Committee.**

**5. Individual Consideration**

**5.1** **Consider recommendation to approve a Stakeholder Committee member to represent Bexar County on the Conservation Measures Subcommittee.**

**5.2** **Election of 2024 Stakeholder Committee officers.**

**6. Future Meetings**

**6.1** 2024 EAHCP Committee Meeting Calendar

## 7. Questions from the Public

## 8. Adjourn

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Stakeholder Committee

**Thursday, December 14, 2023** **10:00 AM** **Edwards Aquifer Authority and Microsoft Teams**

**A meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

### 1. Call to Order

*Chairman Myron Hess called the meeting to order at 10:02AM. Committee Members present: Melani Howard, Javier Hernandez, Bruce Alexander, Buck Benson, Michael Short, John Byrum, James Dodson, Phillip Quast, Adam Yablonski, Kerim Jacaman, Cindy Hooper, Mark Enders, David Villarreal, Kevin Mayes, Glenn Lord, Brian Mast, Kimberly Meitzen, Gary Middleton, Carol Patterson, Ray Joy Pfannstiel, Patrick Shriver, Jana Gray, and Rachel Sanborn.*

### 2. Public Comment

*There were no citizens who requested to address the Stakeholder Committee.*

### 3. Approval of Minutes

### 3.1

- **October 5, 2023**

**A motion was made by Bruce Alexander and seconded by Glenn Lord, to approve the revised meeting minutes from the October 5, 2023, Stakeholder Committee meeting. There were no objections.**

### 4. Reports

**4.1 Receive reports from Desiree Moore, USFWS Research Biologist, and Adam Daw, USFWS Refugia Lead for Husbandry, on research projects conducted at the EAHCP refugia facilities.**

*Desiree Moore, USFWS Refugia Program Research Biologist, presented on the mark and recapture of wild San Marcos salamanders project that is currently implemented at the San Marcos Aquatic Resources Center. Future work on this project includes population estimates, modeling of recapture rates, and an analysis of sex ratios among collection sites.*

*Adam Daw, USFWS Refugia Lead for Husbandry, provided a presentation on refugia preparations during drought conditions. Preparations include salvage operations, updating facility supplies, staff training, monitoring spring and river conditions, and evaluating methods of collection, transport, and husbandry techniques.*

**4.2 Receive report from Dr. Kimberly Meitzen, Texas State University Stakeholder Representative, on the Texas Parks and Wildlife Department's Habitat and Angler Access Program grant and funding from Texas State University's Environmental Service Committee.**

*Dr. Meitzen provided an overview of the restoration work that will be implemented under the Texas State University Environmental Service Committee Fund and the Texas Parks and Wildlife Department Habitat Angler and Access Program in the Upper San Marcos River.*

## 5. Individual Consideration

**5.1 Consider recommendation to approve a Stakeholder Committee member to represent Bexar County on the Conservation Measures Subcommittee.**

**The Stakeholder Committee approved on consensus to appoint Kerim Jacaman as the EAHCP Stakeholder Committee Representative of Bexar County on the Conservation Measures Subcommittee. There were no objections.**

**5.2 Election of 2024 Stakeholder Committee officers.**

*The next Stakeholder Committee meeting will be held on February 1, 2024.*

**A motion was made by Rachel Sanborn and seconded by Glenn Lord to approve Dr. Kimberly Meitzen as Chair, Myron Hess as Vice-Chair, and Patrick Shriver as Secretary of the Stakeholder Committee for 2024. There were no objections.**

## 6. Future Meetings

**6.1** 2024 EAHCP Committee Meeting Calendar

*The next Stakeholder Committee meeting will be held on February 1, 2024.*

## 7. Questions from the Public

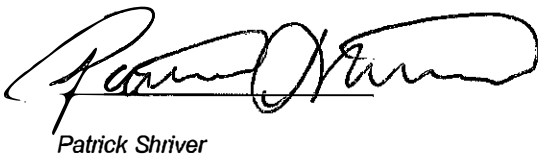
*There were no citizens who requested to address the Stakeholder Committee.*

## 8. Adjourn

*There being no further business to discuss, the meeting adjourned at 11:04AM.*

Olivia Ybarra
Habitat Conservation Plan Coordinator

This meeting of the Stakeholder Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.8.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).



*Patrick Shriver*

*Secretary, EAHCP Stakeholder Committee*

# Appendix M6 | **Biological Goals Subcommittee Meeting Materials**


# Biological Goals Subcommittee Report

2023

# Report

| | |
|---|---|
| **To:** | EAHCP Implementing, Stakeholder and Science Committees<br><br>Permit Renewal Contractor – ICF |
| **From:** | EAHCP Biological Goals Subcommittee |
| **Date:** | March 16, 2023 |
| **Re:** | EAHCP Biological Goals Subcommittee Report - 2023 |

## 1. Introduction

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is currently in the process of renewing the Incidental Take Permit with the U.S. Fish and Wildlife Service. As part of that process, the existing components of the Habitat Conservation Plan (HCP) conservation strategy will be reassessed, new elements recommended, and modifications discussed. As a required component of habitat conservation plans, biological goals are a guide for quantified biological objectives and management actions taken through conservation measures to achieve the conservation strategy.

The joint 2016 U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service "Habitat Conservation Planning and Incidental Take Permit Processing Handbook" (HCP Handbook) defines biological goals as broad, succinct statements that work toward the vision of an HCP. Each goal can be habitat- and/or species-based. Biological goals are addressed by quantified biological objectives that are written to achieve the corresponding goal. This hierarchical process is described in Chapter 9 of the HCP Handbook which served as a reference in the development of the EAHCP biological goals.

The Plan Area (also the Permit Area) is the area in which pumping from the Aquifer is regulated by the EAA and affects the springs and spring ecosystems used by the proposed Covered Species. The Permit Area also includes recreational and other areas in which non-pumping related impacts to Covered Species will occur including the Comal Springs and River ecosystems and San Marcos Springs and River ecosystems that are under the jurisdiction of the City of New Braunfels, the City of San Marcos, and Texas State University.

## 2. Biological Goals Subcommittee Overview

The purpose of the Subcommittee was to review, discuss, and develop recommendations for biological goal(s) that should be considered for inclusion in the next EAHCP. The Subcommittee charge was approved by the EAHCP Stakeholder Committee on December 15, 2022 (**Appendix A**).

Throughout February and March 2023, four meetings were conducted in-person and virtually via Microsoft Teams. Meeting materials including meeting handouts, meeting agendas, presentations, and approved meeting minutes are in **Appendix B, C, D, and E,** respectively.

Members of the Biological Goals Subcommittee are:

- Mark Enders (Subcommittee Chair) – Stakeholder Committee (City of San Marcos)
- Rachel Sanborn – Stakeholder Committee (San Marcos River Foundation)
- Kimberly Meitzen – Stakeholder Committee (Texas State University)
- Kevin Mayes – Stakeholder Committee (Texas Parks and Wildlife Department)
- Charlie Kreitler – Science Committee (LBG-Guyton - Retired)
- Jacquelyn Duke – Science Committee (Baylor University)

## 3. Biological Goals Subcommittee Meetings

The Subcommittee convened four times to discuss the following:

- Current EAHCP biological goals.
- HCP Handbook guidance pertaining to biological goal development and structure (Chapter 9).
- Development of biological goals.
- Approval of the Biological Goals Subcommittee Report.

On February 16, 2023, the Subcommittee agreed, by consensus, to develop biological goals by reviewing the current biological goals to create new biological goals for the next EAHCP.

At this time, the San Marcos gambusia, endemic to the San Marcos River, is not considered in development of the biological goals due to its pending delisting from the Endangered Species Act (ESA). Moreover, in 2021, USFWS proposed a rule that San Marcos gambusia may be extinct (Federal Register; 86 FR 54298). The Comal Springs salamander was also not considered due to the recent removal of the petition for the species to be listed and covered by the ESA. The following are the Covered Species that were considered during the development of the biological goals:

- Texas blind salamander (*Eurycea rathbuni*)
- San Marcos salamander (*Eurycea nana*)
- Texas wild-rice (*Zizania texana*)
- Fountain darter (*Etheostoma fonticola*)
- Comal Springs riffle beetle (*Heterelmis comalensis*)
- Peck's cave amphipod (*Stygobromus pecki*)
- Comal Springs dryopid beetle (*Stygoparnus comalensis*)
- Texas troglobitic water slater (*Lirceolus smithii*)
- Edwards Aquifer diving beetle (*Haideoporus texanus*)

## 4. Biological Goals Recommendations

The following are the biological goals that the Biological Goals Subcommittee recommends the EAHCP Committees (Stakeholder, Implementing, and Science), Subcommittees (Biological Objectives and Conservation Measures), and Permit Renewal Contractor (ICF) consider for inclusion in the next EAHCP. Bolded key terms within the biological goals are described in the glossary.

A central tenet of these goals is that they are habitat-and species-based. Biological Objectives can and should consider both.

**Goal 1: Conserve** the quality and quantity of springflow and maintain **suitable** ecosystems within the **Plan Area** to provide for the **resiliency** of the **Covered Species**.

> **Reasoning**: This goal is intended to serve as a broad, overarching goal that addresses water quality and quantity, springflow, and suitable ecosystems (aquatic, riparian, and watershed) not specific to any Covered Species; but rather, all the EAHCP Covered Species collectively in the Plan Area.
>
> **Biological Objectives**: may include, but are not limited to, springflow, water quality and quantity, research, and overall ecosystem health.

**Goal 2:** Promote community engagement and awareness of the EAHCP, support land and water conservation, and mitigate **anthropogenic stressors** and **natural disturbances** within the **Plan Area** that will benefit the **Covered Species.**

> **Reasoning:** This goal is intended to address societal interactions with the EAHCP, direct and indirect anthropogenic stressors (non-native species, recreational activities, pollution, climate change and regional population growth) and natural disturbances (e.g., droughts, floods, disease, and parasites) in the Plan Area.
>
> **Biological Objectives:** may include, but are not limited to, community outreach on species and habitat sensitivity, mitigation/recovery from disturbances and stressors including maintaining refugia populations to address unpredicted events and impacts, and land and water conservation in the Plan Area.

**Goal 3: Conserve habitats,** diverse native **submerged aquatic vegetation** assemblages, and **resilient** fountain darter populations in the Comal and San Marcos spring and river systems.

> **Reasoning:** This goal is specific to supporting habitat and resilient fountain darter populations in both the San Marcos and Comal spring systems. Additionally, this goal promotes native submerged aquatic vegetation diversity to prevent a monoculture of any single vegetation species.
>
> **Biological Objectives:** may include, but are not limited to, recreation management, native submerged aquatic vegetation restoration, springflow, and water quantity and quality, and all known biotic and abiotic species needs.

**Goal 4: Conserve** and manage **resilient** Texas wild-rice populations in the San Marcos spring and river system.

> **Reasoning:** This goal is specific to maintaining resilient Texas-wild rice populations. Management includes, but is not limited to, enhancement and restoration of Texas wild-rice.
>
> **Biological Objectives:** may include, but are not limited to, genetically diverse Texas wild-rice (wild, captive, and repatriated), recreation management,

springflow, water quality and quantity, and all known biotic and abiotic species needs.

**Goal 5: Conserve habitats** to support **resilient** populations of Texas blind salamander, Comal Springs dryopid beetle, Peck's cave amphipod, Edwards Aquifer diving beetle, and Texas troglobitic water slater in the **Plan Area.**

**Reasoning:** This goal is intended to ensure suitable habitat for the aquifer-dwelling Texas blind salamander, Comal Springs dryopid beetle, Peck's cave amphipod, Edwards Aquifer diving beetle, and Texas troglobitic water slater populations.

**Biological Objectives:** may include, but are not limited to, aquifer levels, springflow, water quality and quantity , and all known biotic and abiotic species needs.

**Goal 6: Conserve habitats** to support **resilient** Comal Springs riffle beetle populations in the **Plan Area.**

**Reasoning:** This goal is specific to maintaining resilient Comal Springs riffle beetle populations.

**Biological Objectives:** may include, but are not limited to, aquifer levels, springflow, recreation management, water quality and quantity , and all known biotic and abiotic Comal Springs riffle beetle species needs.

**Goal 7: Conserve** San Marcos spring and river **habitats** and **resilient** San Marcos salamander populations in the **Plan Area**.

**Reasoning:** This goal is intended to ensure suitable habitat and support resilient San Marcos salamander populations.

**Biological Objectives:** may include, but are not limited to, springflow, water quality and quantity, riverine habitats, recreation management, and all known biotic and abiotic San Marcos salamander species needs.

## 5. Glossary of Key Terms

- **Anthropogenic stressors:** Pressures or dynamics that impact ecosystem components or processes caused by human-associated activities, including, but not limited to, non-native species, biological pathogens (disease and parasites), recreation, pollution, climate change and population growth.

- **Conserve:** The preservation, protection, restoration, and enhancement of the Covered Species and their habitats.

- **Covered Species:** Species for which incidental take is authorized in an incidental take permit and is adequately covered in a habitat conservation plan. (HCP Handbook)

- **Habitat:** The location where a particular taxon of plant or animal lives and its surroundings, both biotic and abiotic. The term includes the presence of a group of particular natural conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography. (Modified from the HCP Handbook)

- **Natural disturbances:** This term includes, but is not limited to, flood and drought events, and biological pathogens (disease and parasites).

