



# EAA's 2019 Work Plans

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# BIOLOGICAL MONITORING

## Requirements:

- The purpose of the Biological Monitoring Program is to monitor changes to habitat availability and population abundance of the Covered Species that may result from Covered Activities.

## Target for 2019:

- Comprehensive Spring and Fall Surveys at both Comal and San Marcos
- Possible critical period surveys
- The 2019 program will be under new contract



# WATER QUALITY MONITORING

## Requirements:

- The goal of the water quality monitoring program is to detect water quality impairments that may negatively impact the listed species.

## Target for 2019:

- Odd year sampling regime
- Passive sampling, stormwater sampling, real-time monitoring, and fish contaminant sampling
- New real-time stations (Sessom Creek & Old Channel)
- The 2019 program will be under new contract.





# ***APPLIED RESEARCH***

## Requirements:

- The EAHCP includes Applied Research as a valuable component of the Phase I package and states that the EAA will contract for the research activities.

## Target for 2019:

- Final year of a two-year study of Sessom Creek Water Erosion.



# *SESSOM CREEK SEDIMENT EXPORT*

- An examination of sediment export from the Sessom Creek watershed to the upper San Marcos River was suggested as part of the Applied Research Work Group from March 2017.
- Sediment deposition on Texas wild-rice is a reoccurring issue as noted within the EAHCP (EARIP, 2012; Earl and Wood, 2002).
- Sandbar removal has been unsuccessful.
- Sediment removal conservation measures were recently rewritten to sediment prevention.



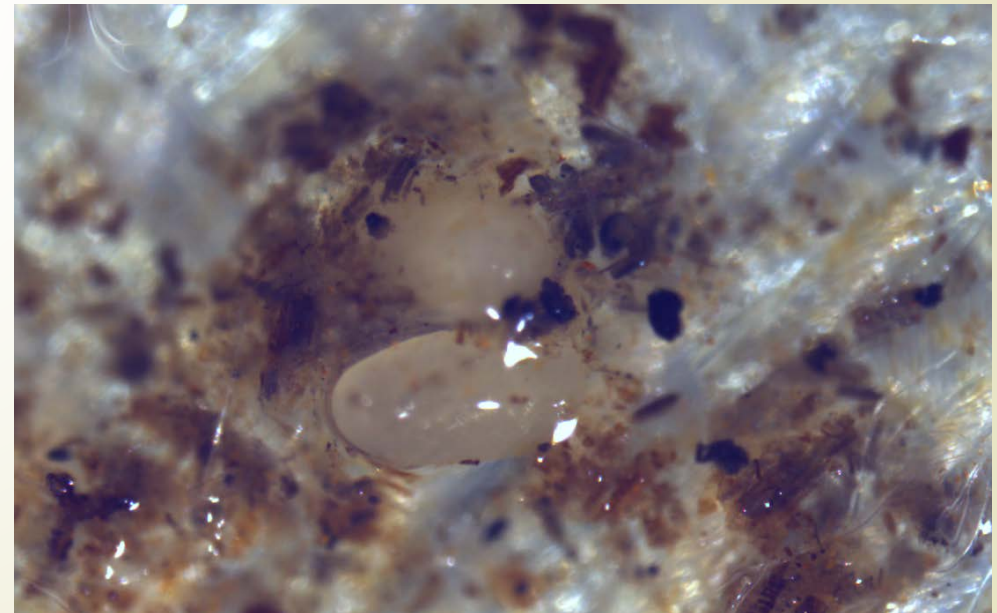
# REFUGIA

## Requirements:

- The EAHCP requires the EAA to provide a series of refugia, with back-up populations, to preserve the capacity for these species to be re-established in the event of the loss of population due to a catastrophic event.

## Target for 2019:

- Complete capital projects at both facilities, continue to collect and maintain standing stock of refugia, and continue research efforts aimed macroinvertebrate life histories and San Marcos salamander propagation



# ***REFUGIA - RESEARCH***

## Project 1:

- Environmental influences on pupation rates of CSRБ
  - Examine how temp, DO, flow, light, diet, etc. influence pupation rates

## Project 2:

- Long-term marking success of salamander species
  - Determine efficacy of various tagging methods

## Project 3:

- Increasing salamander egg survivorship within a captive setting
  - Examine fungal treatments approved for fish species and how effective they are on salamander eggs

## Project 4:

- CSRБ nutrition supplementation
  - Examine gut content of CSRБ to determine deficiencies in captive populations