EDWARDS AQUIFER HABITAT CONSERVATION PLAN

2024 ANNUAL REPORT SUMMARY

The Edwards Aquifer Habitat Conservation Plan (EAHCP) is a regional plan to protect 11 species associated with the Edwards Aquifer while helping to ensure its stability as a regional water supply.

EAHCP

EDWARDS AQUIFER HABITAT CONSERVATION PLAN

INSIDE ▶

Overview of activities and accomplishments in 2024, the 12th year of EAHCP implementation.
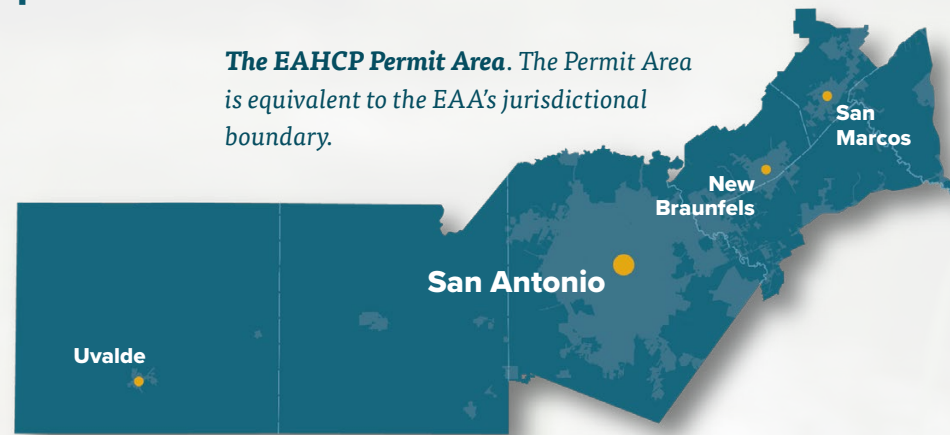

Overview of the Edwards Aquifer Habitat Conservation Plan (EAHCP)

The *Edwards Aquifer Recovery Implementation Program Habitat Conservation Plan* (EAHCP) was approved by the **U.S. Fish & Wildlife Service (USFWS)** as a regional plan to protect eight federally listed and three non-listed species—termed Covered Species—associated with the Edwards Aquifer while helping to ensure its stability as a regional water supply.

After approval of the EAHCP, the USFWS issued an **Incidental Take Permit (ITP)** under the federal Endangered Species Act of 1973 to five cooperating Permittees: **Edwards Aquifer Authority (EAA)**, City of New Braunfels, City of San Marcos, Texas State University, and City of San Antonio acting by and through its San Antonio Water System Board of Trustees.

The **area covered by the ITP (Permit Area)** is bounded by EAA's jurisdictional boundary, which encompasses Uvalde, Medina, and Bexar counties and portions of Atascosa, Caldwell, Comal, Guadalupe, and Hays counties.

The EAHCP describes impacts that are likely to result from Covered Activities, identifies Conservation Measures to minimize and mitigate those impacts, and assures funding to implement those Conservation Measures and, more broadly, the EAHCP.

The EAHCP Permit Area. The Permit Area is equivalent to the EAA's jurisdictional boundary.

San Marcos
New Braunfels
San Antonio
Uvalde

EAHCP Covered Species

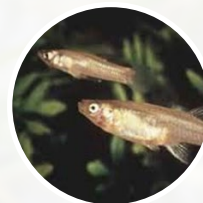
Texas Wild-Rice
Zizania texana
ENDANGERED

Texas Blind Salamander
Eurycea rathbuni
ENDANGERED

San Marcos Salamander
Eurycea nana
THREATENED

Fountain Darter
Etheostoma fonticola
ENDANGERED

San Marcos Gambusia[1]
Gambusia georgei
EXTINCT

Comal Springs Dryopid Beetle
Stygoparnus comalensis
ENDANGERED

Comal Springs Riffle Beetle
Heterelmis comalensis
ENDANGERED

Peck's Cave Amphipod
Stygobromus pecki
ENDANGERED

Edwards Aquifer Diving Beetle
Haideoporus texanus
PETITIONED

Texas Troglobitic Water Slater[2]
Lirceolus smithii
NOT LISTED

Comal Springs Salamander[3]
Eurycea sp.
NOT LISTED

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[1] The USFWS published a final rule on October 17, 2023, to delist San Marcos gambusia due to extinction. (Photo courtesy of Texas Parks & Wildlife Department.)

[2] The USFWS published its finding on November 28, 2023, that Texas troglobitic water slater is not warranted for listing.

[3] The petition to list the Comal Springs salamander was withdrawn in 2020.

Note: All 11 Covered Species will remain on the EAHCP ITP through the permit's duration regardless of changes to species status as determined by the USFWS.

EAHCP Implementation: Highlights of 2024

Program Management

- Program staff organized a total of 25 public meetings for EAHCP Committees (Implementing, Stakeholder, and Science), Work Groups (Budget, Science Committee Vacancy, and Comal Springs Riffle Beetle), and a Subcommittee (Conservation Measures).

