



1 **Memorandum**

**To:** Scott Storrent, EAHCP Program Manager

**From:** ICF Team

**Date:** May 28, 2026

**Re:** **[Revised DRAFT] Preliminary Cost and Funding Assessment for the Renewed EAHCP**

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2 **1. Overview**

3 The purpose of this memo is to assess potential costs for the implementation of the renewed  
4 Edwards Aquifer Habitat Conservation Plan (EAHCP) in the planning process to renew the EAHCP  
5 incidental take permit (ITP). To issue the ITP, the U.S. Fish and Wildlife Service (USFWS) must find  
6 that the Applicants “will ensure that adequate funding for the [Habitat Conservation Plan (HCP)] will  
7 be provided.” (16 U.S.C. § 1539(a)(2)(B)(iii)). To satisfy this requirement, the estimated costs of  
8 implementing the EAHCP, along with funding sources for all costs, will be described in the renewed  
9 EAHCP.

10 A draft of this memo was delivered to Permittees for review on January 14, 2026. The memo was  
11 then revised according to comments received from Permittees.<sup>1</sup> A summary of all comments  
12 received is included as Attachment 1. A revised memo was distributed to Permittees on March 20,  
13 2026. The Implementing Committee did not issue a directive to proceed on the revised memo due to  
14 concerns regarding certain cost estimates and proposed cost-sharing arrangements presented in the  
15 memo. As such, this version of the memo has been edited by:

- 16 • Removing any cost estimates presented as ranges and replacing them with the upper end of the  
17 original range
- 18 • Removing all discussions of funding sources and proposals for cost sharing. Instead, these  
19 negotiations will occur during the chapter development process
- 20 • Revising cost estimates with newly acquired information received to date from Permittees

21 Permittee feedback, including new and refined cost estimates, will continue to be used to inform  
22 development of the draft EAHCP chapter. The chapter will include a detailed model to estimate costs  
23 based on clearly defined assumptions associated with the EAHCP implementation, including labor,  
24 materials, and other in-kind contributions from Permittees. All Permittees will have the opportunity  
25 to provide input on the assumptions incorporated into the cost estimate model. The cost estimates  
26 provided in this memo do not constrain future cost estimating to occur during EAHCP chapter  
27 development.

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<sup>1</sup> SAWS did not provide comments on the draft memo.

1 The preliminary estimated costs in this memo and those that will be included in the renewed EAHCP  
2 are for planning purposes only to estimate funding levels needed for implementation of the plan.  
3 Costs identified are often at a programmatic level. The cost estimate for the renewed EAHCP may  
4 provide the Permittees with the basis for developing an annual EAHCP capital and operating budget  
5 to implement the EAHCP, but costs may change over time, and the Permittees commit to funding the  
6 full implementation of the EAHCP regardless of the accuracy of cost estimates.

## 7 **2. Cost and Funding Methods**

8 Estimated costs include the total estimated expenditure of resources to implement the EAHCP,  
9 regardless of source. Contributions of staff time and materials from any Permittee towards the  
10 implementation of the EAHCP will be calculated in the cost estimate. All cost estimates in this memo  
11 are in 2026 dollars. As in the original HCP, it is assumed that inflation will be applied annually to all  
12 costs to account for routine cost increases. Certain costs, such as salaries and health care for staff,  
13 may increase at a rate different from inflation. Certain details of the renewed EAHCP still need to be  
14 developed in the draft chapters to inform the detailed cost model to refine cost estimates.

15 Costs for the EAHCP are proposed to be divided into the following broad cost categories, consistent  
16 with how most HCP costs are structured:

- 17 • Conservation Measures
- 18 • Measures that Contribute to Recovery
- 19 • Monitoring
- 20 • Adaptive Management and Applied Research
- 21 • Remedial Measures
- 22 • Contingency
- 23 • Plan Administration

24 This proposed organization of cost categories differs from the organization of costs in the current  
25 EAHCP, but more closely reflects how costs will be organized in the renewed EAHCP chapter.

26 Most costs were calculated as annual estimates for the implementation of a specific plan aspect.  
27 However, certain costs are expected to occur on a non-annual basis. For example, a riparian fence  
28 may only need an allocation of staff time and materials to repair once over the 30-year permit term.  
29 These non-annual costs are included in estimates by averaging total non-annual costs over 30 years  
30 and adding that amount to the recurring annual costs so that the average annual accosts account for  
31 all costs anticipated to occur over the permit term, regardless of how often they occur.

32 The following sources of information were used to estimate costs in this memo:

- 33 • EAHCP actual expenses since 2013<sup>2</sup>
- 34 • EAHCP 2025 budgeted expenses

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<sup>2</sup> The cost estimate of the existing EAHCP was not consulted because the actual costs have varied from what was originally estimated in the EAHCP, and the actual costs are more useful for estimating what costs could be to implement the renewed EAHCP.

- 1 • Discussions with EAHCP staff
- 2 • Discussions with Permittees<sup>3</sup> about costs to Permittees for time and materials towards the
- 3 implementation of conservation measures
- 4 • Discussions with contractors involved with EAHCP implementation
- 5 Other assumptions and information used for specific cost calculations are noted in Section 3, *Cost*
- 6 *Assessment*, as applicable.
- 7 For this memo, each cost item is summarized. Next, any changes are identified for that item as
- 8 compared with the current EAHCP. Finally, a rough cost estimate is provided for each item.

## 9 **3. Cost Assessment**

### 10 **3.1 Conservation Measures**

11 The estimated costs of implementing each conservation measure are provided below. In addition to  
12 these costs, the cost of EAA program staff time estimated to oversee implementation of all  
13 conservation measures is \$264,744.

#### 14 **3.1.1 Springflow Protection Measures**

15 Springflow protections measures, including water control programs, forbearance triggers,  
16 Interruptions Under Critical Period Management (Stage V), and San Antonio Water System (SAWS)  
17 Aquifer Storage and Recovery (ASR) will be implemented as needed to achieve minimum springflow  
18 objectives. Costs to implement this conservation measure include the operation and management of  
19 water control programs, operation and use of the ASR system and facility, and the cost of leasing  
20 water for the ASR.

##### 21 **3.1.1.1 Summary of Changes from Existing EAHCP**

22 Under the existing EAHCP, there is a standalone cost item for Voluntary Irrigation Suspension  
23 Program Option (VISPO). This term will not be used in the renewed EAHCP. Springflow protection  
24 measures will be represented in the renewed EAHCP by two cost categories: (1) EAA Water Control  
25 Programs (including VISPO) and (2) SAWS ASR.

##### 26 **3.1.1.2 Cost Estimate**

27 The estimated cost for implementing springflow protection measures is \$25,000,000 annually. This  
28 estimate is based on the cost of water control programs since the beginning of the EAHCP adjusted  
29 for changes in the water market. This estimate includes costs for water control programs,  
30 administration of forbearance triggers, SAWS ASR leasing, and interruptions under critical period  
31 management (stage V). The operational costs of the SAWS ASR are not considered in this memo, but  
32 will be considered for inclusion in the Cost and Funding chapter.

