REVIEW OF PROGRAM ISSUES RELATED TO WESTERN JUNIPER

The purpose of this agenda item is to submit a report of the Ad Hoc Senate Bill 1151 Western Juniper Issues Group. This agenda item relates to the *Forestry Program for Oregon* objectives for Creating and Maintaining Healthy and Sustainable Ecosystems, Stewardship through Regulation of Forest Practices, and Voluntary Stewardship of All Forest Values and Resources.

Concerns over juniper encroachment and possible regulatory disincentives for restoration projects prompted the 1999 Oregon Legislative Assembly to pass Senate Bill 1151, which took effect on October 23, 1999. The bill exempted western juniper harvest from privilege and forest products harvest taxes. The bill also directed the Department, in cooperation with other state natural resource agencies, to conduct a study of the issues of regulation and taxation as they affect juniper, and to resolve the issues in a manner that benefits juniper woodland owners and improves watershed and rangeland health.

The Department convened the Ad Hoc SB 1151 Juniper Issues Group, which was charged to examine the issues involved in the regulation and taxation of juniper management and make recommendations to the Oregon Board of Forestry to resolve identified problems. This agenda item consists of the report (with an executive summary) from that group.

The Department recommends that the Board take the following action at its September meeting:

Approve the following recommendations made in the report:

1. Continue to support legislation to remove commercial harvesting of western juniper from regulation under the Oregon Forest Practices Act. Note: This is part of the legislative concept developed by the Department and already approved by the Board to clarify statutes and to clarify lines of regulatory responsibility among agricultural lands, forestlands, and other lands.
2. Maintain the current fire protection system administered by the Department. The Department should work with other agencies to inform landowners outside forest protection districts of their situations and options regarding wildland fire protection.
3. The Department and other agencies should work together to produce a coordinated juniper management strategy that considers landowner objective, and to produce a set of incentives to promote that strategy.
4. Support legislation to relieve the Oregon Department of Revenue to track juniper log harvests, which are no longer subject to forest taxes. Maintain current exemptions of commercial juniper harvests from forest taxes.
5. The Department and other agencies should work together to help landowners prevent and control noxious weed invasions.

Attachment:

(1) *Western Juniper Issues*, a report to the Oregon Board of Forestry from the Department and the Ad Hoc SB 1151 Juniper Issues Group.

Western Juniper Issues

A Report to the Oregon Board of Forestry from Oregon Department of Forestry and the Ad Hoc SB 1151 Juniper Issues Group

Required by 1999 Oregon Senate Bill 1151

July 2000

Western Juniper Issues Report to the Oregon Board of Forestry from Oregon Department of Forestry and the Ad Hoc SB 1151 Juniper Issues Group July 2000

Executive Summary

Purpose:
In response to concerns over juniper encroachment and possible taxation and regulatory disincentives for restoration projects, the 1999 Oregon Legislative Assembly passed Senate Bill 1151, which was signed by Governor John Kitzhaber, and took effect on October 23, 1999. The bill exempted western juniper (*Juniperus occidentalis*) harvest from privilege taxes and forest products harvest taxes. The bill also directed Oregon Department of Forestry, in cooperation with other state natural resource agencies, to conduct a study of the issues of regulation and taxation as they affect juniper, and to resolve the issues in a manner that:

1. Benefits juniper woodland owners, and
2. Improves watershed and rangeland health.

To meet the mandates of SB 1151, the Oregon Department of Forestry convened the Ad Hoc SB 1151 Juniper Issues Group, which was charged to examine the issues involved in the regulation and taxation of juniper management and make recommendations to the Oregon Board of Forestry to resolve identified problems. Group members represented juniper woodland owners, operators, the environmental community, rangeland restoration technical specialists, and the Eastern Oregon Regional Forest Practices Committee. Other landowners, operators, representatives from agricultural associations, and representatives from state and federal agencies also contributed significantly to discussions and this report.

Resource Status and Trends:
Since the 1870s, western juniper has expanded greatly in range and stand density in eastern Oregon. Although western juniper is native to eastern Oregon and is an important component in the high desert ecosystem, its encroachment onto rangelands (and to a lesser extent onto forestlands and riparian areas) has in many cases suppressed shrubs, grasses, and other plants, causing increased erosion, reduced wildlife habitat diversity, and reduced forage value for wildlife and livestock. With the goal of restoring rangeland, watershed, and wildlife values, many landowners manage juniper by thinning or completely removing juniper stands. Although logs or other juniper products may occasionally be sold, juniper management relates primarily to agriculture and rangelands, not forestry. Restoration projects usually involve high costs with little or no immediate monetary return for the landowner. Cost-share or grant programs are sometimes available. A recognized key to successful projects is cooperation and information exchange among landowners and public agencies with technical expertise. Current juniper management efforts are locally effective, but juniper expansion is continuing on a broad scale.

Western juniper generally produces low value sawlogs or other products due to relatively small, fluted stems with large branches and knots, short height, high taper, and significant heart rot. Per acre volumes are low, and milling facilities are often far from the source lands. For these reasons, juniper management usually does not involve the sale of juniper logs. In a small

percentage of projects, however, landowners are able to sell juniper logs to partially offset project costs. When juniper logs or other juniper products are sold, the harvest activities are subject to the requirements of the Oregon Forest Practices Act, which regulates the growing and harvesting of forest trees. Prior to the enactment of Senate Bill 1151, the sale of juniper logs was also subject to the Eastern Oregon Privilege tax and the Forest Products Harvest Tax. Other juniper-related issues include the effects of forest and range fire protection programs, forestry assistance programs (primarily technical and cost-share assistance), and invasion of noxious weeds on juniper management. Landowners and others knowledgeable in rangeland issues find that regulation and taxation of the commercial use of juniper can discourage landowners from conducting beneficial restoration projects.

Key Points:

1. Juniper management projects should be conducted to protect natural resources while restoring watersheds and rangelands. If done cooperatively and properly, juniper management is a needed and beneficial effort.
2. Oregon Department of Agriculture Water Quality Management Area Plans will be in place in the near future for most basins, and will have the goal of protecting water quality where agricultural operations (including juniper management) are involved.
3. The Oregon Forest Practices Act currently applies to harvest of any forest products, including those from western juniper, when the products are sold.
4. Western juniper trees have low commercial value under current and expected market conditions; in the foreseeable future, harvest and sale of juniper products will be a part of juniper management projects on only a very small fraction of the acres needing treatment.
5. Because of the high wildfire risk in eastern Oregon, continuation of the existing coordinated and effective fire protection system is needed.
6. State and federal natural resource agencies should cooperate in administering programs related to juniper management.
7. Overlapping regulation should be avoided.
8. The spread of noxious weeds is a serious problem and can be exacerbated by juniper management activities.

Summary of Recommendations for each of the analysis sections of this report:

1. Oregon Forest Practices Act. To avoid overlapping regulations and the unintended disincentives that can result from regulation, a single state agency should administer the regulatory programs related to juniper management. Because juniper management relates primarily to agricultural and rangeland uses, it is recommended that all juniper harvest and management activities be exempt from requirements in the Oregon Forest Practices Act (revisions in statute are needed to make this change) and instead be overseen by current programs administered by the Oregon Department of Agriculture. This shift in oversight will affect only a small portion of the acres treated to control juniper, since most projects currently do not involve commercial use of western juniper products, and are therefore not subject to the Oregon Forest Practices Act. The Oregon Department of Forestry recommends that this issue be reexamined periodically as the commercialization of western juniper evolves.

2. Forest Fire Protection. Current fire protection statutes and rules administered by Oregon Department of Forestry within forest protection districts adequately meet fire protection needs as they relate to juniper management; no statute or rule changes are needed. Of concern, however, is the lack of fire protection in large portions of eastern Oregon that are outside forest protection districts and the absence of statutory authority for the Department of Forestry to render aid to landowners in those areas. It is recommended that in such areas the Department of Forestry, in cooperation with other agencies, make an effort to inform landowners about their situation and their protection options.

3. Forestry Assistance: Encouragement of management through incentives is the best way to resolve juniper-related issues to benefit juniper woodland owners and improve watershed and rangeland health. It is recommended that the following agencies and organizations work together to produce a coordinated juniper management strategy that considers landowner objectives and the wide range of natural resource issues, and that results in a set of incentives to promote that strategy: Soil and Water Conservation Districts, Watershed Councils, landowner groups, the Natural Resource Conservation Service, the Oregon Department of Fish and Wildlife, the Oregon Department of Forestry, the OSU Extension Service, the Oregon Department of Agriculture, the U.S. Forest Service, and the Bureau of Land Management.

   In addition, while agencies should cooperate, each should continue to contribute in its area of responsibility; the Oregon Department of Forestry's Forestry Assistance staff should work in partnership with the other identified agencies to provide the needed technical assistance incentives, the Oregon Watershed Enhancement Board should work to provide state financial incentives, the USDA should work to provide federal financial incentives, and the OSU Extension Service should work to provide educational incentives.

4. Taxation. It is recommended to avoid discouraging juniper management projects, which are environmentally beneficial but economically marginal, western juniper harvests remain exempt from the Eastern Oregon Privilege Tax and the Forest Products Harvest Tax. Statute and rule changes are recommended to relieve the Department of Revenue of juniper log tracking responsibilities, and to exempt landowners who harvest juniper on land outside forest protection districts from pointless notification requirements.

5. Noxious Weeds. The Oregon Department of Forestry, Oregon Department of Agriculture, OSU Extension Service, Natural Resource Conservation Service, county authorities, and other agencies should work together to help landowners prevent and control noxious weed invasions. It is recommended that technical assistance to landowners be a key part of this effort.

Acknowledgements

This report documents the discussions and recommendations of the Ad Hoc SB 1151 Juniper Issues Group. Members of the group were:

- John Breese, Western Juniper Commercialization Steering Committee
- Bill McCormack, Landowner
- Ned Livingston and Martin Lugas, Eastern Oregon Regional Forest Practice Committee
- Tim Lillebo, Oregon Natural Resource Council
- Tim Deboodt, OSU Extension Service
- Jon Bates, Eastern Oregon Agricultural Research Center

Many landowners, state agency personnel, and others not officially part of the group also contributed to discussions and reviewed report drafts. These included Walt McGee, a commercial juniper operator; Fred Otley, Oregon Cattleman's Association; Larry Swan, U.S. Forest Service, Winema National Forest; Dick Castor, Oregon Department of Revenue; Mike Wolf, Oregon Department of Agriculture; Pete Test, Oregon Farm Bureau; Dick Nichols, Oregon Department of Environmental Quality; and Glen Ardt, Oregon Department of Fish and Wildlife.

Representatives from the Oregon Department of Forestry were David Morman, Gregg Cline, Joe Misek, Mike Barsotti, Rick Gibson, Jim Coyle, Brad Knotts and others. The group wishes to thank the following people for allowing access to their property during the November 17, 1999 field tour:

- Louie Randall of Circle 5 Ranch near Bonanza
- Mike Connolly of Connolly Ranch near Bonanza
- The Bureau of Land Management, Lakeview District, Klamath Falls Field Office
- Howard McGee of the 4 Mac Industries Scragg Mill at the Diary Mill
- Marc Kane and Dennis Long, cooperators involved in the REACH, Inc. juniper shavings mill at Klamath Falls

The various sections of the report were prepared by different authors, with extensive review and contributions from group members. Primary authors of each section are listed below. Sections not listed here were developed by the group as a whole.

- Executive Summary and Introduction—Brad Knotts.
- Juniper Resource and Commercialization—Larry Swan, Tim Deboodt, Glen Ardt, Jon Bates.
- The Role of Incentives and Regulation—Mike Barsotti
- Analysis of the Oregon Department of Forestry Forest Practices Program—David Morman and Brad Knotts.
- Analysis of the Oregon Department of Forestry Protection from Fire Program—Rick Gibson.
- Analysis of Oregon's Forestry Assistance Program—Mike Barsotti.
- Analysis of Forest Taxation in Oregon—Joe Misek and Dick Castor.
- Analysis of Noxious Weed Issues—Gregg Cline and Brad Knotts.

Table of Contents

Introduction

Purpose

The purpose of this report to the Oregon Board of Forestry is to fulfill the requirements of 1999 Senate Bill 1151.

Background

In Oregon, western juniper (*Juniperus occidentalis*) grows almost exclusively east of the crest of the Cascade Range. Since European-American settlement in eastern Oregon in the mid-1800s, favorable climate and reduced fire frequency have combined to allow western juniper woodlands to expand greatly in range and stand density. Western juniper is native to eastern Oregon and is an important component of the high desert ecosystem. However, juniper is a very strong competitor for moisture; as it progressively dominates a site, the cover of shrubs, grasses, and other understory plants declines significantly, as less moisture is available for their establishment, survival, and growth. The results can be increased soil erosion, reduced wildlife habitat diversity, and reduced forage for livestock and wildlife. Many eastern Oregon landowners manage juniper to restore rangelands and watersheds. For this report, "juniper management" means the thoughtful use of the following practices, alone or in combination: thinning, complete removal of areas of juniper woodlands, and the use of prescribed fire. The goal of juniper management is not to improve the juniper resource itself, but to manipulate juniper woodlands to restore rangeland and watershed resources. More detailed information on western juniper development and management is available in the "Resource and Commercialization Status" section of this report.

Senate Bill 1151

In 1999, concerns by landowners and others over possible unintended negative effects of taxes and regulations on juniper management prompted the 70th Oregon Legislative Assembly to pass SB 1151. The bill requires that by October 2000, the Oregon Department of Forestry (ODF) complete a review of its programs and those programs it administers for other state agencies to determine program and regulatory issues related to commercial western juniper harvest. The legislation requires the study to be conducted in coordination with the Oregon Department of Agriculture, Oregon Department of Environmental Quality, and Oregon Department of Fish and Wildlife. The agencies are directed to determine how the Department of Forestry can respond to and resolve the identified issues in a manner that will benefit landowners and improve watershed and rangeland health. SB 1151 also exempted commercial juniper harvests from the Oregon Forest Products Harvest Tax and the Eastern Oregon Privilege Tax. (The complete text of enrolled SB 1151 is provided in Appendix G.)

