

Amphibians Research Questions Brain Storming Notes 8/26/2024

Life History and General Knowledge

- Incorporating traditional ecological knowledge (TEK), cultural component for questions
- Ranking most to least sensitive, ranking those that are more mobile (stream, versus move movement upland)
- What do we know now, but also – design research to understand distribution and prevalence? How does this compare across species and how do we determine which to focus research on?
- What are the primary drivers / factors that influence abundance, within species diversity?
- Species are in the draft HCP. Why were they chosen? Could some (e.g. torrent salamanders) act as an indicator species for habitat health?

Demographics

- Distribution
- Movement / dispersal
- Use of upland areas for movement/dispersal, particularly for the torrent salamanders (frequency, importance, areas used).
- Adaptive capacity
- Amphibian use of disconnected seeps and springs (particularly for torrent salamanders). How connected are these habitats?
- Extent of overlap or range occurrence on the East side. How often does this occur and is habitat use different?
- Genetic diversity
- Are physical conditions of stream and are the water quality conditions good for the amphibian species (e.g. impact of sediment on gill breathing)?

Effects of Forest Practices Over Time

- What can we say about the effects of forest management on the species under the HCP? What do we not know, and how could those gaps be addressed (see HCP)?
- Impacts of land ownership and land use
- Effectiveness of forested buffers

- Effectiveness of R-ELZs
- Effectiveness of ELZs
- Impacts of forestry on species over time
- Efficacy for the BGOs
- Interaction between climate change scenarios and forest practices
- Some things (e.g. application of herbicides) were not included in the HCP. Should forest practices not covered by the HCP be included at a lower level of priority?

Research Design

- Timeframe for projects – short and long-term
 - Capturing different environmental signals is a plus of long-term studies
 - Short term studies are still informative and show progress
- The scope and time scale
- Intentional about comparative sites
- Incorporate lessons learned from other studies to determine what the most effective approach might be for producing clear results
 - What are the different methods for data collection, and which are the most effective? Why are they different? Why might some results be considered controversial?

Research Process

- Have more general research questions to allow for identification of research needs via literature review
 - Research could proceed for some questions that are easier to answer.
- IRST could identify specific research based on literature review findings
 - Literature review findings could also answer some research questions
 - See if IRST can work with experts on HCP-covered amphibians to determine research methods