

6.3.1 Biological Monitoring Program for the Comal and San Marcos Aquatic Ecosystems

Since 2000, the Edwards Aquifer Authority (EAA) has conducted an extensive biological monitoring program in the Comal and San Marcos spring systems. This program was referred to as the Variable Flow Study (VFS). In 2013, the elements of the VFS were incorporated into the Biological Monitoring Program (BioMP) for the Edwards Aquifer Habitat Conservation Plan.

The purpose of the BioMP is “to monitor changes to habitat availability and population abundance of the Covered Species that may result from Covered Activities” (EAHCP § 6.3.1). Another benefit of the BioMP is to collect data that can be used in the applied environmental research studies (EAHCP § 6.3.4) and provide data and information for the ecological model development described in EAHCP § 6.3.3. The BioMP includes: (1) Comprehensive Sampling, (2) any triggered Critical Period monitoring, (3) any high flow triggered monitoring (4) and any EAHCP-specific sampling required by Section 6.4.

In 2016, the Expanded Water Quality Monitoring Program Work Group and the Biological Monitoring Program Work Group were created by the Implementing Committee to carry out a holistic review of the EAHCP monitoring programs and make changes based on the recommendations of National Academy of Sciences (NAS), the NAS Work Group, the input of the Science Committee, the Permittees, and subject matter experts. The Work Groups’ final report – “*Report of the 2016 Expanded Water Quality Monitoring Program Work Group and Report of the 2016 Biological Monitoring Program Work Group*”¹ (Report) - was presented to the Implementing Committee for approval in June 2016. This work plan reflects the recommendations found in that report.

Target for 2017:

In 2017, the BioMP will continue as established with the following modifications:

1. Replace the previously conducted macroinvertebrate food source monitoring with Texas Commission on Environmental Quality/Texas Parks & Wildlife Rapid Bio-Assessment (RBA) protocols for macroinvertebrate community health, to be conducted the same time as fixed drop-net sampling for fountain darters at five reaches in the Comal system and four reaches in the San Marcos system.
2. Flow-partitioning within Landa Lake will be conducted by the EAA, but not through the EAHCP.

¹ Edwards Aquifer Habitat Conservation Plan (2016). *Report of the 2016 Expanded Water Quality Monitoring Work Group and Report of the 2016 Biological Monitoring Program*. San Antonio, TX: Edwards Aquifer Habitat Conservation Plan.

3. During the “Water Quality Grab Sampling” component of the BioMP, the method detection limit (MDL) for soluble reactive phosphorus will be reduced from 50 µg/l to at least 5 µg/l.

Also, the EAA will conduct a collective analysis of data with other programs conducting monitoring within the spring systems, such as the Clean Rivers Program, currently conducted by GBRA and TCEQ in the Comal and San Marcos rivers, the EAHCP Biological and Water Quality Monitoring Programs and the EAA Aquifer Science Department’s groundwater and spring orifice-sampling programs.

Budget:

Table 7.1:

\$400,000

Estimated 2017 budget:

\$437,000*

*2017 EAHCP BioMP will be performed by an outside contractor; estimated annual costs for the biological monitoring program is \$437,000. The cost of any Critical Period monitoring component of the BioMP, as established by the former EAA Variable Flow Study, will continue to be paid by the EAA.