Ad Hoc SB 1151 Juniper Issues Group

To meet the mandates in SB 1151, ODF convened the Ad Hoc SB 1151 Juniper Issues Group in the fall of 1999. The group included members representing juniper woodland owners, operators, the environmental community, rangeland restoration technical specialists, agricultural associations, the Eastern Oregon Regional Forest Practices Committee, state natural resource agencies, and the Oregon Department of Revenue. A list of group member names and other interested parties is included in Appendix I. Member attendance at meetings varied, but all members were kept informed of meeting schedules and group decisions, and were invited to comment on interim drafts of the report. Attendance lists for group meetings are shown in

Appendices K through N of this report. The charge of the group was to examine the issues involved in the regulation and taxation of juniper management and make recommendations for resolution of identified problems to the Oregon Board of Forestry.

The group recognized that the effects of regulation on juniper management and rangeland restoration are part of the broader issue of how state programs should apply on land with agricultural and forestry use. That broader issue provided context for group discussion; however, the charge of the group was narrowly focused on issues directly related to western juniper. The recommendation in the section of this report titled "Analysis of the Oregon Department of Forestry Forest Practices Program" involves a proposed statute change. To maintain clarity and context in the statute change, changes addressing the broad issue of how state programs should apply to agricultural and forestry uses are included.

The group developed a project work plan (see Appendix H) and met two times in late 1999, including a one-day field tour of commercial juniper harvest sites and manufacturing facilities. A draft report was developed by members of the group and ODF staff and was distributed to group participants for review and comment. The group met a third time on March 10, 2000, where further changes to the report were discussed. The fourth and final meeting took place on May 15, 2000, where a revised report draft was discussed. With group input from that meeting, ODF staff prepared a proposed final draft of the report, which was sent out by mail to group members and other participants for final review. Comments from that review were incorporated into this final version of the report.

This report outlines benchmarks for evaluating policy recommendations, presents guiding principles used by the group, discusses the resource and commercialization issues surrounding western juniper, and examines the roles of incentives and regulation. Following these background sections, the report analyzes issues and presents recommendations related to the ODF Forest Practices Program, the ODF Protection from Fire Program, Oregon's Forestry Assistance Program, Oregon's Forest Taxation Program, and the spread of noxious weeds. Following those sections are a summary listing of all recommendations and a set of appendices, which includes background discussions for each of the analysis sections and other items shown in the Table of Contents.

Benchmarks for Evaluating Policy Recommendations

The Ad Hoc Juniper Issues Group agreed on the following benchmarks for its evaluations. The benchmarks are taken directly from the charge in SB 1151.

- Will the recommendations benefit landowners?
- Will the recommendations improve watershed and rangeland health?

Guiding Principles

The group agreed to the following guiding principles for the discussion on juniper issues:

1. The density and distribution of western juniper stands has dramatically increased over the last century compared to levels observed in the 1800s as a result of periods of favorable climate, and human influences such as fire suppression and past uncontrolled livestock grazing. It is often a desirable objective to restore rangeland productivity, watershed health, and plant and wildlife species diversity through a reduction in juniper stand density and distribution.

2. Range management projects produce both public and private benefits. It is in the interest of both landowners and the State of Oregon to promote well-designed, cooperative rangeland restoration efforts and to explore ways to provide incentives for such restoration. Current state programs do not provide adequate incentives for rangeland and watershed restoration, and in some cases may be disincentives to landowners attempting to achieve these outcomes.

3. Activities undertaken to reduce juniper stand densities and to prevent further juniper woodland expansion should be conducted in ways that protect and maintain water quality, air quality, soil productivity, and native fish and wildlife habitat.

4. Given current markets and economics, in the foreseeable future commercial juniper harvests will be a viable option on only a very small fraction of the acres needing a reduction in the density and distribution of juniper woodlands.

5. Both agricultural and forestry activities are subject, either directly or indirectly, to the state's water quality standards.

6. Except where specific exemptions are provided in statute, it is acknowledged that the intent of the Legislature is that the Forest Practices Act will have jurisdiction over all commercial forest operations on non-federal forestlands in Oregon. The terms "forest practice," "forest tree species," "forestland," and "operation" are defined in statute. Rules and policies administered by ODF must be consistent with state statute.

7. It is acknowledged that the Agricultural Water Quality Management Program rules apply to lands in agricultural use, except for those activities subject to the Forest Practices Act. These rules consider woodlands accompanying land in agricultural use as also an agricultural use.

8. It is in the interest of the State of Oregon, as well as forest and agricultural landowners, to clarify through a memorandum of agreement, if possible, and through rule or statute changes, if necessary, the jurisdictional limits of the Forest Practices Act and the Agricultural Water Quality Management Program. This clarification is especially needed on lands where both agricultural and commercial forestry activities occur.

9. In eastern Oregon, the high hazards and risks from wildfires require a clearly defined and equitable policy concerning the liability of landowners for fire suppression costs. Such a

policy does not now exist for most landowners who have lands that are not included within a forest protection district. Forest fire protection regulations are separate from the Forest Practices Act.

10. Continued landowner and operator training and education opportunities on proper rangeland restoration practices, and continued landowner and operator access to rangeland and forestry technical specialists are desired services that the State of Oregon is well suited to provide.

11. Continued monitoring of rangeland restoration is important to evaluate effectiveness in meeting objectives for both restoration and resource protection.

12. Whenever possible, state agencies should cooperate to minimize or eliminate the need for landowners to obtain multiple agency permits or approvals before conducting rangeland restoration practices.

13. Tax policy can be used to achieve state policy objectives by providing incentives or disincentives for certain actions. Taxes or fees associated with juniper harvesting are disincentives for beneficial watershed activities.

Juniper Resource and Commercialization

Current Resource Status

U.S. Forest Service inventory scientists predict that within the next 50 years western juniper woodlands will be the most extensive forest cover type in eastern Oregon.

Inventory

There are over 2.2 million acres of western juniper woodlands in eastern Oregon with 10% crown cover or more.[1] About 58% of this acreage is private. There are another 2.8 million acres with scattered juniper (less than 10% crown cover). The total number of eastern Oregon acres with 10% crown cover or more has increased about 500% since the first inventory was completed in the mid-1930s. Over 95% of the trees are less than 100 years old. It is projected that hundreds of thousands more acres will convert to juniper woodlands over the next 20 to 40 years (Gedney et al. 1999).[2] Table 1 on page 11 and the map in Appendix O describe the current range of western juniper in eastern Oregon.

[1] Crown cover of 10% or more is the arbitrary minimum criteria used by inventory scientists to define "forest cover."

[2] Other states with significant juniper acreage (10% crown cover or more) are California (1.3 million acres) (Bolsinger 1989) and Idaho (275,000 acres) (Chojnacky 1995).

Table 1 **Western Juniper in Eastern Oregon Counties**	
Counties	Extent of Juniper
Baker, Deschutes, Harney, Klamath, Lake, Malheur, and Wasco	At least 100,000 acres in the county.
Crook, Grant, Jefferson, and Wheeler	At least 100,000 acres in the county; juniper-dominated woodlands cover more than 50% of county.
Gilliam, Morrow, Sherman, Umatilla, Union, and Wallowa	No significant acreage in the county.

Western juniper is the least-utilized wood fiber resource in its range. Total volume in woodlands with crown cover over 10% and in mixed conifer forests is estimated to be 467 million cubic feet.[3] Average volume per acre is 198 cu. ft. (ranges between 15 cu. ft. and 700 cu. ft.). About 53% of the total juniper volume and 90% of the volume in mixed conifer forests, which is often considered of higher quality by commercial interests, is on private or Indian reservation lands (Gedney et al. 1999).

U.S. Forest Service inventory scientists estimate that total juniper woodland area (all densities) could increase to 6.0 million acres within the next 50 years, which represents 10% of Oregon's total land area. This would make juniper woodlands the most extensive forest cover type in eastern Oregon (instead of ponderosa pine).[4]

Western Juniper Woodland Development

Since European-American settlement in eastern Oregon in the mid-1800s, western juniper woodlands have expanded greatly in range and stand density. Juniper woodlands have encroached onto more productive sagebrush grasslands, riparian zones, aspen woodlands, and ponderosa pine woodlands. The expansion is expected to continue, given current resource conditions. Major factors in the expansion are thought to be as follows (Miller et al., 1994):

- Above-average precipitation in the early 1900s allowed western juniper to become established, to survive, and to grow at higher rates.
- Lower fire frequencies allowed increased establishment of juniper seedlings. Reductions in fire frequency are believed to have resulted from:
  - Reduction of fine fuels (grass) from uncontrolled grazing in the late 1800s and early 1900s. With reduced fine fuels, fires did not spread as far or as rapidly.
  - The establishment and implementation of aggressive fire prevention and suppression policies and practices on timberland prior to 1945 and on rangeland after 1945.
- The lack of prescribed burning on a broad scale to control juniper expansion.
- Possible effects of increasing atmospheric carbon dioxide concentrations.

[3] For comparison purposes, red alder volume is about 7,436 million cubic feet and California laurel is about 297 million cubic feet (Niemiec et al. 1995).

[4] Most data cited above came from a late 1980s Forest Service Pacific Northwest Research Station juniper inventory. The late 1980s inventory concentrated on aerial photo interpretation and included fewer than 60 ground plots. Forest Service research scientists completed a more comprehensive western juniper inventory last summer (1999). The 1999 inventory gathered data about key questions not addressed during the late 1980s inventory, such as extent of juniper reproduction and juniper old growth (pre-1880s origin), and included over 400 ground plots.

Juniper seeds are dispersed to new areas by gravity, water, and wildlife. Western juniper becomes established, survives, and grows on sites that are generally too arid for other tree species. On some sites (some aspen and ponderosa pine sites, for example), periodic fires that favored other tree species no longer occur, and juniper has been able to become established. Density and percent crown cover of juniper woodlands increase over time until the site is fully occupied. Full occupancy, expressed as stand density or percent crown cover, will vary depending on site characteristics such as soils, precipitation levels, and aspect. Because western juniper competes well for soil moisture, and established stands increase interception and evaporation of precipitation, less moisture is available for understory plants (shrubs, grasses, and forbs). Abundance and diversity of these plants can decline, resulting in increased soil erosion, decreased livestock forage, and decreased value for wildlife.

Juniper growth rates vary widely depending on site productivity factors. Juniper trees are relatively short in stature, usually exceeding 30 feet in height only on very productive sites (riparian zones and ponderosa pine zones). Western juniper can live for several hundred years, with one living specimen known to be more than 1,600 years old (Miller et al. 1999c). However, 95% of the juniper woodlands in Oregon are less than 100 years old.

The term "old growth" is difficult to define for juniper, but one definition includes living juniper that started before the 1870s (considered to be the approximate time of wide-ranging European-American settlement in eastern Oregon). Old growth juniper are typically found on rocky rims and some low sagebrush sites which historically were relatively safe from wildfire due to low amounts of fuel present. There is also a large belt of old growth woodland located east of Bend, Oregon in the pumice soil zone. Presence of old juniper on this site is a function of soil characteristics and lack of fire.

Watershed Conditions

The expansion and increasing densities of juniper woodlands are of great concern to private landowners, government land managers, and scientists (Miller et al. 1999a). Over one million acres already show clear evidence of watershed degradation, loss of site productivity, decrease in forage production, loss of wildlife habitat, and overall reduction in biodiversity.[5]

Wildlife

Prior to 1870, juniper woodlands were primarily found in rocky areas or in open stands, often with dominant trees 400 years old (Miller et al. 1997). Today these old-growth stands are estimated to constitute less than 3% of the juniper woodlands (USDI-BLM 1990).

Old-growth juniper provides habitat for at least 81 species of wildlife. Wildlife values are mainly associated with old-growth characteristics of individual trees. These characteristics include large twisted trunks or branches, deeply furrowed bark, dead branches and spiked tops, large lower limbs, cavities and hollow trunks, nonsymmetrical tops, and branches covered with bright, yellow-green lichen (*Letharia* sp.). Heavy berry crops have been observed on trees over 500 years old growing in relatively open stands (Miller et al. 1997).

[5] The "one million acre" figure was calculated based on juniper woodlands with 20% canopy cover or more.

Today, most of the junipers we see on the landscape are less than 100 years in age. Younger trees tend not to have old-growth characteristics described in the preceding section. Wildlife use in younger stands is based primarily on stand structure and characteristics of understory and surrounding vegetation. Mid-aged stands with a full complement of understory vegetation appear to support the greatest abundance and richness of wildlife species. Maser et al. (1984) report that 146 wildlife species use habitat provided by juniper woodlands and juniper/shrub vegetation types.

Wildlife use is less in young juniper stands that lack height structure, as well as in dense 80 to 120-year old stands that have lost their understory of forbs, bunchgrasses, and shrubs (Miller et al. 1997). Loss of understory vegetation makes these stands susceptible to increased overland flow and soil erosion (Bedell et al. 1993). This in turn reduces soil productivity and increases stream siltation. The end result can be detrimental to terrestrial and aquatic wildlife species. Juniper encroachment into shrub-steppe habitats, wetlands, riparian corridors, and in aspen and mountain mahogany stands can also adversely affect wildlife species.

State and Federal "listed" sensitive, threatened or endangered wildlife species may use juniper woodlands, but none are dependent on juniper woodlands for their survival. There are exceptions though, when individuals of certain species are dependent on a particular juniper stand (e.g. nesting habitat for Ferruginous and Swainson's Hawks). Conversely, juniper encroachment into the shrub-steppe community could adversely affect sensitive species such as the sage grouse, which is proposed for listing under the federal Endangered Species Act.

Several aquatic species can be negatively affected when juniper is not managed properly or not managed at all. Species of particular concern are the endangered Lost River and shortnose suckers in the Klamath Basin, and the sensitive inland redband trout. The importance of juniper woodlands for wintering wildlife has also been documented. For example, wintering mule deer require a mosaic of hiding and thermal cover intermixed with forage, while Townsend solitaires and American robins rely heavily on juniper berry crops.

Nature and Extent of Current Juniper Management Activities

Juniper removal to improve rangeland has been going on since at least the 1950s. Currently, an estimated 5,000 to 10,000 juniper woodland acres per year[6] are cleared or thinned by public land managers and private landowners in eastern Oregon and northeastern California. Primary reasons for private landowners to thin or clear juniper are to increase forage production, improve watershed functions, and restore deteriorated rangelands. Due to lack of demand and markets, as well as economics, the juniper is usually piled and burned, left to decompose after being knocked down, or cut for firewood and fence posts.

Juniper treatments have evolved from an agronomic outlook that targeted juniper as a weed to an ecological approach. Prescriptions for juniper removal and plant community restoration are completed on a site-specific basis, which in turn are incorporated into overall watershed objectives. A cooperative educational effort between public land management agencies, Oregon State University research and extension, USDA Agricultural Research Service, and private landowners is critical to this effort.