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<sup>3</sup> SAWS did not respond to offers to discuss this memo.

1 **3.1.2 Aquatic Recreation Management and Litter Management**

2 Costs to implement the Aquatic Recreation Management conservation measure over the course of  
3 the permit term include staff time and materials for recreation policy enforcement and access  
4 control, signage and other educational materials, contracts for litter management, and infrastructure  
5 installation and repair. Costs to implement the Litter Management conservation measure include  
6 contracts for litter control and staff time to manage volunteers assisting with litter collection.

7 **3.1.2.1 Summary of Changes from Existing EAHCP**

8 **Comal**

9 Under the existing EAHCP, Permittees implement two separate conservation measures to manage  
10 litter and aquatic recreation in the Comal System: (1) Management of Public Recreational Use of  
11 Comal Springs and River Ecosystems; and (2) Litter Collection and Floating Vegetation Management.  
12 Under the existing EAHCP, Litter Collection and Floating Vegetation Management are grouped  
13 together as a single conservation measure and a single cost item. In the renewed EAHCP, Litter  
14 Management and Floating Vegetation Management will be separate conservation measures. See  
15 Section 3.1.3, *Aquatic Vegetation Management and Floating Vegetation Management*, for additional  
16 information.

17 For purposes of estimating costs for the renewed EAHCP, the costs for Litter Management will be  
18 combined with the costs for Aquatic Recreation Management to form one cost item: Aquatic  
19 Recreation Management and Litter Management. Although these will be separate conservation  
20 measures, the costs will be grouped together due to the similarities in implementation costs.

21 **San Marcos**

22 Under the existing EAHCP, Permittees implement three separate conservation measures to manage  
23 litter and aquatic recreation: (1) Management of Aquatic Vegetation and Litter below Sewell Park;  
24 Control of Recreation in Key Areas; and (3) Designation of Permanent Access Points/Bank  
25 Stabilization. In the renewed EAHCP, Litter Management will be its own conservation measure.  
26 Designation of Permanent Access Points/Bank Stabilization will be absorbed by Aquatic Recreation  
27 Management (formerly called Control of Recreation in Key Areas).

28 For purposes of estimating costs for the renewed EAHCP, the costs for Litter Management in the San  
29 Marcos Springs System will be combined with the costs for Aquatic Recreation Management in the  
30 San Marcos Springs System to form one cost item: Aquatic Recreation Management and Litter  
31 Management. Although these will be separate conservation measures, the costs will be grouped  
32 together due to the similarities in implementation costs.

33 **3.1.2.2 Cost Estimate**

34 **Comal**

35 The estimated cost for Aquatic Recreation Management and Litter Management in the Comal System  
36 is estimated to be \$487,465 annually. This estimate includes:

- 37 • \$312,500 annually on 45 park rangers to restrict recreation access and enforce city ordinances
- 38 that prohibit certain activities on and around the Comal River
- 39 • \$1,000 annually on replacing maps, signage, and other educational materials

- 1 • \$158,965 annually on contracts for litter management in areas with contact recreation.
- 2 • \$15,000 annually on paid advertisements about the prohibition on disposable containers

3 **San Marcos**

4 The estimated cost for Aquatic Recreation Management and Litter Management in the San Marcos  
5 Springs System is \$864,267 annually. This estimate includes:

- 6 • \$65,000 annually for Conservation Crew staff hourly wages, and the materials they use (trash  
7 bags, signage, etc.)
- 8 • \$100,000 annually on the City of San Marcos and Texas State University staff that supervise and  
9 administer the Conservation Crew
- 10 • \$148,000 annually on Park Ambassadors to control access and monitor recreation
- 11 • \$115,000 annually for City of San Marcos Park Marshals and Police OT for summer patrol
- 12 • \$50,400 annually for an underwater litter management contract
- 13 • \$118,000 annually for a riverfront park litter management contract
- 14 • \$20,000 annually for staff time to organize and lead volunteers for litter pickups
- 15 • \$11,200 annually for City of San Marcos Rio Vista Park fence rental
- 16 • \$145,000 annually for Texas State managing Spring Lake access and activities

17 Estimated one-time or periodic costs include:

- 18 • \$125,000 to purchase fencing to control visitor access at pertinent riverfront areas
- 19 • \$2,625,000 to repair seven river access points over the course of the permit term (the estimated  
20 cost to repair one river access point is \$375,000)

21 **3.1.3 Aquatic Vegetation Management and Floating Vegetation**  
22 **Management**

23 Costs to implement the Aquatic Vegetation Management conservation measure over the permit term  
24 include the labor and materials needed for the maintenance of native aquatic vegetation and  
25 removal of aquatic vegetation to create desired habitat conditions for covered species. Costs to  
26 implement the Floating Vegetation Management conservation measure over the course of the permit  
27 term include the dislodgment and/or removal of floating vegetation mats. These costs are estimated  
28 for managing aquatic vegetation conditions within the systems under normal springflow conditions;  
29 they do not include costs for aquatic vegetation management activities (e.g., restoration) after an  
30 atypical springflow event such as a scouring flood. These costs are addressed in Section 2.5,  
31 *Remedial Measures.*

32 **3.1.3.1 Summary of Changes from Existing EAHCP**

33 **Comal**

34 Under the Existing EAHCP, Permittees implement two conservation measures to manage aquatic  
35 vegetation in the Comal Springs System: (1) Native Aquatic Vegetation Restoration and Maintenance  
36 and (2) Litter Collection and Floating Vegetation Management. The implementation costs for these

1 conservation measures are split between three cost items: (1) Old Channel Environmental  
2 Restoration and Protection Area (ERPA) Aquatic Vegetation Restoration and Maintenance, (2) Landa  
3 Lake / Comal River Aquatic Vegetation Restoration and Maintenance, and (3) Litter Control /  
4 Floating Vegetation.

5 For purposes of estimating costs for the renewed EAHCP, floating vegetation management will be  
6 combined with aquatic vegetation restoration and maintenance for Landa Lake, Comal River, and  
7 Old Channel ERPA into one cost item: Aquatic Vegetation Management and Floating Vegetation  
8 Management.

9 Litter Control will be separated from Aquatic Vegetation Restoration and Maintenance and instead  
10 grouped with Aquatic Recreation Management. See Section 3.1.2, *Aquatic Recreation Management*  
11 *and Litter Management*, for additional information.

### 12 **San Marcos**

13 Under the Existing EAHCP, Permittees implement two conservation measures to manage aquatic  
14 vegetation: (1) Texas Wild-Rice Enhancement and Restoration, (2) Management of Aquatic  
15 Recreation and Litter below Sewell Park, and (3) Control of Non-Native Plant Species. The  
16 implementation costs for these conservation measures are split between three cost items: (1) Texas  
17 Wild-Rice Enhancement and Restoration, (2) Non-Native Plant Species Control, (3) Litter Control /  
18 Floating Vegetation.

