



Adaptive Management Program Committee

September 3, 2026

Attendance



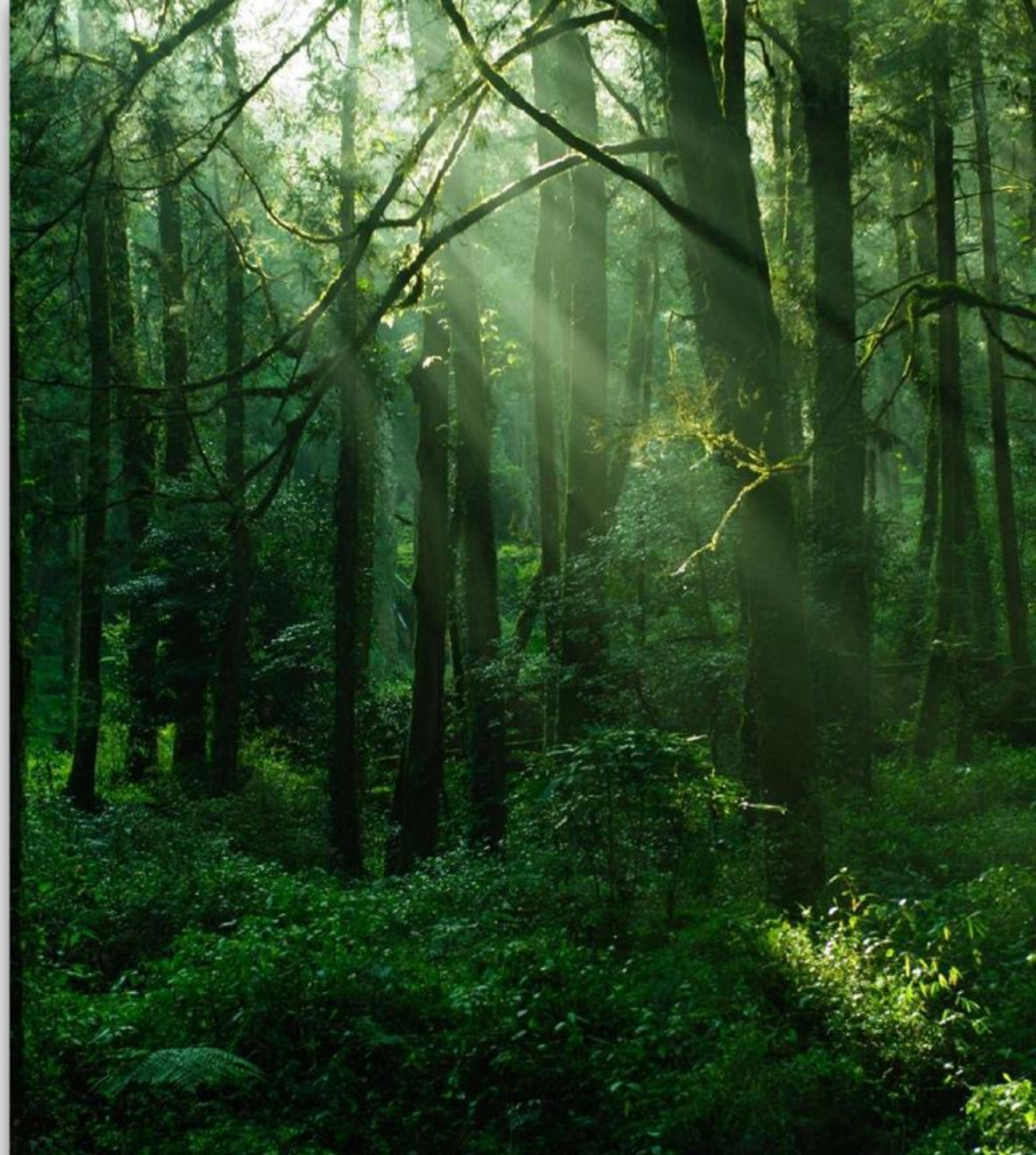


Public Comment



Updates

AMP supervisor position



Agenda

- IRST co-chairs presentation on AMPC subcommittee questions re: linking amphibians study options to future effectiveness monitoring studies
- Discussion: Scoping proposal for Amphibians Q1 and Q2 (including pre-survey results)