[6] The estimate of 5,000 to 10,000 acres represents between 0.1% to 0.3% of total juniper woodland area with 10% crown cover or more.

Landowner costs for thinning juniper average $35-$50 per acre. The most common treatment methods include cutting trees down with chainsaws or pushing them over with a dozer. Additional treatments may be required to obtain desired results, such as seeding, and lopping and scattering branches. Manual falling, delimbing, and lopping and scattering the limbs can cost as much as $250 per acre.

Rangeland restoration efforts involving thinning and clearing of juniper are expected to continue, whether or not a commercial industry develops for juniper. According to Tom Birch, a Forest Service scientist who summarized data from a national study of forested land owners and their harvest plans, there are probably at least 3,000 ranchers in Oregon and California who plan to thin their juniper woodlands within the next 10 years.

Woodland Management

Vegetation and Soils Response
Research completed by Oregon State University (OSU) and USDA/OSU eastern Oregon Agricultural Research Center demonstrates that proper juniper management can significantly increase forage yields (Vaitkus and Eddleman 1987; Bates et al. 2000), improve wildlife habitat (Willis and Miller 1999; Miller et al. 1999b), and increase overall biodiversity (Bates et al. 2000). Understory production increased as much as 12 fold and plant diversity increased by 100% after juniper trees were cut on the Steens Mountain (Bates et al. 2000). On other sites in Central Oregon, understory production has increased between 6 and 10 fold after juniper cutting.

Soil erosion can also be significantly reduced. Buckhouse and Mattison (1980) documented that erosion during a 25-year storm event was ten times greater in juniper woodlands than in adjacent areas occupied by grasses and forbs. Wilcox and Breshears (1994) documented that increased understory cover is important in juniper woodlands because the spatial distribution of understory plants is more effective in controlling soil erosion than juniper canopy cover.

Timing of treatment in terms of woodland stand development is important. Costs to treat juniper at the seedling/sapling stage can be as low as $4 to $8/acre if prescribed fire is used. Treatment of mature woodlands, where juniper has out-competed native grasses and shrubs, ranges between $30 to $100/acre, depending upon the amount of restoration work needed (such as seeding). Costs can range as high as $250 per acre if slash is manually lopped and scattered.

The role of fire as a post-treatment follow-up is an important management consideration because many saplings and seedlings survive the initial cutting. Prescribed fire is the most cost-effective method to remove these young trees after cutting. The timing and method of prescribed fire will affect the survival of desirable vegetation. If fire is introduced too early (within first five years after cutting), the heat load generated by burning cut trees can reduce the survival and establishment of desirable understory and shrub species and open these areas up for invasion by noxious weeds and annual grasses.

It is generally recommended that reintroduction of fire into the system be delayed 10-20 years to allow fuel loads from downed trees to break down and decompose and permit desirable vegetation to become established. In some areas cut trees should also not be burned off early because (a) downed trees can be effective in preventing soil erosion until understory plants

become established, and (b) downed trees and scattered slash can provide ideal microsites for understory seedling establishment and growth. Some landowners may need to burn juniper slash within the first five years after cutting to reduce the fire hazard or for other reasons. In this case, the burning should be done during the dormant season (winter) with high soil moisture content (frozen, nearly saturated soils may provide the ideal conditions). Preliminary research results indicate that the combination of a cooler burn and a lower chance for soil heating under these conditions allow the landowner to retain and promote desirable understory vegetation, while removing the fire hazard associated with the juniper slash (Bates, Eastern Oregon Agricultural Research Center file data).

Fish and Wildlife Response
Oregon Department of Fish and Wildlife reports that although there are general recommendations for fish and wildlife conservation measures in juniper woodlands (1994), specific wildlife guidelines do not yet exist (Glen Ardt, personal communication). Fish and wildlife conservation measures for juniper woodlands in the near-term will be formulated on a site-specific basis, in conjunction with watershed management guidelines. As in the past, site specific evaluation, recommendation, and the potential for cost-share programs has worked the best for individual landowners and the fish and wildlife resource. Additional information sharing for conservation of fish and wildlife has occurred through watershed council meetings, small woodland owner meetings, and watershed tours. In order for this level of participation to occur, funding for personnel and cost-share programs will need to continue in certain geographic areas or be provided in others. In lieu of this funding generic fish and wildlife guidelines could be developed that would be less flexible in design, to meet landowner and fish and wildlife needs.

Surface Water Response
Preliminary research results and years of anecdotal evidence suggest juniper removal can increase capture, storage, and beneficial release of precipitation in watershed drainage subbasins with high juniper densities. For example, in areas with 20% juniper canopy cover or more, it is theoretically possible to increase precipitation going into the water cycle by two inches or more simply by reducing the amount of snow and rain intercepted by and evaporated from the woodland canopy. Given that average annual precipitation for many woodland areas is only 12 to 14 inches, this is equal to about a 15% increase, (Eddleman and Miller 1991).

An increase in effective precipitation generates greater understory production. Increased precipitation also can prolong the growing season and shift species composition from less productive to more productive understory species (e.g. Sandberg's bluegrass to bluebunch wheatgrass) (Bates et al. 2000). However, an increase in the water budget for most juniper woodland sites will not necessarily result in an increase in surface water. Forbs, bunchgrasses, and shrubs released as a result of juniper removal may utilize any additional water captured.

Juniper Commercialization Status

Historic Juniper Utilization
Although the majority of western juniper harvested over the years has been used for fence posts and firewood, there are reports going back at least 50 years of mills that tried to commercially process the species. The most successful commercial western juniper operation of any size was a mill owned and operated by Gary Gumpert in Prineville in the mid to late 1970s (five to ten

employees). Primary product emphasis was interior paneling, but other products were made in the course of refining the panel product (such as furniture and mantelpieces). At the time the mill was sold, about one-third of the production was juniper and the remainder incense-cedar.

Probably the greatest use of juniper over the last ten years has been as a source of fuel for power generation. In the early to mid-1990s, at least a thousand acres of juniper woodlands in northeastern California were harvested for power generation biomass. Power generation markets for juniper have virtually disappeared though, due to changes in laws governing alternative power purchases.

Western Juniper Commercialization – 1990 to Present

Efforts to commercialize juniper were revitalized by the U.S. Forest Service in the early 1990s. An Industry Focus Group run by the Forest Service identified juniper as a potential source of fiber to partially replace government timber because of the spotted owl issue. Members of the Focus Group also owned ranches and were interested in how juniper harvest might improve grazing conditions.

An ad hoc Western Juniper Commercialization Steering Committee has overseen well over 100 western juniper commercialization projects since 1993, ranging from lumber recovery to management demonstration areas. Much of the work undertaken is considered "ground-breaking." Very little was known about western juniper physical, mechanical and fiber properties, and oil chemistry prior to beginning the commercialization process.

Key factors that determine the economic viability of operations which remove juniper for commercial purposes are market price, access, stem quality, slope and ground conditions, volume per acre, and transportation costs. Most commercial juniper operations are small in scale, rarely exceeding 40 acres in size. Considering these factors and the limited nature of juniper markets, landowners and technical specialists anticipate that commercially viable juniper operations will occur only on a very small amount of the total juniper acreage.

There have been significant gains in employment related to western juniper harvest and processing since 1991. At that time the juniper industry consisted of a few artisans, and seasonal firewood and post cutters. There are now at least 35 companies selling juniper products into at least 11 main markets or distribution channels, ranging from animal bedding shavings to doors and flooring. None of the companies have gross sales of juniper exceeding $250,000.

Over 35 full-time equivalent (FTE) jobs have been created in more than 14 eastern Oregon communities. Due to increased awareness and publicity, it is estimated that at least another 35 FTE jobs were created as an indirect result of commercialization projects. Private industry indicates that the number of jobs related to juniper processing is expected to double within the next two years. The ad hoc Steering Committee believes that the juniper industry will eventually generate gross sales of over $20 million per year, which translates to more than 250 direct and indirect jobs in rural eastern Oregon communities.

Incentives and Regulation

The deliberations of the Ad Hoc Issues Group included numerous discussions on the incentives and regulation associated with the commercial harvesting of western juniper and rangeland restoration practices to remove western juniper to accomplish landowner objectives. The economic returns from the commercial harvesting of western juniper can provide an offset to the total costs associated with rangeland restoration. Regulations on commercial harvesting in these instances may be disincentives to landowners reaching their objectives.

Regulations and incentives don't need to be seen as opposing strategies. They can be complementary elements of a single strategy to meet a set of goals. Regulations have proven to be very effective in limiting "wrong" actions. Incentives have proven to be very effective in encouraging preferred actions. The proper focus of regulation is on discouraging detrimental activities; the focus of incentives should be on encouraging beneficial activities.

Regulations are effective resource protection tools when there are economic motives for an activity. For example, the expectation of a near or long term profit is a major motivation for landowners to manage and harvest forest trees. Where harvest of forest trees is profitable, the Oregon Forest Practices Act (FPA) has proven effective in protecting forest resources through regulating forestry activities. The additional costs of the administrative and operational requirements of the FPA are generally not enough to offset the expectation of profit. This is not the case with juniper, however, which does not fit into the traditional forest management paradigm. The limited benefits to landowners in improved livestock forage and in harvesting juniper logs do not justify the costs, and current management of juniper is very limited. The goals for juniper management are not primarily to sell wood products, but to improve watershed health, livestock forage, and wildlife habitat conditions. Juniper project costs are high, and the sale of juniper logs to offset project costs is unlikely, because of the small size and low quality of juniper logs, and the distance to mill facilities. When the sale of logs is a viable option on a project, landowners are often discouraged upon discovering that the forestry-based regulation of the FPA will apply to their project. The current private and public efforts to create economic motivations for juniper management are not working. The result is that the public values from healthy watersheds and diverse wildlife habitats continue to deteriorate as juniper woodlands increase in area and density.

Incentives are effective resource improvement tools, especially when economic factors are not at play. Incentives can also encourage landowners and operators to take on projects that they would otherwise be unable or unwilling to do. Forestry examples of where incentives have been effective include assistance with tree planting and forest stand improvement projects where those activities are not the landowner's legal responsibility. Planting brush lands that were harvested before 1971 Forest Practices Act reforestation requirements were developed is an example. Landowners often do not conduct these types of activities because the economic returns are too far in the future, because they do not understand the benefits for ecosystems and watersheds, or because they cannot afford to fund the project. Juniper management is a similar example. While many landowners are aware that such management is beneficial, they often do not have either the funds or technical knowledge they need. Incentives traditionally provide cost-share funding and technical assistance.

Improving the health of watersheds where juniper has increased in area and density requires incentives to play a major role. Incentives appear to be the most effective method of promoting thoughtful juniper management and gaining the defined benefits. Removing the disincentive of forestry-based regulation can be seen as an incentive and part of the overall strategy. Regulation probably should have a role, however, in maintaining water quality during agricultural activities. The Issues Group expects that water quality will be protected on agricultural lands through Oregon Department of Agriculture's oversight of the outcomes of agricultural activities affecting water quality.

Analysis of the Oregon Department of Forestry Forest Practices Program

Oregon's Forest Practices Program: Evaluation

Key Issues:

- *How can the State of Oregon further clarify the distinction between commercial and noncommercial activities when determining the limits of current FPA jurisdiction on juniper activities?*

- *Should the commercial harvest of western juniper be regulated under the Forest Practices Act or instead be considered an agricultural activity that is outside the jurisdiction of the Forest Practices Act and that is overseen as necessary by the Oregon Department of Agriculture?*

- *If a determination is made that commercial harvest of western juniper should remain subject to the Forest Practices Act, what if any changes in procedural or resource protection requirements are needed to help landowners meet their management objectives and improve watershed and rangeland health?*

Juniper management projects generally involve falling or pushing selected juniper trees over, and may also include some method of woody fuel management, such as lopping or burning. Seeding of desirable species sometimes follows. Landowners usually work with OSU Extension Agents, ODF Service Foresters, Oregon Department of Fish and Wildlife Biologists, Natural Resource Conservation Service Range Conservationists, other specialists, or combinations of these technical specialists to design and execute projects that will improve range productivity, wildlife habitat, and water quality. Cost-share or grant programs are often involved in the projects.

Control of juniper to benefit public and private resources is the goal of most juniper management projects. For most projects, there are simply not enough high-quality juniper trees to make harvest, transport, and milling of logs worthwhile economically. On the few projects where enough high-quality logs are available, landowner income is seldom more than a partial offset to the overall cost of the juniper management project.

The stated aim of many landowners, operators, and purchasers, including members of the Western Juniper Commercialization Steering Committee, is to promote commercial harvest of juniper as a by-product of rangeland restoration activities. Increased commercialization should encourage landowners to conduct more juniper management projects, which should in turn

benefit public and private resources. The Oregon Department of Forestry endorses both juniper commercialization and rangeland restoration, and does not intend to place disincentives in the way of landowners engaging in those activities. Nevertheless, under the current jurisdictional framework in statute, the Department of Forestry must administer the Forest Practices Act and forest practice rules on commercial juniper harvest operations.

Forest Practices Program Policy Alternatives

1. Continue administering the Forest Practices Program on juniper woodlands under current rules and statutes.
2. Seek a statutory exemption of commercial juniper harvests from Forest Practices Program jurisdiction.
3. Retain juniper woodlands under Forest Practices Program jurisdiction, but modify the resource protection requirements applicable to juniper woodlands to:
   - Recognize the unique characteristics of these forests,
   - Incorporate current rangeland restoration science,
   - Better meet landowner objective, and
   - Encourage improvements in rangeland and watershed health.

Evaluation of Policy Alternatives

Although commercial harvesting of juniper is regulated under the Forest Practices Act, many of the rules were not designed with juniper or arid sites in mind. Specific rule requirements and their applicability to commercial juniper harvest are summarized in Table 2 in Appendix B. However, two items of special note are discussed below.