19 For purposes of estimating costs for the renewed EAHCP, Floating Vegetation Management, Control  
20 of Non-Native Plant Species, Floating Vegetation Management, and Texas Wild-Rice Enhancement  
21 and Restoration will be combined into one cost item: Aquatic Vegetation Management and Floating  
22 Vegetation Management.

23 Litter control will be separated from this line item and instead grouped with Aquatic Recreation  
24 Management. See Section 3.1.2, *Aquatic Recreation Management and Litter Management*, for  
25 additional information.

### 26 **3.1.3.2 Cost Estimate**

#### 27 **Comal**

28 The estimated cost for Aquatic Vegetation Management and Floating Vegetation Management in the  
29 Comal Springs System is \$150,000 annually. This includes the costs for maintenance of native  
30 aquatic vegetation, removal of non-native aquatic vegetation, dislodgement of accumulations of  
31 floating vegetation, and litter removal in Landa Lake. This range considers that costs for maintaining  
32 the Old Channel ERPA, a critical portion of the river that may need special management attention in  
33 response to climate change concerns, may increase later in the permit term.

#### 34 **San Marcos**

35 The estimated cost for Aquatic Vegetation Management and Floating Vegetation Management in the  
36 San Marcos Springs System is \$336,000 annually. This includes the costs for the maintenance of  
37 aquatic vegetation, removal of non-native and/or non-preferred native aquatic vegetation, planting  
38 of native aquatic vegetation, routine removal of aquatic vegetation in San Marcos salamander  
39 occupied habitat, and efforts to achieve areal coverages for Texas wild-rice, and vegetation  
40 management in Spring Lake.

1 **3.1.4 Non-Native Animal Species Management**

2 Costs to implement Non-Native Animal Species Management include the labor and expenses  
3 associated with the removal of non-native animal species; the enforcement of prohibitions on the  
4 dumping of non-native aquatic animals in waterways and the use of non-native live bait species for  
5 fishing; and signage educating park visitors about park rules related to non-native species and  
6 negative impacts to the ecosystem.

7 **3.1.4.1 Summary of Changes from Existing EAHCP**

8 **Comal**

9 Under the existing EAHCP, this conservation measure is called “Control of Non-Native Animal  
10 Species,” and the cost item is called “Non-Native Animal Species Control.”

11 In the renewed EAHCP, the conservation measure and the associated cost item will both be called  
12 “Non-Native Animal Species Management.”

13 **San Marcos**

14 Under the existing EAHCP, there are two conservation measures related to non-native animal  
15 species: (1) Reduction of Non-Native Species Introduction and (2) Control of Harmful Non-Native  
16 and Predator Species. The existing EAHCP annual budget has one cost item to fund both  
17 conservation measures: Non-Native Animal Species Control.

18 In the renewed EAHCP, a single conservation measure and the associated cost item will both be  
19 called “Non-Native Animal Species Management.”

20 **3.1.4.2 Cost Estimate**

21 **Comal**

22 The estimated cost for Non-Native Animal Species Management in the Comal Springs System is  
23 \$50,000 annually.

24 **San Marcos**

25 The estimated cost for Non-Native Animal Species Management in the San Marcos Springs System is  
26 \$45,000 annually. This includes routine costs associated with this conservation measure plus \$5,000  
27 for the City of San Marcos to maintain and administer the unwanted aquatic animal donation  
28 program.

29 **3.1.5 Riparian Zone Management**

30 Riparian zone management contributes to water quality by stabilizing the banks, preventing  
31 erosion, and filtering runoff before it enters the aquatic system. Riparian Zone Management is  
32 essential for maintaining habitat for Covered Species. Costs to implement this conservation  
33 measure include labor and materials for riparian zone management and restoration, which may  
34 include the installation of exclusion fencing, bank stabilization, erosion control, and the planting  
35 of native plants along the riverbanks.

1 **3.1.5.1 Summary of Changes from Existing EAHCP**

2 **Comal**

3 Under the current EAHCP, this conservation measure is called “Native Riparian Habitat Restoration”  
4 In the renewed EAHCP, this will be renamed “Riparian Zone Management.” The current EAHCP splits  
5 implementation costs into two cost items: (1) Native Riparian Habitat Restoration and (2) Native  
6 Riparian Habitat Restoration (Riffle Beetle). The latter cost item included a specific project to install  
7 fencing on a private property to prevent erosion above riffle beetle habitat. This project has  
8 concluded, but maintenance of that fencing may be needed over the course of the permit term. In the  
9 renewed EAHCP, there will be a single line item for this conservation measure: Riparian Zone  
10 Management.

11 **San Marcos**

12 Under the current EAHCP, the City of San Marcos and Texas State University implement a  
13 conservation measure called Control of Non-Native Plant Species, which includes objectives for  
14 riparian zone restoration. In the renewed EAHCP, this conservation measure will be called Riparian  
15 Zone Management. The current EAHCP splits this into two cost items: (1) Non-Native Plant Species  
16 Control and (2) Native Riparian Restoration. Under the renewed EAHCP, there will be a single line  
17 item for this conservation measure: Riparian Zone Management.

18 **3.1.5.2 Cost Estimate**

19 **Comal**

20 The estimated annual cost for Riparian Zone Management in the Comal Springs System is \$50,000.

21 **San Marcos**

22 The estimated annual cost for Riparian Zone Management in the San Marcos Springs System is  
23 \$60,000 for the first 5 years of the permit term. After 5 years, the estimated annual cost is expected  
24 to taper off to \$30,000 annually. Additionally, a total cost of approximately \$40,000 will be needed  
25 over the 30-year permit term to replace riparian fencing.

26 **3.1.6 Sediment Accumulation Management**

27 Managing accumulations of excessive sediment is important to maintaining the health and  
28 functionality of aquatic ecosystems. Deposition and accumulation of sediment can smother and  
29 displace stands of Texas wild-rice, reduce or alter fountain darter habitat, fill in open spaces  
30 between larger substrate components that are utilized by San Marcos salamander, and cover spring  
31 orifices utilized by Comal Springs riffle beetle.

32 Costs to implement this conservation measure include dredging, suction, or fanning of sediment to  
33 mitigate the impacts of sedimentation. Such sediment management activities must first be  
34 demonstrated to provide a significant benefit to Texas wild-rice and/or other Covered Species'  
35 habitat and outweigh and anticipated negative impacts.

1 **3.1.6.1 Summary of Changes from Existing EAHCP**

2 **Comal**

3 Under the existing EAHCP, there is no specific conservation measure or cost item for sediment  
4 management in the Comal Springs System. In the renewed EAHCP, there will be a conservation  
5 measure and cost item. Both will be called “Sediment Accumulation Management.”

