City of San Marcos

City Council Work Session

May 05, 2026

Presentation
Item 1

Receive an update from Mark Enders, Habitat Conservation Plan Manager, regarding the Edwards Aquifer Habitat Conservation Plan and the US Fish and Wildlife Service Incidental Take Permit renewal effort

Edwards Aquifer Habitat Conservation Plan and Incidental Take Permit Renewal Effort

Mark Enders
Habitat Conservation Plan Manager

May 5, 2026

Edwards Aquifer Habitat Conservation Plan

- The EAHCP is a regional plan to protect endangered and threatened species in the San Marcos & Comal River systems and maintain compliance with the federal Endangered Species Act (ESA).

- Key component of an Incidental Take Permit (ITP) issued by US Fish and Wildlife Service under the ESA. Current ITP a 15yr term, expires Mar 2028. Seeking up to a 30yr term for next ITP.

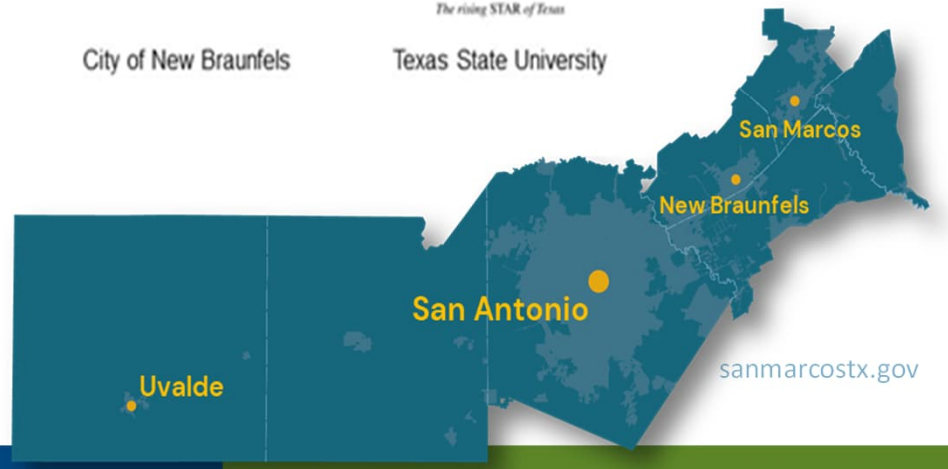
- Protects permittees from “take” of species associated with river recreation, aquifer pumping, etc. An ITP provides certainty that these activities can continue without legal challenges under the ESA.

- Includes habitat and springflow protection measures, refugia program and biological/ WQ monitoring.

EAHCP Partners

EAHCP
EDWARDS AQUIFER
HABITAT CONSERVATION PLAN

- Edwards Aquifer Authority (EAA)
- San Antonio Water System (City of San Antonio)
- City of San Marcos
- City of New Braunfels
- Texas State University



Why Do We Need an Incidental Take Permit?

- The federal **Endangered Species Act (ESA)** prohibits the intentional or unintentional impacts on listed threatened or endangered species.

- Congress amended the ESA to allow for USFWS-issuance of **incidental take permits (ITPs)**.

- ITPs are available to non-federal entities who may incidentally impact listed species through their lawful activities (i.e. facilitation of river recreation, aquifer pumping, construction of river-related infrastructure).

