

Research question(s) package for the research topic: Amphibians Questions # 1 and 2

Dear Members of the IRST:

This document provides preliminary research questions for the research topic “amphibians” developed by the Adaptive Management Program Committee and contextual information for those questions, as required in rule.¹

The AMPC provides this document to guide your work in the following next steps:

1. **Develop finalized research question(s).** In consultation with the AMPC, refine these preliminary research questions into finalized research questions². These finalized research questions should be possible to address capable of being addressed via research and/or monitoring.
2. **Develop scoping proposal(s):** The IRST shall develop scoping proposal(s) for the finalized research question(s). Each scoping proposal needs to include³:
 - a. **A literature review that specifies the need for or the type of monitoring, research, commissioned studies, or other means of scientific inquiry necessary to answer the finalized research question mentioned in #1;**
 - b. **A preliminary estimate of the budget for each year of the research, and a timeline to complete the research project with specific deliverables; and**
 - c. **A preliminary description of research project requirements, scope of work including an estimate of the timeline and key milestones, and an estimate of the degree to which knowledge may be improved if the research proposal is implemented.**
3. **Estimated timeline to complete scoping proposal due to AMPC within 45 days:**
Within 45 days of receiving this document, please provide an estimate of the time you will need to complete #2.⁴

The scoping proposal(s) developed by the IRST on amphibians will be considered by the AMPC together with any previously submitted scoping proposals. The AMPC will consider all of these scoping proposals to develop a comprehensive research agenda⁵ that will be shared with the Board of Forestry by July 2025.

The AMPC looks forward to working with you, both in the long term, and on this particular scoping proposal. If you have any questions, please reach out to Oregon Department of Forestry’s Adaptive Management Program Coordinator, W. Terry Frueh at Terry.Frueh@ODF.Oregon.gov or 503.871.2699.

¹ Oregon Administrative Rule (OAR) 629-603-0200(3)(a)

² Per OAR 629-603-0200(4)(b)

³ Per OAR 629-603-0200(4)(c and d)

⁴ Per OAR 629-603-0200(4)(a)

⁵ OAR 629-603-0200(5)

Commented [TF1]: From Josh Seeds:
I do not have any changes to the amphibians questions at this time. There are probably a couple points I will raise for discussion (e.g. whether we include the Q2 [Q3 in later versions] sub-questions) but nothing that is a major issue needing attention prior to the meeting.

Commented [SD2]: I tried to simplify this Intro and update it, now that the IRST has received several of these from us. However, the existing language is adequate and I’m also fine using that so we don’t need to spend time group editing if there’s agreement on that text.

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Commented [SD3]: Depending on how our conversation goes RE the E OR Steep Slopes scoping proposal, AMPC may want to add more details here

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Sincerely,
Members of the AMPC

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Purpose of this document

This document provides the following Adaptive Management Program elements from the Adaptive Management Program Committee (AMPC) regarding amphibians research:

- A. The preliminary research questions they developed; and,
- B. Contextual information for these questions, as required in rule⁶. This information clarifies the basis for these questions, and what additional information the AMPC would like to see from the Independent Research and Science Team (IRST).

These elements will guide the IRST in developing scoping proposal(s) to answer these preliminary research questions.

Commented [SD4]: Just confirming fine to use this original language

Dear Members of the IRST,

The AMPC appreciates your using this document to guide your work in the next step of the Adaptive Management Program, which includes your completing the following items per rules:

1. In consultation with the AMPC, refine these preliminary research questions into finalized research questions⁷. The intent is for these finalized research questions to be able to be addressed via studies research and monitoring. Additionally, the AMPC requests feedback from the IRST on the level of detail in this entire document so that subsequent preliminary research question packages are more helpful for the IRST.
2. Develop scoping proposal(s) for how to address the finalized research questions. The proposal(s) need(s) to include⁸:
 - a. A literature review that specifies the need for or the type of monitoring, research, commissioned studies, or other means of scientific inquiry necessary to answer the finalized research question mentioned in #1;
 - b. A preliminary estimate of the budget for each year of the research, and a timeline to complete the research project with specific deliverables; and,
 - c. A preliminary description of research project requirements, scope of work including an estimate of the timeline and key milestones, and an estimate of the degree to which knowledge may be improved if the research proposal is implemented.