6 **San Marcos**

7 Under the existing EAHCP, sediment management in the San Marcos Springs System is split between  
8 two conservation measures: (1) Sediment Management below Sewell Park and (2) Sediment  
9 Management in Spring Lake and from Spring Lake Dam to City Park. There is one cost item to fund  
10 both conservation measures: Sediment Removal.

11 In the renewed EAHCP, these two conservation measures will be combined into one: Sediment  
12 Accumulation Management. There will be one cost item: Sediment Accumulation Management.

13 **3.1.6.2 Cost Estimate**

14 **Comal**

15 Regular Sediment Accumulation Management activities in the Comal Springs System are anticipated  
16 to be needed approximately every 10 years; however, the cost of these activities remains uncertain  
17 and requires further investigation. Therefore, the cost estimate for Sediment Accumulation  
18 Management will be developed during drafting of the Cost and Funding chapter. Management of  
19 sediment that may be required to respond to changed circumstances (i.e., an extreme flooding  
20 event) is addressed in Section 3.6, *Remedial Measures*.

21 **San Marcos**

22 The estimated annual cost for Sediment Accumulation Management in the San Marcos Springs  
23 System is \$0. Management of sediment that may be required to respond to changed circumstances is  
24 addressed in Section 3.6, *Remedial Measures*.

25 **3.1.7 Flow-Split Management**

26 Flow-Split Management is a conservation measure that involves manually partitioning springflow  
27 and is intended to protect habitat by reducing disturbance from elevated base flows and high-flow  
28 scouring events. Flow-split management helps to ensure adequate flow during drought conditions  
29 and contributes to maintaining water temperatures while prioritizing flow at low-flows. Costs to  
30 implement this conservation measure include the management and maintenance of gates, culverts,  
31 dams and other essential infrastructure.

32 **3.1.7.1 Summary of Changes from Existing EAHCP**

33 **Comal**

34 There are no significant changes from the Existing EAHCP. “Flow-Split Management in the Old and  
35 New Channel” will continue to be the title of this conservation measure. “Flow-Split Management”  
36 will continue to be the title of this cost item.

1       **San Marcos**

2       Under the current EAHCP, there is no specific conservation measure for flow-split management in  
3       the San Marcos Springs System. The renewed EAHCP will have a conservation measure for flow-split  
4       management called “Flow-Split Management at Spring Lake Dam.” A new cost item called “Flow-  
5       Split Management” will be established for this conservation measure.

6       **3.1.7.2                   Cost Estimate**

7       The cost estimates in this section do not account for the potential cost of completely replacing a  
8       flow-split mechanism after a severe flood event in either system. This cost is addressed in Section  
9       3.6, *Remedial Measures*.

10      **Comal (Old Channel ERPA)**

11      The estimated cost for managing the flow-split system in the Comal Springs System is \$1,500  
12      annually. An estimated one-time cost of \$200,000 will be needed to repair the flow-split mechanism  
13      in the Old Channel ERPA. Additionally, an estimated one-time cost of \$75,000 will be needed to  
14      install an earthen channel in the lower portion of Landa Lake to maintain connectivity between  
15      Landa Lake and the culverts during low flows.

16      **San Marcos (Spring Lake Dam)**

17      The estimated cost for managing the flow-split system in the San Marcos Springs System is \$5,000  
18      annually. An estimated one-time cost of \$1,000,000 will be needed in contracted expenses to install  
19      a flow-split management system in Spring Lake Dam.

20      **3.1.8                   Surface Water Diversions**

21      Permittees are authorized to divert surface water for irrigation and biological/educational  
22      purposes. The Surface Water Diversions conservation measure minimizes the impacts of these  
23      diversions by setting limits on diversion rates. There are no costs inherent to the implementation of  
24      this conservation measure.

25      **3.1.8.1               Summary of Changes from Existing EAHCP**

26      **Comal**

27      Under the existing EAHCP, the Surface Water Diversions conservation measure does not exist for the  
28      Comal Springs System. There is also no cost item. A Surface Water Diversions conservation measure  
29      will be added to the renewed EAHCP. There are no costs associated with this conservation measure,  
30      so there will be no cost item.

31      **San Marcos**

32      There are no significant changes to the cost and funding structure for this conservation measure.  
33      There are no costs associated with this conservation measure, so there will be no cost item.

1 **3.1.8.2 Cost Estimate**

2 **Comal**

3 The estimated cost for implementing the Surface Water Diversions conservation measure in the  
4 Comal Springs System is \$0 annually.

5 **San Marcos**

6 The estimated cost for implementing the Surface Water Diversions conservation measure in the San  
7 Marcos Springs System is \$0 annually.

8 **3.2 Measures that Contribute to Recovery**

9 Measures that Contribute to Recovery go beyond the requirement of minimizing and mitigating  
10 impacts from Covered Activities to the maximum extent practicable and include measures that  
11 contribute to the likelihood of downlisting and delisting of listed Covered Species. Measures may be  
12 implemented through available and appropriate mechanisms including existing programs and may  
13 be funded through partnerships, other external funding, grant funding, in-kind contributions, or  
14 negotiation of requisite interlocal and other agreements.

15 Because the scale of these measures is somewhat flexible and dependent on available funding, it is  
16 useful to categorize these costs separately from the conservation measures that are required to  
17 fulfill mitigation obligations.

18 The EAHCP's proposed responsibility in implementing the following Measures that Contribute to  
19 Recovery is to continually consider opportunities that may arise, contribute in-kind support or  
20 additional match funding opportunistically, and report on the program's actions to support these  
21 measures annually. Therefore, costs for the following Measures that Contribute to Recovery are  
22 included in plan administration costs (see Section 3.8, *Plan Administration*):

- 23 • Education and Outreach
- 24 • Water Quality Protection
- 25 • Land Conservation
- 26 • Water Conservation
- 27 • Hazardous Materials Management
- 28 • Septic System Permitting Program
- 29 • Integrated Pest Management
- 30 • Cibolo Creek Transfer Prohibition

31 **3.3 Refugia**

32 The EAA will continue to support two off-site refugia for EAHCP Covered Species. The refugia will  
33 house and maintain adequate populations of Covered Species to support re-establishment in the  
34 wild if the wild populations are lost due to catastrophic events such as the cessation of springflow or  
35 an unexpected chemical spill. Additionally, the refugia operations will include appropriate research  
36 activities focused on the Covered Species. Refugia activities will be limited to those directly related

1 to conserving species covered by the EAHCP through informing efforts to maintain viable  
2 populations, maintaining and propagating Covered Species in refugia, assessing Covered Species  
3 genetic diversity, and supporting management activities for wild populations of these species.