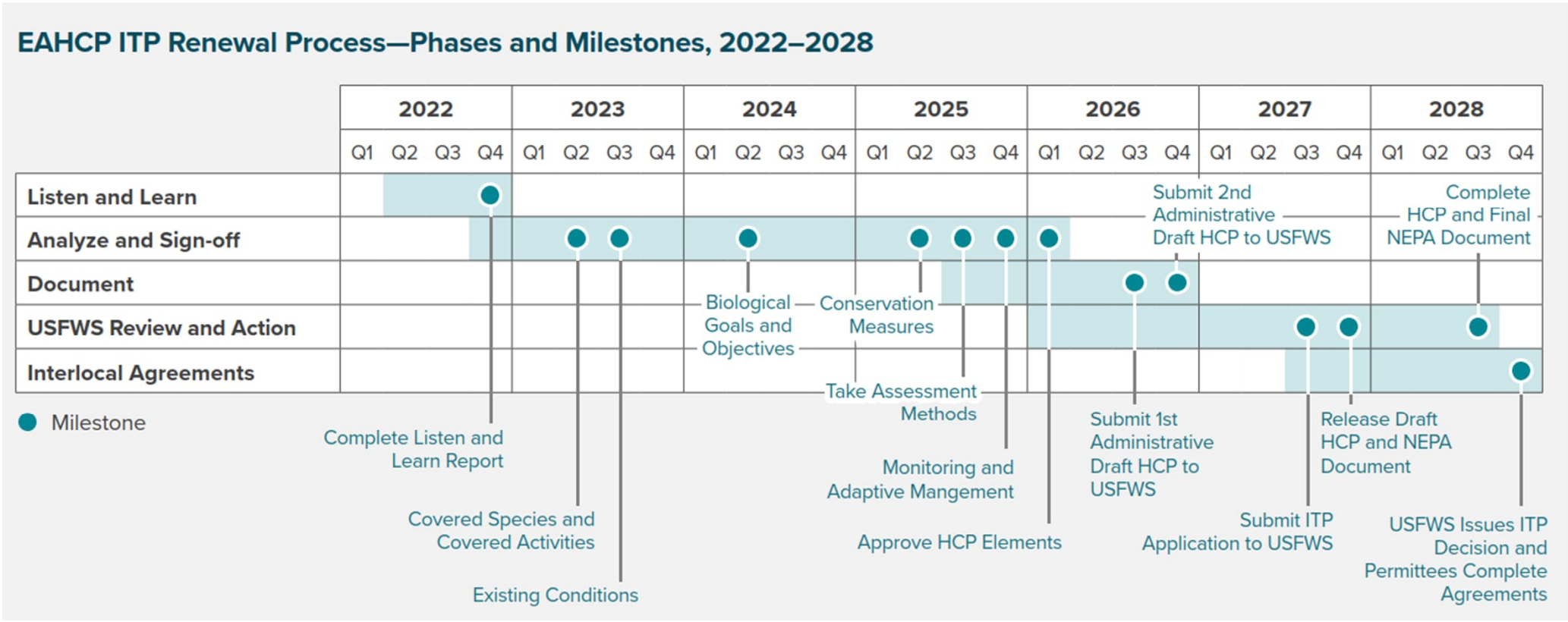
What is the Statutory Requirement for ITP Issuance?

To receive an ITP, applicants must demonstrate that:

- They will minimize and mitigate impacts on the covered species to the maximum extent practicable
- They provide adequate funding for the conservation plan and procedures to deal with changed circumstances
- That the impacts on the covered species will not reduce the likelihood of survival and recovery of the species in the wild

A **Habitat Conservation Plan (HCP)** is the document that demonstrates how these requirements are met.

EAHCP Renewal Effort & Timeline



EAHCP Permit Renewal - Proposed Covered Activities

- Public Recreational Use of the San Marcos River
- Permitted Use of the Edwards Aquifer
- Infrastructure Maintenance, Repair and Construction
- Implementation of EAHCP minimization and mitigation activities (i.e. conservation measures/ restoration activities)

EAHCP Permit Renewal - Proposed Biological Goals and Objectives

- Springflow Objectives for Comal and San Marcos springs
- Texas Wild-Rice Coverage Objectives
- Aquatic Vegetation Coverage Objectives
- Species Abundance, Density and Recruitment Objectives – SM Salamander, Fountain Darter, Riffle Beetle
- Water Quality (i.e. maintain adequate water temps)

EAHCP Permit Renewal - Proposed Biological Goals and Objectives

- Proposed Springflow Objectives for San Marcos Springs:

  - **San Marcos Springflow**
    - **Objective 1.2, Minimum San Marcos Springflow Discharge:** Maintain mean monthly discharge at San Marcos Springs (gage #08170000) greater than or equal to 60 cfs for at least 11 months per calendar year. Maintain daily average springflow greater than or equal to 45 cfs. This will be quantified by using mean daily springflow data to calculate average springflow for each month per year.
    - **Objective 1.4, Long-Term San Marcos Springflow Discharge:**
      - *Maintain a 3-year moving-average annual San Marcos Springs discharge (gage #08170000) above 136 cfs.*
      - *Maintain a 30-year long-term average San Marcos Springs discharge above 140 cfs.*

- Existing EAHCP Objectives:

TABLE 4-13
LONG-TERM AVERAGE AND MINIMUM TOTAL SAN MARCOS DISCHARGE OBJECTIVES

Description	Total San Marcos Discharge (cfs)[a]	Time-step
Long-term average	140	Daily average
Minimum	45[b]	Daily average

[a] Assumes a minimum of a 50-year modeling period that includes the drought of record
[b] Not to exceed six months in duration followed by 80 cfs (daily average) flows for 3 months.