- To support the Permit Renewal, Program staff worked with Permittees, Committees, EAA staff, and/or contractors to produce three modeling reports on future Edwards Aquifer conditions, memoranda on the Renewed HCP's Biological Goals and Objectives, and draft recommendations for the Incidental Take Assessment and Conservation Measures.

- The Edwards Aquifer Refugia Program was named the USFWS's Region 2 Team of the Year.
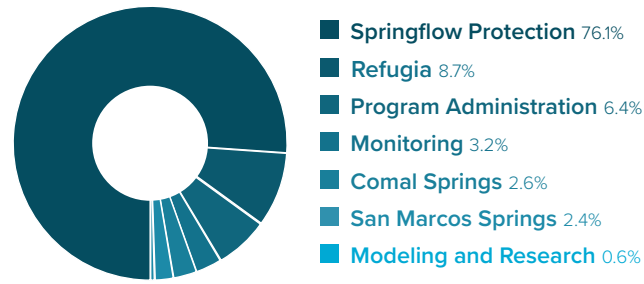
Springflow Protection

- Comal and San Marcos springflows remained below Condition M levels (130 cfs and 120 cfs, respectively) most of the year; aquatic restoration activities were restricted in accordance with Condition M. In fall, the USFWS approved limited aquatic planting restoration in the San Marcos River.

- The lowest daily average springflow recorded was 55 cfs for the Comal River on 6 days during October and December and 80 cfs for the San Marcos River on 9 days in November.

- For the third year in a row, conditions at the J-17 Bexar Index Well on October 1 triggered the Voluntary Irrigation Suspension Program Option (VISPO) for the following year. VISPO participants will not pump Edwards Aquifer water in 2025.

Habitat Restoration

- Texas wild-rice coverage was mapped July through August and was approximately 11,272 m².

- Due to extreme low springflow and exposure of previously wetted habitat, aquatic vegetation in the Comal Long-Term Biological Goals was mapped an additional two times and dissolved oxygen sensors were deployed. Vegetation within wetted areas remained relatively healthy despite the extreme conditions.

- The Landa Park Aquatic Complex bioretention upgrade, completed by the City of New Braunfels in 2023, was recognized by the Texas Recreation and Park Society for Park Development Innovations.

Fiscal Stability

Budget by Program Activity, 2024

- **Springflow Protection** 76.1%
- **Refugia** 8.7%
- **Program Administration** 6.4%
- **Monitoring** 3.2%
- **Comal Springs** 2.6%
- **San Marcos Springs** 2.4%
- **Modeling and Research** 0.6%

The current financial projections and cost estimates for the EAHCP indicate an overall fiscally stable Program with an adequate budget for Program implementation in fiscal year 2025. The Program has a reserve balance of $9,156,929 and a cash balance of $20,010,647. There are adequate funds for the Program in fiscal year 2025.

Incidental Take

Incidental take of listed species from Covered Activities is quantified annually and measured against the total take authorized by the ITP.

In the Comal Springs system, take totaled 41,197 fountain darters, 1,500 Comal Springs riffle beetles, 8 Comal Springs dryopid beetles, and 32 Peck's cave amphipods. The Comal invertebrate take was mostly due to severe drought conditions that reduced portions of occupied habitat.

In the San Marcos Springs system, take totaled 21,252 fountain darters and 36 San Marcos salamanders, primarily due to severe drought conditions that reduced portions of occupied habitat.

Covered Species Accumulated Take through 2024

Species	Accumulated Take
Texas blind salamander	0%
San Marcos salamander	3%
Peck's cave amphipod	7%
Fountain darter: San Marcos	47%
Fountain darter: Comal	23%
Comal Springs riffle beetle	63%
Comal Springs dryopid beetle	3%

- Accumulated Take
- Remaining Take
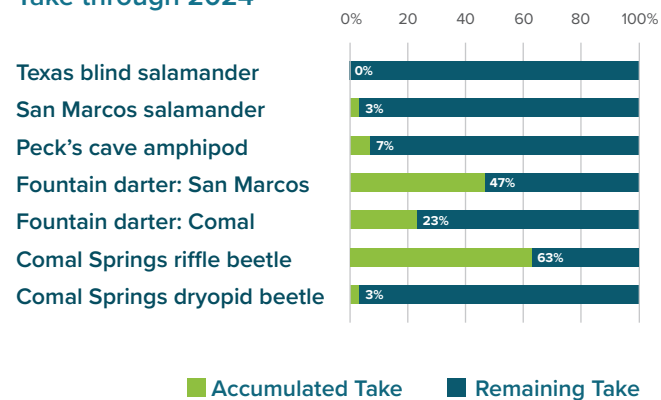
Implementation of Conservation Measures

Conservation Measures are activities carried out by the Permittees in the Permit Area as part of EAHCP implementation. These measures encompass springflow protection, habitat conservation, and various supporting activities such as research and biological monitoring.

The tables at right summarize progress toward fulfilling the Conservation Measures. Implementation efforts are highlighted for 2024. As the EAHCP enters its 13th year of implementation, most Conservation Measures have either been fulfilled or are in an ongoing or maintenance phase.