4 The estimated annual cost for operation of two off-site refugia sites is \$900,000. The EAA will fund  
5 this cost.

## 6 **3.4 Monitoring**

7 The proposed monitoring program is organized into three categories: (1) general condition  
8 monitoring for on-going documentation of conditions and to assess progress towards meeting the  
9 EAHCP's updated Biological Goals and Objectives; (2) effectiveness monitoring to support on-going  
10 conservation decisions and to inform adaptive management needs; and (3) compliance monitoring  
11 with respect to adhering to ITP terms and conditions. Under the permit renewal, monitoring data  
12 will continue to be essential for: (1) monitoring the condition of Covered Species and their habitat;  
13 (2) assessing progress towards the Biological Goals and Objectives; (3) assessing the effectiveness  
14 and efficiency of mitigation and restoration activities; (4) providing inputs to adaptive management;  
15 and (5) facilitating the calculation of take amounts for annual ITP reporting.

### 16 **3.4.1 Summary of Changes**

17 Under the current EAHCP, there are three cost items associated with monitoring: (1) Biological  
18 Monitoring; (2) Water Quality Monitoring; and (3) Ecological Modeling. Under the renewed EAHCP,  
19 there will be three cost categories for monitoring: (1) Biological Monitoring; (2) Biological  
20 Monitoring – Critical Period; and (3) Water Quality Monitoring.

### 21 **3.4.2 Cost Estimate**

22 The estimated costs for each monitoring program are listed below:

- 23 • Monitoring coordination and oversight by EAA program staff: \$123,547
- 24 • Biological Monitoring: \$600,000 annually
- 25 • Biological Monitoring – Critical Period: \$250,000 annually
- 26 • Water Quality Monitoring: \$80,000 annually

## 27 **3.5 Adaptive Management and Applied Research**

28 Key considerations for the adaptive management framework were identified and described in  
29 previous EAHCP permit renewal memoranda. These key considerations and their estimated costs  
30 are described below. Aside from the one-time cost of the mid-permit modeling effort to assess  
31 springflow discharge, adaptive management costs are estimated as a percentage of the monitoring  
32 program.

- 33 • **Springflow discharge:** At a to be determined mid-point of the permit term (e.g., by the end of  
34 the 15<sup>th</sup> or 20<sup>th</sup> year of the permit term), the Permittees will update the analysis for spring flows

1 under future climate conditions.<sup>4</sup> This mid-permit modeling effort will have an estimated one-  
2 time cost of \$1,000,000.

- 3 • **Species responses to low springflow discharges:** When discharge goes below 80 cubic feet  
4 per second (cfs) in each system, Permittees will initiate more frequent biological and species-  
5 specific sampling. This adaptive management action will have an estimated annual cost of  
6 \$18,600 – two percent of the estimated annual cost of the monitoring program.
- 7 • **Effects from recreation on covered species habitat under low-flow conditions:**  
8 Recreational activity in the Plan Area is anticipated to increase over the permit term. Gathering  
9 data on the impacts of recreation on Covered Species habitats would inform future strategies.  
10 This adaptive management action will have an estimated annual cost of \$18,600 – two percent  
11 of the estimated annual cost of the monitoring program.
- 12 • **Aquatic vegetation management outside of long-term biological goal and restoration**  
13 **reaches:** System-wide submerged aquatic vegetation mapping is proposed to occur annually  
14 under the renewed EAHCP. This mapping will help inform routine adjustments or adaptive  
15 management decisions. This adaptive management action will have an estimated annual cost of  
16 \$18,600 – two percent of the estimated annual cost of the monitoring program.

17 The Permittees may be given access to implement applied research projects as a component of the  
18 adaptive management framework to address key uncertainties that are identified during EAHCP  
19 implementation or other topics that are critical to the success of the EAHCP’s Conservation Strategy.  
20 Access to the water systems is provided by the EAHCP, but all researchers must obtain their own  
21 permits to authorize the research. If funded through EAA Aquifer Management Fees, applied  
22 research projects will be authorized through the annual Work Plan or Work Plan amendments, if  
23 needed, approved by the Permittees via unanimous vote.

### 24 **3.5.1.1 Summary of Changes**

25 There are no significant changes to the cost and funding structure of EAHCP adaptive management  
26 and applied research.

### 27 **3.5.1.2 Cost Estimate**

28 The estimated annual cost for applied research is \$250,000.

## 29 **3.6 Remedial Measures**

30 The federal No Surprises regulation defines changed circumstances as those circumstances affecting  
31 a species or geographic area covered by the HCP that can be reasonably anticipated by the applicant  
32 or USFWS and that can be planned for. Remedial measures are identified in the HCP to address  
33 responses to changed circumstances during the EAHCP permit term. Costs to implement remedial  
34 measures must also be identified. The costs for remedial measures will be estimated in the renewed

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<sup>4</sup> The climate and springflow analysis conducted for the EAHCP renewal is available under *PREAHCP Documents*, here: <https://www.eahcrenewal.org/>

1 EAHCP , which will identify changed circumstances and remedial measures. Examples of remedial  
2 measure costs needed to respond to changed circumstances include:

- 3 • Removal of sediment accumulation, additional vegetation mapping, replacing flow-split  
4 management equipment, or replanting of submerged aquatic vegetation in response to severe  
5 flooding
- 6 • Capture and transfer of Covered Species to refugia after an acute pollution event
- 7 • Removal of new invasive species that may adversely affect covered species

8 There may be a high degree of uncertainty to estimate costs of remedial measures, depending on  
9 how specific each measure is described in the renewed EAHCP. A typical approach to estimate  
10 remedial measures is to base their cost on a certain percentage of the implementation costs for the  
11 conservation strategy (e.g. 1-10%), with a higher percentage corresponding to uncertainty in the  
12 scope of the remedial measure to be taken.

### 13 **3.7 Contingency**

14 To account for uncertainties in costs, the cost model will include a contingency cost category. The  
15 cost estimate for contingency costs will be calculated during development of the cost and funding  
16 chapter of the renewed EAHCP. Examples of where contingency funds may be needed include:

- 17 • Purchasing or repairing existing equipment before replacement or repair costs have been  
18 budgeted.
- 19 • Acquiring materials not forecast in the EAHCP cost estimate.
- 20 • Adding temporary staff to address new issues.
- 21 • Implementing additional minimization projects.
- 22 • Applying more expensive management or minimization techniques than forecast in the cost  
23 estimate.
- 24 • Conducting additional monitoring.
- 25 • Addressing unforeseen administrative costs.

26 Contingency costs are typically estimated as a small percentage of each relevant cost category. The  
27 percentage would vary depending on the level of uncertainty in costs within that cost category. In  
28 some cases where the EAHCP has well documented actual costs, no contingency may be needed.

### 29 **3.8 Plan Administration**

30 The EAA leads EAHCP plan administration. Plan administration responsibilities include annual  
31 reporting, organizing and hosting EAHCP committee meetings, public communications, managing all  
32 funding and annual budgeting, and oversight of plan implementation.

