

Edwards Aquifer Recovery Implementation Program

Report of the Ecosystem Restoration Subcommittee on Restoration/Mitigation Options for Comal and San Marcos Springs Ecosystems

March 11, 2010



Subcommittee Formation and Purpose

- On May 14, 2009, the EARIP Steering Committee approved the creation of the Ecosystem Restoration Subcommittee
- The Subcommittee was tasked with:
 - Report on the potential for coordination with the United States Army Corps of Engineers for Restoration Work.
 - To assess existing conditions and restoration needs for the Comal River and San Marcos River
 - Consider integration with the San Marcos River Restoration Group.
 - Submit its report on restoration options for the Comal and San Marcos Rivers to the Steering Committee no later than March 1, 2010.

Subcommittee Members

- The Steering Committee appointed as Voting Members:
 1. Ken Diehl (SAWS)
 2. Melani Howard (City of San Marcos)
 3. Chad Norris (TPWD)
 4. Nathan Pence – Chair – (City of New Braunfels)
 5. Todd Votteler (GBRA)
- And as non-voting members:
 1. USFWS
 2. USGS
 3. USACE

San Marcos Restoration Group

- The Subcommittee quickly decided to focus on the Comal System and capitalize on the work already being conducted by the San Marcos Restoration Group.
- The San Marcos Restoration Group functioned in the same manner as the Subcommittee.
- The San Marcos Restoration Group was composed of representatives from: USFWS, TPWD, SMRF, City of SM, Wildflower Center, Biowest, TSU, Baylor University, GBRA, SAWS, and USACE.

Information Gathering and Report Formation

- San Marcos Restoration Group
- Field Trips
- Email Solicitation of EARIP Stakeholders
- Review of Previous Documents
- SSC
- Brainstorming Sessions
- Sought out Knowledgeable Individuals

Restoration and Mitigation Actions - Categories

- Recreation and Education
- Bank Stabilization and Riparian Management
- Dam Alteration and Water Control Structures
- In-Stream Habitat Improvement and Species Management
- Stormwater Management and Water Quality

Restoration and Mitigation Actions – Included Information

- Action
- Problem/Issue
- Priority Ranking
- Cost Estimate
- Benefit to Species
- Potential Negative Impacts
- Additional Comments

Report Purpose

- Included in Habitat Conservation Plan
- Components of Adaptive Management
- Summarize and Prioritize Mitigation/Restoration Actions
- Identify Direct Benefit to all Species

Produced Reports

- Restoration and Mitigation Actions For the Comal Springs Ecosystem

<http://earip.tamu.edu/EcoRest/12-11-09%20Ecosystem%20Restoration%20Subcommittee%20Report%20Final.pdf>

- Report on Restoration Options for the San Marcos River

<http://earip.tamu.edu/EcoRest/12-11-09%20San%20Marcos%20River%20Restoration%20Options%20Report.pdf>

Ecosystem Restoration Phase II

- The Ecosystem Restoration Subcommittee was asked to review the “Restoration and Mitigation Actions For the Comal Springs Ecosystem”, the “Report on Restoration Options for the San Marcos River”, and the “Draft Options Package” for the purposes of
 1. Identifying the most beneficial restoration and mitigation actions
 2. Prioritize and focus efforts proposed in the Draft Options Package
 3. Provide additional information and details about the most beneficial actions
 4. Provide a more exact cost estimate of the most beneficial actions

Criteria

- In considering and prioritizing the top Restoration/Mitigation Actions, the Subcommittee was to consider:
 1. Feasibility of implementation of restoration/mitigation action
 2. Cost/benefit analysis of restoration/mitigation action
 3. Direct benefit resulting from the restoration/mitigation action to the endangered species during drought and low flow events

Participants

- The following participated in Phase II
 1. Ecosystem Restoration Subcommittee
 2. San Marcos Restoration Group
 3. Reps from USFWS, TPWD, USGS
- All recommendations in the Phase II Report were achieved through consensus by all participants.

Report – San Marcos Options

- Protection of Texas Wild-rice
 1. Recreation Access and Exclusion Zones
 2. Floating Vegetation
 3. Sediment Removal
- Control of Exotics
 1. Domestic Waterfowl
 2. Hydrilla
 3. Nutria
 4. Armored Catfish
- Prohibition of Hazardous Materials

Report – Comal Options

- Control of Exotics
 1. Tilapia
 2. Armored Catfish
- Optimization of Fountain Darter Habitat in New Channel
- Establishment of Riparian Zones for Beetle Habitat
 1. Spring Run 3
 2. Bluff along Landa Lake
- Prohibition of Hazardous Materials

Report – Further Investigation as Options

- Control of Gill Parasite
 - Needs further research as to methods to implement and location to implement.
 - Cost is unknown
- In-Situ Refugia
 - Feasibility study currently being conducted by Biowest
 - Should apply to all species
 - Does not work below 50cfs

Cost of Restoration Package

- Costs were established by examining other similar projects and making a best guess. In general, prices were estimated conservatively.
- San Marcos - \$2,036,000.00
- Comal - \$185,000.00
- Total Cost - \$2,221,000.00

Closing

- The Report “Selection of the Top Restoration and Mitigation Actions For the Comal Springs Ecosystem and the San Marcos Springs Ecosystem” is not meant to replace the two original reports, but rather all three contain important information that should be used at varying stages in the Habitat Conservation Plan.
- Final Report will be provided to the Steering Committee by 3/19/2010.
- Thank You to all who participated!