All efforts to implement the Conservation Measures were conducted in accordance with the Permittees' approved annual Work Plans.

SPRINGFLOW PROTECTION

HABITAT CONSERVATION

SUPPORTING ACTIVITIES

Status Key and Abbreviations

Implementation Status

Symbol	Meaning
W	Working toward fulfillment
✓	Fulfillment expected or partially achieved
✓ (filled)	Fulfillment achieved or implemented
M	Maintenance
O	Ongoing
I	Implemented when triggered
T	Triggered
–	No activity

Permittees

- **CONB** City of New Braunfels
- **COSM** City of San Marcos
- **EAA** Edwards Aquifer Authority
- **SAWS** San Antonio Water System
- **TXST** Texas State University

Springflow Protection Measures

Measure	Permittee	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Aquifer Storage and Recovery Springflow Protection Program Enrollment	EAA	W	W	W	W	W	W	W	✓	✓	✓	✓	✓	W	W	W
Aquifer Storage and Recovery Springflow Protection Program Storage	SAWS	W	W	W	W	W	W	W	✓	I	I	I	I	I	I	I
Aquifer Storage and Recovery Springflow Protection Program Forbearance	SAWS	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Voluntary Irrigation Suspension Program Option Enrollment	EAA	W	W	✓	✓	✓	W	W	✓	✓	✓	✓	✓	W	W	W
Voluntary Irrigation Suspension Program Option Implementation	EAA	I	T	✓	I	I	I	I	✓	✓	I	I	T	T	✓	I
Regional Water Conservation	EAA	W	W	W	W	W	W	W	✓	–	–	–	–	–	–	–
Stage V Critical Period Management (San Antonio Pool)	EAA	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Stage V Critical Period Management (Uvalde Pool)	EAA	T	T	T	I	I	I	I	I	I	I	I	T	I	I	I

Habitat Conservation Measures

Measure	Permittee	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Management of Public Recreation	CONB, COSM, TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Designation of Permanent Access Points/Bank Stabilization	COSM	W	✓	M	M	M	–	–	–	–	–	–	–	–	–	–
Native Riparian Habitat Restoration	CONB, COSM, TXST	W	W	W	W	W	W	W	W	W	W	W	W	✓	M	M
Native Riparian Habitat Restoration (Riffle Beetle)	CONB	W	W	W	W	W	W	W	✓	M	M	M	M	M	M	M
Texas Wild-Rice Enhancement	COSM, TXST	W	W	W	W	W	W	W	W	W	W	W	W	✓	M	M
Aquatic Vegetation Restoration and Maintenance	COSM, TXST	W	W	W	W	W	W	W	W	W	W	W	W	✓	M	M
Aquatic Vegetation Restoration and Maintenance	CONB	W	W	W	W	W	W	W	W	W	W	W	W	M	M	M
Decaying Vegetation Removal and Dissolved Oxygen Management	CONB	T	T	T	T	I	I	I	I	I	I	T	T	T	I	I
Management of Floating Vegetation Mats and Litter	CONB, COSM, TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Reduction of Non-Native Species Introduction and Live Bait Prohibition	CONB	O	O	O	O	O	O	✓	O	O	O	O	O	O	O	O
Monitoring and Reduction of Gill Parasites	CONB	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Non-Native Animal Species Control	CONB, COSM, TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Flow Split Management	CONB	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Diversion of Surface Water	TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Research Programs in Spring Lake	TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Diving Classes (Spring Lake) and Boating (Spring Lake and Sewell Park)	TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Management of Golf Course and Grounds	CONB, TXST	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Prohibition of Hazardous Material Transport Routes	CONB	W	W	W	✓	–	–	–	–	–	–	–	–	–	–	–
Prohibition of Hazardous Material Transport Routes	COSM	W	W	W	W	W	W	W	W	W	W	W	W	✓	–	–
Management of Household Hazardous Waste	CONB, COSM	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Minimizing Impacts of Contaminated Runoff	COSM	W	W	W	W	W	W	W	✓	–	–	–	–	–	–	–
Impervious Cover/Water Quality Protection	CONB, COSM	W	W	W	W	W	W	W	W	W	W	W	W	✓	–	–
Sessom Creek Sand Bar Removal	TXST	W	W	W	✓	–	–	–	–	–	–	–	–	–	–	–
Sediment Management	COSM, TXST	W	W	W	W	✓	–	–	–	–	–	–	–	–	–	–
Septic System Registration and Permitting Program	COSM	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Impervious Cover/Water Quality Protection: Coal Tar Sealant Ban	EAA	W	W	✓	–	–	–	–	–	–	–	–	–	–	–	–

Supporting Measures

Measure	Permittee	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Net Disturbance	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Incidental Take	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Refugia	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Applied Research	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Biological Monitoring	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Water Quality Monitoring	EAA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Ecological Modeling	EAA	W	W	W	W	✓	–	–	–	–	–	–	–	–	–	–
Groundwater Modeling	EAA	W	W	W	W	W	W	W	✓	–	–	–	–	–	–	–