Additionally, please use the associated contextual information (detailed in section B, below) to guide your efforts.

3. Within 45 days of receiving this document, please provide an estimate of the time you will need to complete #2⁹.

Commented [TF5]: Will suggestion to delete this sentence since the AMPC already said it in the first two packages sent to the IRST.

⁶ Oregon Administrative Rule (OAR) 629-603-0200(3)(a)

⁷ Per OAR 629-603-0200(4)(b)

⁸ Per OAR 629-603-0200(4)(c and d)

⁹ Per OAR 629-603-0200(4)(a)

Draft v2

Next steps after IRST scoping proposals: Research agenda, implementation, reporting

In summary, the next steps in the Adaptive Management Program process are:

- I. The AMPC completes preliminary research questions for other AMPC priority research topics.
- II. The IRST will complete similar scoping proposal(s) as outlined above for these questions.
- III. The AMPC will consider all of these scoping proposals in developing a comprehensive research agenda¹⁰.
- IV. The IRST will implement the research agenda¹¹, then report this work to Oregon Board of Forestry (Board) and the AMPC. The AMPC will then send a report to the Board that will include alternative actions that can be taken to address findings in the IRST report.

Closing

We welcome your feedback on how to improve the framing of the information and associated communications.

The AMPC looks forward to working with you, both in the long term, and on this particular scoping proposal. If you have any questions, please reach out to Oregon Department of Forestry's Adaptive Management Program Coordinator, W. Terry Frueh at Terry.Frueh@ODF.Oregon.gov or 503.871.2699.

Sincerely,
Members of the AMPC

¹⁰ OAR 629-603-0200(5)

¹¹ OAR 629-603-0200(6)

A. Preliminary research questions

The following preliminary research questions were approved by the AMPC as a substantial decision at their ~~March 3~~ **April 7, 2025 meeting**. ~~The AMPC approved this completed research question package, including subsequent contextual information, as a substantial decision the subsequent contextual information at their meeting.~~ **Note that text in this orange font is AMPC input, and black text** ~~Note that text bolded in gray is quoted from another source.~~ **The two** ~~three~~ **AMPC-approved preliminary research questions were developed as part of a discussion of how to meet the requirements of Accord Report Section 7.3.4 relating to effectiveness monitoring and relationship between forest management and covered amphibian species. These initial questions are viewed as the groundwork for understanding amphibian populations and are expected to be followed by research on particular practices and related biological goals and objectives, consistent with Report Section 7.3.4.**

The AMPC requests IRST provide a scoping proposal for Questions 1 and 2 as soon as possible with the goal of including it in the research agenda in 2025. We ask that Question 3 have its own scoping proposal to be addressed at a later date. Question 3 is included in this package to highlight the importance of its subject matter and indicate the direction of future amphibian research. The AMPC looks forward to supporting and guiding the IRST regarding Question 3 and the specific rules being addressed.

~~The AMPC needs some help honing this set of questions and deciding where to focus the research. Thus, the AMPC would like additional communication with IRST regarding that help.~~

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)? ~~Including a robust literature review: 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).~~

Question 2. What is the population trend of the Columbia and Southern torrent salamanders over time on lands subject to the Forest Practices Act rules? This question is informed by the following overarching biological goal as stated in the draft PFA HCP: “Forest practices that support the survival and recovery of the covered species by providing clean, cool, connected, and complex habitats.”¹² ~~This set of questions addresses the habitat and persistence of Columbia and Southern torrent salamanders over time and the landscape. Each question is connected to the associated Biological Goal and Objective.~~

¹² The most recent version of the BGOs is in the Dec. 2022 draft HCP. The BGOs will be finalized within the HCP due Dec. 31, 2027.