What's ahead

Oct. 20, 2026

Decision item: Vote to advance preferred option(s) for Amphibians Q1 and Q2



Amphibian Research Scoping Proposal: Response to Questions



Independent Research and Science Team (IRST) | 3 September 2026

Three Questions

- “Could you clarify how you would go about defining what “riparian” means for these studies?”
- “How might results from the different options inform future effectiveness monitoring studies? Or, how likely the results from various options would be used in effectiveness monitoring studies?”
- “In the current extremely budget-limited situation, which options seem the most important to fund? Do you have insight on how best to phase the options to address changing budget situations?”

Riparian Forest Conditions, Not a Regulatory Boundary for Q1 & Q2

Question: *“Could you clarify how you would go about defining what “riparian” means for these studies?”*

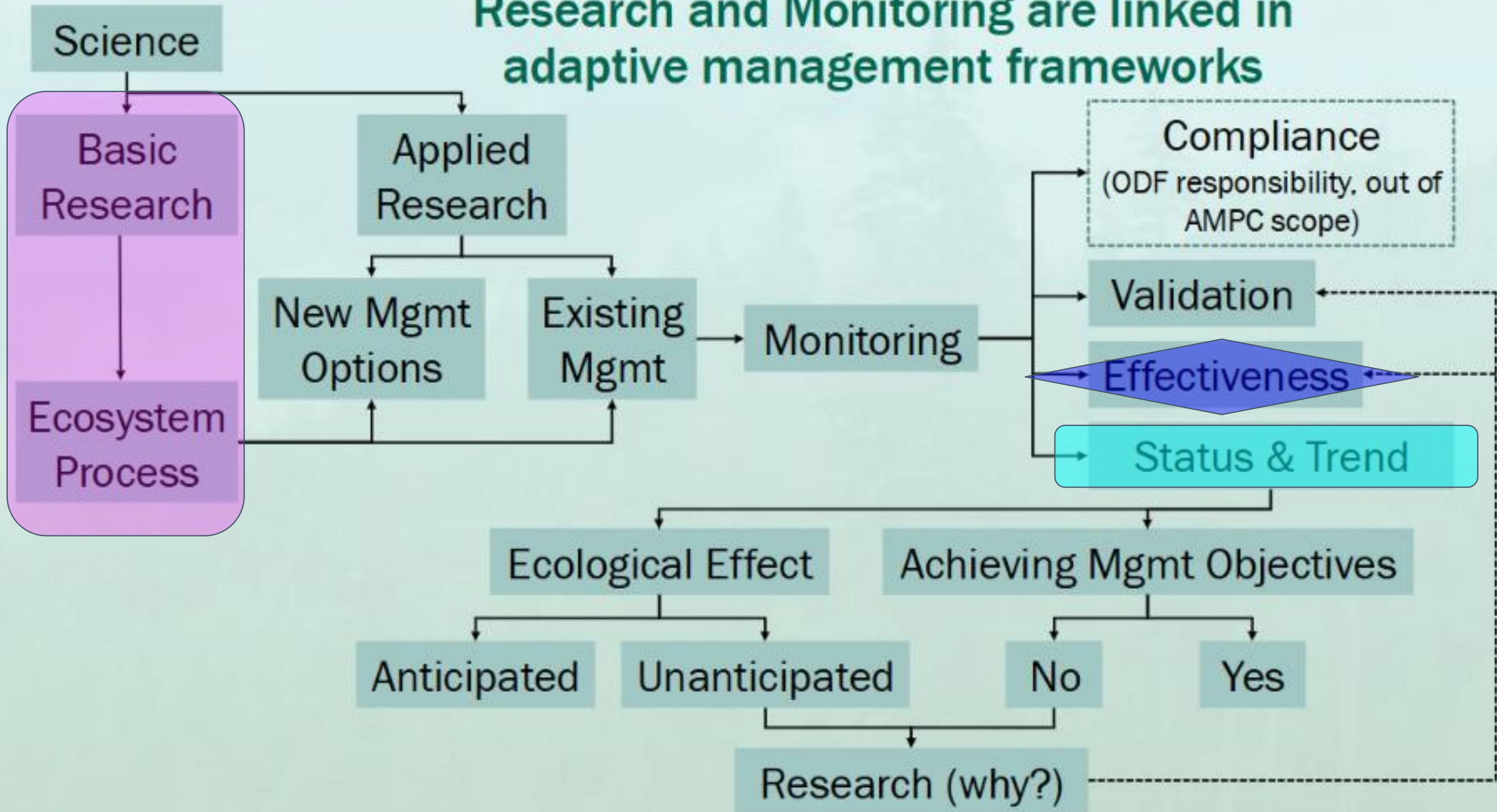
How the Scoping Proposal Uses the Term

- Q1 and Q2 are a basic research question and a monitoring question about distribution and population trends, not evaluations of specific forest practice rules.
- **Riparian:** is a general ecological definition that refers to the transition zone between the uplands and a stream, where vegetation, soils, and microclimate are shaped by, and in turn shape, the adjacent water body.
- In the scoping proposal, riparian forest conditions are one of several reach-scale variables that could be collected, alongside stream gradient, temperature, substrate, and flow permanence (Sec. 3.2).

Q3 Would Use a Regulatory Definition

- Q3 is not addressed in this scoping proposal. Q3 focusses on forest practice rules.
- The rule-based riparian definition tied to RMAs falls under Q3 in the AMPC question package

Research and Monitoring are linked in adaptive management frameworks



How Options Inform Future Effectiveness Monitoring

Question: *“How might results from the different options inform future effectiveness monitoring studies? Or, how likely the results from various options would be used in effectiveness monitoring studies?”*

Options for Question 1

- Q1-Opt 2 Refining the range: Can inform locations of future effectiveness monitoring studies
- Q1-Opt 3 Among Watershed-Scale Habitat Associations:
 - Refines the distribution of species among watersheds. Although not every watershed would be sampled, this option can help identify the watersheds in which effectiveness monitoring studies could be located.
 - Develops relationships between species presence & watershed characteristics that could inform which variables to consider in designing subsequent effectiveness monitoring studies.

Options for Question 1 (cont.)

- Q1-Opt 4 Within Watershed Habitat Associations:
 - Determines the distribution of species within stream networks to help locate sample sites for effectiveness monitoring studies.
 - Develops relationships between species presence habitat characteristics that could inform which variables to consider when designing subsequent effectiveness monitoring studies.
- Q1-Opt 5 Characterizing Population Diversity
 - If combined with Opt 3 or 4, could identify any among-population differences in habitat associations to inform study design for effectiveness monitoring.

How Options Inform Future Effectiveness Monitoring

Question: *“How might results from the different options inform future effectiveness monitoring studies? Or, how likely the results from various options would be used in effectiveness monitoring studies?”*

Options for Question 2

- Q2-Opt 1 Among-watershed Status and Trend monitoring:
 - Could suggest the need for effectiveness monitoring studies if undesired trends in monitored variables are observed
 - Would not directly inform the design of studies characterizing the effectiveness of specific management prescriptions
- Q1-Opt 2 Within-watershed Status and Trend with Demographic characterization:
 - Could suggest the need for effectiveness monitoring studies if undesired trends are observed
 - Could identify variables related to life-stage structure, survival, and movement for use in designing effectiveness monitoring studies

Considerations Among Options

Question: *“In the current extremely budget-limited situation, which options seem the most important to fund? Do you have insight on how best to phase the options to address changing budget situations?”*

Potential for Combining Options

- Q1 - Opt 3 and 4
 - Together provide cost savings and the most complete picture across spatial scales of species distribution and habitat associations, as well as the most direct foundation for effectiveness monitoring
 - Could use methods of and augment similar in-progress studies for the 5 species
 - If appropriately designed, data collected could be the baseline for subsequent Q2-Opt 1 trend monitoring
- Q1-Opt 5
 - With animals in hand from Q1-Opt 3 or 4, would provide information on connectivity and help identify any population structure

Potential for Combining Options (cont.)

- Q2 - Opt 1
 - USFWS -
 - has not yet listed either torrent salamander
 - is developing a “Surveillance & Monitoring” protocol for torrent salamanders
 - has plans and funding to apply the protocol
 - Could use their methods to augment USFWS efforts
 - Unlikely to inform effectiveness monitoring for at least a decade.

Additional Considerations

- Status of Q3
- Relative importance of Q1, Q2, and Q3 to implementing the HCP
- Funding situation

**Amphibians
Scoping Proposal**

Independent Research and Science Team
Institute for Natural Resources – Oregon State University

Scoping Proposal

Submitted to
The Oregon Department of Forestry
Adaptive Management Program Committee
17 July 2026

**AMPC Discussion:
Amphibians scoping
proposal Q1 and Q2**



Decision Process: Amphibians Q1 & Q2

Pre-survey results

What else do we need to be ready to vote in October?



Pre-survey results re: Amphibians questions

Amphibians Question 1: For each of the covered amphibian species, what is the **distribution** (including population diversity) 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)?

Option	Ranking (1 = high, 5 = low)	Average
1. No action	5 4 5 5 5 3	4.5
2. Targeted Geographic Range & Distribution Refinement	2 2 3 4 4 5	3.3
3. Among Watershed Habitat Associations	1 1 1 2 3 2	1.7
4. Within Watershed Habitat Associations - stream network	3 3 2 1 2 1	2
5. Population Diversity — Genetics & Demography	4 5 4 3 1 2/4	3.5

On a scale of 1-10, how solid are you on your ranking above? (1 is least solid, 10 is most solid)

5 (6 or 7) 4 7 5 9 (average: 6.1)



Pre-survey results re: Amphibians questions

Amphibians Question 2: What is the **population trend of the Columbia and Southern torrent salamanders over time** on lands subject to the Forest Practices Act (FPA) rules?

Option	Ranking (1 = high, 2 = low)	Average
1. Broad-Scale Torrent Salamander Monitoring Network	1 1 1 2 1 1	1.2
2. Intensive Torrent Salamander Monitoring + Demography	2 2 2 1 2 2	1.8

On a scale of 1 to 10, how solid are you on your ranking above? (1 is least solid, 10 is most solid)

5 (6 or 7) 5 - 5 6 (average: 5.5)



Pre-survey results re: Amphibians questions – additional comments

“It appears to me, from reading the descriptions of the options, that some are not at the same level as others. For example, Q1O5 appears to be a recommendation to be implemented alongside Q1O3 or O4. This is why I selected Options 1, 2, 3, and 4 over Option 5. Similar for the Question 2 options. Therefore, it would seem best to combine Q1O3 with Q1O5 and Q2O1 with Q2O2, but these combinations do not seem financially realistic.”



Pre-survey results re: Amphibians questions – additional comments

“I feel strongly that our research investments should help answer the fundamental management question we were tasked with addressing: Are the current rules sufficient to support amphibian population persistence? Some of the topics above could potentially be adapted to address rule effectiveness, but as currently described, I don’t see a direct connection between the proposed studies and that question. For that reason, I do not support funding any of the studies as currently described.

To help think through this, I reached out to a USGS colleague who studies amphibians and their habitat use. She provided a literature review and summary of her thoughts, which I found very informative. Her assessment was that even though there are some knowledge gaps, there was enough information about the ecology of the focal amphibians to formulate and research the effectiveness of the harvest rules.

Given our mandate, I think we should prioritize research that tests management- and rule-relevant hypotheses and helps us evaluate whether the current protections are achieving their intended outcomes, rather than investing in broad basic research that does not have a clear connection to rule effectiveness.”



Funding situation



Funding situation

New funding in 25-27 biennium:

\$3.1M* for next round of research projects, BUT \$0.5M removed
(June 2026 EBoard request) -> **\$2.6M***

23-25 Funding carried forward to 25-27:

\$3M to IRST housed at INR

Total funding available for AMP: \$5.6M*

*Governor's July 2025 signing letter



Board-approved Research Agenda Budget (Sept. 2025)

Project	Budget for 2025-2027 biennium	Total budget^
Road-Stream Hydrologic Connectivity (4+ years)	\$2.7 M*	\$5.4 M
Eastern Oregon Steep Slopes	\$80,000	\$80,000
Amphibians/other	TBD	TBD
TOTAL		\$5.48 M

^Not to exceed

****Note: Roads spending likely less than \$1.5M during this biennium***



What Funds Are Available?

Available funds: \$5.6M available to AMP for research

Obligated funds in 25-27:

- \$2.7M allocated to Roads research (25-27)* [likely less than \$1.5M needed for 25-27]
- \$0.1M allocated to Steep Slopes research (25-27)

Available funds minus obligated funds:

\$5.6M - \$2.7M - \$0.1M = \$2.8M available in 25-27*

Additional funds in 27-29 biennium? Unknown

**NOTE: BOF has approved a total of \$5.4M for Roads research (not to exceed).
\$2.6M is not currently available due to signing letter.*

BOF approved budget includes multi-year research for Roads beyond 25-27 biennium, so any balance (\$2.8M) would likely be allocated to this research under current approach.

What Funds Are Available?

Any balance (\$2.8M) would likely be allocated to Roads research under current approach.

Existing funds: \$5.6M

\$2.8M for (roads* + slopes) + \$2.8M balance**



Unknown FY 27-29 Funds

Any additional funding allocated in FY 27-29 (approved June 2027)

**Note: Roads spending likely less than \$1.5M during 25-27 biennium*

*** \$2.6M Governor's signing letter*



Implementation Status of 2025 Research Agenda

Steep Slopes: study in progress, both reports to AMPC early 2027

Roads: RFP closed Aug. 31, this fall for contract (~4 years length)

Note: effectiveness monitoring strategy will require IRST, AMPC time





John P. Clare
amphibianphotos.com



Amphibians

“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...**”

-- PFA Report, p. 120-121

Amphibians Research Question Development Timeline

- **April 2025:** Voted to approve [research question package](#)
- **October 2025:** AMPC approves modified questions in response to IRST questions
- **November 2025 – July 2026:** IRST development of scoping proposal for Q1 and Q2



Proposed Next Steps: Amphibians

Amphibians Questions 1 & 2:

- A. Decide on Research Agenda addendum (using IRST scoping proposal)
- B. **Board decision on budget (Jan. or March 2027?)**
- C. IRST implement studies

Amphibians Question 3*:

- 1. IRST hones list of relevant rules from ODF, AMPC subcommittee reviews, AMPC review & finalize
- 2. AMPC answers IRST questions (preliminary convo March 2026)
- 3. IRST develops scoping proposal

** Delayed to focus on components of effectiveness monitoring, amphibians questions 1 & 2*



Amphibians Question 1

For each of the covered amphibian species, what is the **distribution** (including population diversity) 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)?



Amphibians Question 2

What is the **population trend of the Columbia and Southern torrent salamanders over time** on lands subject to the Forest Practices Act (FPA) 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.”



Questions for Consideration

- **What funding is available now, or likely to be available over next 5 years?**
- **What are the priorities for AMPC for research related to effectiveness monitoring strategy, HCP needs?**
- **Best investment in basic science given FPA, HCP structures?**
- **What is a reasonable timeframe to conduct research given funding and HCP constraints?**

“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..”

– PFA Report, p. 120-121

Amphibians Q1: Discussion

Option	Est. Time Frame	Est. Cost	Notes / Considerations
Option 1: No Action	0 months	\$0	
Option 2: Targeted Geographic Range and Distribution	1-2 years	\$130k - \$400k	
Option 3: Watershed-scale Habitat Associations	2-3 years	\$700k - \$1.7M	
Option 4: Reach-scale Habitat Associations	3-5 years	\$1.1M - \$2.5M	
Option 5: Population Diversity – Genetic and Demographic Approaches	3-5+ years	\$625k - \$1.675M	

Amphibians Q2: Discussion

Option	Est. Time Frame	Est. Cost	Notes / Considerations
Option 1: Broad-scale Torrent Salamander Monitoring Network for Trend Detection	5-10 years	\$2.225M - \$7.375M	
Option 2: Intensive Torrent Salamander Monitoring Network with Demographic Components	7-10+ years	\$3.35M - \$7.075M	

Review of Options: For Reference



Amphibians Question 1: Options 1-5

Option	Timeframe	Cost	Knowledge Contribution
Option 1	None	\$0	No Action: Maintains current understanding from existing data; does not generate new information on watershed-scale distribution, habitat associations, population diversity, or population trends.
Q1- Option 2	1-2 years	\$130k–\$400k (\$130k–\$200k/year)	Targeted Range & Distribution Refinement: Limited new presence/absence records to refine range boundaries and reduce distributional uncertainty. Provides foundation for designing future field studies.
Q1 Option 3	2-3 years	\$700k–\$1.7m (\$350k–\$575k/year)	Watershed-Scale Habitat Associations -- Broad Sampling: Systematic, range-wide characterization of watershed-scale species presence/absence data and landscape- and watershed-scale habitat associations. Does not support reach-scale inference; apparent absences species carry uncertainty.
Q1 Option 4	3-5 years	\$1.1m–\$2.5m (\$375k–\$500k/year)	Reach-Scale Habitat Associations -- Intensive Sampling: Accommodates detection-corrected occupancy methods for species presence/absence at the stream-reach scale within a smaller number of watersheds, supporting more reliable habitat association inference at reach-scales within sampled watersheds. Most informative alongside Q1-3.
Q1 Option 5	3-5+ years	\$625k–\$1.7m (\$200k–\$275k/year)	Population Diversity — Genetic and Demographic Approaches: Population connectivity, genetic structure, and demographic rates. Most valuable as an add-on to Q1-3 or Q1-4. Each approach provides only a partial view independently.

Q1: Knowledge Contributions and Limitations

Option	Knowledge Contribution	Limitations
Q1, Option 1: No Action No cost	- Maintains current understanding of 5 amphibian species	- Watershed-scale distribution is incomplete for all 5 species - Wouldn't address Q2 at all
Q1, Option 2 1-2 years \$130-\$400k total	- Generates new presence/absence observations - Improves confidence in statewide distribution maps	- Results can't support statistical inference about occurrence patterns across broader landscape - Does not address habitat associations, demographic responses, population diversity, or population trends
Q1, Option 3 2-3 years \$700k-\$1.7M	- Generates presence/absence data across statistically valid sample of watersheds - Results can support landscape- and watershed-scale habitat association analyses - Can be combined with Option 4 or 5	- Doesn't estimate detection probabilities - Doesn't support reach-scale inference about how species use stream networks in individual watersheds - Does not address population diversity, demographic rates, or population trends

Q1: Knowledge Contributions and Limitations

Option	Knowledge Contribution	Limitations
Q1, Option 4 3-5 years \$1.1M - \$2.5M	- Generate detection-corrected species occupancy estimates within smaller # of watersheds with more precision - Fewer watersheds than Option 3, but concentrates efforts within those selected - Potential to combine Option 3 + 4, or 4 + 5	- If watersheds are selected using a probabilistic design, could support range-wide habitat association but confidence, statistical power, and precision would be less than Q1 Option 3 - Does not directly address population diversity, demographic rates, or population trends
Q1, Option 5 3-5+ years Stand-alone: \$625k - \$1.675 M. In combination with 3 or 4: \$300k - \$700k	- Generates insight into population persistence by evaluating connectivity and diversity across watersheds - Uses genetic data (tissue sampling) to describe population connectivity and structure; uses demographic data (repeated sampling of individuals) to evaluate life-stage structure, survival, and movement	- Independently, this option provides partial information and would be of greatest value in combination with Option 3 or 4 - Genetic data doesn't provide direct estimates of survival or reproduction - Demographic data is only feasible in a limited number of locations

Amphibians Question 2: Options 1-2

Q2 Option 1	5-10 years	\$2.3m–\$7.4m (\$450k–\$700k/year)	Broad-Scale Torrent Salamander Monitoring Network: Detection-corrected occupancy trends for Columbia and southern torrent salamanders across a broad geographic extent on FPA lands. Trend detection is the primary objective. Does not explain demographic mechanisms driving observed trends.
Q2 Option 2	7-10+ years	\$3.4m–\$7.1m (\$475k–\$700k/year)	Intensive Torrent Salamander Monitoring Network with Demographic Components: Detection-corrected occupancy trends for Columbia and southern torrent salamanders within intensively monitored watersheds on FPA lands; abundance estimation, demographic data collection, and habitat characterization are optional enhancements; most informative when implemented alongside Q2, Option 1.



Q2: Knowledge Contributions and Limitations

Option	Knowledge Contribution	Limitations
Q2, Option 1 5-10 years \$2.25M - \$7.375M Can be done in combination with Option 2	- Generates systematic, detection-corrected estimates of population trends for Columbia and southern torrent salamanders - Monitoring across 50-100 HUC 12 subwatersheds (FPA lands) - Supports inferences about whether populations are increasing, decreasing, or stable; allows assessment of variability in trends among watersheds, regions, and conditions	- Prioritizes broad spatial coverage over sampling intensity, so it is designed to detect regional signals in population change rather than explain demographic mechanisms that drive that change - Most informative when implemented with Q2 Option 2
Q2, Option Min 5 years, 7-10+ years \$3.35M - \$7.075M	- Generates detection-corrected occupancy estimates, and in certain cases, abundance estimates within a smaller # of watersheds - Concentrates sampling effort within fewer watersheds to support stronger inference about processes driving population change at watershed and reach scale - Target 5-15 HUC12 subwatersheds	- Concentrates sampling in fewer watersheds, which means that results are less suited for broad inference about range-wide population trends - Most informative in combination with Q2 Option 1

Integration options

Option Integration Scenario	Options Combined	Per Year — Low	Per Year — High	Total — Low	Total — High
1	Q1 Option 3 + Q2 Option 1	~\$550,000	~\$950,000	~\$2,025,000	~\$6,800,000
2	Q1 Option 4 + Q2 Option 2	~\$600,000	~\$900,000	~\$3,125,000	~\$7,175,000
3	Q1 Option 3 + Q2 Option 1 + Q2 Option 2	~\$875,000	~\$1,475,000	~\$4,375,000	~\$12,100,000

Knowledge Contribution Topic Area	Option 1 No Action	Q1, Option 2 Targeted Surveys	Q1, Option 3 Watershed-Scale Habitat Associations - Broad Sampling	Q1, Option 4 Reach-Scale Habitat Associations - Intensive Sampling	Q1, Option 5 Population Diversity	Q2, Option 1 Broad Torrent Monitoring	Q2, Option 2 Intensive Torrent Monitoring
Timeframe	None	1-2 years	2-3 years	3-5 years	3-5+ years	5-10 years	7-10+ years
Cost	\$0	\$130k–\$400k	\$700k–\$1.7M	\$1.1M–\$2.5M	\$625k–\$1.68M standalone; \$300k–\$700k add-on; +\$248k genetics one-time	\$2.23M–\$7.38M +\$414k genetics one-time	\$3.35M–\$7.08M +\$62k genetics one-time
Subwatersheds sampled	N/A	Targeted	~80–120 HUC12 (~6–9% of 1,288)	~20–35 HUC12 (~2–3% of 1,288)	Varies; add-on to Op. 3 or 4	~50–100 HUC12 (~7–14% of 716)	~5–15 HUC12 (~1–2% of 716)
Geographic range refinement		✓					
Watershed-scale distribution			✓			✓	✓
Landscape-scale habitat associations			✓			✓*	
Watershed-scale habitat associations			✓			✓*	
Reach-scale habitat associations				✓			✓
Population connectivity and genetic structure					✓	✓†	
Population demography					✓		✓§
Population trends (torrents, Q2)						✓	✓
Abundance estimates (torrents, Q2)						✓‡	✓

Knowledge contributions comparisons



Including Amphibians questions 1 & 2 in research agenda

- 1) Vote in October (contingent on available funds)
- 2) Delay action until clear budget picture (June 2027), send research agenda to Board by July 2027

If October, Proposed Process to Reach Decision:

- Subcommittee?
- October meeting: plan to vote (substantial decision) on option(s)



Thank you for your participation today