Proposed Springflow Protection Measures for EAHCP Renewal

**Max. EAA-permitted Edwards Aquifer: 572,000 ac-ft/ year*

Measures to help achieve springflow objectives for San Marcos and Comal with focus on achieving the minimum springflows at San Marcos (45cfs) and Comal Springs (30cfs) over the next 30 years with consideration of climate change

Springflow protection measures expected to remain similar for renewal with increased control flexibility for EAA.

•Groundwater control volume: **101,795 ac-ft/ year**

- **-41,795 af/yr** pumping forbearance when Edwards Aquifer level at or < 635 feet on October 1
- **-50,000 af/yr** pumping forbearance when 10-yr rolling avg aquifer recharge <500,000 ac-ft
- **-10,000 af/yr** when either above measures is triggered

•Stage V EAA Critical Period Management: **44% required reduction** of on permitted Edwards aquifer withdrawals based on aquifer levels or low springflow. Applies to all permitted Edwards users.

EAHCP Springflow Protection Measures

- Max annual Edwards Aquifer permitted withdrawal volume: 572,000 acre-ft through approx. 1,800 individual permits
- Mandatory EAA Edwards Aquifer withdrawal reductions based on aquifer levels and/ or springflow. Applies to all permitted Edwards users
- CoSM permitted volume: 5,433 af/ yr
- TXST: 2,002 af/ yr
- NBU: 9,269 af/ yr
- SAWS: 235,000 af/yr

Stage	J-17 Index Well Level: (ft.amsl)	Comal Springflow: (cfs)	San Marcos Springflow: (cfs)	Water Reduction %
Stable	660 or above	225 or above	96 or above	0%
Stage 1	Less than 660	Less than 225	Less than 96	20%
Stage 2	Less than 650	Less than 200	Less than 80	30%
Stage 3	Less than 640	Less than 150	N/A	35%
Stage 4	Less than 630	Less than 100	N/A	40%
Stage 5	Less than 625	Less than 45/40*	N/A	44%

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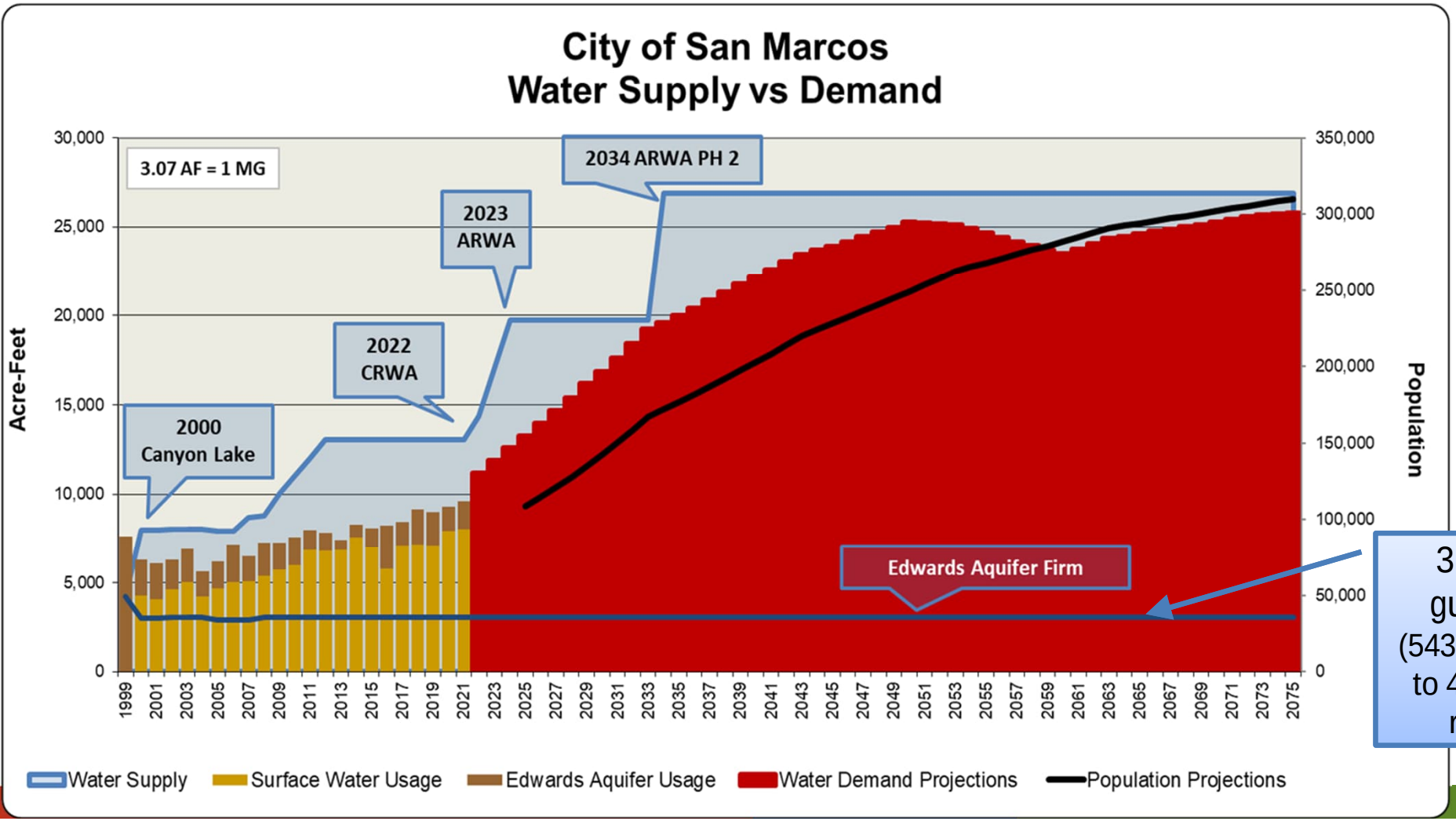
CoSM Water Supply Portfolio