  **Plan Area:** The specific geographic area where Covered Activities described in the HCP, including mitigation, may occur. (HCP Handbook)

- **Resilient/Resiliency:** Includes, but is not limited to, maintaining genetic diversity, redundancy via refugia as available, and other population characteristics that support withstanding and recovery from disturbance (natural and anthropogenic). Moreover, resiliency includes the adaptive capacity of self-sustaining viable populations. Viable, meaning, the ability of a species to persist over the long term, and conversely, to avoid extinction over some time period. (Modified from the HCP Handbook)

- **Submerged aquatic vegetation (SAV):** Assemblages that have been recognized as native habitat that support viable fountain darter populations.

- **Suitable:** Right or appropriate for a particular species, purpose, or situation.

## 6. References

U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). 2016. Habitat Conservation Planning and Incidental Take Permit Processing Handbook. 361 pp + apps. https://www.fws.gov/endangered/what-we-do/hcp_handbook-chapters.html. (HCP Handbook)

# APPENDIX A

Biological Goals Subcommittee Charge

# Biological Goals Subcommittee Charge

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is currently in the process of renewing the Incidental Take Permit with the U.S. Fish and Wildlife Service. As part of that process, the existing components of the Habitat Conservation Plan (HCP) conservation strategy will be reassessed, new elements recommended, and modifications discussed. As a required component of habitat conservation plans, biological goals are a guide for quantified biological objectives and management actions taken through conservation measures to achieve the conservation strategy.

The purpose of this Subcommittee is to review, discuss and develop recommendations for the biological goal(s) that should be considered for inclusion in the next EAHCP.

**Specifically, the Subcommittee will:**

- Review the current EAHCP biological goals and the HCP Handbook as it pertains to biological goals development and structure.
- Develop initial recommendations for deletions, additions, or other changes to current biological goals.
- Finalize biological goal recommendations to be considered in the next EAHCP.
- Approve a report setting out the biological goal recommendations to be provided to the EAHCP Permit Renewal contractor.

**Members:**

- **Chair:** Mark Enders (Stakeholder Committee)
- Rachel Sanborn (Stakeholder Committee)
- Kimberly Meitzen (Stakeholder Committee)
- Kevin Mayes (Stakeholder Committee)
- Jacquelyn Duke (Science Committee)
- Charlie Kreitler (Science Committee)

**Subcommittee Organization:**

Pursuant to Subsection 8.1 of the Stakeholder Committee's operational rules, the Biological Goals Subcommittee is authorized to meet entirely through virtual means, or any combination of virtual and in-person meetings, and to finalize previously discussed drafts through email communications. Because of the short duration, Subcommittee members are not required to appoint alternates. The Subcommittee shall strive to achieve consensus on its recommendations, but, if, in the opinion of the Chair, consensus cannot be achieved by the deadline, the recommendations and report may be approved by a majority vote of the full Subcommittee as long as any member dissenting from approval is provided a reasonable opportunity to provide a succinct summary of the objections to the recommendations, which shall be included in the report.

A Subcommittee report setting out the recommendations for biological goals should be completed by March 31, 2023 and provided to the EAHCP Permit Renewal contractor by that date, with copies to the Stakeholder Committee, the Implementing Committee, the Science Committee, and the Biological Objectives Work Group.

# APPENDIX B

Meeting Handouts

# HABITAT CONSERVATION PLANNING

# AND

# INCIDENTAL TAKE PERMIT PROCESSING

# HANDBOOK

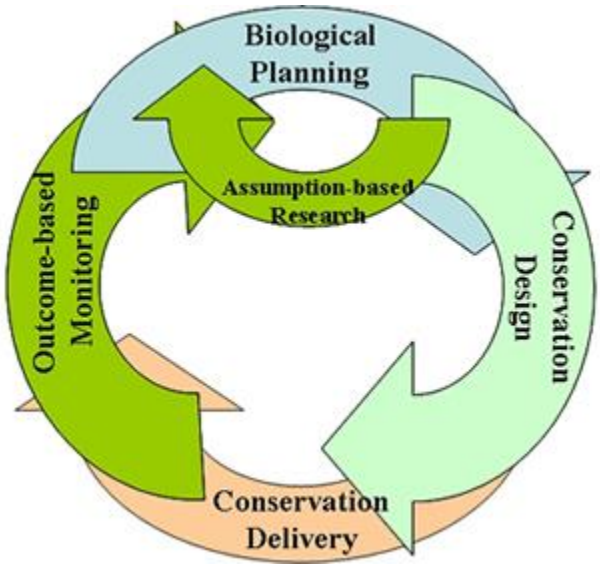
December 21, 2016

U.S. Department of the Interior
Fish and Wildlife Service

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

1. having an integrated framework to develop biological goals and objectives,
2. developing a monitoring framework to measure results,
3. developing an evaluation process to assess results, and
4. outlining a systematic learning process to use what will be learned to improve future decisions.

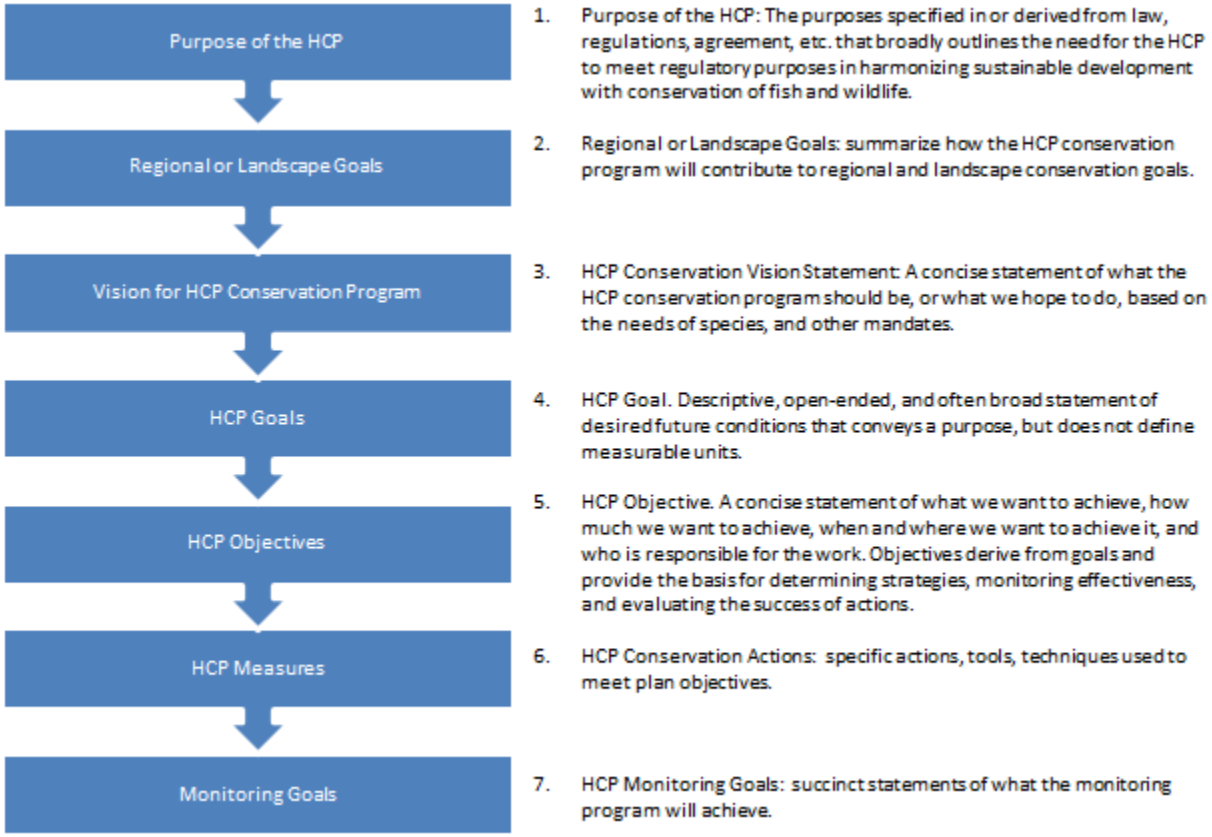
**Figure 9.0a: Strategic Habitat Conservation**




## 9.1 HCP Biological Goals

HCPs are but one conservation tool implementing conservation across different geographies at different sizes and scales. Development of the conservation strategy, including its goals, should be framed within this broader wildlife conservation context. HCP goals are built on the foundation of broader conservation efforts occurring at larger scales. Building upon the existing hierarchy of goals and purposes will improve conservation of species by allowing even modest implementation efforts to contribute to something bigger. See figure 9.1e.

**Figure 9.1e: Hierarchy of Goals and Purposes**




By framing HCP goals within the context of larger conservation efforts it should become clear how the HCP may:

- affect recovery of species,
- further progress on large scale planning efforts like Landscape Conservation Cooperatives (LCCs) and State Wildlife Action Plans,
- help build more resilience and adaptive capacity for species to withstand future climatic change,
- help protect large scale migration or movement corridors.

**Helpful Hint: Consistent with agency policies and the use of the best available science, we integrate adaptation strategies for climate change effects into our planning, programs, and operations. As goals and objectives are developed we must ask if they are still attainable given the projected down-scaled effects of climate change in the HCP plan area. For example, the *Climate-Smart Conservation* guide calls for developing an initial set of goals through the lens of assessing climate impacts and vulnerability, and reviewing/revising conservation goals as needed. (See also section 9.3.2, below.)**

Biological goals broadly describe the desired future conditions of an HCP in succinct statements. Each goal steps down to one or more objectives that define how to achieve these conditions in measurable terms. A well-written goal directs work toward achieving the vision and purpose of an HCP.

It takes careful thought to develop productive and meaningful goals, and it is a critical step. In a few concise statements, goals comprise the HCP's effort in pursuit of its vision and lay the foundation from which all conservation activities arise. Management activities result from goals, and not the other way around. Goals must be developed *before* developing objectives and conservation measures to orient management direction, both during plan development and throughout implementation.

Ideally, the applicant should develop HCP goals and objectives in close coordination with the Services as they are the foundation upon which the HCP is built. An excellent resource on developing goals and objectives is the FWS's document: "Writing Refuge Management Goals and Objectives: A Handbook" (see the HCP Handbook Toolbox).

Goals and objectives guide management actions taken for an HCP to meet its conservation vision. Well-developed goals and objectives are key in focusing actions to efficiently and effectively manage the landscape to achieve the desired condition and to ultimately conserve species.

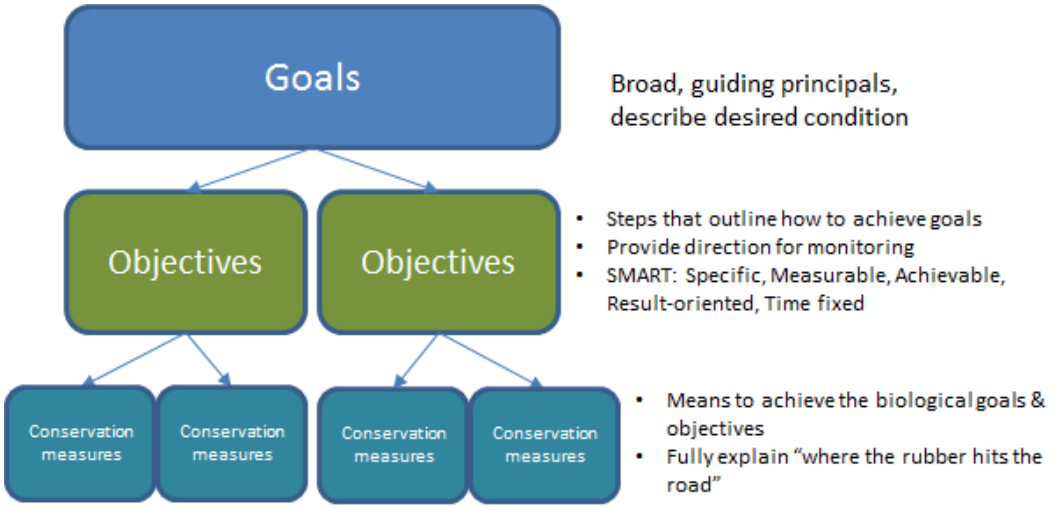
The first consideration when developing biological goals and objectives for an HCP is the scale of the plan. A biological goal for a small HCP (e.g., a single family residence) may be obvious (a well-known recovery plan objective) and simple – contributing to conservation. For example, a goal may be to contribute to the conservation of the covered species by either leaving and protecting (with a conservation easement in perpetuity) 8 acres of a 10-acre property in its natural state for the species or by purchasing the appropriate number of credits from a conservation bank before clearing and construction begins (objectives). Goals and objectives for a bigger HCP will likely require more consideration.

When developing biological goals and objectives, use existing conservation information to guide them, like: species recovery plans or outlines, 5 year status reviews, spotlight species actions plans, State Wildlife Action Plans, species status assessments, candidate conservation plans, and any other existing documents with conservation strategies for the covered species that are the best scientific information available. These plans often evaluate species' status and make recommendations about what it will take to get the population to a desired condition. To develop the most effective goals and objectives, relevant expertise (e.g., species experts, listing/recovery team members, climate change specialists, and State wildlife agencies) should be sought and included in their development.

