

Chapter 8

Social Value of Port-Orford-Cedar

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Introduction

Port-Orford-cedar has had a long history of use by humans. In addition, sectors of society have become increasingly knowledgeable about the importance of Port-Orford-cedar's ecological roles, concerned about the affects of *Phytophthora lateralis* on the species and the ecosystem, and involved in efforts to maintain Port-Orford-cedar within its natural range. In recent years, public input has been significant in shaping federal agencies' Port-Orford-cedar root disease management approaches (see Appendix G for a summary of the development of the interagency Port-Orford-cedar coordination effort).

This chapter on social values does not attempt to provide a definitive discussion of the wide array of human values associated with Port-Orford-cedar. Rather, it highlights a few examples that illustrate the range of social concerns with the species, changes in social perceptions and objectives since the Zobel et al. monograph was written in 1985, and the challenges that managers face in trying to address often widely diverging concerns from the public and interest groups. Specifically, it focuses on Native American people's use of Port-Orford-cedar, Japanese use and changing values, and two case histories which portray the types of public concerns that surface with regard to management of Port-Orford-cedar root disease in southwestern Oregon and northwestern California.

Native American Values

Aboriginal use of Port-Orford-cedar began in antiquity (Beckham 1971). Several southwestern Oregon Bands and Tribes lived within cedar forests that influenced their daily lives. Other tribes in northern California made use of Port-Orford-cedar that occurred within forests dominated by Douglas-fir and redwood, and considered Port-Orford-cedar to be an integral part of their way of life. Today, Port-Orford-cedar plays a significant role in the cultural, medicinal, and religious life of many Tribes. Tribes that use Port-Orford-cedar include the Confederated Tribes of Grande Ronde, the Confederated Tribes of Siletz, the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw, the Cow Creek Umpqua Indians in southwestern Oregon, the Coos-Coquille Tribe around Coos Bay, and the Hoopa, Upper Tolowa, Yurok, and Karuk Tribes in northern California (Beckham 1971, Heffner 1984, Hendryx and Hendryx 1991, Miller and Kenetta 1996).

Known for its durability, Port-Orford-cedar was, and still is, used to construct living and sweat houses, both of which hold ceremonial functions. Historically, wind thrown cedars or drift logs were preferentially used, before resorting to live felling. While the cedar living house is no longer used as a permanent residence, it is still constructed for ceremonial purposes. The sweathouse continues to be actively used by individuals, families, and communities (Jimerson 1994).

Native Americans use many parts of the Port-Orford-cedar tree. Buds are used to heal sore lungs, throats, and toothaches. Coughs can be treated with the leaves. The bark and twigs are used to heal kidney problems. Regalia items used in religious ceremonies can also be made from the wood. Other items, such as feathers and hides, are stored in Port-Orford-cedar trunks because the oils and aroma of the wood repel insects (Heffner 1984).

While some tribes own lands with Port-Orford-cedar, some do not. Tribes that do manage Port-Orford-cedar on their reservation lands include the Hoopa and Yurok Tribes in northern California. The Hoopa's land management reflects and emphasizes the cultural and religious value of Port-Orford-cedar and the Tribe's concern about the impacts of the root disease caused by *P. lateralis*. In 1986, Tribal Resolution established a policy that prohibited the cutting of Port-Orford-cedar, except for ceremonial and

religious uses. The Tribe's land management plan initiated the establishment of reserves, encouraged continual planting of the species, and closed all dead-end roads in the portion of the range of Port-Orford-cedar on the reservation (Hoopa Tribal Forestry 1994, Pacific Meridian Resources 1996). The Karuk Tribe also has established an ancestral lands forest management plan that reflects its desire to protect Port-Orford-cedar from the root disease (Karuk Tribe of California 1989).

In 1996, President Clinton signed into law legislation that created the Coquille Tribal Forest from lands formally managed by the Coos Bay District Bureau of Land Management (BLM). Two years later, 5,400 acres were transferred from the BLM to the Bureau of Indian Affairs to be managed in trust for the Coquille Indian Tribe. This land has a small amount of Port-Orford-cedar, which is to be managed based upon the guidelines in use by the BLM at the time the land was transferred (USDI 1995a).

Tribes that do not have Port-Orford-cedar as part of their reservation landscape depend on federal lands to obtain the much-needed wood as they build cultural structures for ceremonial use. Providing access to, and harvest of, Port-Orford-cedar by tribal governments and traditional practitioners raises many issues. Conflicts have arisen between desires of federal managers to protect healthy stands of Port-Orford-cedar from *P. lateralis* and desires of Native American groups to be granted access to culturally significant locations. Providing access for ceremonial use of the wood has also caused controversy. Many Tribes have requested free use of Port-Orford-cedar for ceremonial purposes.

Asian Values

Old-growth Port-Orford-cedar wood has characteristics very similar to *hinoki* and other Asian *Chamaecyparis* species, and has been highly valued since the mid-1800s by Asian societies, especially the Japanese. The wood has religious and ceremonial significance and has been used to replace wood in temples, posts and beams in tatami rooms, sushi bar counter tops, and lintel pieces in homes.