3,042 ac-ft guaranteed (5433ac-ft subject to 44% required reduction)

EAHCP Permit Renewal Proposed Biological Goals and Objectives – Aquatic Vegetation Coverage

- **Objective 5.2, Texas Wild-rice Reach-Specific Areal Coverage:** *Maintain minimum coverage per reach distributed longitudinally down the San Marcos River:*
  - *Spring Lake—40 m²*
  - *Spring Lake Dam—360 m²*
  - *Sewell Park to Hopkins—4,200 m²*
  - *Hopkins to I-35—3,200 m²*
  - *Downstream of I-35—200 m²*

- **Objective 6.6, San Marcos SAV Areal Coverage:** *Maintain a minimum of three SAV taxa including at least one complex structured SAV taxon in each reach (Table 9). Maintain total areal coverages of complex and simple SAV above the following thresholds per reach:*

	Minimum Total Coverage (m²)	
Reach	***Complex SAV***	***Simple SAV***
Spring Lake Dam	*110*	*860*
*Spring Lake Dam - City Park**	*130*	*2,740*
City Park	*370*	*1,220*
*City Park - Rio Vista Pool**	*1,750*	*2,500*
I-35	*530*	*550*
Total	*2,890*	*7,870*

Proposed Habitat Conservation Measures for EAHCP Renewal

Proposed habitat protection measures expected to remain similar for renewal with some updates:

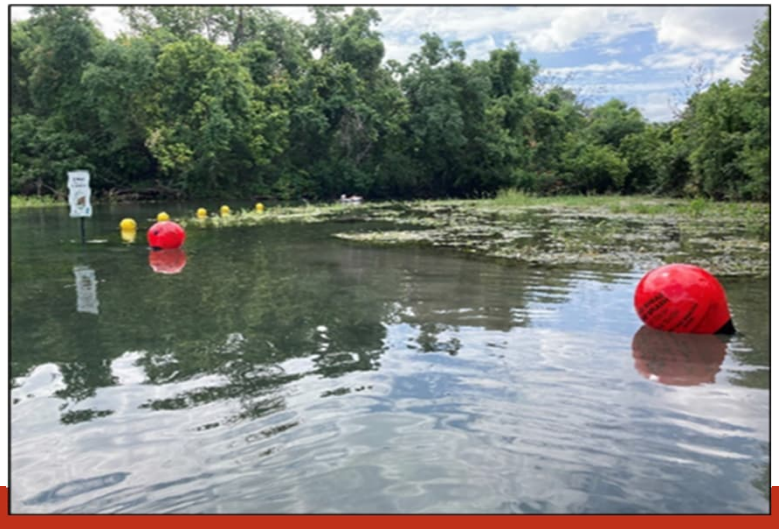
- Aquatic Recreation Mgmt
- Litter Mgmt
- Aquatic Vegetation Mgmt – TX Wild-rice and fountain darter habitat
- Non-Native Fish/ Animal Species Mgmt
- Riparian Zone Mgmt
- Floating Vegetation Mgmt
- Surface Water Diversion Mgmt (TXST)
- Sediment Accumulation Mgmt
- Spring Lake Mgmt (TXST)