33 Plan administration costs account for the EAA staff time and professional contracted services for the  
34 procurement and management of administration activities. EAHCP implementation activities (i.e.,  
35 conservation measures, monitoring) are supported extensively by contracted services, which  
36 require administrative coordination by EAA staff. Professional contracted services include  
37 producing the annual report to the U.S. Fish and Wildlife Service, as well as other permit  
38 administration needs determined on an as needed basis. Plan administration costs also include

1 various program expenses such as computer hardware/software, printing, meeting/travel expenses,  
2 and other materials needed to administer the EAHCP.

3 Costs for plan administration by the City of New Braunfels, City of San Marcos, Texas State, and  
4 SAWS are also accounted for below. This includes the administration of measures that contribute to  
5 recovery (see Section 3.2, *Measures that Contribute to Recovery*).

### 6 **3.8.1 Summary of Changes from Existing EAHCP**

7 There will be no significant changes in the cost and funding structure of EAHCP plan administration.

### 8 **3.8.2 Cost Estimate**

9 The estimated cost for plan administration is \$2,336,831 annually. This estimate includes:

- 10 • City of New Braunfels
  - 11 ○ \$125,000 for program administration staff time, benefits, and material expenses
- 12 • City of San Marcos
  - 13 ○ \$125,000 for program administration staff time, benefits, and material expenses
  - 14 ○ \$76,650 for administration of the Household Hazardous Waste program
- 15 • Texas State University
  - 16 ○ \$125,000 for program administration staff time, benefits, and material expenses
  - 17 ○ \$621,000 for environmental education at the Meadows Center
- 18 • Edwards Aquifer Authority
  - 19 ○ \$741,283 for general program administration staff time, benefits, and material expenses
  - 20 ○ \$105,898 for the administration of measures that contribute to recovery
  - 21 ○ \$350,000 for professional contracted services
  - 22 ○ \$67,000 for miscellaneous program expenses
- 23 • San Antonio Water System
  - 24 ○ Cost estimates for SAWS' plan administration activities will be considered further during
  - 25 chapter development.

# 1 4. Cost and Funding Summary

2 Table 4-1. Cost and Funding Summary by Cost Item

<i>Cost Item</i>	<i>Estimated Average Annual Cost<sup>5</sup></i>	<i>Total Cost</i>
<i>Plan Administration</i>	\$2,336,831	\$70,104,930
<i>Administration and Oversight of Conservation Measures</i>	\$264,744	\$7,942,320
<i>Water Control Programs</i>	\$25,000,000	\$750,000,000
<i>Aquatic Recreation Management and Litter Management (Comal)</i>	\$487,465	\$14,623,950
<i>Aquatic Recreation Management and Litter Management (San Marcos)</i>	\$864,267	\$25,928,010
<i>Aquatic Vegetation Management and Floating Vegetation Management (Comal)</i>	\$150,000	\$4,500,000
<i>Aquatic Vegetation Management and Floating Vegetation Management (San Marcos)</i>	\$336,000	\$10,080,000
<i>Non-Native Animal Species Management (Comal)</i>	\$50,000	\$1,500,000
<i>Non-Native Animal Species Management (San Marcos)</i>	\$45,000	\$1,350,000
<i>Riparian Zone Management (Comal)</i>	\$50,000	\$1,500,000
<i>Riparian Zone Management (San Marcos)</i>	\$36,333	\$1,089,990
<i>Sediment Accumulation Management (Comal)</i>	\$0	\$0
<i>Sediment Accumulation Management (San Marcos)</i>	\$0	\$0
<i>Flow-Split Management (Comal)</i>	\$10,667	\$320,010
<i>Flow-Split Management (San Marcos)</i>	\$38,333	\$1,149,990
<i>Surface Water Diversions (Comal)</i>	\$0	\$0
<i>Surface Water Diversions (San Marcos)</i>	\$0	\$0
<i>Measures that Contribute to Recovery<sup>6</sup></i>	---	---
<i>Refugia</i>	\$900,000	\$27,000,000
<i>Administration and Oversight of Monitoring</i>	\$123,547	\$3,706,410
<i>Biological Monitoring</i>	\$600,000	\$18,000,000

<sup>5</sup> The estimated average annual cost reported in this column accounts for any non-annual costs by averaging those costs over 30 years and adding that average to the estimated annual cost for each plan aspect.

<sup>6</sup> Costs for the Measures that Contribute to Recovery are included in plan administration costs (see Section 3.2, *Measures that Contribute to Recovery*).

<b>Cost Item</b>	<b>Estimated Average Annual Cost<sup>5</sup></b>	<b>Total Cost</b>
<i>Biological Monitoring - Critical Period</i>	\$250,000	\$7,500,000
<i>Water Quality Monitoring</i>	\$80,000	\$2,400,000
<i>Mid-Permit Modeling</i>	\$33,333	\$999,990
<i>Applied Research</i>	\$250,000	\$7,500,000
<i>Adaptive Management</i>	\$55,800	\$1,674,000
<i>Remedial Measures<sup>7</sup></i>	\$TBD	\$TBD
<i>Contingency<sup>8</sup></i>	\$TBD	\$TBD
<b>Total</b>	\$TBD	<b>\$TBD</b>

1 **Table 4-2. Cost and Funding Summary by Cost Category**

<b>Cost Category</b>	<b>Estimated Average Annual Cost</b>	<b>Total Cost</b>
<i>Conservation Measures</i>	\$27,332,809	\$819,984,270
<i>Measures that Contribute to Recovery</i>	---	---
<i>Monitoring</i>	\$1,053,547	\$31,606,410
<i>Adaptive Management and Applied Research</i>	\$305,800	\$9,174,000
<i>Remedial Measures</i>	\$TBD	\$TBD
<i>Contingency</i>	\$TBD	\$TBD
<i>Plan Administration</i>	\$2,336,831	\$70,104,930
<b>Total</b>	\$TBD	\$TBD

2

<sup>7</sup> The cost estimate for remedial measures will be calculated during development of the cost and funding chapter of the EAHCP.

<sup>8</sup> The cost estimate for contingency will be calculated during development of the cost and funding chapter of the EAHCP.



## 1 **5. Next Steps**

2 Permittee feedback will continue to be used to inform development of the draft EAHCP Cost and  
3 Funding chapter. The chapter will include a detailed model to estimate costs based on clearly  
4 defined assumptions to estimate all costs associated with the EAHCP implementation, including  
5 labor, materials, and other in-kind contributions from Permittees. All Permittees will have the  
6 opportunity to provide input on the assumptions incorporated into the cost estimate model. The  
7 chapter will include a complete cost analysis to implement the plan for the proposed 30-year permit  
8 term, including calculating cost estimates for Remedial Measures and Contingency. It will also  
9 document how the Permittees intend to fund the EAHCP and describe funding assurances, a  
10 regulatory requirement for HCPs.