The development of vision statements, goals, and objectives is iterative, and they may need to change during the HCP development process as the plan changes or as new information becomes available. However, it is critical that you initiate the process at the beginning and preserve the hierarchical nature of the relationship. It is important not to choose measures without objectives, develop objectives without goals, or establish goals without first articulating a vision for the HCP's conservation program. Building from the hierarchy of purpose and goals will allow you to

identify existing and future efforts that may need to be refocused or eliminated. Figure 9.1a shows the relationship between goals, objectives, and measures.

**Figure 9.1a: Biological Goals and Objectives**




*9.1.1 Developing Useful Goals and Objectives*

The applicant and the Services should collaborate to develop goals. These goals serve as the foundation of the conservation strategy and should be used to guide how the rest of the plan is developed and implemented.

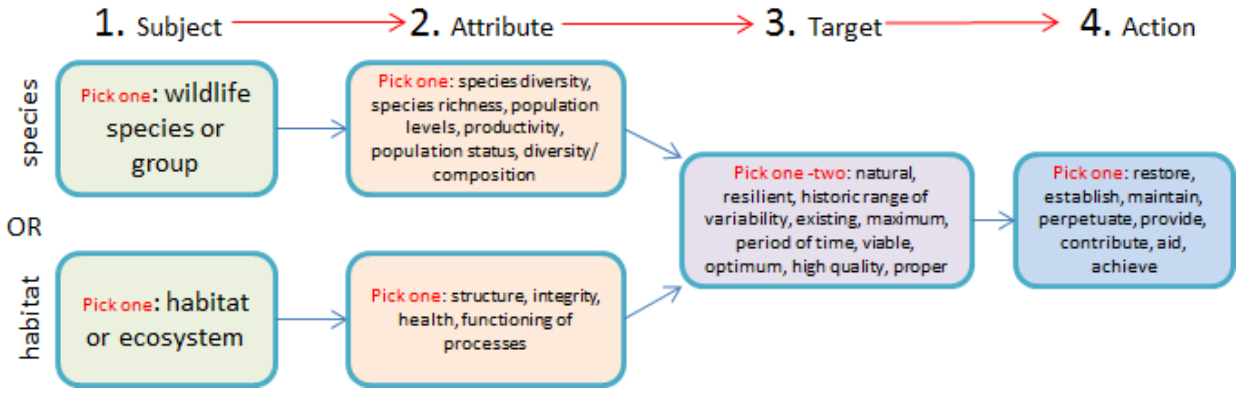
Goals must:

- broadly state desired future condition,
- be descriptive, and
- be clear and understandable to all, not just to those at the table developing them.

Figure 9.1b serves as a guide for developing and assessing biological goals. Each biological goal should contain these four elements:

1. the key **subject** of concern (e.g., a particular species or guild, a biotic community, or a habitat type);
2. the **attribute** of interest for that subject (e.g., population size, physical area covered, species composition);
3. the **target** or condition for the attribute (e.g., a number, period of time, historic condition). In selecting this, keep climate change effects in mind, since depending on the situation and timeframe for the HCP, it may or may not make sense for the target to involve the historic range of variability or existing conditions; and
4. the **action** or effort (e.g., restore, provide) that will be made to achieve the target.

**Figure 9.1b: Four Elements of a Biological Goal**




HCP goals should address the broad biological needs of the species. They can be focused on a number of species needs or reducing threats, such as:

- maintaining a specific species life history characteristic,
- providing conditions necessary for an important life history characteristic, or
- restoring something to historic or more desirable conditions, or establishing desirable conditions that facilitate transformation in response to effects of climate change or other stressors that cannot be addressed using traditional restoration approaches

All of these examples should be based on the specific needs of species in the plan area, but contribute to broader species needs.

These goals need to be forward thinking and "truthed" with a reasonableness of likely future climatic conditions. Depending on the local situation and time period covered, future-oriented goals can vary along a continuum from managing for persistence to managing for transformation, and shift over time from persistence to transformation. With climate change effects in mind, are the goals still achievable? If not, consider adjusting them to make them achievable with future climatic conditions in mind.

**Example Goals:**

Example goal 1: Bogus Bat: self-sustaining population of bogus bats in the preserve system that can withstand threats, is genetically representative of neighboring populations, and contributes to the overall recovery of the species.

Example goal 2: Swamp habitat: hydrologic integrity of the Mucky Swamp within the natural state of variability and function maintained within future climatic constraints.

#### 9.1.1.1 Habitat-Based Goals vs. Species-Based Goals

HCPs that use habitat as a surrogate for species impacts can express conservation goals in terms of habitat area trends (objectives), but there must be an established correlation between species numbers, reproduction, and/or distribution and its habitat. In addition, there must be some way to reliably determine how effective the mitigation is for covered species.

For example: a species based goal might set specific population or life history targets for a covered species, such as percent of nestlings fledged or over-winter survival. In a habitat-based approach, the goal would be based on protecting, restoring, and establishing a specific type or amount of habitat for a covered species. In the case of the habitat based goal, the connection between habitat and covered species is really important to understand. Usually, protecting unoccupied habitat for a covered species does little for the species, however protecting a corridor that connects two important habitats can be important for the species' conservation.

Example habitat-based goal:

> Goal: Maintain and enhance functional grassland communities that benefit covered species and promote native biodiversity.
>
> Goal: Improve the quality of streams and the hydrologic and geomorphic processes that support them to maintain a functional aquatic and riparian community to benefit covered species and promote native biodiversity.
>
> Goal: Maintain a functional riparian forest and scrub community at a variety of successional stages and improve these communities to benefit covered species and promote native biodiversity.

Considerations for inclusion with or as goals:

- building in fire resiliency for an area and covered species affected by increased fire
- connectivity to important habitat or populations
- climatic refugia for climate sensitive species/habitats
- building in resilience to extreme changing conditions (e.g. vegetative buffers against storm surge, restoration to stabilize habitat prone to flooding, etc.)

Example species-based goal:

> Goal: Swainson's hawk: maintain or increase population size and distribution of Swainson's hawk in the inventory area
>
> Goal: foothill yellow-legged frog: protect, maintain, or increase populations of foothill yellow-legged frog

*9.1.2 Responsibility for Developing Biological Goals and Objectives*

Development of goals and objectives should be done jointly with the Services and the applicant. Field Office staff should be involved and engaged in the process to develop goals and objectives as the goals and objectives will be used to guide development of the entire plan.

### *9.1.3 When to Develop Goals and Objectives*

Once the applicant and the Services have completed the 'Getting Started Questionnaire' or similar guiding document, they should start developing the hierarchy of goals and purposes. Maintaining the order of the hierarchy is important in building a strong foundation for the HCP.

### *9.1.4 Number of Biological Goals*

There must be sufficient specificity in the articulated goals to guide the conservation strategy development and implementation. In some cases, goals will be needed for each covered species. In other cases, groups of covered species can fall under the umbrella of a single goal. Each plan will be different.

## 9.2 Biological Objectives

Objectives are the incremental steps taken to achieve a goal. Objectives are derived from goals, and they provide a foundation for determining conservation measures, monitoring direction, and evaluating effectiveness of the conservation strategy. The number of objectives per goal will vary, but there should be enough to adequately describe how to achieve the goal. An implementation schedule may be beneficial if a goal has several objectives.

### *9.2.1 SMART*

SMART is an important acronym for reminding us of the essential elements of a good objective. Objectives need to be:

- **S**pecific
- **M**easurable
- **A**chievable
- **R**esult-oriented
- **T**ime-fixed

**Specific**: Objectives must clearly articulate what is to be achieved. Avoid ambiguity by phrasing objectives clearly. A clearly phrased objective is easy to understand and the meaning is difficult to misinterpret. Be as specific as possible. WHO will do the action? WHAT will they do? WHEN and WHERE will they do it? Avoid phrases that are subject to interpretation, like "maintain high-quality habitat." "High-quality habitat" can be interpreted in many ways.

**Measurable**: Objectives should contain a measurable element that we can readily monitor to determine success or failure. First ask, "What would we monitor to assess progress toward achieving this objective?" Then ask, "How do we quantify it?" For example, to determine progress toward "high-quality habitat," identify what defines "high quality." That may mean having certain plant community composition, vegetative structure and density. Then to further define "high quality habitat," quantify each component. In this example, you might list the desired proportion of each plant species, the height of a plant type, and number of individuals in a specified unit of area. The nature of the measurable element may vary, as might the difficulty in measuring it. Still, you must have something to indicate progress. While evaluating a water

# Summary of the Current EAHCP Biological Goals

1. **Fountain Darter – Comal System**
    a. Quantified as areal coverage of aquatic vegetation (habitat) within four representative reaches of the Comal system and fountain darter density (population measurement) per aquatic vegetation type. (EAHCP Table 4-1)
    b. The population measurement goal is to maintain the median densities of fountain darters observed per aquatic vegetation type per system at a level greater than or equal to that observed over the past 10 years in the EAA Variable Flow Study monitoring.

2. **Fountain Darter – San Marcos System**
    a. Quantified as areal coverage of habitat within three representative river reaches of the San Marcos system and fountain darter density (population measurement) per aquatic vegetation type (EAHCP Table 4-21).
    b. The population measurement goal is to maintain greater than or equal to the median densities per aquatic vegetation type per system over the past 10 years in the EAA Variable Flow Study monitoring.

3. **Comal Springs riffle beetle**
    a. Maintain silt-free habitat conditions via continued springflow, riparian zone protection, and recreation control throughout each of the three sample reaches.
    b. Population measurement goals is to maintain grater than or equal to the median densities observed over the past six years of EAA Variable Flow Study monitoring.

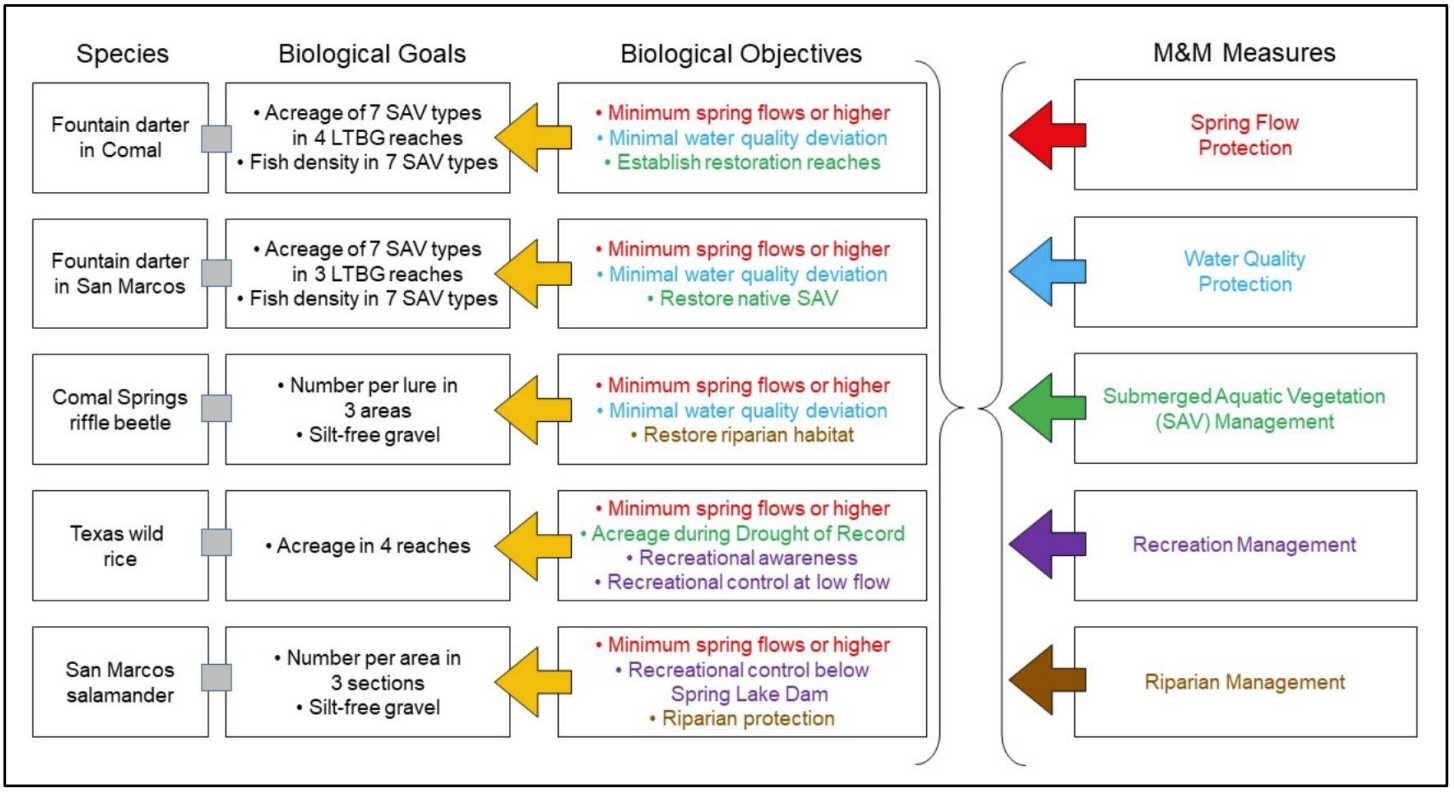
4. **Comal Springs dryopid beetle and Peck's Cave Amphipod**
    a. Note: Grouped together as subterranean species inhabiting the Comal system.
    b. Water quality goal:
        i. To not exceed a 10 percent deviation (daily average) from historically recorded water quality conditions (long-term average) within the Edwards Aquifer as measured issuing from the spring openings at Comal Springs.