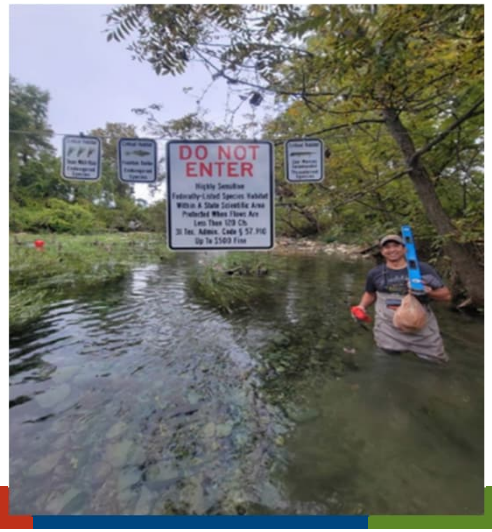
These measures would be primarily the responsibility of **CoSM and TXST** to implement.

EAHCP Habitat Conservation Measures: Mgmt of Recreation

Recreation in the San Marcos River must be managed to help protect endangered species habitat and minimize impacts:

- River user education (i.e. signage, EAHCP Conservation Crew?)
- State Scientific Area exclosures/ instream protection zones & signage
- Stabilized River Access points and riparian buffers w/ fencing
- Litter Management
- Managed river access during extreme low-flows when significant habitat degradation evident