**Attachment 1: Comment Matrix, Preliminary Cost and Funding Memo**

ID	Page	Line	Comment	Commentor	Status / Response
1	2	17-18	We were asked more to provide information about \$ that CONB spends to aid with the conservation measures, not asked to weigh in on what we think it would cost for HCP funded work.	Amy Niles, CONB	Noted. Permittee comments received on the draft memo provided feedback on costs estimated to implement conservation measures.
2	4	26	This is only for the area outside of Landa Lake and Old Channel where we have contact recreation.	Amy Niles, CONB	Noted. Revised text to clarify.
3	4	23	Excludes benefits, taxes, insurance, uniforms, retirement	Phillip Quast, CONB	Noted. For this memo, we multiplied the original estimate (\$250,000) by 1.25 to assume the cost of benefits and taxes. For the detailed cost estimate to be developed for the Cost and Funding chapter, we will use more exact information provided by the City of New Braunfels.
4	6	26-30	Dislodging alone is \$40k/year not including inflation. If we are no longer replacing plant species, there is no expectation that floating vegetation would decrease. For aquatic veg management the pay rate at \$75/hour is under what we currently pay for BioWest and only 3 days a month for aquatic veg management and floating veg management combined is a huge decrease in services that protect and enhance endangered species habitat. I also don't see this type of detail in other items listed later. I'd like more information on the reasoning for this large decrease. I think we will be doing less vegetation management work than the original permit but there is still work to be done. This item realistically needs more discussion and I believe to maintain the work of the original permit cycle this budget should be closer to \$150k annually.	Amy Niles, CONB	Revised cost estimate to a range that includes this estimate.
5	6	27	Current annual funding: Old Channel and Landa Lake SAV restoration: \$150K, Veg/ Litter Management: \$40K; Why is there such a drastic drop in proposed annual funding?	Phillip Quast, CONB	Revised cost estimate to a range that includes this estimate.
6	7	7	3.6 is the section I see this in- having a healthy fund for this is important	Amy Niles, CONB	Noted. Revised section number.
7	70	35	Current annual funding: \$40K; seems low for projected expenses; Dependent on market costs, contractor expenses	Phillip Quast, CONB	Revised cost estimate to \$40,000 - \$50,000 annually. Cost estimates are in 2026 dollars and do not account for inflation or market changes.
8	8	8-9	Is there an amount tied to this, or just the \$40,000? It is currently \$40,000, this doesn't include inflation or change in cost of business over the next 30 years.	Amy Niles, CONB	Through EAA AMFs, the EAHCP will find the Non-Native Animal Species Management in the Comal Springs System, which is estimated to cost \$40,000 - \$50,000 annually. Cost estimates are in 2026 dollars and do not account for inflation or market changes.
9	9	3	Current annual budget: \$50K; seems low for long term annual maintenance	Phillip Quast, CONB	Revised cost estimate to a range that includes this estimate.
10	9	10	Dependent on market costs, contractor bids	Phillip Quast, CONB	Cost estimates are in 2026 dollars and do not account for inflation or market changes.
11	10	7-9	We know that we will need to do sediment accumulation management over the next 30 years to protect habitat and want to be sure there is funding available to do it.	Amy Niles, CONB	Revised memo text accordingly. Cost estimation will occur during chapter drafting. Management of sediment that may be required to respond to changed circumstances is addressed in Remedial Measures.
12	11	9-10	How was this figure determined?	Amy Niles, CONB	This is an estimate determined by the EAHCP and consultant teams. The cost estimates in this section do not account for the potential cost of completely replacing a flow-split mechanism after a severe flood event in either system. This cost is addressed in Remedial Measures.
13	11	9	Not sufficient for overhaul/ replacement due to catastrophic high water event	Phillip Quast, CONB	The cost estimates in this section do not account for the potential cost of completely replacing a flow-split mechanism after a severe flood event in either system. This cost is addressed in Section 3.6, Remedial Measures.
14	11	10-12	Excited about this addition! We have seen how important this change will be in low flow conditions	Amy Niles, CONB	Noted.
15	12	17-22	Currently some of these measures are funded with Aquifer Management Fees. I know that is not the intention moving forward to the same extent, but I think the option should be available for special circumstances for IC to recommend in the case of partnerships.	Amy Niles, CONB	Memo revised to indicate how these measures will be funded through EAHCP staff time.
16	1	34	\$100,000 would be more accurate if including benefits.	Mark Enders, COSM	Revised using this estimate.
17	5	5	Temporary fencing for Rio Vista Park was purchased in 2026. Permanent fencing and/ or other access control infrastructure for Rio Vista and other park areas may be needed in the future. Cost will vary depending on how and where the controlled access measure is implemented. \$100-125k may be more realistic for permanent fencing in RV Park and other parks. Another option is to rent temp fencing for temporary installation for pertinent parks during extreme low-flow periods.	Mark Enders, COSM	Revised cost estimate to a range that includes this estimate.
18	5	16-18	This warrants more discussion. EAHCP funding will be required to implement EAHCP Recreation Mgmt CMs as CoSM and TXST may or may not be able to commit to funding all the Rec Mgmt measures outside of the EAHCP AMF funding. The EAHCP program funding will be needed to supplement COSM/ TXST investments and ensure that EAHCP Recreation Mgmt CMs are able to be adequately implemented. At minimum, I suggest that the \$65k annually for the Conservation Crew be provided through the EAHCP program through the permit term. EAHCP funding will likely need to be provided to help supplement litter collection efforts, approx. \$25-30K/ yr EAHCP contribution, controlled access and river access point maintenance.	Mark Enders, COSM	Memo revised to \$95k annually for first five years of renewed permit term then to taper according to an agreement between EAA and COSM/TXST over the next five years. This is intended to allow time for COSM/TXST to develop funding sources for avoidance and minimization measures for COSM/TXST covered activities.

