

Proposed Research Questions for Discussion at the March 3rd AMPC Meeting

Question 1. For each of the covered amphibian species, what is the distribution (including genetics) within Oregon, and what factors (e.g., stream gradient, stream size, fish presence/absence, slope, aspect, temperature, seasonality, micro-habitat conditions) determine this distribution at a smaller spatial scale (e.g., watershed)?

Decision: *Is the AMPC ready to move this question to a vote and include it in a question package to the IRST?*

Question 2. What is the persistence of the Columbia and Southern torrent salamanders over time and the landscape?

This question is informed by the following overarching goal: Forest practices that support the survival and recovery of the covered species by providing clean, cool, connected, and complex habitats.

Decision: *Is the AMPC ready to move this question to a vote and include it in a question package to the IRST?*

Question 3: Additional Discussion Needed

The following questions were brainstormed by the full AMPC, polished by the working group, and then discussed at the February 3rd meeting.

Decision: *How does the AMPC want to address these questions?*

1. *As part of the effectiveness monitoring plan (e.g., via the existing workgroup);*
2. *As a separate and subsequent question package;*
3. *Include in the question package for questions 1 & 2, not as research questions, but to provide additional context to the IRST. For example, “these questions are not yet finalized, but will be prioritized and refined in the near future”; and/or,*
4. *Another option?*

Question 3.1 How do rules for road crossings on fish-bearing streams affect Columbia and Southern torrent salamanders’ habitat?

Goal 3: Stream network connectivity satisfies freshwater habitat needs for covered species.

Objective 3.1 – Road crossings on fish-bearing streams are passable by the covered fish species.

Question 3.2 How do rules for no-harvest RMAs affect Columbia and Southern torrent salamanders' habitat?

Goal 2: Shade and watershed processes controlling stream temperature provide cool water compatible with the needs of the covered species.

Objective 2.2 – No-harvest RMAs maintain stream shade sufficient to support desired cool water temperatures for covered amphibians.

Question 3.3 How do rules for Type N streams affect Columbia and Southern torrent salamanders' habitat?

Goal 3: Stream network connectivity satisfies freshwater habitat needs for covered species.

Objective 3.3 – Timber harvest maintains stream-associated connectivity in riparian areas along non-fish streams sufficient to support covered amphibians.

Question 3.4 How do rules for stream-associated wetlands and stream-adjacent seeps and springs affect Columbia and Southern torrent salamanders' habitat?

Goal 4: Riparian areas function to support complex habitats for the covered species.

Objective 4.4 – Forest practices maintain stream-associated wetlands and stream-adjacent seep and spring habitat for amphibians

Question 3.4 How do rules for steep/unstable slope protections affect Columbia and Southern torrent salamanders' habitat?

Goal 4: Riparian areas function to support complex habitats for the covered species.

Objective 4.3 – Designated Debris Flow Traversal Areas function to deliver large wood to fish-bearing streams.

Objective 4.4 – Forest practices maintain stream-associated wetlands and stream-adjacent seep and spring habitat for amphibians.