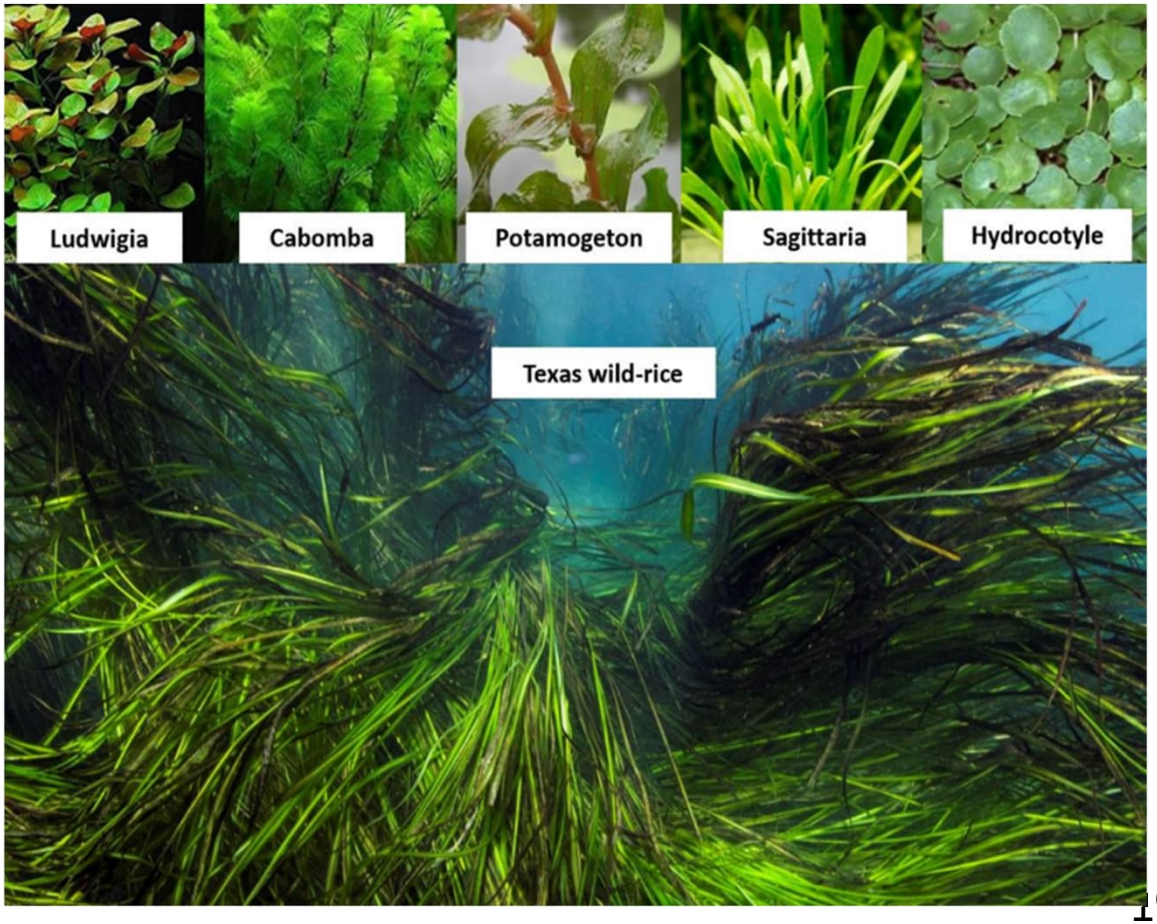


EAHCP Habitat Conservation Measures: Stabilized River Access Points

- Maintain hardened, designated river access points in combination with riparian fencing.

EAHCP Habitat Conservation Measures: Aquatic Vegetation Restoration

- Routine removal of non-natives and planting of native aquatic vegetation
- Mitigates for low-flow & recreational impact.
- The EAHCP includes goals specific to coverage of aquatic vegetation (i.e. Fountain darter habitat) and Texas Wild Rice in the San Marcos River

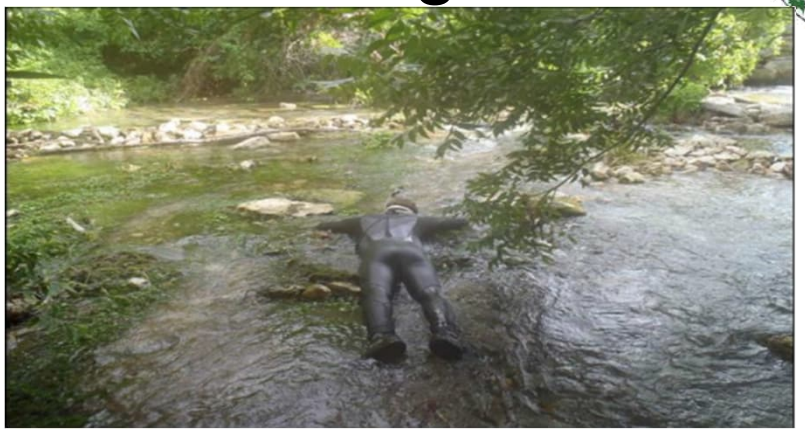


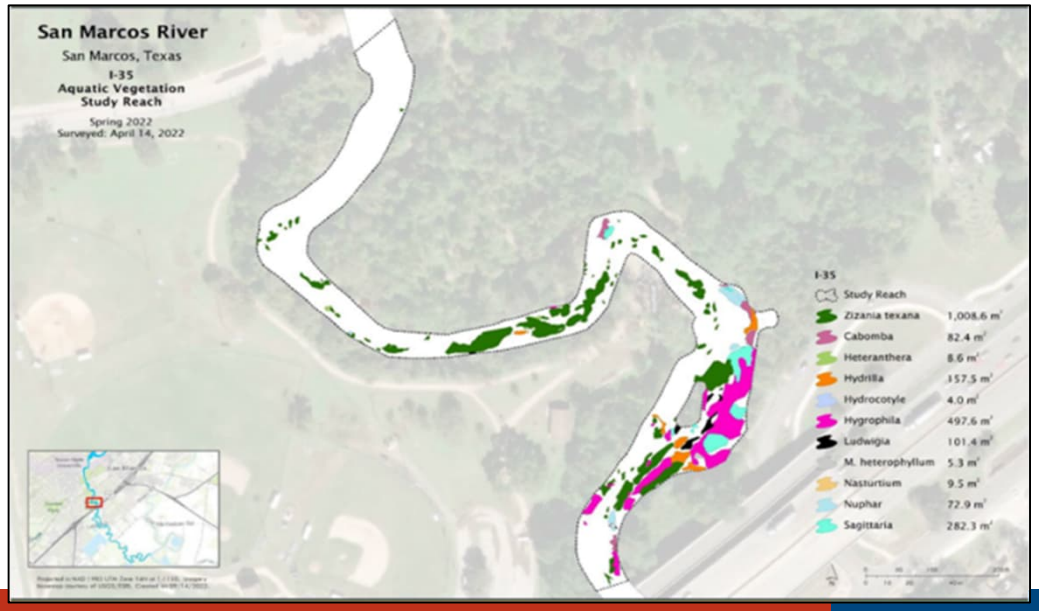
EAHCP Habitat Conservation Measures: Riparian Zone Management