1. Reforestation. Many western juniper woodlands are on lands below site productivity class VI; the reforestation rules of the Forest Practices Act do not require reforestation on these lands regardless of whether a harvest is considered commercial. Because western juniper is currently of relatively low commercial value, reforestation is not required if only juniper is harvested, and retained juniper trees cannot be counted to meet reforestation requirements after harvest of other species.
2. The Water Protection Rules. These rules were implemented in 1994. Among other things, these rules require landowners to retain specified numbers of trees along certain types and sizes of streams. In light of current knowledge about forest health in eastern Oregon, it appears that for many sites, the retention standards would require landowners to keep stands in overly dense conditions, weakening the trees and predisposing them to insect and disease attacks. Juniper is not a riparian species and has crowded out deciduous species which are important to riparian health (wildlife, etc.). Landowners or operators may propose alternate plans to match protection requirements to local conditions, but may see the necessity for alternate plans on every project as burdensome. If administration of the Forest Practices Act on juniper woodlands continues, one of the following items is needed:
   - The water protection rules must be revised to address restoration projects on juniper woodlands, or
   - A streamlined process for plans for alternate practices is needed that modifies selected water protection rule requirements while also ensuring that the current level of protection of riparian and aquatic resources is not compromised.

Irrespective of changes in the Forest Practices Act, most or all juniper woodlands will in the near future be included in basin-level Agricultural Water Quality Management Area Plans developed by the Oregon Department of Agriculture (ODA) to address water quality protection while agricultural activities are conducted. Local advisory committees are the focal point for Agricultural Water Quality Management Area Plan development. ODA administrative rules developed for each basin as a result of the plan will address how the outcomes of agricultural activities will be regulated to achieve compliance with state water quality standards. Once in place, the agriculture rules and plans will be the mechanisms used by agriculture to address pollutant load allocations established by DEQ.

Unlike the Forest Practices Act, Agricultural Water Quality Management Area Plans are not intended to directly address or assure the sound management of soil, air, and fish and wildlife resources, although fish habitat protection is an indirect goal of federal Clean Water Act and state water quality standards. The ODA plans developed to date do not include requirements for large wood retention or riparian vegetation retention similar to those found in the forest practice rules. However, these requirements may not be relevant in some ecosystems currently dominated by juniper because large wood in streams and forested riparian areas may not have been significant factors in these rangelands historically.

The notification and review structure of the Forest Practices Program provides a mechanism for consultation with Oregon Department of Fish and Wildlife biologists and other resource specialists. In ODF's experience, the best results have occurred when treatments are cooperatively developed on a site-specific basis, in particular for juniper woodlands, using the process for approving plans for alternate practices. ODA Agricultural Water Quality Management Area Plans do not have a similar mechanism that triggers project-specific interactions.

As is the case with the Forest Practices Act, Oregon's Agricultural Water Quality Management Area Plans will likely evolve over time, in response to new scientific and monitoring information and society's changing values. It is possible that future Agricultural Water Quality Management Area Plans could further address adequate riparian and aquatic resource protection by incorporating juniper ecosystem-specific fish and wildlife habitat component protection requirements in the prohibited conditions portion of the plans.

The forest practice rules do not address noxious weed control, which is an important rangeland restoration issue. Regulation to prevent the spread of noxious weeds on logging equipment would be a proactive step towards eliminating one method of noxious weed spread, but forest practices regulations would only address commercial harvesting activities.

It is important to reemphasize that on most of the lands where juniper stand density reduction is needed, it is unlikely that commercial harvest will be a viable option in the foreseeable future. Thus, rangeland restoration activities and resource protection will be unaffected by any changes in Forest Practices Act administration over most of the juniper woodland landscape.

Forest Practices Program: Recommendation

To address concerns over appropriate regulation of commercial harvest of western juniper during range land and watershed restoration projects, the Ad Hoc SB 1151 Juniper Issues Group recommends Alternative 2:

> **Seek a statutory exemption of commercial juniper harvests from Forest Practices Program jurisdiction.**

As currently written, several definitions in ORS 527.620 mandate that commercial harvesting of juniper be regulated by the Forest Practices Act. The proposed revision of ORS 527.620(12)(e) shown below would exempt all juniper harvesting from the jurisdiction of the Act; this is the primary change that would implement the recommendation of the Ad Hoc SB 1151 Juniper Issues Group. However, the recommendation is part of a legislative concept being developed by Oregon Department of Forestry for submission to the 2001 legislature. The purposes of the legislative concept are to more clearly and logically define terms used in the Forest Practices Act, and to more clearly define a "bright line" where jurisdiction of the Act would begin and end on lands used for agriculture or other purposes. For clarity and continuity, the recommendation relating to juniper is shown in context with the entire legislative concept.

Recommended changes to ORS 527.620 Definitions (text to be added is in **bold**)

(5) "Forest practice" means any operation conducted on or pertaining to forestland, including but not limited to:

(a) Reforestation of forestland;

(b) Road construction and maintenance;

(c) Harvesting of forest tree species;

(d) Application of chemicals; and

(e) Disposal of slash.

(6) "Forest Tree Species" ~~does not include:~~

~~(a) Christmas trees on land use solely for the production of cultured Christmas trees as defined in ORS 215.203 (3).~~

~~(b) Hardwood timber, including but not limited to hybrid cottonwood, which is:~~

~~(A) Grown or growing on land which has been prepared by intensive cultivation methods and which is cleared of competing vegetation for at least three years after tree planting;~~

~~(B) Of a species marketable as fiber for inclusion in the "furnish" for manufacturing paper products;~~

~~(C) Harvested on a rotation cycle within 12 years after planting; and~~

~~(D) Subject to intensive agricultural practices such as fertilization, insect and disease control, cultivation and irrigation~~

are any tree species capable of producing logs, fiber, or other wood materials suitable for the production of lumber, sheeting, pulp, firewood, or other commercial forest products.

(7) "Forestland" means land which is used for the growing and harvesting of forest tree species, regardless of how the land is zoned or taxed or how any state or local statutes, ordinances, rules or regulations are applied.

(12) "Operation" means any ~~commercial~~ activity relating to ~~the~~ establishing, managing or harvesting of forest tree species~~.~~ **except the following activities:**

(a) The establishment, management or harvest of Christmas trees on land used solely for the production of cultured Christmas trees as defined in ORS 215.203 (3).

(b) The establishment, management or harvest of hardwood timber, including but not limited to hybrid cottonwood, which is:

(A) Grown or growing on land which has been prepared by intensive cultivation methods and which is cleared of competing vegetation for at least three years after tree planting;

(B) Of a species marketable as fiber for inclusion in the "furnish" for manufacturing paper products;

(C) Harvested on a rotation cycle within 12 years after planting; and

(D) Subject to intensive agricultural practices such as fertilization, insect and disease control, cultivation, and irrigation.

(c) The establishment, management or harvest of trees that are actively being farmed or cultured for the production of agricultural tree crops (nuts, fruits, seeds, nursery stock).

(d) The establishment, management or harvest of ornamental trees, street trees or park trees within an urban or rural-residential environment.

(e) The management or harvest of juniper species.

(f) The establishment or management of trees associated with activities intended to mitigate the effects of agricultural practices on soil, air, water or fish and wildlife resources, such as trees that are established or managed for windbreaks or riparian filter or shade strips immediately adjacent to actively farmed lands.

(g) The development of an approved land use change after timber harvest activities have been completed and land conversion activities have commenced.

Decision Rationale

The exemption of commercial juniper harvests from regulation under the Forest Practices Act was based on the following rationale.

1. Removing Disincentives. Juniper management projects present landowners with high costs and low or nonexistent monetary returns. Landowners have limited funds, most of which are needed for operation of farming, ranching, or other businesses. Many landowners want to produce the private and public benefits available from juniper management, but their own funds are often unavailable. Recognizing that juniper project outcomes that lead to water quality problems will be regulated by Oregon Department of Agriculture, many landowners see additional regulation under the Forest Practices Act as enough of a hindrance that they would not conduct juniper management projects at all. The result would be continued juniper expansion, with the accompanying degradation of private and public resources. Also, landowners often are reluctant to ask for the needed assistance if they think requests will open them to regulatory scrutiny. The result would be that they would not gain valuable

technical assistance and information, and projects would either be done incorrectly or not done at all.

2. Achieving Policy Benchmarks. The recommended statute changes address the Policy Evaluation Benchmarks of being beneficial to landowners and watershed and rangeland health. Landowners should benefit by dealing with a single regulatory agency (Oregon Department of Agriculture) when managing juniper. The relatively simple regulatory framework should remove some administrative disincentives, which should indirectly encourage restoration efforts; benefits to watersheds and rangelands should result.
3. No Loss of Resource Protection. Exemption of commercial juniper harvest from regulation under the Oregon Forest Practices Act would likely not significantly alter resource protection on a large scale, because:
   - Only a small percentage of juniper management projects are expected to involve commercial harvests in the near future (Guiding Principle 4), and
   - Many requirements under the Forest Practices Act are currently not applicable to commercial juniper harvests (see discussion in Appendix B).
4. Agriculture-based Programs will Protect Resources. In the near future, Agricultural Water Quality Management Area Plans are expected to protect water quality in agricultural operations in most basins. Other resource protection issues (protection of fish and wildlife habitat, for example) are not directly addressed in the plans, but since most juniper management projects are cooperative ventures and involve technical assistance, those issues are often addressed. Also, in juniper-dominated stands, streams may have developed without large wood inputs and structure. Where juniper is mixed with ponderosa pine or other trees, the Forest Practice Rules will still protect fish and wildlife habitat when pine or the other species are harvested.
5. Forestry Regulations aren't effective on Juniper Rangelands: Most juniper-dominated woodlands are more accurately described as rangelands needing restoration than as forestlands. Where it is economical, juniper is harvested and sold, but generally only to gain income to partially offset restoration costs. It is not appropriate for the Forest Practices Act with its focus on growing and harvesting of tree species to regulate what is essentially an agricultural activity.

Discussion

If the recommended changes are incorporated into statute, the Forest Practices Act would no longer regulate any juniper management activities; ODA Agricultural Water Quality Management Area Plans will be the primary regulatory mechanisms to protect water quality. Fire protection and smoke management regulations administered by the Oregon Department of Forestry would not be altered by the recommended statute changes.

The Departments of Forestry and Agriculture agree that the recommended statute revision should be included in a broader policy discussion over jurisdictional boundaries between the Forest Practices Act and the ODA Agricultural Water Quality Management Area Planning process. That discussion will affect forestry and agricultural issues beyond juniper woodland management.

While endorsing the recommended statute changes, the Department of Forestry continues to advocate that lands dominated by juniper should still be considered "forestlands." Also, as the commercialization of juniper management evolves, it may be appropriate at some time to revisit the question of Forest Practices Program jurisdiction.

Analysis of Oregon Department of Forestry Protection from Fire Program

Protection From Fire Program: Evaluation

Key Issues:

- *Are the requirements of the Protection from Fire Program disincentives to conducting range restoration, and if so, how should the Program be modified to remove the disincentives?*
- *The retention of juniper slash on-site is recommended by biologists and range scientists as an important component of rangeland restoration. What is the potential for such actions to increase a landowner's slash liability from the commercial harvesting of western juniper within a forest protection district?*
- *Can the landowner be exempted from additional slash liability if slash retention is recognized as a desirable watershed restoration practice, thus providing a further incentive for restoration?*
- *Prescribed burning is one tool in range restoration efforts. What disincentives need to be removed to make the use of prescribed burning a more attractive tool in restoration efforts to remove western juniper?*

ORS Chapter 477 contains four general areas that appear to directly relate to the harvesting and commercial use of western juniper:

- The requirement to obtain a Permit To Use Fire Or Power-Driven Machinery.
- Requirements for fire tools fire prevention practices.
- The requirement to remove or modify hazardous accumulations of slash or to accept financial responsibility for the cost of suppressing a fire with occurs in such accumulations.
- Requirements relating to prescribed burning and to the management of the resulting smoke.

Overall, the Protection From Fire Program does not provide significant disincentives to conducting juniper management projects. Program requirements currently do not apply to many projects, since they are more than one-eighth of one mile outside of a forest protection district. For projects inside forest protection districts, Program requirements provide the benefits of wildfire control in exchange for reasonable limitations on landowners. Assisted by Oregon Department of Forestry personnel, landowners can generally work within Program requirements to accomplish their objectives.

Additional Fire Hazard

The additional fire hazard laws do not allow any exemptions from their requirements. However, the laws provide landowners several options to deal with the additional fire hazard, including paying Oregon Department of Forestry for extra protection resources, breaking up the slash, or

simply doing nothing and taking their chances with fire liability on the site. One of these options will normally allow the landowner to meet the restoration objectives of the juniper project.

Juniper trees tend to grow in relatively open stands, limiting the amount of slash left after operations. Juniper operations typically take place on relatively gentle slopes, which do not significantly impede firefighting efforts. Because of all these factors, if the additional fire hazard is determined properly, slash accumulations resulting from juniper operations will usually not increase a landowner's fire liability.

Prescribed Fire

As currently structured, the statutes and rules related to prescribed burning do not appear to create a major disincentive to activities involving the majority of western juniper habitat. There may be some minor disincentives resulting from fire safety requirements, but they seem to be appropriate to the potential risk to life and property damage that can result from an escaped fire. Landowners have expressed a strong desire for Oregon Department of Forestry to provide information on fire protection requirements and on the use of prescribed fire.

Protection From Fire Policy Alternatives

1. Continue administering the Protection From Fire Program on forestland under the current statutes and rules. Absent a change in statutory authority, this alternative is mandatory. As noted earlier, the ability to modify or waive some individual fire prevention requirements, when conditions warrant, already exists.

2. Seek statutory modification of ORS 477.580 to limit liability for additional hazard created from restoration activities on forestland. However, as noted earlier, it is expected that the harvesting of western juniper will not normally result in an accumulation of slash for which the additional fuel hazard process was designed, so any modification would likely not be widely applicable.

<u>Protection From Fire Program: Recommendation</u>

The Ad Hoc SB 1151 Juniper Issues Group recommends no major changes in the Protection from Fire Program. If there are disincentives within the Program to conducting restoration projects, they are minor compared to the value of an effective fire control program in eastern Oregon. However, the group does recommend that the Oregon Department of Forestry take the following actions:

- Actively work with other agencies and organizations to inform private forestland owners about fire protection requirements, options, and techniques, especially when their lands are outside of a forest protection district and are not protected by fire; and
- Work to ensure consistency among its employees in administering the additional fire hazard requirements.