19	6, 7	37-40; 1-4	<p>This needs to be more fully discussed. This cost estimate of \$45k/yr is extremely low and inadequate to be able to effectively implement a SAV and Floating Veg Mgmt. To be able to implement the Aquatic Veg Mgmt CM, more than just 24hrs/ month as assumed, will be necessary. SAV mgmt efforts will need to include native plant propagation, GIS tracking of work efforts, reporting, invoicing, equipment/ material costs, SCUBA, mileage cost and PM oversight.</p> <p>The current annual expenditure for SAV restoration and floating veg mat mgmt is &gt;\$250k. I anticipate that significantly less effort and expenditures will be needed to implement these measures as part of the renewed EAHCP, as a lot of investment and effort has been previously put forth. That said, efforts will still require sufficient funding to implement these measures as proposed in the CM memo. The annual funding needed to implement this CM will need be closer to \$150,000-165,000.</p>	Mark Enders, COSM	Revised cost estimate to a range that includes this estimate.
20	7	12-14	I am not seeing a funding allocation for this is in Section 3.6. We need to ensure that an adequate fund estimate is included in the final EAHCP chapter per the narrative in Section 3.6. If SAV Mgmt is adequately funded on an annual basis, less funding would be needed in any reactive response to a significant flood scouring event, etc.	Mark Enders, COSM	In the revised memo, the cost estimate for Aquatic Vegetation Management and Floating Vegetation Management is presented as a range from \$100,000 - \$200,000 annually to be funded by EAA AMFs. Remedial measures are to address changed circumstances that can be reasonably anticipated or planned for, such as flooding. Typically, the cost of remedial measures are estimated as a percentage of the total cost of the conservation strategy. Therefore, the costs for remedial measures will be estimated during chapter drafting once the conservation strategy is complete. The EAHCP will fund remedial measures through EAA AMFs.
21	9	13	\$60k would likely be needed annually for the first 5 yrs then taper off to \$30-30k annually.	Mark Enders, COSM	Revised cost estimate to taper off after 5 years.
22	9	21-22	The City currently contributes \$20k to this measure annually which is expected to continue into the future. Additional City funding for this effort may or may not be available.	Mark Enders, COSM	Noted.
23	10	19-21	I am not seeing a funding allocation for this is in Section 3.6. We need to ensure that an adequate fund estimate is included in the final EAHCP chapter per the narrative in Section 3.6.	Mark Enders, COSM	The cost estimate for remedial measures will be calculated during chapter drafting as a percentage of the total estimated implementation cost of the conservation strategy. The EAHCP will fund remedial measures through EAA AMFs.
24	10	27-28	I am not seeing a funding allocation for this is in Section 3.6. We need to ensure that an adequate fund estimate is included in the final EAHCP chapter per the narrative in Section 3.6	Mark Enders, COSM	The cost estimate for remedial measures will be calculated during chapter drafting as a percentage of the total estimated cost of the conservation strategy. The EAHCP will fund remedial measures through EAA AMFs.
25	11	19	There is currently some TXST staff time dedicated to monitoring and adjusting the gate system. This would require TXST staff time in the future. Estimated staff time: \$5,000 annually	Mark Enders, COSM	Revised using this estimate.
26	11	29-30	This is TXST infrastructure so CoSM will not be able to contribute. It is unlikely that TXST w will be able to contribute at this level. The EAHCP program should cover this cost as it would be solely a habitat protection initiative needed to fulfill a CM.	Mark Enders, COSM	It is appropriate that TXST share in the cost of this conservation measure, as the benefit to covered species provides incidental take offset benefit for all permittees.
27	13	7	Historically, [Hazardous Materials Management] has been supplementally funded by the EAHCP program. For COSM, the EAHCP has contributed \$30k annually to help fund the operation of the Household Hazardous Waste Drop Off facility. The City's annual contribution is approx. \$75k.	Mark Enders, COSM	The financial contribution of the EAHCP program for the hazardous materials management will be considered in development of the cost and funding chapter of the renewed EAHCP.
28	14	2-5	Include more specificity on funding need for these monitoring activities.	Mark Enders, COSM	The Cost and Funding chapter of the renewed EAHCP will include a detailed cost model to provide specific assumptions underlying these estimates.
29	14	17-20	It seems like this should be already captured in the Critical Period Bio-Monitoring.	Mark Enders, COSM	The \$18,600 per year estimate is for adaptive management response in addition to the costs already captured for critical period and low-flow sampling.
30	16	4-15	<p>Significant staff time is required by COSM, TXST and CoNB to manage EAHCP implementation. This includes contracting, EAHCP conservation measure project coordination and management, reporting, computer hardware, travel expenses, EAHCP meeting attendance, benefits, etc.</p> <p>Estimated annual cost: &gt; \$125,000 (CoNB), &gt;\$125,000 (CoSM/ TXST)</p> <p>This info may or may not need to be included in this memo but wanted to document this investment to the program. If to be included, it could also be mentioned in somewhere in Section 3.1.</p>	Mark Enders, COSM	Yes, this should be included in the Plan Administration cost estimate. It has been revised accordingly.
31	16	19-22	This figure appears high. As such, please provide more specificity especially for embedded costs for Measures That Contribute to Recovery as stated in that section, 3.2, to be included in this budget.	Mark Enders, COSM	The staffing costs of the EAHCP team has been allocated across all EAHCP program elements, including Measures that Contribute to Recovery. See Section 3.8.2 of the revised memo.

32	5	16-18	Please provide justification for completely eliminating EAHCP funding support for these efforts. I think at a minimum the cost could be shared equally from EAHCP/EAA AMF, TXST, and COSM.	Kimberly Meitzen, TXST	Memo revised to \$95k annually for first five years of renewed permit term. This is intended to allow time for COSM/TXST to develop funding sources for avoidance and minimization measures for COSM/TXST covered activities.
33	6	36-37	I'm concerned this estimate is much too low and the justification (two technicians, 8-hr days, 3 days per month) is not reasonable for accomplishing the necessary work under this conservation measure.	Kimberly Meitzen, TXST	Revised cost estimate to a range that includes this estimate.
34	11	14	This needs maintenance funds or language that would provide funding through adaptive management during low flows when adjustments may need to be made more frequently	Kimberly Meitzen, TXST	Adaptive management costs are estimated to be 2% of the monitoring program, or \$18,600 per year on average.
35	11	15-16	It would be useful for this system to have some form of monitoring and data collection, and that may require annual operational and maintenance costs.	Kimberly Meitzen, TXST	The cost estimate assumes \$5,000 annual costs for operation of splitflow management. The annual costs for operation and maintenance will be considered further in the detail cost estimate for the cost and funding chapter.
36	11	23	Should fund annual operation of monitoring and data collection - See comment above in cost estimate.	Kimberly Meitzen, TXST	The cost estimate assumes \$5,000 annual costs for operation of splitflow management. The annual costs for operation and maintenance will be considered further in the detail cost estimate for the cost and funding chapter.
37	14	16-20	I am not sure enough information/planning exists on what this would be to provide a cost estimate.	Kimberly Meitzen, TXST	Additional planning information is likely to be developed in drafting the chapter. Conservation measures with uncertain effectiveness typically have a higher cost estimate for adaptive management.
38	14	24-26	Would this supplement 3.1.3.2 annually for both systems?	Kimberly Meitzen, TXST	It would be up to the Permittees to determine if an adaptive management response is needed to conduct aquatic vegetation management outside of long-term biological goal and restoration reaches. This cost estimate of an average of \$18,600 (or \$558,000) over the 30-year permit term in 2026 dollars should not be interpreted as an annual budget.
39	15	12-13	Can surveying/mapping veg loss be included in remedial measures also?	Kimberly Meitzen, TXST	Vegetation mapping will be done annually as part of the standard monitoring protocol. Additional monitoring will be considered as part of remedial measures.