- Includes control of non-native, invasive vegetation, establishment of native vegetation, and protection of riparian zones along the river from Spring Lake to Stokes Park.

EAHCP WQ & Biological Monitoring

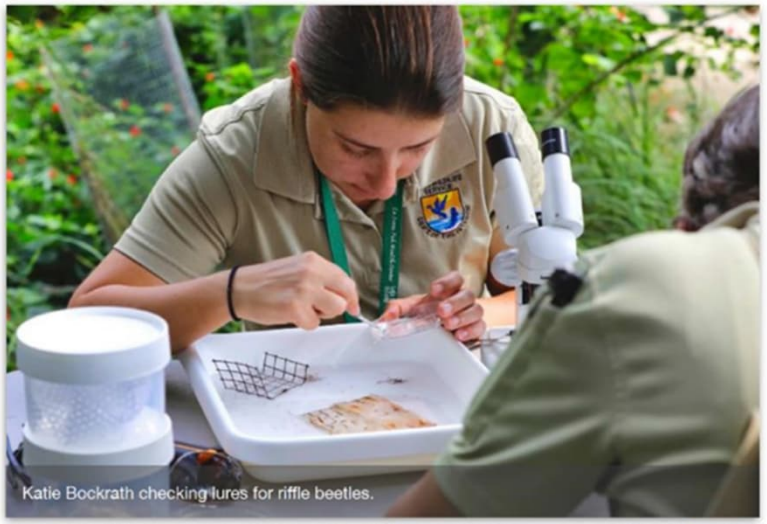
- Aquatic Vegetation Mapping
- Fountain Darter Surveys
- Salamander Surveys
- Riffle Beetle Surveys
- Water Quality Monitoring
- Fish Community Surveys





EAHCP Refugia Program

- Housing and husbandry of Edwards Aquifer endangered species at the USFWS' San Marcos Aquatic Resources Center and Uvalde National Fish Hatchery.
- Includes research on captive endangered species
- Salvage collection and reintroduction of species as needed


Katie Bockrath checking lures for riffle beetles.

EAHCP Renewal Cost Analysis & Funding

EAHCP funded primarily through Aquifer Mgmt Fees imposed by Edwards Aquifer Authority (EAA) on Edwards permittees

Estimated proposed cost for future EAHCP implementation is approx. **$28-30M/ year**:

- $25M estimated annual cost for springflow protection measures (i.e. lease, forbearance agreements and/ or securing water rights) – EAA AMF
- $1M estimated annual cost for Refugia program – EAA AMF
- $1M estimated annual cost for EAHCP Monitoring – EAA AMF
- $1.9M estimated annually for Program Administration – EAA AMF & CoSM/TXST (approx. $150K CoSM/ TXST contribution for HCP Manager)
- $900k estimated annually for San Marcos River EAHCP Conservation Measures - EAA AMF & CoSM/TXST (cost share TBD)

Current EAA AMF = $97/ ac-ft/yr, CoSM current AMF = $527,000 (5,433ac x $97). AMF anticipated to increase to cover future EAHCP costs.

EAHCP Renewal Next Steps

- **July 2026:** 1st Draft of EAHCP submitted to US Fish and Wildlife Service (USFWS) for review/ comment
- **Oct – Nov 2026:** Address any USFWS and permittee comments (**may need Council input**)
- **Dec 2026:** Submit 2nd draft EAHCP to USFWS
- **Dec 2026 – Oct 2027:** Prepare Environmental Impact Statement for NEPA review.
- **Oct 2027:** Permittees review final draft EAHCP. **Seek Council resolution approving EAHCP and submittal of ITP application and EAHCP to USFWS.**
- **Dec 2027:** USFWS releases public draft EAHCP.

Questions?