Analysis of Oregon's Forestry Assistance Program

Forestry Assistance Program Evaluation:

Key Issues:

- *Do landowners have sufficient information to guide them in managing juniper?*
- *What is the best way to administer incentives for managing juniper, a species found on both agricultural and forest lands?*
- *Are additional incentives needed to improve juniper woodlands?*
- *How best can the Oregon Department of Forestry serve family forestland owners and the public with the management of juniper woodlands?*
- *How best is the health of juniper woodland addressed if the Forest Practices Act excludes regulatory involvement on juniper woodlands growing on lands below Cubic Foot Site Class VI?*

To be successful in juniper management efforts, landowners must have reliable information on what makes a healthy juniper woodland, and on how to evaluate current conditions in relationship to desired conditions. That information transfer includes helping landowners determine the desired conditions for range forage, water quality, fish and wildlife habitat, soil productivity, noxious weed control, and juniper management for commercial forest products. Many juniper woodland owners are not skilled in the various issues involved in juniper management. These woodland owners often get information and assistance from public agencies, including the Oregon State University Extension Service, Natural Resource Conservation Service, Oregon Department of Fish and Wildlife, U.S. Forest Service, Oregon Department of Forestry, the Bureau of Land Management (BLM), and others.

Successful juniper management projects often involve cost-share programs administered through state and federal agencies. Oregon Department of Forestry's Forestry Assistance Program administers several of these programs on forestlands, often in cooperation with other agencies. The NRCS is the lead agency providing technical and financial assistance to landowners on agricultural lands.

Forestry Assistance Program Policy Alternatives
With regard to western juniper management, the Forestry Assistance Program has several policy alternatives, which range from actively assisting juniper woodland owners to offering minimal assistance. The options are:

1. Encourage active management. Offer forest landowners technical and financial assistance related to wildlife habitat, soil productivity, water quality, and forest products. Work with other resource agencies at the state and local level to assure a shared understanding and strategy for juniper management. Work with the Oregon Watershed Enhancement Board to increase state funding, and promote juniper woodland improvement projects as a high priority for federal technical and financial assistance programs.
2. Provide technical assistance on a time-available basis. Offer landowners technical assistance, but consider juniper management a low priority activity. Service foresters

would be available to assist landowners in developing management strategies for managing their juniper woodlands when such advice would not detract from higher priority activities. Financial assistance would be available as a low priority project.

3. Consider juniper a range species. Offer landowners technical and financial assistance only when juniper is mixed with ponderosa pine. Consider juniper-dominated stands as non-forest, and recommend that landowners request assistance from range conservationists.

Evaluation of Policy Alternatives
In evaluating the various options, several factors are considered. They include:

- Consequences of doing nothing;
- Impacts of juniper management on the Oregon Plan for Salmon and Watershed objectives;
- The appropriate roles of incentives and regulations (see the discussion starting on page 11);
- Identifying how incentives can best provide the desired results, and who should provide the incentives.

Consequences Of Doing Nothing
There is a general consensus that taking no action will allow juniper to continue its expansion, which has increased over 500 % since 1930 (Gedney et al. 1999). In several counties, watershed health improvement is linked to reducing juniper acres to more historical levels.

The reduction of wildfire frequency in eastern Oregon since the mid 1800s appears to be one of the major factors allowing the expansion of juniper woodlands (see "Resource and Commercialization Issues" in this report). The understanding of the valuable role fire has historically played in the high desert ecosystem is increasing. However, controlling juniper by eliminating aggressive wildfire control on private lands is not practical; the threats to public safety and personal property are too great. Active management through thinning or complete removal of juniper trees, and prescribed burning at times, remains the primary tool for controlling the spread of juniper.

Oregon Plan for Salmon and Watersheds
Oregon Plan objectives are negatively impacted by the uncontrolled spread of juniper. The Oregon Plan objectives of restoring fish populations and clean water, are indicators of healthy, sustainable watersheds. In many areas, juniper expansion will continue to lead to increased displacement of understory shrubs, grasses, and other plants. The result is often decreased soil productivity, increased soil erosion, and reduced wildlife habitat and forage potential.

How should Incentives be Provided and Who should Provide Them?
Who can best assist landowners in managing juniper is largely dependent on landowner objectives, which are the major factors determining juniper management strategies. There is a wide array of objectives. A landowner might choose to manage for livestock forage, for wildlife habitat, for forest products, or for a mix of these or other uses.

Historically, each natural resource agency has tended to address resources within its own area of responsibility. For example, Oregon Department of Forestry service foresters work with forest

landowners interested in managing their trees. Natural Resource Conservation Service range conservationists work with ranchers interested in livestock management. Wildlife biologists work with both range and forest land managers interested in promoting wildlife. Incentive strategies have generally been developed independently by each agency.

A holistic plan is needed that includes incentives that are attractive to landowners and that effectively address all relevant natural resources concerns and meet Oregon Plan goals This holistic view is even more important for management of juniper, because the species grows and is cut on both forest and agricultural lands. The OSU Extension Service can play two roles in this effort. The Service is equipped to take the lead in coordinating applied research on managing junipers for multiple resource values, and can provide training for resource professionals and landowners. The Oregon Watershed Enhancement Board (funding coordinator for Oregon Plan projects) is well placed to take the lead in providing funding for juniper management strategies. Other agencies and groups have valuable expertise that can be shared with those working one-on-one with landowners.

Forestry Assistance Program: Recommendation

Encouragement of management through incentives is the best way to resolve juniper-related issues to benefit juniper woodland owners and improve watershed and rangeland health. The following agencies and organizations should work together to produce a coordinated juniper management strategy that considers landowner objectives and the wide range of natural resource issues, and that results in a set of incentives to promote that strategy: Soil and Water Conservation Districts, Watershed Councils, landowner groups, the Natural Resource Conservation Service, the Oregon Department of Fish and Wildlife, the Oregon Department of Forestry, the OSU Extension Service, the Oregon Department of Agriculture, the U.S. Forest Service, and the Bureau of Land Management.

In addition, while agencies should cooperate, each should also contribute in its area of responsibility; the Oregon Department of Forestry's Forestry Assistance staff should work in partnership with the other identified agencies to provide the needed technical assistance incentives, the Oregon Watershed Enhancement Board should work to provide state financial incentives, the USDA should work to provide federal financial incentives, and the OSU Extension Service should work to provide educational incentives.

Analysis of Oregon's Forest Taxation Program

Tax issues are important to juniper landowners, and they were carefully examined by the study group; however, the group found that many juniper tax issues were brought to the 1999 Legislature and resolved through enactment of enrolled SB 1151. This section of the report includes a general statement on overall policy objectives for forest tax programs in Oregon, followed by an understanding of how Oregon's tax treatment of juniper compares with that of the states of California and Idaho. The section closes out with a tax program evaluation of remaining issues, followed by recommendations from the Juniper Issues Work Group.

Oregon Forest Taxation Programs: Issue Evaluation & Recommendation

Key Issue #1:

- *Can taxation of juniper harvests be reduced to encourage juniper management and rangeland restoration activities?*

Discussion

SB 1151 has addressed this issue by exempting juniper harvest from forest privilege and harvest taxes, but the tax effects of this recent legislation are highlighted here. During the 1999 Oregon Legislative session testimony was presented by the Ad Hoc Western Juniper Commercialization Steering committee making a case for tax relief for a fledgling juniper industry in the Klamath Falls area. The tax programs they sought relief from are the Forest Products Harvest Tax and the Eastern Oregon Privilege Tax. Juniper woodland owners saw these taxes as disincentives to juniper management and needed rangeland restoration efforts. They made a case that this was especially true for juniper as logging and handling costs associated with juniper management are high, while the volumes produced per acre and the price paid for the product are low. In an effort to encourage juniper landowners to improve the management of their rangeland and to encourage industry to provide a market for juniper harvests, the 1999 Legislature passed SB 1151, exempting juniper from these two taxes. A brief description of each of these taxes is provided below:

Eastern Oregon Privilege Tax – This tax is part of system that defers payment of forestland property taxes until trees are harvested. The Eastern Oregon Forest Land Tax values and taxes forestland at a relatively low rate. At the time of timber harvest, the Eastern Oregon Privilege Tax levies a 1.8% tax on the net value of timber harvest to recover the remainder of the property tax. Most juniper woodlands are taxed under the Farm Use statutes as rangeland and are not subject to the Eastern Oregon Privilege Tax. The privilege tax is distributed back to the county taxing districts to support schools and counties. The Department of Revenue administers the Eastern Oregon Privilege Tax program. SB 1151 exempted juniper harvests from the Eastern Oregon Privilege Tax.

Harvest Tax - SB 1151 also exempted juniper harvests the Forest Products Harvest Tax. This tax is paid on all timber harvested in Oregon. The Department of Revenue administers the Forest Products Harvest tax, and its collection funds the following activities:

Year 2000 Rates

• OSU Forest Research Lab		$ .67/MBF
• Forestland Protection Fund		$ .50/MBF
• Forest Practices Act Admin.		$1.08/MBF
• Forest Resource Institute		$ .79/MBF
• Forestry Assistance Admin.		$ .15/MBF
TOTAL	=	$3.19/MBF (first 25MBF exempt)

Oregon Forest Tax Programs: Recommendation # 1
To avoid discouraging juniper management projects, which are environmentally beneficial but economically marginal, juniper harvest should remain exempt from the Eastern Oregon Privilege and Forest Products Harvest taxes.

Key Issue #2:

- *Can harvest notification and permit requirements currently required by the Oregon Department of Forestry with copies sent to the Oregon Department of Revenue be eliminated for many juniper landowners?*

Discussion
In examining the effects of SB 1151 on juniper owners, the Ad Hoc SB 1151 Juniper Issues Group asked the following question:

"Are notification numbers still required for juniper log loads to be accepted at mill facilities, even though juniper logs are no longer subject to forest taxes?"

The basis for this question was in the logic that if juniper landowners are no longer required to pay either the Harvest tax or Privilege taxes, the requirement for mill owners to collect notification/permit number information seemed unnecessary, at least for Department of Revenue taxation tracking purposes. ORS 321.550 mandates that "No person shall harvest or cause to be harvested any timber from land in Oregon without first having notified the State Forester in writing with a copy to the Department of Revenue."

The meaning of timber as defined in ORS 321.005(12) is described as "all logs which can be measured in board feet and other forest products as determined by Department rule." With this definition, the thrust of ORS 321.550 is that juniper harvested in log form is considered "timber, and the requirement remains to notify the Oregon Department of Forestry, who sends a copy to the Oregon Department of Revenue. Although it exempted juniper harvests from forest taxes, SB 1151 did not make the necessary changes to also exempt juniper harvests from the notification requirement.

As the Juniper Issues Group considered this issue, the discussion broadened to explore the possibility of eliminating all existing notification requirements to the Oregon Department of Forestry and the Oregon Department of Revenue for juniper harvests. This discussion was based on a premise that Agriculture Water Quality Management Area Plans, rather than the Oregon Forest Practices Act, might more appropriately regulate juniper harvests (see "Analysis of the Oregon Department of Forestry Forest Practices Program" in this report). However, the Juniper Issues Group recognized that while tax and forest practice notification requirements might be eliminated, the associated Permit to Operate Power Driven Machinery (on the same form as the notification) should remain for juniper management activities within forest protection districts (see "Analysis of the Oregon Department of Forestry Protection from Fire Program" in this report).

Oregon Forest Taxation Programs: Recommendation #2
The Ad Hoc SB 1151 Juniper Issues Group recommends a statute change to relieve the Department of Revenue of juniper log tracking responsibilities. This could be accomplished by

modifying ORS 321.005(12) to read "timber means all logs **except juniper** which can be measured in board feet and other forest products as determined by Department rule."

Key Issue #3

- *Can Oregon's tax system be further modified to encourage improvements in watershed and rangeland health and benefit juniper landowners?*

Discussion

With recent action by the 1999 Legislature to reduce the tax load on juniper harvests, the Ad Hoc SB 1151 Juniper Issues Group did not feel further reduction of juniper taxes through reductions in state income taxes (credits or deductions) or property taxes was appropriate. There was general recognition that state General Funds are extremely limited given current school funding issues. Through discussions within the Juniper Study Project Team, it was discovered that some juniper harvesting projects to improve rangeland conditions have been funded through the Governors Watershed Enhancement Funds (now Oregon Watershed Enhancement Board, known as OWEB). In addition, the Oregon Department of Fish and Wildlife's Access and Habitat Grants, and the Natural Resource Conservation Service and Farm Services Agency EQIP programs are also funding sources for juniper management work. The group considered these funding sources more appropriate than seeking additional tax relief.

Oregon Forest Taxation Programs: Recommendation #3

Do not further modify juniper taxation at this time. Instead, seek OWEB grants and other funding opportunities for juniper rangeland enhancement activities. This recommendation and others relating to Forestry Assistance are listed under Recommendations in the Forestry Assistance section of this report.

Analysis of Noxious Weed Issues

Key noxious weed issue:

- *Should state regulations be used as a tool to prevent the spread of noxious weeds as a result of juniper harvesting?*

Noxious Weeds: Recommendation

The Oregon Department of Forestry, Oregon Department of Agriculture, OSU Extension Service, Natural Resource Conservation Service, county authorities, and other agencies should work together to help landowners prevent and control noxious weed invasions. Technical assistance to landowners should be a key part of this effort.

Summary of Western Juniper Report Recommendations

The Recommendations for each of the analysis sections of the report are listed in this summary.

1. Oregon Forest Practices Act. To avoid overlapping regulations and the unintended disincentives that can result from regulation, a single state agency should administer the regulatory programs related to juniper management. Because juniper management relates primarily to agricultural and rangeland uses, it is recommended that all juniper harvest and management activities be exempt from requirements in the Oregon Forest Practices Act (revisions in statute are needed to make this change) and instead be overseen by current programs administered by the Oregon Department of Agriculture. This shift in oversight will affect only a small portion of the acres treated to control juniper, since most projects currently do not involve commercial use of western juniper products, and are therefore not subject to the Oregon Forest Practices Act. The Oregon Department of Forestry recommends that this issue be reexamined periodically as the commercialization of western juniper evolves.
2. Forest Fire Protection. Current fire protection statutes and rules administered by Oregon Department of Forestry within forest protection districts adequately meet fire protection needs as they relate to juniper management; no statute or rule changes are needed. Of concern, however, is the lack of fire protection in large portions of eastern Oregon that are outside forest protection districts and the absence of statutory authority for the Department of Forestry to render aid to landowners in those areas. It is recommended that in such areas the Department of Forestry, in cooperation with other agencies, make an effort to inform landowners about their situation and their protection options.
3. Forestry Assistance: Encouragement of management through incentives is the best way to resolve juniper-related issues to benefit juniper woodland owners and improve watershed and rangeland health. It is recommended that the following agencies and organizations work together to produce a coordinated juniper management strategy that considers landowner objectives and the wide range of natural resource issues, and that results in a set of incentives to promote that strategy: Soil and Water Conservation Districts, Watershed Councils, landowner groups, the Natural Resource Conservation Service, the Oregon Department of Fish and Wildlife, the Oregon Department of Forestry, the OSU Extension Service, the Oregon Department of Agriculture, the U.S. Forest Service, and the Bureau of Land Management.

