

Attachment Science Review Team (SRT) Documents

Background

In February 2010 the Northwest Oregon Level 2 team elevated two issues to the Regional Executives for resolution: (1) disagreements about the identification and interpretation of the best available scientific information to determine effects of riparian forest management and restoration on salmon and their habitat, and (2) concerns that the processes and timeframes in the 1999 streamlining agreement were not being met or fully implemented. The Regional Executives engaged the Interagency Coordinators Subgroup (ICS) and the ICS reviewed the initial elevation materials. In April 2010, the ICS requested additional information from the Northwest Oregon Level 2 team.

In July of 2010, the ICS received issues papers from USFS, BLM and NMFS that provided background information and detailed their concerns relative to the two elevated issues (wood recruitment and temperature effects from riparian thinning)—specific agency issues are summarized at the end of this document. According to streamlining procedures, the ICS typically engages the Regional Technical Team (RTT) to address the scientific questions raised in elevations. The RTT would then prepare a short report for the ICS, and then the ICS would make a recommendation to the Regional Executives on how to resolve the issue.

That procedure was not appropriate for this elevation because: (1) the RTT had already worked with Level 1 and Level 2 teams on the technical issues and not been able to resolve the concerns; and (2) the Level 2 team specifically requested the engagement of scientists from the USFS PNW Research Station, the NMFS Northwest Fisheries Science Center (NWFSC) and USGS to develop a white paper to review, synthesize and interpret the relevant scientific information.

In January of 2011, the Regional Executives approved the establishment of a Science Review Team (SRT) to function as the RTT for this elevation. They also approved the use of a third party facilitator to convene the SRT, and subsequently, the ICS engaged Oregon Consensus (Turner Odell and Peter Harkema) to work with the SRT.

The Science Review Team members were:

- Dr. Michael Pollack, NWFSC
- Dr. Tim Beechie, NFWFC
- Dr. Peter Leinenbach, EPA
- George McFadden, BLM
- Dr. Christian Torgersen, EPA
- Dr. Robert Anthony, under contract to USFWS
- Dr. Thomas Spies, PNW
- Dr. Gordon Reeves, PNW

The SRT first met in April 2011 to address these specific tasks: (1) Establish where there is agreement on the scientific issues; and (2) address how use the best available science to avoid jeopardy and conserve listed salmon. The SRT was asked to:

- Participate in a collaborative process with an interagency group of scientists tasked with integrating and synthesizing the available science pertinent to riparian thinning

- in western Oregon and highlighting areas of uncertainty and where additional information or research is needed;
- Participate in a workshop with the ICS to discuss the application of their findings to the ESA consultation; and applying the synthesized science to the consultation questions.
 - Participate in a briefing/presentation of proposed solutions to agency Level 2 members and the Regional Executives.

Members of the SRT collaborated for more than a year to integrate and review the science pertinent to riparian thinning in western Oregon, and describe the effects to salmon and steelhead habitat, and habitat for the northern spotted owl and marbled murrelets. The SRT also participated in multiple meetings with the ICS to discuss progress and clarify goals, and a meeting in January 2012 with Level 2 Team members from western Oregon. The SRT finalized their documents in the fall of 2012. The attached documents were produced as part of that collaborative process.

SRT Documents

The SRT worked together as a group during meetings to discuss the relevant science. The scientists then divided themselves into groups to develop the three attached documents; the three groups were delineated based on each scientist's expertise. They produced the following three documents:

- I. Effects of Riparian Thinning on Wood Recruitment: A Scientific Synthesis
- II. Effects of Riparian Management Strategies on Stream Temperature (with 4 appendices)
- III. Effects of Riparian Thinning on Marbled Murrelets and Northern Spotted Owls

Each document represents the SRT's understanding of the best available information to guide riparian thinning actions in western Oregon. They are not exhaustive literature reviews. These documents advance our understanding of the effects of riparian thinning actions in young, even-aged forests of western Oregon. The SRT agrees with the Level 1 and Level 2 teams that the effects are complex, site specific, and highly variable depending on variety of physical and biological factors. Similarly, the answers to the agencies' questions are not simple. Despite this, the ICS considers the SRT work to be a success for a variety of reasons. The SRT members concurred on a number of points, and their understanding and use of models to predict thinning effects to wood recruitment was greatly clarified. As such, these documents were instrumental in the development of management recommendations by the ICS.

Summary of the Specific Technical Questions Raised in Agency Issue Papers

USFS Questions

1. Size of non-treatment buffers needed to avoid temperature increases in streams with listed fish, and the distance above listed fish habitat to which these buffers should apply.
2. Benefits of thinning to increase tree growth for future large wood vs benefits of maintaining dense small trees with slower growth for current shade and structural needs.

3. Contribution of residual stands to stream wood recruitment following thinning treatments. (role, function and management of riparian reserves in supply of instream structure).
4. Buffers needed to prevent sedimentation in fish habitat and the site specific conditions, such as heavy ground vegetation, that should influence the size of those buffers.
5. The application of research based on clear-cut treatments to thinning projects and the overall applicability of local research and site characteristics vs non-local research and models.
6. Recognition of future benefits that will contribute to resiliency of fish habitat and the need to implement actions in anticipation of climate change impacts to fish habitat.
7. How wide an area of riparian edge needs to be retained in an undisturbed state to avoid risk of significant effects to stream shade, bank and channel stability, and nutrients/structural inputs, and how would that width depending upon site specific conditions.

BLM Questions

1. The Districts do not concur with the conclusions NMFS has reached concerning active management of dense riparian conifer stands on salmon and their habitat. The Districts have determined that thinning in Riparian Reserves can be accomplished without have adverse effects (NLAA) to salmon as the effects to stream temperature and wood recruitment will be insignificant.
2. Table of primary shade zone---for trees of different height and on different hill slopes.
3. Recommends an interdisciplinary panel of expert scientists should evaluate the Districts' riparian thinning practices that achieve riparian habitat objectives, and the resulting biological and physical effects of these riparian thinning practices on salmon and habitat.
4. Should clarify ranges in magnitude of effects for important habitat variables (shade, wood recruitment) that would occur with project implementation.

NMFS Questions

1. Effects of silvicultural actions on recruitment of wood to stream channels.
 - a. How much instream conifer wood is enough, when will it arrive and what will be its source?
 - b. Does heavy thinning of riparian conifer forests lead to more instream wood?
 - c. Will riparian thinning along streams prone to debris flows increase the amount of wood (and sediment) in fish-bearing stream?
 - d. Are there any kinds of riparian conifer forest where thinning might be beneficial?
 - e. Isn't very large wood (e.g. 24" dbh or greater) the only size of wood needed to restore instream habitat?
 - f. How important is tree mortality caused by landslides?
 - g. Can large wood help to keep streams cool?
 - h. What are trigger trees?
 - i. Are riparian roads an issue?
 - j. Does managing riparian forests for instream wood conflict with other ecological management objectives?
2. Effects of silvicultural action on stream shade and water temperature.