Commented [TF6]: Wendy comment:

Also, big picture I feel that the two Amphibians questions, without the sub-questions that we initially worked on, are weak in addressing the directive of the Report to implement research “through the first funding cycle of the adaptive management program to better understand how riparian and unstable slope protections of at least the current and proposed rules for private forestland impact persistence of populations” and “to better understand the relationship between forest management and covered amphibian species.”

Especially given the need for adaptive management to meet HCP objectives as perceived by the agencies, I think there should be an explanation that the initial amphibians questions are directed at establishing base knowledge to support subsequent research on specific roads, steep slope, and buffer practices and how they impact BGOs for amphibian species. I suggest inserting in section “A. Preliminary research questions” the following italicized language: “These preliminary research questions were approved by the AMPC at their March 3, 2025 meeting. The AMPC approved as a substantial decision the subsequent contextual information at their _____ meeting. The two AMPC-approved preliminary research questions were developed as part of a discussion of how to meet the requirements of Accord Report Section 7.3.4 relating to effectiveness monitoring and relationship between forest management and covered amphibian species. These initial questions are viewed as the groundwork for understanding amphibian populations and are expected to be followed by research on particular practices and related biological goals and objectives, consistent with Report Section 7.3.4.”

Commented [TF7R6]: Note: Terry added Wendy’s suggested language (with track changes on)

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Commented [TF8]: Amphibs workgroup suggestion to add this, both to gain clarity on how to hone question 1, and to help prioritize questions 2.2-2.6 (some of which may be ...)

Commented [TF9R8]: Wendy: Re. Adding specifics: could add: “Our overall goal is to meet the requirement that the AMPC consider Amphibians as a research question, to ...”

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~~Question 2.1. What is the persistence of the Columbia and Southern torrent salamanders over time and the landscape? This question may be addressed via a comprehensive monitoring program.~~

Question 3. The following sub-questions are informed by direction from the PFA Report to “better understand how riparian and unstable slope protections of at least the current and proposed rules for private forestland impact persistence of populations.”¹³

Question 3.1. How do rules for no-harvest RMAs affect Columbia and Southern torrent salamanders’ habitat?

BGO from Draft PFA HCP:

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 3.2. How do rules for Type N streams affect Columbia and Southern torrent salamanders’ habitat?

BGO from Draft PFA HCP:

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 3.3. How do rules for steep/unstable slope protections affect Columbia and Southern torrent salamanders’ habitat?

BGO from Draft PFA HCP:

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.

~~**Overarching Goal:** Forest practices that support the survival and recovery of the covered species by providing clean, cool, connected, and complex habitats.~~

~~Question 2.2. 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.**~~

¹³ Private Forest Accord Report, p. 121.

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Commented [SD10]: Propose including a modified Q3 that focuses on the two components as directed by PFA Report

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Question 2.3 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 2.4 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 2.5 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 2.6 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.~~

B. Research Question Package

The remainder of this document provides contextual information for the preliminary research questions, as required by rule¹⁴. The following are organized per the elements in this rule.

B.1 The type of research¹⁵

AMPC response:

~~This research is of type OAR 629-603-0100(1)(a): “Conduct effectiveness monitoring by assessing the degree to which the rules facilitating particular forest conditions and ecological processes achieve the biological goals and objectives. This assessment may include evaluation of cumulative effects.”~~

~~and OAR 629-603-0100(1)(b);~~

~~“Conduct research inquiry and validation monitoring to:~~

¹⁴ OAR 629-603-0200 (3)(a)

¹⁵ OAR 629-603-0200(3)(a)(A)

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Commented [FT*O11]: From the PFA Report: "The AMPC will set the scientific agenda, but will play no part in designing actual research projects, carrying out the inquiry, or the IRST's report of findings to the Board and AMPC."

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(A) Determine if additional scientific inquiry is needed to fill knowledge gaps related to biological goals and objectives;¹⁶

B.2 The rule, biological goals and objectives (BGOs), or other issue being studied¹⁶

AMPC response:

The BGOs¹⁷ are listed below with those applicable to these questions highlighted:

“Overarching Goal: Forest practices that support the survival and recovery of the covered species by providing clean, cool, connected, and complex habitats.”

Goal 1: Provide clean water and substrate for the covered species.

o **Objective 1.1** – Forest practices near streams minimize sediment delivery.

o **Objective 1.2** – Slope Retention Areas reduce episodic sediment delivery to fish-bearing streams.

o **Objective 1.3** – Road runoff directly to streams is minimized.

o **Objective 1.4** – Roads are not a significant source of episodic sediment delivery to streams.

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

o **Objective 2.1** – Forest practices maintain stream shade sufficient to support desired cool water temperatures on fish-bearing streams.

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

o **Objective 2.3** – Forest practices near non-fish-bearing perennial streams do not notably increase water temperatures in fish-bearing streams.

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

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

o **Objective 3.2** – Forest practices maintain the hydrologic continuity of stream-associated wetlands and stream-adjacent seeps and springs to stream habitats.

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

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

o **Objective 4.1** – Mature, complex riparian forests are fostered in no-harvest zones of RMAs.

o **Objective 4.2** – Forest practices within tree retention areas of RMAs promote delivery of large wood.

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

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

Commented [TF12]: Wendy: This is the main goal; I SUGGEST MOVING THE CITATION ABOUT “ADDITIONAL SCIENTIFIC INQUIRY” TO THE TOP HERE.

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Commented [SD13]: What do we mean by “applicable”? Should IRST only consider the overarching goal? Particularly if there is a Q3 added, we should include other BGOs

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¹⁶ OAR 629-603-0200(3)(a)(B)

¹⁷ The most recent version of the BGOs is in the Dec. 2022 draft HCP. The BGOs will be finalized within the HCP due Dec. 31, 2027.

~~For additional information relating to the issue being studied, see the PFA Report excerpt (below, section B.4).~~

B.3 The objective of the research¹⁸

AMPC response:

The objectives of this research are to understand:

- A. **Status:** Where on the landscape the covered amphibians are located, and what affects those distributions; and,
- B. **Trends:** ~~The impact of the FPA rules on the persistence of the covered species~~ How the populations of the Columbia and Southern torrent salamanders change over time on lands subject to the Oregon Forest Practices Act regarding the overarching biological goal as stated in the draft HCP.¹⁹

B.4 A brief description of the context of the research question²⁰

AMPC response: The following information and direction was provided in the PFA Report, the content of which was enacted as statute by reference, and provides the foundation for these research questions:

"CHAPTER 7. AMPHIBIAN CONSERVATION

7.2 Goals

The goal of riparian management practices and other conservation measures described in this section is to protect and conserve stream and riparian habitats important for all life stages of Columbia (Rhyacotriton kezeri) and Southern (R. variegatus) torrent salamanders, Coastal (Dicamptodon tenebrosus) and Cope's (Dicamptodon copei) giant salamanders, and Coastal tailed frog (Ascaphus truei).

7.3.3 Conservation Measures to Support Protection of Stream-Dwelling Amphibians

Conservation measures to support the protection of stream-dwelling amphibians include riparian prescriptions that protect fish and non-fish-bearing streams as identified in Chapter 2 of this Report. That Chapter includes conservation measures for seasonal and perennial streams that provide important habitats for stream-dwelling amphibians. Additional protections for seeps, springs, and stream-associated wetlands are established in Chapter 2.

Additional conservation measures to conserve stream-dwelling amphibians include:

- a. The Slope Retention Areas, Designated Debris-Flow Traversal Areas, and

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Commented [TF15]: Will comment: "Not only where but population density, to understand population changes, both loss and recovery"

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¹⁸ OAR 629-603-0200(3)(a)(C)

¹⁹ The most recent version of the BGOs is in the Dec. 2022 draft HCP. The BGOs will be finalized within the HCP due Dec. 31, 2027.

²⁰ OAR 629-603-0200(3)(a)(D)

- Stream Adjacent Failure prescriptions which are identified in Chapter 3.
- b. The wetland protections, including the 2:1 replacement for filling or draining wetlands, identified in Chapter 4.
- c. The updated culvert design standards identified in Chapter 4.
- d. The reduction of fine sediment through the hydrologic disconnection of roadside conveyance systems from streams as identified in Chapter 4.

7.3.4 Adaptive Management

Uncertainty exists around amphibian population characteristics, distribution, productivity, survival, and abundance. A robust effectiveness monitoring plan as part of an adaptive management program will be used to better understand the relationship between forest management and covered amphibian species. To support this program, it is recommended that \$1.5 million be initially applied to research through the first funding cycle of the adaptive management program to better understand how riparian and unstable slope protections of at least the current and proposed rules for private forestland impact persistence of populations. The Authors agree that the \$1.5 million will be used to fund an initial study and that ongoing research over appropriate intervals of time beyond this initial study will be necessary to understand research outcomes over long periods of time. The priority species for monitoring will be the Columbia and Southern torrent salamanders. With consideration to funding constraints and other priorities, this research could also include other species covered by the HCP. Additionally, it could include Cascade torrent salamanders, which are not covered by the HCP.”

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B.5 Other information the AMPC deems necessary for the IRST’s work²¹

~~The purpose of this section is to provide additional contextual information to guide the IRST’s work.~~

AMPC Response:

1. It is essential to maintain the role of the regulatory framework (the OFPA) throughout the design and implementation of studies. Specifically, there are two stratum classifications:
 - A. The West and East Oregon FPA regions.
 - B. Landowner classifications in the FPA of which there are two, each with a different regulatory framework.
2. The intention of this monitoring is NOT to compare conditions or rules with the previous rules. ~~It is to provide information to allow, over time, determination of the adequacy of amphibian protections in the context of Biological Goals and Objectives.~~
3. In any studies assessing species population trends, it’s important to differentiate impacts of forest practices from those outside the FPA framework (e.g., climate change, non-forest land uses, amphibian diseases).
4. ~~3. What are the similarities and differences between impacts of e.g., sediment, stream temperature on fish vs. those impacts on amphibians?~~
5. ~~The overarching goal of the draft HCP BGOs is:~~
 - ~~“Forest practices that support the survival and recovery of the covered species by providing clean, cool, connected, and complex habitats.”~~

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Commented [TF16]: Some AMPC members suggested focusing on e.g., Type N streams, perhaps include Type F vs. Type N streams as important strata? (SSBT and D are additional ones)

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Commented [SD18]: Not sure if this was an agreement from the full AMPC?

Commented [TF19]: Wendy suggestion

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²¹ OAR 629-603-0200(3)(a)(E)

~~Are there other aspects of the covered amphibian populations' persistence related to this overarching goal that warrant further study? This question is based on an understanding that these species' populations may depend on dispersal through uplands. This question could be addressed via a literature review. The AMPC would like a response that informs AMPC's critical thinking. Addressing this question is not designed to lead directly to a scoping proposal per OAR 629-603-0200(4)(c), and thus it was not included above under preliminary research questions.~~

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~~Appendix 1. Amphibian-related rules~~

~~This appendix lists the rules relevant to each of the research questions and associated biological goals and objectives.~~

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Commented [TF20]: Note: this set of rules will need to be fleshed out, and the Amphibians workgroup requested to do that after they have prioritized which Question 2 subquestions to pursue.

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