   In addition, while agencies should cooperate, each should continue to contribute in its area of responsibility; the Oregon Department of Forestry's Forestry Assistance staff should work in partnership with the other identified agencies to provide the needed technical assistance incentives, the Oregon Watershed Enhancement Board should work to provide state financial incentives, the USDA should work to provide federal financial incentives, and the OSU Extension Service should work to provide educational incentives.
4. Taxation. It is recommended to avoid discouraging juniper management projects, which are environmentally beneficial but economically marginal, western juniper harvests remain exempt from the Eastern Oregon Privilege Tax and the Forest Products Harvest Tax. Statute and rule changes are recommended to relieve the Department of Revenue of juniper log tracking responsibilities, and to exempt landowners who harvest juniper on land outside forest protection districts from pointless notification requirements.

5. Noxious Weeds. The Oregon Department of Forestry, Oregon Department of Agriculture, OSU Extension Service, Natural Resource Conservation Service, county authorities, and other agencies should work together to help landowners prevent and control noxious weed invasions. It is recommended that technical assistance to landowners be a key part of this effort.

Appendix A
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Appendix B
Oregon's Forest Practices Program - Policy Background

Since 1971, the Oregon Forest Practices Act has regulated commercial forestry activities on non-federal forestlands throughout the state. The Forest Practices Act statutes currently state that it is:

> . . . the public policy of the State of Oregon to encourage economically efficient forest practices that ensure the continuous growing and harvesting of forest tree species and the maintenance of forestland for such purposes as the leading use on privately owned land, consistent with sound management of soil, air, water, fish and wildlife resources and scenic resources within visually sensitive corridors . . . and to ensure the continuous benefits of those resources for future generations of Oregonians. . . . " (ORS 527.630)

The statutes further declare that it is in the public interest to avoid uncertainty and confusion by vesting the Oregon Board of Forestry with exclusive authority to develop and administer rules for forest operations. The Board is directed by statute to coordinate with other agencies and local governments concerned with the forest environment. Operations conducted in compliance with the forest practice rules are considered to comply with the state's water quality standards. Nothing in the Forest Practices Act or rules is intended to prohibit the conversion of forestland to a non-forest use.

Under the authority of the Act, the Board of Forestry has adopted administrative rules dealing with forest operations (see "operation" definition following in this section). The rules for resource protection generally describe purposes and objectives, specific activities that are required, and (in many cases) vegetation that must be retained. Where deemed necessary by the Board, the rules are prescriptive; otherwise, the rules are intended to allow landowners and operators flexibility to determine how they will meet rule objectives.

The Oregon Department of Forestry (ODF) administers the Forest Practices Act, which applies to nonfederal forestlands. Operators must file a Notification of Operations with the department at least 15 days before starting any operations. The 15-day waiting period gives the department the opportunity to review operations for resource protection concerns. The notification is not considered a permit; however, landowner or operators must obtain department approval of written plans before starting operations near certain resources, such as fish-bearing streams, significant wetlands, important springs, and specific sites used by sensitive, threatened, or endangered wildlife species.

To minimize paperwork, a single form submitted to the local Oregon Department of Forestry office serves as:

1. Notification to ODF that forest operations are planned,
2. The application form for a Permit To Use Fire Or Power Driven Machinery, which is required by statute in or near forest protection districts, and
3. Notification to Oregon Department of Revenue that logs will be sold, if log sale is planned.

To address the wide variety of landowner objectives and site conditions on Oregon's forestlands, the Forest Practices Act allows landowners and operators to submit plans for practices that are

different than specified in rule. The plans are subject to approval by ODF, which reviews them based on whether they are likely to meet or exceed the level of protection expected from the standard rules.

The Forest Practices Act applies only to activities that meet the definition of an "operation;" that term and other key terms are defined below in the context of the Forest Practices Act.

- "Operation" means a commercial activity relating to the growing and harvesting of forest tree species on forestland [ORS 527.620(7)(12)]. "Operation" includes specific activities such as harvesting, slash treatment, mechanical control of competing vegetation, chemical application, road construction and reconstruction, and precommercial thinning.
- "Commercial" is defined as "engaged in work designed for the market; the exchange or buying and selling of commodities or services" (from Forest Practice Rule Guidance). An activity is considered commercial if it is part of an intent to gain income, even if there is no immediate profit or if there is a financial loss for the operation.
- "Forest tree species" is not clearly defined in statute, but generally means tree species used for the production of forest products. Western juniper is currently included in this definition.
- "Forestland" means land that is used for the growing and harvesting of forest tree species, regardless of how the land is zoned or taxed or how any state local statutes, ordinances, rules, or regulations apply [ORS 527.620(7)].

Based on these definitions, juniper removal is considered an "operation" subject to the Oregon Forest Practices Act when

- Logs or other forest products (fence posts or firewood, for example) from juniper are extracted, and
- The forest products are sold, or barter or payment is involved in the harvesting or milling of the logs.

Use of private roads for hauling logs or managing forest trees is subject to the Forest Practices Act, even if the primary use of the road is for agricultural or other activities.

When juniper is cut but no forest products are extracted, or when forest products are removed but there is no payment, sale, or barter involved in harvesting activities, the Forest Practices Act does not apply. One exception is that if trees were required to be left as part of an earlier operation (in a riparian buffer strip, for example), then landowners are not allowed to remove the trees, even for strictly personal use, until the trees would be available for commercial use under rule requirements.

Many relatively pure juniper stands grow on sites with productivity levels below site class VI (less than 20 cubic feet per acre per year). As potential site productivity increases, juniper often grows with ponderosa pine or other tree species. On lands below site class VI or below, many of the Forest Practices Act requirements do not apply. In addition, ODF interpretations of the reforestation rules within the Act exempt juniper from the reforestation requirements. Table 2 briefly describes resource protection rules under the Act and whether each set of rules applies to western juniper.

Table 2 Western Juniper and the Forest Practices Act	
Rules	Apply to western juniper harvest?[1]
Landowner/operator must notify Oregon Department of Forestry	Yes
Written plans for operations near fish streams and other resources.	Yes
Clearcut size limited to 120 acres.	Yes at site class VI[2] and above; no below site class VI.
Retain trees along scenic highways listed in ORS 527.755(1).	Yes at site class VI and above where commercial trees other than juniper are present. No below site class VI. No where only juniper is present.
Live and dead wood retention on clearcuts greater than 25 acres.	Yes at site class VI and above; no below site class VI.
Reforestation requirements.	No, and retained juniper do not count as trees for reforestation.
Protection of waters and other resources during slash treatment, chemical application[3], harvesting, and road construction and maintenance[4].	Yes
Buffer strips[5] and other protection for fish and domestic use streams, important springs, certain wildlife sites[6], and other resources.	Yes

1. When products from the juniper harvest are sold.
2. "Site class" is a measure of productivity for forestland. Site class VI means forestland considered capable of growing at least 20 cubic feet of wood fiber per year; it is generally considered to be the lower limit of commercial forestland.
3. Chemical applications for forestry purposes are rare on juniper woodlands.
4. Road rules primarily protect water quality; this issue may be of low concern on typically arid juniper sites.
5. Stream protection rules were developed under assumptions that now do not appear to fit eastern Oregon conditions. The rules have not yet been changed to address that issue.
6. Wildlife sites (bald eagle nests, for example), are uncommon on typically arid juniper sites.

Forest Practices Acts in California and Idaho

Both California and Idaho have state forest practices acts that apply primarily to commercial operations on forestland and include resource protection requirements. Although the majority of western juniper woodland acreage is in eastern Oregon, extensive western juniper stands also exist in northeastern California and southeastern Idaho. The California Department of Forestry and Fire Protection administers that state's forest practices act. California rules contain a "Group A" species list, which includes ponderosa pine, coast redwood, and other species generally used for forest products, and a "Group B" list, which includes western juniper and other species with lesser or niche uses as forest products. California forest practices requirements do not apply to stands containing only Group B species. The requirements do apply, however, to stands with mixed Group A and B species. This means that stands with mixed juniper and ponderosa pine would be regulated by the California Forest Practices Act, while stands dominated by juniper would not.

The Idaho Forest Practices Act is administered by the Idaho Bureau of Forest Assistance. In Idaho, as in Oregon, the state Forest Practices Act applies to commercial juniper harvests. However, very little commercial juniper harvest takes place; the relationship of the Idaho Forest Practices Act to juniper management is not currently an issue of concern in Idaho (personal communication with Kirk David of the Idaho Bureau of Forest Assistance).

Appendix C
Protection from Fire - Policy Background

The Protection From Fire Program originated in 1911 and was the first program within the Department of Forestry and applies on or within one-eighth of one mile of a forest protection district. The purpose of the program is to protect forest resources on Oregon forestland through a complete and coordinated fire protection system. The Program provides fire protection on forestlands in private state, and local government ownership. By agreement, the Program also provides fire protection on much of the Bureau of Land Management ownership in western Oregon and in portions of the Oregon Department of Forestry Klamath-Lake Forest Protection District. Other federal land management agencies generally provide their own fire protection. In total, about 16 million acres of forestland are protected by the Program.

In this protection system, the Oregon Department of Forestry works closely with federal land management agencies, other state emergency management agencies, local fire authorities, and forest landowners. The overall goal of the Program is to develop and use effective, environmentally sound, and economically efficient strategies that minimize the total cost of wildfire prevention and control while minimizing wildfire damage. A significant portion of the juniper range lies outside of a forest protection district, and private lands in these areas are often not protected from fire.

In cooperation with the Oregon Department of Environmental Quality, the Protection From Fire Program also administers the statewide smoke management program for prescribed fire use on forestland of all ownerships. The primary goal of the smoke management program is to minimize movement of smoke from prescribed fires into population centers and visibility protected areas (certain wilderness areas, for example) while optimizing prescribed fire opportunities. The smoke management requirements are mandatory in western Oregon. In eastern Oregon, the requirements are implemented as a voluntary measure to comply with the federal Clean Air Act, except for lands within the boundary of the Deschutes National Forest.

Applicability of the Program

Most of the authority and direction for the Protection From Fire Program is contained in ORS Chapter 477. With rare exceptions, the requirements of ORS Chapter 477 apply only to "forestland" which is within the boundary of a forest protection district and to areas that are within one-eighth of one mile of a district. The definition of forestland is different than the one used for the Oregon Forest Practices Act, and is described in ORS 477.001(9) as:

> ...any woodland, brushland, timberland, grazing land or clearing that, during any time of the year, contains enough forest growth, slashing or vegetation to constitute, in the judgement of the forester, a fire hazard, regardless of how the land is zoned or taxed. As used in this subsection, "clearing" means any grassland, improved area, lake, meadow, mechanically or manually cleared area, road, rocky area, stream or other similar forestland opening that is surrounded by or contiguous to forestland and that has been included in areas classified as forestland under ORS 526.305 to 526.370.

The boundaries of forest protection districts are defined in Oregon Administrative Rules, and are shown along with a juniper range overlay on the map in Appendix O. In most districts, the Oregon Department of Forestry protects forestland from wildfire. On three

districts, nonprofit fire patrol associations provide the protection. In eastern Oregon, the Walker Range Fire Patrol Association provides the protection for portions of northern Klamath and Lake Counties. Large portions of north central Oregon and southeastern Oregon are not included in forest protection districts and are therefore neither protected from fire nor subject to any of the requirements of ORS Chapter 477. A large portion of the current range of western juniper lies within these "unprotected" areas.

ORS Chapter 477 places the responsibility of preventing and fighting wildfires on the forestland owners. Inside forest protection districts, forestland owners pay annual assessments to the Oregon Department of Forestry for fire protection. Through local fire protection associations, landowners are directly involved in the budgets and services of the firefighting forces. Even after paying assessments, landowners remain legally responsible to:

- Comply with fire prevention requirements, and
- To suppress fires on their lands.

Landowners that do not comply with these requirements can receive citations and be required to repay cost of firefighting.

Permit to Use Fire Or Power-Driven Machinery
ORS 477.625 requires forestland owners or their operators to obtain a Permit To Use Fire Or Power-Driven Machinery prior to conducting an operation. An "operation" is defined as:

> ...any industrial activity, any development or any improvement on forestland inside or within one-eighth of one mile of a forest protection district, including but not limited to the harvesting of forest tree species, the clearing of land, the use of power-driven machinery and the use of fire, excluding, however, the culture and harvesting of agricultural crops.

Permits are required irrespective of whether or not an operation is also regulated under the Forest Practices Act. The permit is obtained by submitting the same form as used for the Forest Practices Notification of Operations and is issued free of charge. Permit holders are required to comply with precautions necessary to prevent fires and (in western Oregon only) must limit activity during periods of increased fire danger.

ORS Chapter 477, and the administrative rules promulgated thereunder, contain various requirements to provide fire tools, spark arresters, water supplies and to employ fire prevention practices when conducting an operation. Fire Wardens are appointed and trained by the Oregon Department of Forestry to administer these requirements. Many of the requirements may be reduced or waived if in the judgement of a Fire Warden conditions so warrant. In addition, some requirements may also be modified by written order when an operator proposes alternate methods or equipment, which in the judgement of a Fire Warden provide for equal or better results.

Additional Fire Hazard
ORS 477.580 sets forth a process by which the slash created during an operation may be determined to constitute an "additional fire hazard." When an additional fire hazard is deemed to exist, the landowner and operator have the following choices:

- Take no action. If the landowner and operator take no action, or take insufficient action, they automatically become legally responsible to pay the total cost of suppression for any fire which burns in such fuels, for a period of up to seven years.
- Reduce or abate the hazard. To do this, landowners and operators work with the Fire Warden to determine appropriate fuel treatments (fuel breaks or prescribed burning, for example), including completion dates. If the treatments are completed as scheduled, the landowner and operator are released from the additional hazard liability.
- Offset the hazard. To do this, landowners and operators work with the Fire Warden to develop a plan to leave the slash on site and provide extra fire protection in the area for up to seven years. The extra level of fire protection can be provided in many ways, including the installation of road gates, the installation of water holes, and increased patrols during high fire risk periods. If the plan is put into practice, the landowner and operator are released from the additional hazard liability.
- Pay a one-time fee to the Oregon Department of Forestry. When this is done as described in ORS 477.580(4), the Oregon Department of Forestry is obligated to pay the total cost of suppressing any fire that burns in the area where additional fire hazard was declared.

Prescribed Fire

ORS Chapter 477, and the administrative rules promulgated thereunder, contains various requirements relating to prescribed burning on forestland and to the management of the resulting smoke. In most situations, a Burning Permit must be obtained prior to prescribed burning. When issuing permits, Fire Wardens must prescribe conditions necessary to be observed in setting a fire and preventing it from spreading out of control. Fire Wardens may also prescribe permit conditions necessary to be observed in maintaining air quality. The smoke management requirements established under the law and rules vary widely, depending on the purpose for the burning, the type of burning and the location of the burning. For example landowners in the portion of central Oregon within the boundary of the Deschutes National Forest may need to comply with requirements concerning prior registration of areas to be burned, payment of fees, and close regulation of when burning may occur. Most privately owned lands that support the growth of western juniper are not subject to these requirements. Oregon Revised Statute 526.360 authorizes the Department of Forestry to assist landowners in the use of prescribed fire when developing forestland for forestry, grazing or agricultural purposes. When such burning is supervised by Department of Forestry personnel, the landowner has no liability for damages that occur on neighboring lands, if the fire escapes control. The ability of individual Department of Forestry offices to assist landowners in this manner varies widely and is dependent on a number of fluctuating conditions.

Appendix D
Forestry Assistance Program - Policy Background

The purpose of the Forestry Department's Forestry Assistance Program is:

> to provide a variety of information, incentives, services and assistance to equip forest managers, community leaders, and landowners with knowledge, skills, abilities, and motivation to voluntarily invest in their forestland and resources beyond regulatory requirement to enhance the health of Oregon's rural and community forests and improve salmon habitat, while meeting their own natural resource objectives.

Landowners are eligible for Forestry Assistance incentives irrespective of whether the Oregon Forest Practices Act applies to their activities. If juniper management were exempted from regulation under the Forest Practices Act, there would be no effect on what incentive programs were offered or who would be eligible.

The Department of Forestry authority stems from the Cooperative Farm Forestry Act of 1937 (Norris-Doxey Act). This act recognized the importance of the land as a resource and was designed to increase farm-forest income, conserve water resources, and increase employment through reforestation and afforestation. The Act authorized the Secretary of Agriculture to cooperate with state agencies and land grant colleges in providing assistance to farm-forests. In 1948, farm forestry supervision transferred from the US Forest Service to state forestry agencies.

The passage of the "Cooperative Forest Management Act of 1950" broadened the programs to include non-farm woodlands and authorized the Forest Service to pay 50% of total project costs. The State Forester was authorized by state legislation in 1953 to cooperate with federal agencies, state agencies, and persons owning forestland. The Farm Forestry Program became more formalized within the Department of Forestry in 1959 with the publishing of the "Farm Forestry Manual". In 1977 the State Forester was given the specific authority to provide management planning, coordinate financial and technical assistance, provide technical assistance, assist in forming cooperatives and aggregates, and administer federal programs.

Formal recognition of the importance of noncommercial forestlands, including juniper woodlands in Oregon, came as part of the Forest Stewardship Program in 1990. The main purpose of the stewardship program is to improve the health of the state's watersheds through assisting family forestland owners to meet their land management objectives and better understand the natural resources on their forestlands. The Stewardship Incentive Program (SIP), a cost-share program developed to complement the stewardship program planning process, has been available to help juniper woodland owners improve wildlife habitat; however, congress has not funded SIP the last two years.

In the 1996 Farm Bill, Congress and the President authorized the Conservation Reserve Enhancement Program (CREP) and the Environmental Quality Incentive Program (EQIP). These two programs provide the best opportunities for U.S. Department of Agriculture (USDA) technical and financial assistance in controlling and managing juniper.

CREP is a state-USDA partnership to address unique water quality and other resource issues. In Oregon, CREP has the goal of establishing and enhancing forest buffer strips along streams used by threatened or endangered fish species. Eligibility criteria for the CREP focus on whether the existing riparian area is functioning properly on qualifying agricultural uses. Marginal pasture, which fits most of the juniper lands, is an eligible land use. If a riparian area contains trees, but the riparian area is not providing the expected benefits, the project may still be eligible for CREP. Riparian vegetation is expected to provide for water quality, fish and wildlife habitat, and soil stability. Juniper may or may not be appropriate in riparian settings. The local ODF service forester, in partnership with Natural Resource Conservation Service (NRCS) and Soil and Water Conservation District (SWCD) technicians, providing technical assistance determines the functionality of juniper within the riparian area on a case-by-case basis. EQIP, administered by the NRCS, is a program that addresses landscape scale issues identified at the local level. EQIP is well suited to help reach the goal of improving watershed health through managing juniper.

The Oregon Plan for Salmon and Watersheds is not a single program, but a coordinated combination of voluntary efforts and regulatory measures designed to help protect and restore salmonid populations and water quality in Oregon streams. The Oregon Plan is applied statewide and in partnership with all Oregonians. Meeting the goals of the Oregon Plan is a major focus of the Forestry Assistance Program

Appendix E
Oregon Forest Taxation Programs: Policy Background

Oregon's forest tax programs seek to encourage investment in and management of private woodlands in Oregon while providing revenue for necessary services. Forest tax policy and the resulting tax burden is a very important matter to forestland owners; taxes represent some of the largest costs to woodland owners given the long time periods needed to produce a crop of trees from most forestlands (40 – 100+ years).

Juniper interest groups expressed concern to the 1999 Legislature that taxes associated with commercial forest harvest were hampering the emergence of a juniper harvesting industry with very limited but developing products and markets. After considering the matter, the 1999 Legislature enacted SB 1151, which provided tax relief to encourage rangeland restoration efforts in juniper-dominated areas. This action exempted juniper from timber harvest privilege taxes and forest products harvest taxes. Testimony provided to the 1999 Legislature showed revenues from juniper harvest were inconsequential, and that the elimination of harvest and privilege taxes on juniper would provide an incentive for juniper landowners to manage these lands.

Germane to Oregon's tax policy treatment of juniper is an understanding of the tax treatment of juniper in neighboring states. In telephone discussions with tax experts in both Idaho and California, landowners do not pay yield or other harvest taxes on juniper lands. In Idaho, juniper is seen as a weed and owners are encouraged to utilize it as they can. In California, landowners or operators that log less than $3,000 in log value annually pay no forest taxes. Juniper is on California's miscellaneous species list, which for taxation purposes considers juniper logs to have a standard value of $150 per thousand board feet (MBF). Juniper woodland owners generally harvest less than the 20 MBF of logs (chips are not taxed) per year that would be needed to reach the $3,000 threshold, so juniper harvests are usually not subject to forest taxes.

Appendix F
Noxious Weeds: Background

Noxious weed invasions have serious implications for eastern Oregon land management activities, including management of western juniper. The invasion of weeds into a new area often shows a pattern of colonization of a few plants, followed by a solid establishment phase. Efforts usually involve prevention and control, since complete eradication is seldom practical. Prevention or control efforts in the colonization phase are generally less costly and more effective than efforts undertaken later in the invasion. Without effective control, noxious weeds compete with native plants and other desirable plants, often reducing wildlife habitat quality and forage production. A short list of introduced species considered noxious includes Scotch thistle, leafy spurge, yellow star thistle, spotted knapweed, and diffuse knapweed.

Noxious weed seeds can be spread by recreational vehicles, logging or agricultural equipment, wind, water, livestock, pack and saddle stock, and wildlife. Disturbance of the soil surface by equipment or sometimes by fire can provide a favorable "start-up" environment for invasive weeds. The Forest Practices Act currently does not address the spread of noxious weeds. Agricultural Water Quality Management Area Plans will probably also not address this issue, although the Oregon Department of Agriculture has a separate noxious weed control program.

The spread of noxious weeds through the transportation of equipment can be reduced by washing the equipment before it is moved to another location. Some equipment operators use fire equipment (pump and water supply) to wash equipment before it is moved off site. County records of noxious weed locations also can be used to determine if the equipment has operated in an infested area and if cleaning is necessary prior to transportation. The U.S. Forest Service uses a timber sale contract provision that requires equipment to be certified as being free of noxious weeds prior to entering National Forest lands.

Once noxious weeds are established, control costs average $50 per acre for materials, but costs vary with species, abundance, and susceptibility to herbicides or other control methods. Landowner costs for equipment and labor are in addition to material costs and vary widely. Continued monitoring and treatment are usually necessary to maintain effective control.

Appendix G
Enrolled Senate Bill 1151

70th OREGON LEGISLATIVE ASSEMBLY--1999 Regular Session
Enrolled Senate Bill 1151
Sponsored by COMMITTEE ON AGRICULTURE AND NATURAL RESOURCES

CHAPTER 00631 AN ACT

Relating to western juniper; creating new provisions; and amending ORS 321.005 and 321.405.

Be It Enacted by the People of the State of Oregon:

SECTION 1. Not later than one year after the effective date of this 1999 Act, the State Forestry Department, in coordination with the State Department of Agriculture, the Department of Environmental Quality and the State Department of Fish and Wildlife, shall complete a review of the programs of the State Forestry Department, and those programs administered by the State Forestry Department for other state agencies, to determine program and regulatory issues related to commercial western juniper harvest, and how the State Forestry Department can respond and resolve the issues in a manner that will benefit landowners and improve watershed and rangeland health.

SECTION 2. ORS 321.005 is amended to read:

321.005. As used in ORS 321.005 to 321.185, 321.560 to 321.600 and 477.440 to 477.460, unless the context requires otherwise:

(1) 'Board' means the State Board of Forestry.

(2) 'Protected forestlands' means those lands which are protected from the starting or spread of fire thereon or therefrom by:

(a) The State Forester, with the approval of the board;

(b) The United States of America through contract with the State Forester;

(c) Any forest protective agency under contract with the State Forester or the board pursuant to ORS 477.406; or

(d) Any forest protective agency, described in paragraph (c) of this subsection, under an agreement with the United States of America wherein such agency agrees to protect specific federal forestlands and, in return, the United States of America agrees to protect specific lands of such agency.

(3) 'Department' means the Department of Revenue.

(4) 'Committee' means the Emergency Fire Cost Committee.

(5) 'Forestland' means any land producing forest products.

(6) 'Forest products' means products from harvested timber, but does not include products from short rotation fiber grown under agricultural conditions as described in ORS 321.267 (1)(e) or
321.415 (5), **western juniper or products from harvested western juniper**.

(7) 'Harvest' means the point at which timber that has been cut, severed, or removed for purposes of sale or use is first measured in the ordinary course of business as determined by reference to common practice in the timber industry.

(8) 'Merchantable stand of timber' means any stand on forestlands containing living or dead timber which is being or can be harvested.

(9) 'Taxpayer' means the owner of timber at time of harvest.

(10) 'Taxes' means the taxes provided for in ORS 321.015.

(11) 'Owner of timber' means any individual or combination of individuals, partnership, firm, corporation or association of whatever nature holding title to harvested timber by virtue of:

(a) An instrument of conveyance;

(b) The harvesting of the timber; or

(c) The harvesting of the timber and payment therefor.

(12) 'Timber' means all logs which can be measured in board feet and other forest products as determined by department rule.

SECTION 3. ORS 321.405 is amended to read:

321.405. As used in ORS 321.405 to 321.520, unless the context requires otherwise:

(1) 'Eastern Oregon' means that portion of the state lying east of a line beginning at the intersection of the northern boundary of the State of Oregon and the western boundary of Wasco County, thence south along the western boundaries of the counties of Wasco, Jefferson, Deschutes and Klamath to the southern boundary of the State of Oregon.

(2) 'Department' means the Department of Revenue.

(3) 'Forestland' means forestland as defined in ORS 321.805.

(4) 'Harvest' means the point at which timber that has been cut, severed, or removed for purposes of sale or use is first measured in the ordinary course of business as determined by reference to common practice in the timber industry.

(5) 'Owner of timber' means any individual or combination of individuals, partnership, firm, corporation or association of whatever nature holding title to harvested timber by virtue of:

(a) An instrument of conveyance;

(b) The harvesting of the timber; or

(c) The harvesting of the timber and payment therefor.

(6) 'Sustained yield management' means sustained yield management as defined in ORS 321.257.

(7) 'Timber' means all logs which can be measured in board feet and other forest products as determined by department rule**, but does not include western juniper or products from harvested western juniper.**

(8) 'Taxpayer' means the owner of timber at time of harvest.

Enrolled Senate Bill 1151 (SB 1151-A)
Passed by Senate May 14, 1999
Passed by House June 3, 1999
Approved by the Governor July 12, 1999
Filed in Office of Secretary of State: July 12, 1999
Effective Date October 23, 1999

Appendix H

SB 1151 JUNIPER ISSUES STUDY
DRAFT PROJECT WORK PLAN
July 12, 1999

I. PURPOSE OF THE PROJECT WORK PLAN

The purpose of this project work plan is to provide an outline of the actions required by the Department of Forestry (ODF), in coordination with the Departments of Agriculture (ODA), Environmental Quality (DEQ), and Fish and Wildlife (ODFW) to fulfill the direction of 1999 Senate Bill 1151 (the full text of SB 1151 is attached).

II. PROJECT IDENTIFICATION

SB 1151 requires that not later than one year after the effective date of this law (or around October 2000), ODF, in coordination with the ODA, DEQ, and ODFW, shall complete a review of the programs of ODF, and those programs administered by ODF for other state agencies, to determine program and regulatory issues related to commercial western juniper harvest. The agencies are also directed to determine how ODF can respond and resolve the issues in a manner that will benefit landowners and improve watershed and rangeland health. SB 1151 also provided an immediate exemption of commercial juniper harvests from the Oregon Forest Products Harvest Tax and the Eastern Oregon Privilege Tax.

The juniper issues study called for by SB 1151 will result in recommendations to the Oregon Board of Forestry that address at least the following questions (further issue scoping is needed by the project team):

- What is the scope of the western juniper overstocking problem?
  - Where is juniper stand density unnaturally high to the point that mechanical treatment is the only viable method?
  - Where is prescribed burning still an option?
  - Where is juniper woodland extent and stand density not yet a significant problem?

- To what extent can commercial harvest of western juniper meet ecological and rangeland restoration objectives?

- Should the commercial harvest of western juniper be regulated by the Forest Practices Act or instead be considered an agricultural activity subject to the requirements of the Oregon

Department of Agriculture's water quality management planning rules in place of the Forest Practices Act?

- If a determination is made that commercial harvest of western juniper should remain subject to the Forest Practices Act, what if any changes in procedural or resource protection requirements are needed to help landowners meet their management objectives while protecting forest and resources, consistent with the purposes of the Forest Practices Act?

- Should the state's fire protection laws applicable to western juniper eradication within forest protection district boundaries be modified to help landowners meet their management objectives?

- Should commercial western juniper harvests be taxed? If so, what taxing mechanisms should be used and what state services would be provided in return?

III. PROJECT MEMBERS

Team Facilitator - **Gregg Cline,** Assistant to the Eastern Oregon Area Director, ODF

Team Members - **Western Juniper Commercialization Committee representatives**
Landowner representative
Eastern Oregon Regional Forest Practice Committee representatives
Environmental group representatives
Range management scientists/technical specialists

Technical Staff - **David Morman**, Forest Practices Policy Manager, ODF
Rick Gibson, Fire Policy and Prevention Manager, ODF
Mike Barsotti, Forestry Assistance Policy Manager, ODF
Joe Misek, Forestry Policy Analyst, ODF
Ken Diebel, ODA representative
Dick Nichols, DEQ representative
Glen Ardt, ODFW representative
Dick Castor, Oregon Department of Revenue (ODR) representative

IV. PROJECT WORK PLAN ELEMENTS

1. Finalize project work plan.
2. Finalize team members.
3. Conduct a half-day meeting and a one-day field tour for team members and other interested parties highlighting current juniper issues and rangeland restoration practices.
4. Form three task subgroups: Forest Practices, Fire Protection, and Taxation. Team members will assigned to one or more task subgroups as follows:

Forest Practices Regulation / Incentives	Protection From Fire	Taxation
Morman, lead	Gibson, lead	Misek, lead
Barsotti	Steering Comm. reps.	Barsotti
ODA	Regional Comm. reps.	ODR
DEQ		Steering Comm. reps.
ODFW		Regional Comm. reps.
Steering Comm. reps.		
Regional Comm. reps.		
Environmental reps.		
Range management specialists		

5. The three task subgroups meet separately to complete issue scoping and analysis and to develop recommendations for their respective topics.
6. All team members meet to work towards consensus on all recommendations.
7. ODF staff develop draft study report and distribute for review and comment by team members and other interested parties.
8. ODF staff revise and finalize study report based on comments received.
9. ODF staff present report to Board of Forestry.
10. Consistent with Board of Forestry direction, ODF staff will work with other team members to develop any needed legislative concepts or draft administrative rule changes.

V. DESIRED PRODUCTS

1. An approved project plan.
2. A completed final report with recommendations.
3. Draft legislative concepts and/or administrative rule changes, as needed.

VI. PROJECT TIME LINE (Subject to change)

September 30, 1999	Team members named and project plan approved
October 31	First team meeting and field tour completed
February 29, 2000	Task subgroup recommendations completed
April 30	Final recommendations approved by team
May 31	Draft study report distributed for review
August 31	Final study report completed
October 31	Study recommendations presented to the Board of Forestry
	Any needed legislative concepts drafted and any needed

Appendix I
Ad Hoc Senate Bill 1151 Juniper Issues Group Member List

Group Members

- John Breese, Western Juniper Commercialization Steering Committee
- Bill McCormack, Landowner
- Ned Livingston and Martin Lugas, Eastern Oregon Regional Forest Practice Committee
- Tim Lillebo, Oregon Natural Resources Council
- Tim Deboodt, OSU Extension Service
- Jon Bates, Eastern Oregon Agricultural Research Center

Other Interests Represented

- Walt McGee, Commercial Juniper Operator
- Fred Otley, Oregon Cattleman's Association
- Larry Swan, U.S. Forest Service, Winema National Forest
- Pete Test, Oregon Farm Bureau

Appendix J
Mailing List for Juniper Study

Ned Livingston Gerber Ranch 57250 Gerber Road Bonanza, OR 97623-9772	John Breese Dixie Meadows 3315 Paulina Hwy. Prineville, OR 97554	Martin Lugus U.S. Timberland Services Co., LLC Box 10 Klamath Falls, OR 97601
Dick Nichols Department of Environmental Quality 2146 NE Fourth #704 Bend, OR 97701	Larry Swan Winema National Forest 2819 Dahlia Street Klamath Falls, OR 97601-7119	Ken Diebel Department of Agriculture C/O Union SWCD 10507 McAlister Rd, Rm 1 La Grande, OR 97850
Glen Ardt Department of Fish and Wildlife 61374 Parrell Rd. Bend, OR 97701	Dick Castor Department of Revenue 955 Center St NE Salem, OR 97310	Fred Otley Oregon Cattleman's Association HC 72 Box 30 Diamond, OR 97722
Jon Bates Eastern Oregon Agricultural Research Center HC 71, 4.51 Hwy 205 Burns, OR 97720	Tim Deboodt OSU Extension Service 498 SE Lynn Blvd. Prineville, OR 97754	Bill McCormack 28877 SE Bear Creek Rd Prineville, OR 97754
Gregg Cline Oregon Department of Forestry 3501 E. Third Street Prineville, OR 97754	David Morman Forest Practices Policy Manager Oregon Department of Forestry 2600 State Street Salem, OR 97310	Rick Gibson Fire Policy and Prevention Mgr. Oregon Department of Forestry 2600 State Street Salem, OR 97310
Mike Barsotti Forestry Assistance Policy Manager Oregon Department of Forestry 2600 State Street Salem, OR 97310	Joe Misek Forestry Policy Analyst Oregon Department of Forestry 2600 State Street Salem, OR 97310	Walt McGee PO Box 156 Dairy, OR 97625
Peter Brewer Department of Environmental Quality 2146 NE Fourth #704 Bend, OR 97701	Bryan Nelson ODF – Serv Forester PO Box 546 John Day, OR 97845	Mike Townsend ODF – FPF 3200 DeLap Rd Klamath Falls, OR 97601
Mike Wolf Oregon Dept of Agriculture 635 Capital St NE Salem, OR 97301-2532	George Sintay Juniper Northwest Inc 490 E Main John Day, OR 97845	Willis Sintay Juniper Northwest Inc 741 W Main John Day, OR 97845
Tim Lillebo Oregon Natural Resource Council 16 NW Kansas Ave Bend, OR 97701	Rick Minster OECD 150 E Main Suite 102 John Day, OR 97845	Bill Breedlove Klamath Falls, OR 97601
John Bragg Harold & News PO Box 788 Klamath Falls, OR 97601	William Mars Property Ranch 39675 Hwy 207 Spray, OR 97874	Brad Knotts Policy Analyst, Forest Practices ODF 2600 State Street Salem, OR 97310
Aaron Gille Drewsey, OR 97904	Kendall Derby Fire Forage Forestry Consulting Box 4 John Day, OR 97845	Rick Miller Eastern Oregon Agricultural Research Center HC 71, 4.51 Hwy 205 Burns, OR 97720
Pete Test Oregon Farm Bureau 3415 Commercial St SE Salem, OR 97302	Dennis Long Reach Incorporated P.O. Box 1089 Klamath Falls, OR 97601	Jim Anderson P.O. Box 1513 Sisters, OR 97759

Appendix K

SB 1151 – Commercial Western Juniper Harvest Issues
Agenda
9:30 am, October 26th
Location – Oregon State University Education Center
20365 Empire Avenue, Bend
(North end of Bend at junction of Highway 97 and Empire Avenue)

1.	Introductions/Expectations	Gregg Cline, ODF	9:30
2.	Background of SB 1151	Larry Swan, Winema NF	10:00
3.	Review Draft Juniper Work Plan	Dave Morman, ODF	10:30
4.	Summary of Juniper Management Paper	Glen Ardt, ODFW	11:00
5.	Forest Practices Act related to Juniper	Dave Morman	11:30
6.	Working Lunch		
7.	Water Quality Management Plan	Ken Diebel, ODA	12:15
8.	Water Quality Standard Compliance	Peter brewer, DEQ	12:45
9.	Fire Statutes related to Juniper	Larry Hoffman, ODF	1:15
10.	Forestry Incentives Program related to Juniper	Wally Rutledge, ODF	1:30
11.	Forest Taxation related to Juniper	Joe Misek, ODF	1:45
12.	Group Discussion	Gregg Cline, ODF	2:00
13.	Finalize Juniper Work Plan	Dave Morman	3:00
14.	Schedule Next Meeting	Gregg Cline	3:30

Attendance:

Glen Ardt	Larry Swan	Jon Bates	Walt McGee	Peter Brewer	Ned Livingston
Bryan Nelson	Mike Townsend	Ken Diebel	Mike Wolf	Willis Sintay	George Sintay
Tim Lillebo	Rick Minster	Bill Breedlove	John Bragg	William Mars	Larry Hoffman
Aaron Gille	Joe Misek	Kendall Derby	Rick Miller	Pete Test	Fred Otley
Dick Castor	Tim Deboodt	Bill McCormack	John Breese	Gregg Cline	Dave Morman
Dennis Long					

Appendix L

SB 1151 - Commercial Western Juniper Harvest Issues
Meeting and Tour
Wednesday, November 17th

Meeting Location - Oregon Department of Forestry, Klamath-Lake District Office
3200 DeLap Road, Klamath Falls, (541) 883-5681, Map attached
Travel South on 97, exit on 140, right turn and then immediate right turn onto Delap Road.

Van Pool - Van will leave from Prineville and pick up passengers in Bend. Contact Gregg Cline at (541) 447-5658 if you want to ride. There are 9 seats available.

Lunches - Lunches will be provided for the members of the Work Group. Please confirm that you will be attending. J. Breese, B. McCormack, N. Livingston, M. Lugus, K. Diebel, T. Lillebo, F. Otley, P. Test, T. Deboodt, J. Bates, D. Castor, G. Ardt, W. McGee, D. Nichols, ODF Staff

Tour - Come prepared and dressed for winter weather.

0530 - Van leaves from Prineville. Meet at Oregon Department of Forestry Office in Prineville.

0615 - Van leaves from Bend. Meet at Costco Parking Lot on eastside of Bend, Junction of Route 20 and 27th Avenue.

0900 - Meet at the Klamath Falls Office. Review Guiding Principles that were mailed.

1000 - Start Tour, Leave Department of Forestry Office at Klamath Falls

1100 - Circle 5 Ranch (Louie Randall), Bonanza Area; pre-treatment; hand treatment in small subbasin with some firewood removal; riparian and spring area with mechanical treatment and removal of logs.

1230 - Connolly Ranch (Mike Connolly), Bonanza Area; pre-treatment; recent mechanical treatment (some logs removed) adjacent to older mechanical/prescribed fire treatment (no removal); fire protection considerations due to slash and remaining logs; intermittent drainage treatment and slash.

1400 - (Optional Stop if time or weather permits) BLM Mechanical Treatment; recent mechanical treatment with extensive log removal (site is northerly exposure and has better conditions);

1530 - (Optional stops if time permits) Juniper Manufacturing Operations

1) Scragg mill set-up (4 Mac Industries) at Diary Mill.
2) REACH, Inc. juniper shavings facility at Klamath Falls

1630 – Return to Klamath-Lake District Office

Attendance:

Larry Swan	Tom Collom	John Zauner	John Breese	Bill McCormack
Tim Deboodt	Jon Bates	Ellen Hammond	Ned Livingston	Walt McGee
Dick Castor	Steve Kirk	Gregg Cline	Mike Townsend	Martin Lugus
Dave Morman	Jim Coyle	Mike Barsotti	Joe Misek	Louie Randall
Mike Connolly	BLM Repres.?			

Appendix M

SB 1151 – Commercial Western Juniper Harvest Issues
Agenda
9:30 am, March 10, 2000
Location – Oregon State University Education Center
20365 Empire Avenue, Bend
(North end of Bend at junction of Highway 97 and Empire Avenue)

15. Introductions	Gregg Cline, ODF	9:30
16. Introduction and Guiding Principles	Dave Morman, ODF	9:40
17. Resource and Commercialization Status and Issues	Larry Swan, Winema NF	10:00
18. Analysis of Forest Practices Program	Dave Morman, ODF	10:30
19. Working Lunch ***		12:00
20. Analysis of Forest Practices Program (cont)	Dave Morman	12:30
21. Analysis of Forest Taxation Program	Joe Misek, ODF	1:00
22. Analysis of Protection From Fire Program	Rick Gibson, ODF	1:30
23. Analysis of Forestry Assistance Program	Mike Barsotti, ODF	2:00
24. Summarize Discussion, Next Step	Gregg Cline, Dave Morman	2:30
25. Adjourn		3:00

*** Lunch will be provided for Committee Members

Attendance:

Mike Barsotti	David Morman	Brad Knotts	Dick Nichols
Joe Misek	Dick Castor	Glen Ardt	John Breese
Ned Livingston	Michael Townsend	William Mars	Mrs. Mars
Tim Deboodt	Bryan Nelson	Walt McGee	Pete Test
Larry Swan	Bill McCormack	Gregg Cline	Jon Bates
Fred Otley			

Appendix N

SB 1151 – Commercial Western Juniper Harvest Issues
Agenda
9:30 am, May 15, 2000
Location – Oregon State University Education Center
20365 Empire Avenue, Bend
(North end of Bend at junction of Highway 97 and Empire Avenue)

Review of Second Draft of Report

1.	Introductions	Gregg Cline, ODF	9:30
2.	Executive Summary, Introduction And Benchmarks	Brad Knotts, ODF	9:40
3.	Resource and Commercialization Status And Issues	Larry Swan, Winema NF	10:00
4.	Analysis of Forest Practices Program	Brad Knotts, ODF	10:30
5.	Analysis of Forest Taxation Program	Joe Misek, ODF	11:30
6.	Working Lunch ***		12:00
7.	Analysis of Protection From Fire Program	Rick Gibson, ODF	12:15
8.	Analysis of Forestry Assistance Program	Mike Barsotti, ODF	12:45
9.	Summary and Conclusions	Gregg Cline	13:15
10.	Adjourn		14:00

*** Lunch will be provided for Committee Members

Attendance:

Jon Bates	Pete Test	Bill McCormack	Tim Deboodt
Bryan Nelson	Mitch Mund	Mike Barsotti	David Morman
Brad Knotts	Joe Misek	Glen Ardt	Gregg Cline
Rick Gibson	Dick Castor		

Appendix O

Map of Juniper Inventories, Fire Protection Districts, and Public Ownership.