5. **Texas wild-rice**
    a. Areal coverage (quantified) over a spatial extent of the San Marcos River (EAHCP Table 4-10).

6. **San Marcos salamander**
    a. Note: Goals are similar to the fountain darter and Comal Springs riffle beetle approach.
    b. Habitat perspective: Goal is to maintain silt-free habitat conditions via continued springflow, riparian zone protection, and recreation control throughout each of the three representative reaches.
    c. Population measurement goal is to maintain greater than or equal to the median densities observed over the past 10 years of monitoring (EAHCP Table 4-25).

7. **Texas blind salamander**
    a. Note: Goals are similar to the Comal Springs dryopid beetle and Peck's Cave amphipod (subterranean species).
    b. Water quality goal:
        i. Not to exceed a 10 percent deviation (daily average) from historically recorded water quality conditions (long-term average) within the Aquifer as measured issuing from the spring openings in Spring Lake.

Figure taken from the National Academies of Sciences Report 3.



# APPENDIX C

Meeting Agendas

# Biological Goals Subcommittee

Meeting 1 Agenda
February 2, 2023
2:00pm – 4:00pm

1. **Confirm attendance**

2. **Meeting logistics**

   a. Virtual meeting logistics
   b. Meeting POCs
   c. Subcommittee logistics

3. **Overview of the Biological Goals Subcommittee Charge and meeting process.**

4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals.**

5. **Review and discussion of the current EAHCP Biological Goals.**

6. **Discussion to identify the type of Biological Goal(s) to proceed with.**

7. **Questions from the public**

8. **Future meetings**

9. **Adjourn**

# Biological Goals Subcommittee

Meeting 2 Agenda
February 16, 2023
2:00pm – 4:00pm

1. **Confirm attendance**

2. **Meeting logistics**

   a. Virtual meeting logistics
   b. Meeting POCs

3. **Overview of Meeting #1 discussion.**

4. **Consider staff recommendation to develop new biological goals for the next EAHCP.**

5. **Discussion on the development of Biological Goals.**

6. **Questions from the public**

7. **Future meetings**

8. **Adjourn**

# Biological Goals Subcommittee

Meeting 3 Agenda
March 2, 2023
2:00pm – 4:00pm

1. **Confirm attendance.**

2. **Meeting logistics.**

   a. Virtual meeting logistics
   b. Meeting POCs

3. **Approval of meeting minutes from February 2 and February 16, 2023.**

4. **Overview of Meeting #2.**

5. **Continued discussion on suggested Biological Goals.**

6. **Next steps of the Biological Goals Subcommittee.**

7. **Questions from the public.**

8. **Future meetings.**

9. **Adjourn.**

# Biological Goals Subcommittee

Meeting 4 Agenda
March 16, 2023
2:00pm – 4:00pm

1. **Confirm attendance.**

2. **Meeting logistics.**

   a. Virtual meeting logistics
   b. Meeting POCs

3. **Approval of meeting minutes from March 2, 2023.**

4. **Review of final Biological Goal recommendations and Subcommittee Report.**

5. **Consideration to approve the Biological Goals Subcommittee Report.**

6. **Questions from the public.**

7. **Future meetings.**

8. **Adjourn.**

# APPENDIX D

Presentations

# Biological Goals Subcommittee – Meeting #1

February 2, 2023

Microsoft Teams

1

## Meeting Logistics

- Meeting Materials available on the EAHCP website under – Biological Goals Subcommittee
- Contact Olivia Ybarra for more info: oybarra@edwardsaquifer.org
- IT Support: Jesus Hinojosa: jhinojosa@edwardsaquifer.org

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# Meeting Logistics

- Decisions made by consensus.
- If consensus cannot be achieved by the deadline, the recommendations may be approved by a majority vote of the full Subcommittee.
- Any dissension from a member will be included in the final report.

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# Members

- **Chair:** Mark Enders (Stakeholder Committee)
- Rachel Sanborn (Stakeholder Committee)
- Kimberly Meitzen (Stakeholder Committee)
- Kevin Mayes (Stakeholder Committee)
- Jacquelyn Duke (Science Committee)
- Charlie Kreitler (Science Committee)

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# Biological Goals Subcommittee Charge

- Review the current EAHCP biological goals and the HCP Handbook as it pertains to biological goals development and structure.
- Develop initial recommendations for deletions, additions, or other changes to current biological goals.
- Finalize biological goal recommendations to be considered in the next EAHCP.
- Approve a report setting out the biological goal recommendations to be provided to the EAHCP Permit Renewal contractor.

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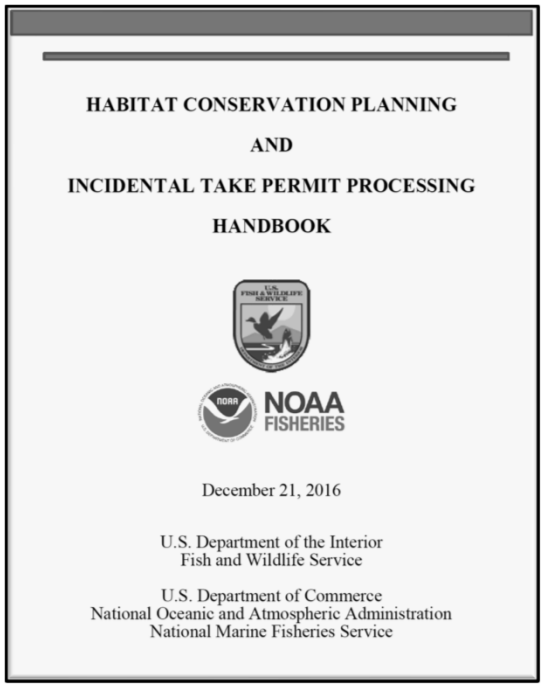

HABITAT CONSERVATION PLANNING

AND

INCIDENTAL TAKE PERMIT PROCESSING

HANDBOOK

NOAA FISHERIES

December 21, 2016

U.S. Department of the Interior
Fish and Wildlife Service

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

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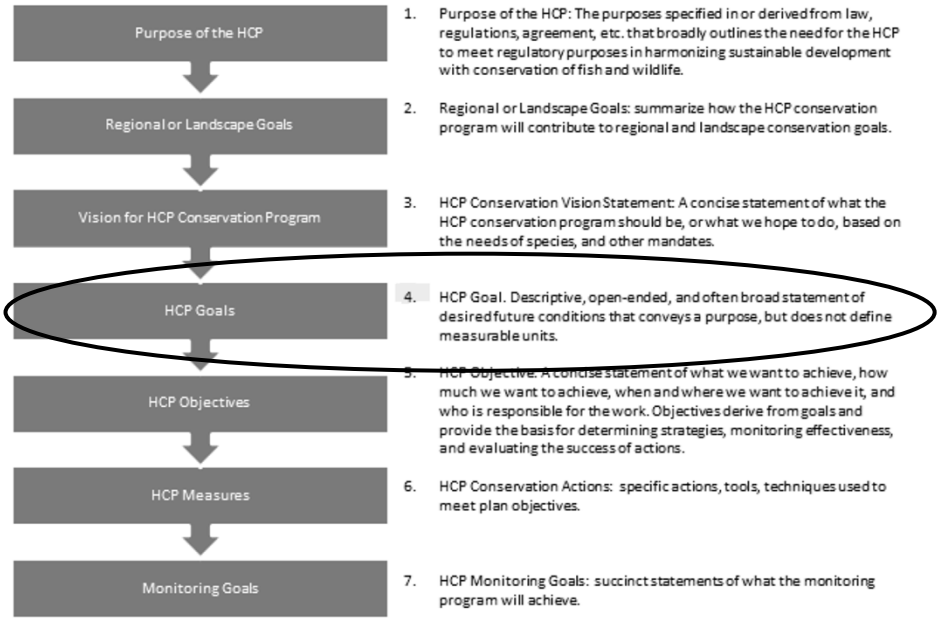
**Figure 9.1e: Hierarchy of Goals and Purposes**

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# Handbook pg. 9-6

- Biological goals broadly describe the desired future conditions of an HCP in succinct statements.
- Each goal steps down to one or more objectives that define how to achieve these conditions in measurable terms.
- A well-written goal directs work toward achieving the vision and purpose of an HCP.

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# Biological Goals are **not**….

- An HCP is not a recovery plan (but should be consistent with existing recovery plans)
- They are not restatements of the issuance criteria in the ESA or the regulations
- They are not restatements of other regulations, policies, or guidance

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# Biological Goals

**Figure 9.1a: Biological Goals and Objectives**


Broad, guiding principals, describe desired condition

- Steps that outline how to achieve goals
- Provide direction for monitoring
- SMART: Specific, Measurable, Achievable, Result-oriented, Time fixed

- Means to achieve the biological goals & objectives
- Fully explain "where the rubber hits the road"

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# Goals must:

- broadly state desired future condition,
- be descriptive, and
- be clear and understandable to all, not just to those at the table developing them.

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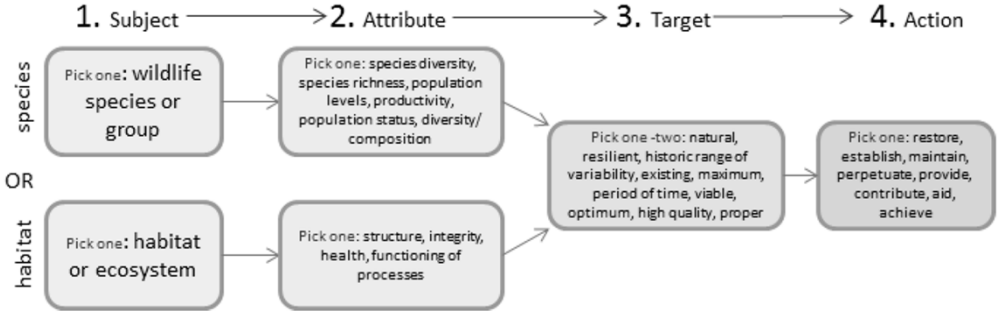
# Elements of a Biological Goal

**Figure 9.1b: Four Elements of a Biological Goal**

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# Example Biological Goals

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# Example: Species Based Goals

Example species-based goal:

Goal: Swainson's hawk: maintain or increase population size and distribution of Swainson's hawk in the inventory area

Goal: foothill yellow-legged frog: protect, maintain, or increase populations of foothill yellow-legged frog

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# BSEACD HCP – Barton Springs Edwards Aquifer

The biological goals of the District HCP are to:

- Minimize drought-related decreases in size and health of the Barton Springs salamander population to the maximum extent practicable,
- Minimize drought-related decreases in size and health of the Austin blind salamander population to the maximum extent practicable, and
- Promote recovery of the populations from those decreases to levels required for their long-term viability.

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# Example: Habitat Based

Example habitat-based goal:

Goal: Maintain and enhance functional grassland communities that benefit covered species and promote native biodiversity.

Goal: Improve the quality of streams and the hydrologic and geomorphic processes that support them to maintain a functional aquatic and riparian community to benefit covered species and promote native biodiversity.

Goal: Maintain a functional riparian forest and scrub community at a variety of successional stages and improve these communities to benefit covered species and promote native biodiversity.

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# Upper Santa Ana River HCP

The HCP Goals will be accomplished within the HCP Preserve System and are as follows:

**HCP Goal 1:** Conserve Covered Species and manage their habitats to contribute to the recovery of listed species or those that may become listed under the Federal Endangered Species Act.

**HCP Goal 2:** Maintain or simulate natural ecological processes necessary to maintain the functionality of the natural communities and habitats upon which the Covered Species depend within the HCP Preserve System and to the greatest extent possible outside the HCP Preserve System.

**HCP Goal 3:** Maintain or increase habitat connectivity in the HCP Preserve System and to adjacent protected habitat areas to reduce isolation between metapopulations of Covered Species.

**HCP Goal 4:** Actively manage lands within the HCP Preserve System for the benefit of Covered Species to maintain or increase the health of populations.

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# Current Biological Goals

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# Comal System: Fountain Darter

**Fountain Darter**

***Long-term Biological Goals***

The long-term biological goals for the fountain darter at Comal Springs are quantified as areal coverage of aquatic vegetation (habitat) within four representative reaches of the Comal system (Upper Spring run [upstream most portion of the system to Spring Island], Landa Lake [Spring Island to the outflow to Old and New channels], Old Channel, and New Channel) and fountain darter density (population measurement) per aquatic vegetation type. (Figure 4-1). The habitat-based and population measurement goals are presented in Table 4-1 and include proposed aquatic vegetation restoration efforts. The population measurement goal is to maintain the median densities of fountain darters observed per aquatic vegetation type per system at a level greater than or equal to that observed over the past 10 years in the EAA Variable Flow Study monitoring.