Historically, the Japanese have found the light-colored, fine-grained wood of Port-Orford-cedar trees 200 years old or older to be especially desirable for their uses. They have been willing to pay extremely high prices, among the highest ever paid for any conifer, for quality cedar logs from California and Oregon (see Economics chapter, Chapter 7). Because of Japanese demand, export values for Port-Orford-cedar have in the past been so much higher than domestic values that Port-Orford-cedar logs have been exempt from federal unprocessed log export bans.

In recent years, Japanese interest in Port-Orford-cedar has declined. The economic problems suffered in Japan have undoubtedly contributed to this, but cultural changes are also responsible. The current generation of Japanese is less influenced by traditional values and is simply less willing to pay the high prices that Port-Orford-cedar commanded in the past.

Local Values, Case Study 1: The Williams Port-Orford-Cedar Management Project

Background

The Williams Creek Watershed contains Port-Orford-cedar at the easternmost extent of its range within southwestern Oregon. It has both healthy stand components and stand components infested with the pathogen *P. lateralis*. The Medford District BLM, Grants Pass Resource Area proposed the Williams Port-Orford-Cedar Management Project to reduce *P. lateralis* in those areas where it currently exists and to prevent export of the pathogen to uninfested stands. The project was intended to operationally evaluate the current best-known approaches for controlling *P. lateralis* at a small scale. The scenario was to implement a multi-faceted, integrated strategy to determine biologically effective and economically feasible techniques for control of the pathogen.

Project Description

The Williams Creek Watershed is located approximately 12 miles southwest of the community of Grants Pass and 20 miles west of the city of Medford in the southwest corner of Josephine County, Oregon. There are approximately 52,000 acres in the watershed. Of these, the BLM administers 26,990 acres (52 percent), the Forest Service administers 819 acres (1.5 percent), Josephine County owns approximately 1,670 acres (3.2 percent), and commercial timber companies and individuals own the remaining 43 percent (USDI 1996b).

The 1995 Medford District Resource Management Plan (USDI 1995b) and the Northwest Forest Plan (USDA and USDI 1994b) provide overall direction for managing lands administered by the BLM in the Williams Creek Watershed. The Williams Creek Port-Orford-Cedar Management Project incorporates the recommendations of the BLM Port-Orford-Cedar Management Guidelines (Betelejewski 1994), which were adopted in the 1995 Medford District Resource Management Plan (USDI 1995b).

The project design draws upon many documents which provide guidelines for management: the Southwest Oregon Late-Successional Reserve Assessment (USDA and USDI 1995b), the Applegate Adaptive Management Area Ecosystem Health Assessment (USDA and USDI 1994a), the Applegate River Watershed Assessment: Aquatic, Wildlife, and Special Plant Habitat (USDA and USDI 1995a), the Western Oregon Transportation Management Plan (USDI 1996a), and the Williams Watershed Analysis (USDI 1996b).

Late-Successional and Riparian Reserve Management

Almost the entire project is within Late-Successional or Riparian Reserve land allocations and most of the late-successional forest in the watershed is on BLM-administered lands. While the project is within Late-Successional and Riparian Reserves, the over-riding land use allocation is Adaptive Management Area (AMA). The project lies within the Applegate AMA. Objectives of this AMA are to develop and test variations of established management practices that provide late-successional forest and high-quality riparian habitat (USDA and USDI 1994a).

The primary project objective is to prevent late-successional forests containing Port-Orford-cedar from becoming infested. Other objectives are retention of large (greater than 21 inches DBH) live Port-Orford-cedar for species and structural diversity, retention of old-growth snags as described by Jimerson (1989), and accelerated late-successional

habitat development where it currently does not exist in Late-Successional and Riparian Reserves. The long-term objective is reintroduction of disease resistant Port-Orford-cedar to areas where the species has been killed by the pathogen.

Past timber harvest has reduced the number of large conifers available for dead wood recruitment to streams and Riparian Reserves (USDI 1998). The project seeks to retain a late-successional snag component (conifers) where it currently exists and accelerate the development of such a component where it is minimal or absent. With no management intervention, additional infection of live Port-Orford-cedar has the potential to increase levels of infestation as a result of increased pathogen population levels. Removal or mortality of Port-Orford-cedar in Riparian Reserves may affect fish habitat both beneficially (long-term snag and dead wood recruitment) and non-beneficially (loss of streamside shading and higher water temperatures). Thinning in Riparian Reserves would enhance tree growth resulting in large diameter trees and a future large wood component in the reserves. Creating snags would enhance the current large wood component.

Strategies

The project incorporates four strategies for controlling the spread of *P. lateralis*:

1. Create sites unfavorable to the pathogen by thinning stands to allow more light, and therefore heat, which penetrates to the forest floor and has been shown to be detrimental to *P. lateralis* (Ostrofsky et al. 1977).
2. Remove host species from areas key to the spread of the disease to prevent the pathogen from reproducing. Preliminary work by the Southwest Oregon Forest Insect and Disease Service Center indicates that sporeload, along infested roads, decreases 3 to 4 years after sanitation treatments that eliminate Port-Orford-cedar.
3. Manage stands to break up the continuity of live Port-Orford-cedar host trees to prevent root-to-root spread of the pathogen. This strategy would remove all Port-Orford-cedar within a 2 crown-width radius of an infected tree in infested areas; within uninfested areas, Port-Orford-cedar free zones of about 4 crown-width radii would be established (Daniel et al. 1979, Gordon 1974, Gordon and Roth 1976).
4. Manage roads and public access to prevent further spread of the pathogen. