Managing Riparian Forests

A Position of the Oregon Society of American Foresters

The Oregon Society of American Foresters (OSAF) believes that active management of riparian areas on public and private forestlands should be a key part of contemporary strategies and policies to maintain and improve water resources and fish and wildlife habitat. This view is supported by the low levels of riparian forest management now seen throughout Oregon, even where policies allow some active management. Of particular concern is that, lacking management, many of these unique and ever-changing forests now have or will develop conditions that are less than ideal for habitat and water quality, including reduced biodiversity and substantially increased risks of damaging wildfires.

Factors that have limited the management of Oregon's riparian forests include concerns about potential impacts, policies that typically restrict rather than promote management, and the complexities and costs of management under the existing regulatory constraints. A common perception is that active management of riparian forests will only have negative outcomes for desired resources. However, a growing body of research and management experience shows that carefully prescribed forest practices can have little or no extended impacts while maintaining or improving resource conditions. OSAF believes that both state and federal policies should reflect these important realities and do more to encourage active management of riparian areas on Oregon's forestlands.

Issue

Since the 1990s, population levels of many wild anadromous (ocean migrating) fish species in the Pacific Northwest have raised widespread concerns about the effects of human activities on these populations. Riparian forests along streams in the region are known to provide important ecological functions that benefit the habitat of many fish species. Because timber harvesting and other forest practices in riparian areas can alter some of these functions, these practices have been widely viewed as undesirable and that regulations restricting riparian forest management are believed to be most effective for protecting fish habitat. In addition, it has been widely assumed that such management restrictions are similarly beneficial to wildlife habitat and drinking water supplies. However, forestry professionals in the region now recognize that, without active management, over time the changing conditions in many of our riparian forests may not effectively provide or protect the diverse resource benefits that society needs and wants.

Background

Awareness and concerns about potential effects of forest management on water resources are widely recognized in the Pacific Northwest, with wild salmon and other anadromous fish habitat a particular focus. As one part of a complex array of environmental influences, forest practices have received considerable attention because many fish spawn and rear in forest streams, and the unique and important influences of riparian forests on aquatic habitats are now better understood. For example, trees that fall into streams can help create deep pools that provide key rearing habitat, and riparian vegetation supplies leaves and other material that help sustain the insects that fish feed upon.

Forest practices clearly have the potential to alter water quality and aquatic habitat. Earlier studies showed that unrestricted and less refined logging and road construction could cause erosion, stream sedimentation, and warmer water temperatures. Habitat also was reduced when natural accumulations of fallen trees were removed from many streams in the mistaken belief that they were harmful to fish. Such findings led to the 1972 adoption of regulations under the Oregon Forest Practices Act, and to major rule revisions in 1994 that markedly increased protection of riparian areas on private forestlands. On state and federal lands, updated

forest plans mandated even greater restrictions for riparian areas. Regardless of ownership, stream protection requirements on forestlands continue to greatly exceed those for other land uses in Oregon.

Because these restrictions in Oregon's riparian forests provided some immediate benefits and were generally believed to permanently protect water resources and habitat, a common assumption has been that such limits should continue or be increased further. However, the need to further restrict riparian forest management is not clearly supported by more recent research findings. For example, studies on private forestlands, which have fewer restrictions than public forests, show that substantial timber harvesting near streams can occur without significant impacts to water quality or local fish populations. Research also shows that carefully designed forest openings along streams can mimic natural disturbances and promote aquatic productivity while maintaining water quality, resulting in larger fish from enhanced food supplies.

With well over a decade of major restrictions in riparian forests in Oregon, a pattern of "benign neglect" has emerged. For various reasons, forest owners and managers have often avoided riparian areas, even where policies have included some allowances for management. The result has been significant areas where undesirable conditions have developed, including overly dense forests with serious wildfire and forest health hazards, as well as invasive and other competitive species that suppress more desirable plants and trees. These conditions have raised concerns about reduced habitat diversity and other features favorable for many fish and wildlife species. The policy emphasis for private lands that rigidly favors riparian conifers to improve in-stream fish habitat also may contribute to some questionable outcomes for both fish and wildlife.

Policies that greatly restrict management and rely primarily on natural processes can improve riparian and stream conditions, but the results are highly variable and benefits can take decades or even centuries to be realized. Wildfire cannot be widely relied upon for resource benefits, particularly if climate change adds to unusually severe fires and watershed impacts. Active management can accelerate riparian forest benefits through carefully applied professional forestry, fisheries, and hydrology expertise. In dry forest types threatened by fire and forest health hazards, the benefits of riparian thinning and other active management can far outweigh the risks of inaction. Further research and adaptive management can help target and refine practices and policies that are most cost-effective in improving desirable riparian forest conditions.

Clearly, there remains a need for policies that mandate extra care and some restrictions of forest practices in riparian areas. However, recent and ongoing changes in these unique and dynamic forests challenge the common notion that little or no management will provide the best long-term protection and enhancement of desirable watershed conditions. There is now an important need to pointedly recognize and encourage active management of many of Oregon's riparian forests, with updated policies and administrative emphasis that promote research, education and incentives for improved riparian management on public and private lands.

Selected References

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This statement was adopted by the OSAF Executive Committee on August 26, 2010. The statement will expire August 26, 2015, unless after thorough review it is renewed by the Committee.