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# Comal System: Habitat-based and population measurement goals for the Fountain Darter

**TABLE 4-1[2]**
**TABLE 4-1 FOUNTAIN DARTER HABITAT (AQUATIC VEGETATION) IN METERS SQUARED ($M^2$) AND FOUNTAIN DARTER MEDIAN DENSITY (NUMBER/$M^2$) PER HABITAT TYPE**

| Fountain darter habitat (aquatic vegetation) goal in meters squared ($m^2$) | | | | | | |
|---|---|---|---|---|---|---|
| Study Reach | Bryophytes | *Potamogeton* | *Ludwigia* | *Cabomba* | *Sagittaria* | *Vallisneria* |
| Upper Spring Run Reach | 1,750 | 0 | 25 | 25 | 850 | 0 |
| Landa Lake | 3,950 | 25 | 900 | 500 | 2,250 | 12,500 |
| Old Channel | 550 | 0 | 425 | 180 | 450 | 0 |
| New Channel | 150 | 0 | 100 | 2,500 | 0 | 0 |
| TOTAL | 6,400 | 25 | 1,450 | 3,205 | 3,550 | 12,500 |
| Fountain darter median density goal (number/$m^2$) | | | | | | |
| | Bryophytes | *Potamogeton* | *Ludwigia* | *Cabomba* | *Sagittaria* | *Vallisneria* |
| | 20 | 3.3 | 7 | 7 | 1 | 1 |

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# San Marcos System: Fountain Darter

## Fountain Darter

***Long-term Biological Goals***

The long-term biological goals for the fountain darter are quantified as areal coverage of habitat within three representative river reaches of the San Marcos system (Figure 4-3) and fountain darter density (population measurement) per aquatic vegetation type. These habitat-based and population measurement goals are presented in Table 4-21. The population measurement goal is to maintain greater than or equal to the median densities observed per aquatic vegetation type per system over the past 10 years of EAA Variable Flow Study monitoring.

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# San Marcos System: Fountain Darter

**TABLE 4-21[5]**
**FOUNTAIN DARTER HABITAT (AQUATIC VEGETATION) IN METERS SQUARED ($m^2$) AND FOUNTAIN DARTER DENSITY (NUMBER/$m^2$) PER HABITAT TYPE**

| Fountain darter habitat (aquatic vegetation) in meters squared ($m^2$) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Study Reach | | *Ludwigia* | *Cabomba* | *Potamogeton* | *Sagittaria* | *Hydrocotyle* | *Zizania* |
| Spring Lake Dam | | 100 | 50 | 200 | 200 | 50 | 700 |
| City Park | | 150 | 90 | 1,450 | 300 | 10 | 1,750 |
| IH-35 | | 50 | 50 | 250 | 150 | 50 | 600 |
| TOTAL | | 300 | 190 | 1,900 | 650 | 110 | 3,050 |
| Fountain darter median density (numbers/$m^2$) | | | | | | | |
| | | *Ludwigia* | *Cabomba* | *Potamogeton* | *Sagittaria* | *Hydrocotyle* | *Zizania* |
| | | 7 | 7 | 5 | 1 | 4 | 5 |

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# Comal Springs Riffle Beetle

## Comal Springs Riffle Beetle

***Long-term Biological Goals***

The long-term biological goals for the Comal Springs riffle beetle involve a qualitative habitat component and quantitative population measurement. As with the fountain darter, a representative reach approach was employed. From a habitat perspective, the goal is to maintain silt-free habitat conditions via continued springflow, riparian zone protection, and recreation control throughout each of the three sample reaches (Spring Run 3, Western shoreline, and Spring Island area). (Figure 4-2). Additionally, the population measurement goal is to maintain greater than or equal to the median densities observed over the past six years of EAA Variable Flow Study monitoring..

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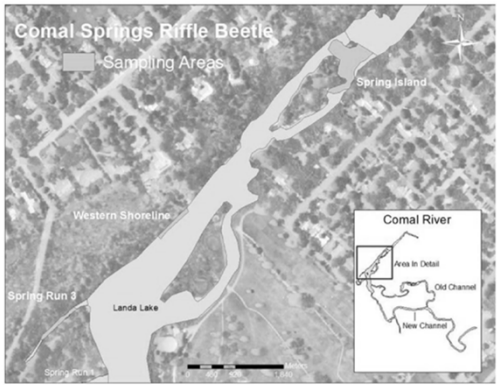
# Comal Springs Riffle Beetle: Goals

**TABLE 4-7**
**COMAL SPRINGS RIFFLE BEETLE LONG-TERM BIOLOGICAL GOALS**

| | Spring Run 3 | Western Shoreline | Spring Island Area |
|---|---|---|---|
| Habitat | Silt-free gravel and cobble substrate ≥ 90% of each study area | | |
| Density (# of CSRB/ Lure) | ≥20 | ≥15 | ≥15 |

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# Comal Springs Dryopid Beetle and Peck's Cave Amphipod

**Comal Springs Dryopid Beetle and Peck's Cave Amphipod**

***Long-term Biological Goal***

The Comal Springs dryopid beetle and Peck's Cave amphipod are subterranean species inhabiting the Comal system. The subterranean nature and restricted range of the Comal Springs dryopid beetle (to the headwaters of the springs and spring upwelling areas) suggests that it does not require substantial surface discharge from springs to survive and presumes that springflow (of sufficient water quality) that continually covers the spring orifice should prevent long-term detriment to the population. EARIP (2009). Similarly, the Peck's Cave amphipod requirements include sufficient springflow covering the spring orifices and adequate water quality to prevent long-term adverse impacts to the species. (*Id.*).

As such, the long-term biological goal for these subterranean species focuses on Aquifer water quality as well as a springflow component. The water quality goal is:

- to not exceed a 10 percent deviation (daily average) from historically recorded water quality conditions (long-term average) within the Edwards Aquifer as measured issuing from the spring openings at Comal Springs.

This includes all water quality constituents currently measured in the EAA Variable Flow Study. This goal assumes that a 10 percent deviation would be acceptable; however, more extensive work to evaluate and assess water quality tolerances of these species will be addressed as part of the AMP.

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# Texas wild-rice

***Long-term Biological Goal***

The long-term biological goal for Texas wild-rice has been determined by an evaluation of: (1) the maximum occupied area of Texas wild-rice that has been present in the San Marcos system over time; (2) TPWD analysis of the Hardy (2010) physical habitat modeling; and (3) the 1996 USFWS recovery plan goals.

The long-term biological goal for Texas wild-rice is presented in Table 4-10 and subsequent discussion.

***Flow-related Objectives***

The long-term biological goals for Texas wild-rice are defined as areal coverage over a spatial extent of the San Marcos River (*see* Table 4-10). However, because of the uncertainty associated with the long-term biological goals, the associated management objectives necessitate the flow-related objectives presented above in Table 4-13.

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# Texas wild-rice

**TABLE 4-10**
**LONG-TERM BIOLOGICAL GOAL FOR TEXAS WILD-RICE**

| River Segment | Areal Coverage ($m^2$) | Reach Percentage of Total Areal Coverage |
|---|---|---|
| Spring Lake | 1,000 – 1,500 | n/a |
| Spring Lake Dam to Rio Vista Dam | 5,810 – 9,245 | 83 – 66 |
| Rio Vista Dam to IH-35 | 910 – 1,650 | 13 – 12 |
| Downstream of IH-35 | 280 – 3,055 | 4 – 22 |
| TOTAL | 8000 – 15,450 | 100 |

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# San Marcos salamander

**San Marcos Salamander**

***Long-term Biological Goals***

The long-term biological goals for the San Marcos salamander include a qualitative habitat component and a quantitative population measurement. As with the fountain darter and riffle beetle, a representative reach approach was employed. From a habitat perspective, the goal is to maintain silt-free habitat conditions via continued springflow, riparian zone protection, and recreation control throughout each of the three representative reaches (Hotel area, Riverbed area, and eastern spillway below Spring Lake Dam) (Figures 4-3, 4-4). Additionally, the population measurement goal is to maintain greater than or equal to the median densities observed over the past 10 years of monitoring. Table 4-25 summarizes long-term biological goals.

**TABLE 4-25**
**SAN MARCOS SALAMANDER LONG-TERM BIOLOGICAL GOALS**

| | Hotel Area (Spring Lake) | Riverbed Area (Spring Lake) | Eastern Spillway below (Spring Lake) |
|---|---|---|---|
| Habitat | Silt-free gravel and cobble substrate ≥ 90% of each study area | | |
| Density (# of salamanders/$m^2$) | ≥15 | ≥10 | ≥5 |

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# Texas Blind-Salamander

**Texas Blind Salamander**

***Long-term Biological Goal***

Similar to the Comal Springs dryopid beetle and Peck's Cave amphipod, the Texas blind salamander is a subterranean species. An assumption of the HCP is that as subterranean species, mechanisms exist for these species to retreat into the Aquifer should springflows cease at the spring outlets at San Marcos Springs. As such, the long-term biological goal for this subterranean species relates to Aquifer water quality. The water quality goal for the Texas blind salamander is:

- Not to exceed a 10 percent deviation (daily average) from historically recorded water quality conditions (long-term average) within the Aquifer as measured issuing from the spring openings in Spring Lake.

This includes water quality constituents currently measured in the EAA Variable Flow Study. (*See* Section 5.7.2). To be conservative, the long-term goal assumes that a 10 percent deviation would be acceptable; however, more extensive work to evaluate and assess the validity of that assumption and the water quality tolerances of the Texas blind salamander will be considered in the AMP.

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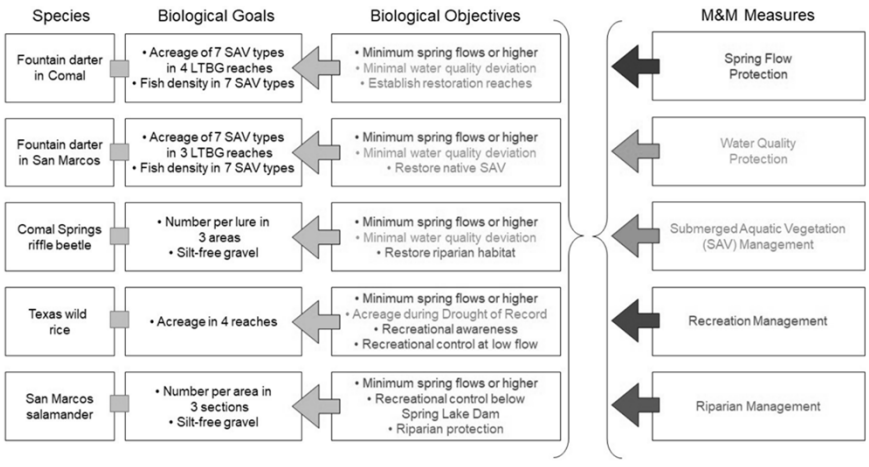
# NAS Report 3

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# Biological Goals Subcommittee

Meeting 1 Agenda
February 2, 2023
2:00pm – 4:00pm

1. **Confirm attendance**
2. **Meeting logistics**
   a. Virtual meeting logistics
   b. Meeting POCs
   c. Subcommittee logistics
3. **Overview of the Biological Goals Subcommittee Charge and meeting process.**
4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals.**
5. **Review and discussion of the current EAHCP Biological Goals.**
6. **Discussion to identify the type of Biological Goal(s) to proceed with.**
7. **Questions from the public**
8. **Future meetings**
9. **Adjourn**

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# Covered Species

- Fountain Darter
- Comal Springs riffle beetle
- Comal Springs dryopid beetle
- Peck's Cave Amphipod
- Texas wild-rice
- ~~San Marcos gambusia~~
- ~~Comal Springs salamande~~r
- Texas blind salamander
- San Marcos salamander
- Edwards Aquifer diving beetle
- Texas troglobitic water slater

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# Suggestion: Group by Species Type

Macroinvertebrates

- Peck's Cave amphipod
- Edwards Aquifer diving beetle
- Texas troglobitic water slater
- Comal Springs riffle beetle
- Comal Springs dryopid beetle

Salamanders

- Texas blind salamander
- San Marcos salamander

Texas wild-rice

Fountain darter

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# Suggestion: Group Species by Habitat

Subterranean Species (Aquifer Dwelling)

- Edwards Aquifer diving beetle
- Texas troglobitic water slater
- Texas blind salamander

Spring/River Dwelling

- Texas wild-rice
- Fountain darter

Both Subterranean and Spring/River Dwelling

- Peck's Cave amphipod
- Comal Springs riffle beetle
- Comal Springs dryopid beetle
- San Marcos salamander

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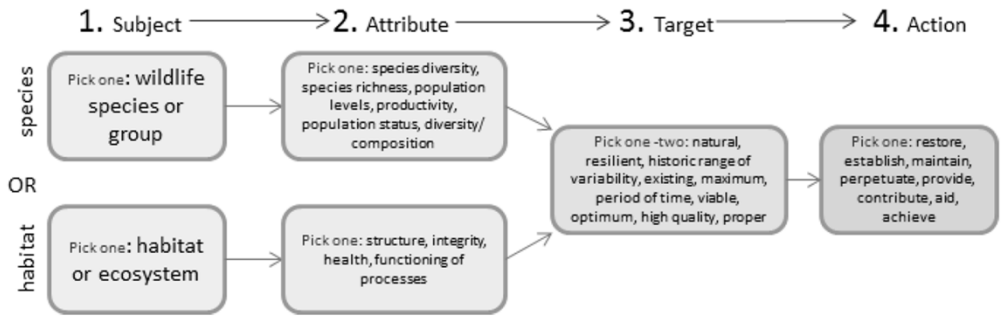
# Elements of a Biological Goal

**Figure 9.1b: Four Elements of a Biological Goal**

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# Questions?

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# Suggestions from the Listen & Learn Report

- Maintain springflow conducive to the protection of **Covered Species**.
- Extend the area of habitat restoration for the **Covered Species** further downstream.
- Maintain or create informed users of the Comal and San Marcos Springs.

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# Suggestion: Goal(s) per group

- Maintain genetically diverse populations of **Texas wild-rice** in the San Marcos River.
- Provide and maintain a diverse native aquatic vegetation community to support viable **fountain darter** populations in the spring systems.
- Maintain adequate water quality standards and springflow for **macroinvertebrate** and **salamander** populations in the spring systems.
- Contribute to the education of Comal and San Marcos River recreators on the importance of habitat conservation in relation to the **Covered Species**.
- Support land conservation over the Edwards Aquifer recharge zone.

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EDWARDS AQUIFER
HABITAT CONSERVATION PLAN

# Biological Goals Subcommittee – Meeting #2

February 16, 2023

Meadows Center for Water and the Environment & Microsoft Teams

1

## Meeting Logistics

**This meeting is being recorded**

- Meeting Materials available on the EAHCP website under – Biological Goals Subcommittee
- Contact Olivia Ybarra for more info: oybarra@edwardsaquifer.org
- IT Support: Jesus Hinojosa: jhinojosa@edwardsaquifer.org

EAHCP

2

# Overview of Meeting #1

- Subcommittee introductions
- Current Biological Goals
- HCP Handbook – Chapter 9 and other meeting materials.
- Discussion on proposed Biological Goals and species categories.

3

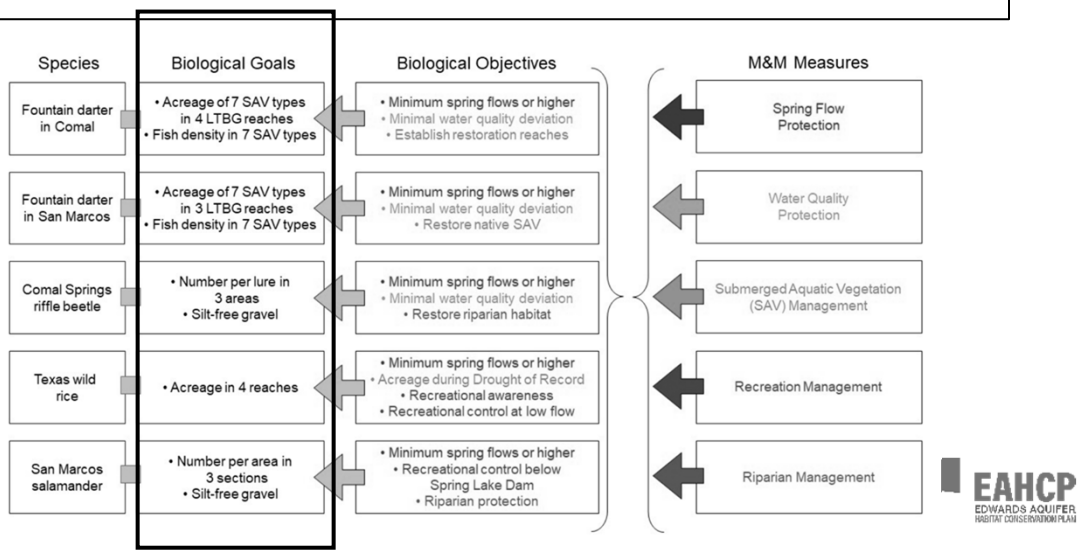
# Biological Objectives Work Group

- Fountain Darter/ Texas wild-rice:
  - Tom Arsuffi
  - Megan Bean
  - Jason Martina
  - Tim Bonner
- Salamanders:
  - Justin Crow
  - Pete Diaz
  - Nate Bendik

- Macroinvertebrates:
  - Butch Weckerly
  - Chad Norris
  - Randy Gibson

4

# NAS Report 3




5

# Action Item:

**Consider staff recommendation to develop new biological goals for the next EAHCP.**

EAHCP

6

# Developing Biological Goals

7

# Handbook pg. 9-6

- Biological goals **broadly describe** the desired future conditions of an HCP in **succinct statements**.
- Each goal steps down to one or more **objectives that define how to achieve** these conditions in measurable terms.
- A well-written goal directs work toward achieving the **vision and purpose of an HCP**.

8

# Examples

9

# Thurston County HCP (updated 2022)

## 5.2 Biological Goal and Conservation Objectives

The Biological Goal, Conservation Objectives, and Conservation Measures are intended to illustrate the vision and commitments of the Conservation Program. The Biological Goal describes what the Conservation Program will accomplish by the end of the incidental take permit duration. The Conservation Objectives serve as benchmarks by which to measure progress in achieving goals for each Covered Species, across temporal and spatial scales. Conservation Measures are specific measurable actions that will be implemented to meet the Conservation Objectives and achieve the Biological Goal.

The Biological Goal of the HCP is to:

> Maintain, in perpetuity, populations of each of the Covered Species within Thurston County, through strategic habitat acquisition, conservation, enhancement, and management in advance of, unavoidable impacts to the Covered Species from the Covered Activities.

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# Maricopa Sun Solar Complex Project HCP (2021)

The goals and objectives developed for each of the Covered Species are similar, as is the rationale for their importance as part of the conservation strategy. The Project's primary biological goals are to preserve Covered Species and provide Covered Species habitat within the Permit Area by:

1. Preserving populations of Kern mallow within the Permit Area.
2. Increasing the ability of San Joaquin kit fox to disperse through the Permit Area and providing habitat within the region.
3. Preserving existing populations of the Tipton kangaroo rat within the Permit Area and providing habitat for the Tipton kangaroo rat within the Permit Area.
4. Preserving existing populations of Nelson's antelope squirrel within the Permit Area and providing habitat for Nelson's antelope squirrel within the Permit Area.
5. Preserving existing populations of the western burrowing owl within the Permit Area and providing habitat for the western burrowing owl within the Permit Area.
6. Providing habitat for the blunt-nosed leopard lizard within the Permit Area.

11

# Bitter Ridge Indian Bat and Northern Long-Eared Bat HCP (2020)

**5.1 Biological Goals and Objectives**

These biological goals are the guiding principles for this HCP's conservation program. The biological objectives are meant to clarify the purpose and direction of the conservation measures through specific, measurable, achievable targets. While measures to conserve or recover an endangered or threatened species are not required under § 10 of the ESA, the biological goals and objectives of this HCP are consistent with actions to promote the recovery of the Indiana bat and northern long-eared bat.

**Goal 1**: Contribute to maintaining the integrity of the populations of the Covered Species in Indiana by minimizing mortality of the Covered Species in the Permit Area.

**Objective 1**: Implement an operational strategy in each permit year that will decrease Covered Species' fatality rates by at least 60% compared to levels of projected take without minimization for the Project, as well as implementing a monitoring and adaptive management strategy (with potential for additional minimization measures to be put in place) in order to maintain take at or below the permitted levels over the 35-year term of the ITP (Sections 4.1 through 4.3).

12

## HCP for the Hine's Emerald Dragonfly, Blanding's Turtle, Spotted Turtle, Leafy Prairie Clover, and Lakeside Daisy (2021)

The biological goals for this HCP are:

- To meaningfully contribute to the conservation of the Covered Species found in the Permit and Planning Area;
- Protect Covered Species and habitat by avoiding and minimizing take of Covered Species and impacts to their habitat to the maximum extent practicable; and
- To restore, enhance, and preserve Covered Species habitat as mitigation for impacts to habitat.

13

## Aera Block 12 Development Project – HCP (2020)

**Goal 1.** Avoid or minimize disturbance to or loss of Covered Species habitat within the Project Area to the maximum extent practicable, emphasizing avoidance of habitat occupied by Covered Species.

**Objective 1.1.** Minimize disturbance of suitable habitat during project construction, production O&M, and well plugging and abandonment by implementing best management practices.

**Objective 1.2.** Minimize disturbance of suitable habitat occupied by Covered Species by conducting preconstruction surveys for Covered Species and implementing species-specific avoidance measures to protect occupied habitat to the maximum extent practicable.

**Objective 1.3.** Reclaim areas of temporary disturbance after construction activities are completed to reestablish suitable habitat conditions for the Covered Species.

14

# Lake States HCP (2023)

| | | |
|---|---|---|
| Biological Goal 3: Promote stewardship on other nonfederal lands. | Objective 3.1: Increase bat conservation by providing the Landowner Enrollment Program on eligible lands throughout the permit term. | • Provide opportunity to eligible forest owners to receive take authorization through the Lake States HCP in exchange for improving bat conservation on their lands. [a] |
| | Objective 3.2: Develop and implement a communication plan for educating the public on covered bats and their conservation. | • Develop a communication plan about bats.<br>• Implement the communication plan through publication of press releases, development and publication of web content, development of a brochure, speaking engagements, webinars, and other public outreach. |

EAHCP

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# Biological Goals

**Figure 9.1a: Biological Goals and Objectives**


Broad, guiding principals, describe desired condition

- Steps that outline how to achieve goals
- Provide direction for monitoring
- SMART: Specific, Measurable, Achievable, Result-oriented, Time fixed

- Means to achieve the biological goals & objectives
- Fully explain "where the rubber hits the road"

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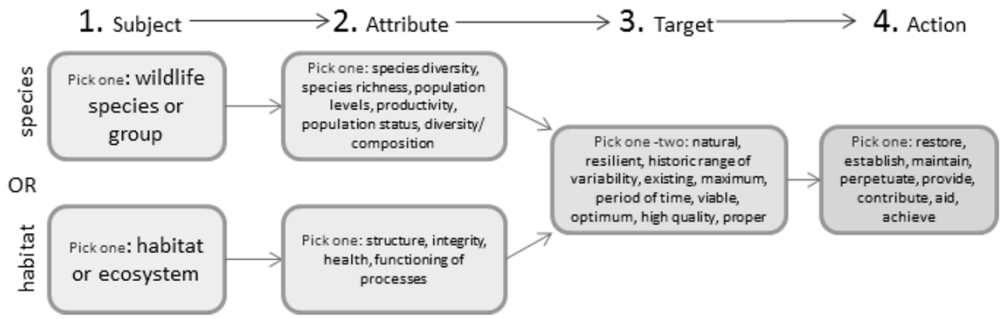
# Elements of a Biological Goal

**Figure 9.1b: Four Elements of a Biological Goal**




17

# Suggested Biological Goals

18

# Covered Species

- Fountain Darter
- Comal Springs riffle beetle
- Comal Springs dryopid beetle
- Peck's Cave Amphipod
- Texas wild-rice
- ~~San Marcos gambusia~~
- ~~Comal Springs salamande~~r
- Texas blind salamander
- San Marcos salamander
- Edwards Aquifer diving beetle
- Texas troglobitic water slater

19

# Suggested Goals

Goal 1: Maintain resilient **Texas wild-rice** populations in the San Marcos River and Spring Lake.

Goal 2: Provide and maintain native habitat to support **fountain darter** populations in the Comal and San Marcos spring systems.

Goal 3: Maintain covered **macroinvertebrate** species populations in the Edwards Aquifer, and the Comal and San Marcos spring systems. (Comal Springs riffle beetle, Comal Springs dryopid beetle, Peck's Cave Amphipod, Edwards Aquifer diving beetle, and Texas troglobitic water slater)

Goal 4: Maintain healthy **salamander** populations in the Edwards Aquifer and San Marcos spring systems. (San Marcos salamander and Texas blind salamander)

20

# Suggested Goals

Goal 5: Maintain healthy populations of each of the **Covered Species**, within the **Permit Area**, through habitat conservation, enhancement, and management.

Goal 6: Contribute to maintaining springflow in the Comal and San Marcos spring systems for the **Covered Species**.

Goal 7: Maintain good water quality in the Comal and San Marcos spring systems for the **Covered Species**.

21

# Suggested Goals

Goal 8: Promote the importance of **habitat conservation** in the Edwards Aquifer region.

Goal 9: Support **land conservation** in the Edwards Aquifer region.

Goal 10: Manage **recreational impacts** to the Covered Species and their habitat.

22

# Thank You!

- Public Comment
- Next Meeting:
  - Date: March 2, 2023
  - Time: 2:00PM – 4:00PM
  - Location: Pauline Espinosa Community Hall – San Marcos, TX and Microsoft Teams
- Adjourn

EAHCP

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# Biological Goals Subcommittee – Meeting #3

March 2, 2023

Pauline Espinosa Community Hall & Microsoft Teams

1

## Meeting Logistics

**This meeting is being recorded**

- Meeting Materials available on the EAHCP website under – Biological Goals Subcommittee
- Contact Olivia Ybarra for more info: oybarra@edwardsaquifer.org
- I.T. Support: Jesus Hinojosa: jhinojosa@edwardsaquifer.org

2

# Approval of Meeting Minutes

- February 2, 2023
- February 16, 2023

3

# Overview of Meeting #2

- Introduction of the Biological Objectives Subcommittee members.
- Continued discussion on biological goals per the HCP Handbook and examples from other HCPs.
- Motion to revise existing and develop new biological goals.
- Discussion on suggested biological goals.

4

# Next Steps

- **March 6:** Draft Biological Goals Subcommittee Report sent to members for review.
- **March 6 – 9:** Report review and comment period.
- **March 10:** EAHCP staff addresses report comments/edits.
- **March 13:** Final report sent to Subcommittee Members
- **March 16:** Consideration to approve the Biological Goals Subcommittee Report.

5

# Thank you!

- Public Comment
- Next Meeting:
  - Date: March 16, 2023
  - Time: 2:00PM – 4:00PM
  - Location: Meadows Center and Microsoft Teams

6

EAHCP
EDWARDS AQUIFER
HABITAT CONSERVATION PLAN

# Biological Goals Subcommittee – Meeting #4

March 16, 2023

Meadows Center for Water and the Environment & Microsoft Teams

1

## Meeting Logistics

**This meeting is being recorded**

- Meeting Materials available on the EAHCP website under – Biological Goals Subcommittee
- Contact Olivia Ybarra for more info: oybarra@edwardsaquifer.org
- I.T. Support: Jesus Hinojosa: jhinojosa@edwardsaquifer.org

EAHCP

2

# Approval of Meeting Minutes

- March 2, 2023

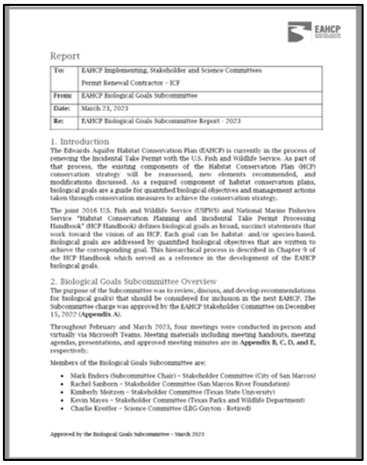
3

# Overview of Meeting #3

- Motion to approve meeting minutes from February meetings.
- Continued discussion on Biological Goals.

4

# Final Review of Biological Goals Subcommittee Report



Report

| | |
|---|---|
| To: | EAHCP Implementing, Stakeholder and Science Committees<br>Permit Renewal Contractor - ICF |
| From: | EAHCP Biological Goals Subcommittee |
| Date: | March 23, 2023 |
| Re: | EAHCP Biological Goals Subcommittee Report - 2023 |

1. Introduction

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is currently in the process of renewing the Incidental Take Permit with the U.S. Fish and Wildlife Service. As part of that process, the existing components of the Habitat Conservation Plan (HCP) conservation strategy will be reassessed, new elements recommended, and modifications discussed. As a required component of habitat conservation plans, biological goals are a guide for quantified biological objectives and management actions taken through conservation measures to achieve the conservation strategy.

The joint 2016 U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service "Habitat Conservation Planning and Incidental Take Permit Processing Handbook" (HCP Handbook) defines biological goals as broad, succinct statements that work toward the vision of an HCP. Each goal can be habitat- and/or species-based. Biological goals are addressed by quantified biological objectives that are written to achieve the corresponding goal. This hierarchical process is described in Chapter 9 of the HCP Handbook which served as a reference in the development of the EAHCP biological goals.

2. Biological Goals Subcommittee Overview

The purpose of the Subcommittee was to review, discuss, and develop recommendations for biological goal(s) that should be considered for inclusion in the next EAHCP. The Subcommittee charge was approved by the EAHCP Stakeholder Committee on December 15, 2022 (**Appendix A**).

Throughout February and March 2023, four meetings were conducted in-person and virtually via Microsoft Teams. Meeting materials including meeting handouts, meeting agendas, presentations, and approved meeting minutes are in **Appendix B, C, D, and E**, respectively.

Members of the Biological Goals Subcommittee are:

- Mark Enders (Subcommittee Chair) – Stakeholder Committee (City of San Marcos)
- Rachel Sanborn – Stakeholder Committee (San Marcos River Foundation)
- Kimberly Meitzen – Stakeholder Committee (Texas State University)
- Kevin Mayes – Stakeholder Committee (Texas Parks and Wildlife Department)
- Charlie Kreitler – Science Committee (LBG-Guyton - Retired)

Approved by the Biological Goals Subcommittee – March 2023

5

Consideration to approve the final Biological Goals Subcommittee Report.

- Motion:
  - Move the Biological Goals Subcommittee approve the Biological Goals Subcommittee Report and submittal to the EAHCP Committees (Stakeholder, Implementing, and Science), Permit Renewal Contractor (ICF), and the Biological Objectives Subcommittee.

6

Thank you, Subcommittee!

7

# APPENDIX E

Approved Meeting Minutes

# Biological Goals Subcommittee

**Meeting #1**
**Meeting Minutes**
February 2, 2023

1. **Confirm attendance**

   All Subcommittee members were in attendance via Microsoft Teams.

2. **Meeting logistics**
   Mark Enders, Biological Goals Subcommittee Chair, provided an overview of meeting logistics, points of contact and introduced the members of the Subcommittee.

3. **Overview of the Biological Goals Subcommittee Charge and meeting process.**
   Mark Enders presented the charge and the major elements of the Subcommittee. The primary focus of this Subcommittee is to: 1) Review the current EAHCP Biological Goals and the HCP Handbook; 2) Develop initial biological goal recommendations; 3) Finalize biological goal recommendations and 4) Approve the Biological Goals Subcommittee Report for the EAHCP Permit Renewal Contractor (ICF) and the EAHCP Committees.

4. **Presentation on the USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook – Chapter 9.1: Biological Goals.**

   Olivia Ybarra, HCP Coordinator, provided an overview of the HCP Handbook as it pertains to the development of biological goals. Olivia highlighted the hierarchy of biological goals, biological objectives, and conservation measures in the context of the EAHCP. Additionally, Olivia noted that, in accordance to the HCP Handbook, biological goals should be broad, succinct statements that reflect the purpose and vision of the EAHCP. Examples of species and habitat based biological goals were also provided.

5. **Review and discussion of the current EAHCP Biological Goals.**

   The Subcommittee received a summary of the current EAHCP Biological Goals. It was noted that the current goals are very quantified, measurable, and specific. According to the HCP Handbook, the current biological goals reflect the elements of a biological objective rather than a goal. Chad Furl, EAHCP Chief Science Officer, reminded the Subcommittee that the details of the biological objectives will be discussed at a subsequent Biological Objectives Work Group. Myron Hess asked if there were any specific recommendations on the Covered Species that will be included in the renewed Incidental Take Permit. Chad Furl responded that, for the purpose of the biological goals development exercise, the current

Covered Species will be the primary focus, with the exception of the San Marcos Gambusia and the Comal Springs salamander. If additional species are added to the Covered Species list after the biological goals are developed, the Biological Goals Subcommittee may reconvene to consider those species as they relate to the biological goals.

EAHCP staff provided suggested biological goals developed using the guidelines from the HCP Handbook and several biological goals that were provided during the Listen and Learn Workshop series. Olivia Ybarra noted that Covered Species can be grouped into categories to help develop broad biological goal statements.

Chad Furl added that the HCP Handbook does not specify the number of goals an HCP should contain. Grouping species, rather than developing a goal per species, may be a more efficient and effective approach. The Biological Objectives Work Group will then review these goals and expand on the approach to achieve each goal.

**6. Discussion to identify the type of Biological Goal(s) to proceed with.**

The HCP Handbook suggests biological goals can be habitat or species based. Olivia Ybarra presented examples of each type of goal that are currently being implemented in other HCPs.

Jacquelyn Duke noted that the recommendations of "genetically diverse population of Texas wild-rice" might be too specific. Chad Furl reminded the group that the Biological Objectives Work Group will add the details of how to achieve the Biological Goals.

Kevin Mayes suggested adding a geographic component to a biological goal statement. For example, "maintaining Texas wild-rice in the San Marcos River from Spring Lake to the confluence with the Guadalupe River". Kevin also noted that when using words like "adequate" in reference to water quality standards, it is important to reference the TCEQ water quality guidelines.

Kimberly Meitzen noted the successes of the fountain darter and Texas wild-rice and suggested goals that go beyond the current geographic range for the Covered Species and suggested that future biological goals acknowledge the current long-term biological goal reaches.

The Subcommittee was reminded that the current biological goals that were originally approved by the USFWS do not align with the structure of a biological goal as described in the most up to date HCP Handbook. In summation, the current biological goals are written closer to what biological objective statement.

**7. Questions from the public**

There were no questions from the public.

## 8. Future meetings

Meeting #2 will be held on February 16, 2023, from 2:00PM – 4:00PM at the Meadows Center for Water and the Environment.

## 9. Adjourn

Approved on March 2, 2023

# Biological Goals Subcommittee

**Meeting #2**
**Meeting Minutes**
February 16, 2023

1. **Confirm attendance**

   Mark Enders, Charlie Kreitler, Rachel Sanborn, Kimberly Meitzen and Kevin Mayes attended the meeting in-person. Jacquelyn Duke attended virtually via Microsoft Teams.

2. **Meeting logistics**

   Mark Enders, Biological Goals Subcommittee Chair, noted that the meeting materials are available online and acknowledged EAA I.T. support should anyone need technical assistance.

3. **Overview of Meeting #1 discussion.**

   Mark Enders provided a review of the first meeting's discussion regarding subcommittee introductions, the current biological goals, and the HCP handbook.

4. **Consider staff recommendation to develop new biological goals for the next EAHCP.**

   Charlie Kreitler noted that since the current biological goals were approved by USFWS, was there a need to change them. USFWS staff responded that it is recommended that the EAHCP biological goals be updated to reflect lessons learned and reiterated that the current goals are written as objectives.

   Kevin Mayes suggested adding "revise current biological goals" to the action item. A revision was made to the action item presented to the subcommittee.

   A motion was made by Rachel Sanborn, seconded by Charlie Kreitler, to approve of the revision of current biological goals and/ or the development of new biological goals for the next EAHCP. The Subcommittee approved this upon consensus. There were no objections.

5. **Discussion on the development of Biological Goals.**

   Olivia Ybarra reminded the Subcommittee of the HCP Handbook guidelines on the elements of a biological goal and provided examples of broad biological goals from HCPs that were recently approved by USFWS.

   Kevin Mayes noted that although San Marcos Gambusia was not included in the list of species to consider in the development of the biological goals, it should be

noted it was not included due to its pending delisting from the Endangered Species Act (ESA). The Comal Springs salamander was also not considered due to the recent removal of the petition for the species to be added to the ESA.

EAHCP staff provided ten suggested biological goals for the Subcommittee to review and discuss. Olivia Ybarra noted that these suggested goals were based on the current biological goals and lessons learned throughout ten years of EAHCP implementation.

**Goal 1:** Maintain resilient Texas wild-rice populations in the San Marcos River and Spring Lake.

**Goal 2:** Provide and maintain native habitat to support fountain darter populations in the Comal and San Marcos spring systems.

**Goal 3:** Maintain covered macroinvertebrate species populations in the Edwards Aquifer, and the Comal and San Marcos spring systems. (Macroinvertebrates: Comal Springs riffle beetle, Comal Springs dryopid beetle, Peck's Cave Amphipod, Edwards Aquifer diving beetle, and Texas troglobitic water slater)

**Goal 4:** Maintain healthy salamander populations in the Edwards Aquifer and San Marcos spring systems. (San Marcos Salamander and Texas blind salamander)

**Goal 5:** Maintain healthy populations of each of the Covered Species, within the Permit Area, through habitat conservation, enhancement, and management.

**Goal 6:** Contribute to maintain springflow in the Comal and San Marcos spring systems for the Covered Species.

**Goal 7:** Maintain good water quality in the Comal and San Marcos spring systems for the Covered Species.

**Goal 8:** Promote the importance of habitat conservation in the Edwards Aquifer region.

**Goal 9:** Support land conservation in the Edwards Aquifer region.

**Goal 10:** Manage recreational impacts to the Covered Species and their habitat.

In their discussions, the Subcommittee considered grouping several suggested goals into one broad goal. Another Subcommittee consideration was to develop a very broad goal that reflects the vision of the EAHCP and could potentially encompass several biological objectives that would not be appropriate in a goal focused on a specific species. Kevin Mayes noted that goals that reflect human mediated concepts and have recreation components should be considered as a biological goal. The general purpose of the Subcommittee was to develop an overarching, broad goal with several additional goals related to each species or habitat grouping.

The Subcommittee discussed doing some homework to revise the suggested biological goals or develop new proposed goals to email out or bring to the next subcommittee meeting for further discussion.

The Subcommittee will continue their discussion on revisions and groupings of the suggested biological goals at the next meeting.

6. **Questions from the public**

   There were no questions from the public.

7. **Future meetings**

   Meeting #3 will be held on March 2, 2023, from 2:00PM – 4:00PM at the Pauline Espinosa Community Hall.

8. **Adjourn**

# Biological Goals Subcommittee

**Meeting #3**
**Meeting Minutes**
March 2, 2023

1. **Confirm attendance**

   Mark Enders, Charlie Kreitler, Rachel Sanborn, Kimberly Meitzen, Jacquelyn Duke and Kevin Mayes attended the meeting in-person.

2. **Meeting logistics**

   Mark Enders, Biological Goals Subcommittee Chair, noted that meeting materials are available online and acknowledged EAA I.T. support should anyone need technical assistance.

3. **Approval of meeting minutes from February 2 and February 16, 2023.**

   A motion was made by Rachel Sanborn and seconded by Charlie Kreitler, to approve the meeting minutes from the February 2 and February 16, 2023 Biological Goals Subcommittee meetings. There were no objections.

4. **Overview of Meeting #2 discussion.**

   Olivia Ybarra provided a review of the second meeting's discussion including an introduction to the Biological Objectives Subcommittee, continued discussion on biological goals per the HCP Handbook and additional examples from other HCPs.

5. **Continued discussion on suggested biological goals.**

   The Biological Goals Subcommittee was provided draft goals that were submitted to EAHCP staff. The Subcommittee reviewed and revised the draft goal submissions. Key terms were defined to reduce ambiguity. The Subcommittee agreed to define "Conserve" as a means to protect, restore, and enhance the Covered Species and their habitats. Additional key terms were described and intended to be included in the Biological Goals Subcommittee Report. The following are the biological goals the Biological Goal Subcommittee generated as a product of their discussion.

   **Goal 1:** Conserve the quantity and quality of springflow and ecosystem characteristics within the Plan Area to provide for the resiliency of the Covered Species.

**Goal 2:** Promote environmental outreach, support land and water conservation, and mitigate anthropogenic and environmental disturbances within the Plan Area for the benefit of the Covered Species.

**Goal 3:** Conserve habitats and diverse native aquatic vegetation assemblages to support resilient fountain darter populations in the Comal and San Marcos spring and river systems.

**Goal 4:** Conserve and manage a resilient Texas wild-rice population in the San Marcos spring and river system.

**Goal 5:** Conserve habitats to support resilient Texas blind salamander, Comal Springs dryopid beetle, Peck's cave amphipod, Edwards Aquifer diving beetle, and Texas troglobitic water slater populations in the Plan Area.

**Goal 6:** Conserve habitats to support resilient Comal Springs riffle beetle populations in the Plan Area.

6. **Next steps of the Biological Goals Subcommittee.**

   Olivia Ybarra described the next steps of the Subcommittee. A draft report will be prepared by EAHCP staff and submitted to the Subcommittee on March 6 for review and comment. The fourth and final meeting will include the consideration to approve the Biological Subcommittee Report.

7. **Questions from the public**

   There were no questions from the public.

8. **Future meetings**

   Meeting #4 will be held on March 16, 2023, from 2:00PM – 4:00PM at the Meadows Center for Water and the Environment.

9. **Adjourn**

# Biological Goals Subcommittee

**Meeting #4**
**Meeting Minutes**
March 16, 2023

1. **Confirm attendance.**
   Mark Enders, Charlie Kreitler, Rachel Sanborn, Kimberly Meitzen and Kevin Mayes attended the meeting in-person. Jacquelyn Duke attending the meeting virtually via Microsoft Teams.

2. **Meeting logistics.**
   Mark Enders noted that meeting materials were available online on the EAHCP website under Biological Goals Subcommittee and I.T. support for virtual attendees.

3. **Approval of meeting minutes from March 2, 2023.**
   A motion was made by Kevin Mayes and seconded by Rachel Sanborn to approve the meeting minutes from the March 2, 2023 Biological Goals Subcommittee meeting. There were no objections.

4. **Review of final Biological Goal recommendations and Subcommittee Report.**
   The Biological Goals Subcommittee reviewed and edited the draft Subcommittee Report. The final report contains all edits, comments, and suggestions provided by the Subcommittee members.

5. **Consideration to approve the Biological Goals Subcommittee Report.**
   A motion was made by Jacquelyn Duke, seconded by Kimberly Meitzen, to approve the Biological Goals Subcommittee Report and submittal to the EAHCP Committees (Stakeholder, Implementing, and Science), Permit Renewal Contractor (ICF), and all relevant Subcommittees. There were no objections.

6. **Questions from the public.**
   There were no questions from the public.

7. **Future meetings.**
   None.

8. **Adjourn.**

# Appendix M7 | **Adaptive Management Science Committee Meeting Materials**

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Science Committee

**Wednesday, April 12, 2023** | **9:00 AM** | **Meadows Center Conference Room**

**A meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. Program Announcements**

**3.1**

- Hydrologic Update
- SMARC Supersaturation Event
- 2024 Work Plan Timeline
- Incidental Take Permit Renewal Memos
- Biological Objectives Subcommittee
- Spring Communities Update

**4. Approval of Minutes**

**4.1** **Approval of previous Committee meeting minutes.**

- November 9, 2022

**5. Reports**

**5.1** **Receive report from Hakan Basagaoglu, Senior Modeler at EAA, to the Science Committee on the results of the future climate downscaling effort that will be used in hydrologic predictions for the renewal of the EAHCP Incidental Take Permit.**

**5.2** **Receive report from Olivia Ybarra, HCP Coordinator, to the Science Committee on the Biological Goals Subcommittee report.**

**6. Future Meetings**

**6.1** The next Science Committee meeting will be held on Wednesday, September 6 at 9:00 AM in the Meadows Center Conference Room.

## 7. Questions from the Public

## 8. Adjourn

Kristina Tolman
Habitat Conservation Plan Coordinator

This meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.9.3 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Science Committee

**Wednesday, April 12, 2023** | **9:00 AM** | **Meadows Center Conference Room**

**A meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Committee Chair, Dr. Jacquelyn Duke, called the meeting to order at 9:04 AM. All Committee members were present either in-person or online.*

### 2. Public Comment

*There were no public comment requests to address the Science Committee.*

### 3. Program Announcements

- *Hydrologic Update*

*Flows are still below average conditions; approximately 85 cfs in San Marcos and 132 cfs in New Braunfels.*

- *SMARC Mortality Event*

*A mortality event occurred at the San Marcos Aquatic Resources Center on January 23, 2023, due to elevated dissolved gas pressure. Detection and alarm systems will be installed to prevent a similar event from occurring again.*

- *Work Plan Timeline*

*Committee members will review and comment on the 2024 Work Plans, April 17-21. Assuming no changes, the Implementing Committee will consider approval of the 2024 Work Plans at their May meeting.*

- *Incidental Take Permit Renewal Memos*

*ITP Permit Renewal contractor, ICF, has produced draft memos for the Covered Species and Covered Activities, the next two memos will focus on Existing Conditions and Temperature and Rainfall Scenarios.*

- *Spring Communities Update*

*Mark Enders provided updates for the City of San Marcos including the anticipated completion of the Sessom Creek Phase 1 Restoration by May. Olivia Ybarra provided updates for the City of New Braunfels including the completion of the Landa Park Aquatic Center biofiltration construction.*

### 4. Approval of Minutes

**4.1 Approval of previous Committee meeting minutes.**

- November 9, 2022

**A motion was made by Conrad Lamon, and was seconded by Jack Sharp, to approve the meeting minutes from the November 9, 2022 Science Committee meeting. There was no opposition, the minutes were approved.**

## 5. Reports

### 5.1 Receive report from Hakan Basagaoglu, Senior Modeler at EAA, to the Science Committee on the results of the future climate downscaling effort that will be used in hydrologic predictions for the renewal of the EAHCP Incidental Take Permit.

*Hakan Basagaoglu, Senior Modeler at EAA, presented a summary of future climate downscaling efforts across the Edwards Aquifer region. These downscaling efforts will be used to develop future springflow projections in support of the application for the next iteration of the EAHCP Incidental Take Permit. The presentation and committee discussion can be viewed within the meeting recording.*

### 5.2 Receive report from Olivia Ybarra, HCP Coordinator, to the Science Committee on the Biological Goals Subcommittee report.

*Olivia Ybarra, HCP Coordinator, presented an overview of the Biological Goals Subcommittee process, the final report is available on the PREAHCP website. The Subcommittee met four times between February and March of 2023 and identified a new set of Biological Goals for the Covered Species. The Biological Goals will be considered by the Biological Objectives Subcommittee to help identify measurable and achievable objectives for the Covered Species for the next EAHCP Incidental Take Permit.*

## 6. Future Meetings

*The next meeting will be on Wednesday, September 6 at 9:00 AM in the Meadows Center Conference Room.*

## 7. Questions from the Public

*There were no questions from the public.*

## 8. Adjourn

*There being no additional business to discuss, the meeting adjourned at 11:23 AM.*

Kristina Tolman
Habitat Conservation Plan Coordinator

This meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan complies with Section 7.9.3 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University, and the Guadalupe-Blanco River Authority (GBRA).

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## NOTICE OF OPEN MEETING

## EAHCP Science Committee

**Wednesday, September 6, 2023** | **9:00 AM** | **The Meadows Center**

**A meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

### AGENDA

**1. Call to Order**

**2. Public Comment**

**3. Program Announcements**

**3.1**

- Hydrologic Update
- USFWS Proposed Rule for the Toothless Blindcat and Widemouth Blindcat

**4. Approval of Minutes**

**4.1** **Approval of previous Committee meeting minutes.**

- April 12, 2023

**5. Reports**

**5.1** **Receive report from Chad Furl, Chief Science Officer at EAA, to the Science Committee on EAHCP permit renewal activities.**

**5.2** **Receive report from Chad Furl, Chief Science Officer at EAA, to the Science Committee on Biological Goals and Objectives for the EAHCP permit renewal.**

**6. Future Meetings**

**6.1** The next Science Committee meeting will be the annual joint meeting with the Stakeholder and Implementing Committees on Thursday, December 14 at 10:00 AM at the Edwards Aquifer Authority.

**7. Questions from the Public**

## 8. Adjourn

# Edwards Aquifer Authority

900 E. Quincy
San Antonio, TX 78215
EdwardsAquifer.org

## Meeting Minutes

## EAHCP Science Committee

**Wednesday, September 6, 2023** | **9:00 AM** | **The Meadows Center**

**A meeting of the Science Committee of the Edwards Aquifer Habitat Conservation Plan will be held on the date, time, and location stated above.**

**AGENDA**

### 1. Call to Order

*Committee Chair, Dr. Jacquelyn Duke, called the meeting to order at 9:05 AM. All Committee members were present either in-person or online.*

### 2. Public Comment

*There were no public comment requests to address the Science Committee.*

### 3. Program Announcements

**3.1**

- Hydrologic Update
- USFWS Proposed Rule for the Toothless Blindcat and Widemouth Blindcat

### 4. Approval of Minutes

**4.1** **Approval of previous Committee meeting minutes.**

- April 12, 2023

**A motion was made by Butch Weckerly, and was seconded by Megan Bean, to approve the meeting minutes from the previous Science Committee meeting on April 12, 2023. There was no opposition, the minutes were approved.**

### 5. Reports

**5.1** **Receive report from Dr. Chad Furl, P.E., Chief Science Officer at EAA, and Dr. Hakan Basagaoglu, Associate Director of Modeling at EAA, to the Science Committee on EAHCP Permit Renewal activities.**

*Dr. Hakan Basagaoglu, Associate Director of Modeling at EAA, presented an overview of the future climatic conditions in the Edwards Aquifer region and their projected*

*impacts on groundwater levels and spring flows. Modeling results are being used to assess future conditions in the Edwards Aquifer region as part of the EAHCP Permit Renewal process. A recording of the presentation and discussion is available on the EAA website.*

**5.2** **Receive report from Dr. Chad Furl, P.E., Chief Science Officer at EAA, to the Science Committee on Biological Goals and Objectives for the EAHCP Permit Renewal.**

*Dr. Chad Furl. P.E., Chief Science Officer at EAA, presented an overview of the ongoing EAHCP Permit Renewal activities including the recommendations provided by the various Biological Objectives Subcommittee groups (macroinvertebrates, salamanders, and fountain darters and Texas wild-rice). The recommendations from the Biological Objectives Subcommittee and the Biological Goals Subcommittee are being evaluated by the EAHCP Permit Renewal contractors, ICF and BIO-WEST, and will be combined into one draft memorandum which will be shared in November 2023 with all EAHCP Committee members for review and comment.*

## 6. Future Meetings

**6.1** The next Science Committee meeting will be the annual joint meeting with the Stakeholder and Implementing Committees on Thursday, December 14 at 10:00 AM at the Edwards Aquifer Authority.

## 7. Questions from the Public

*There were no questions from the public.*

## 8. Adjourn

*There being no additional business to discuss, the meeting adjourned at 11:31 AM.*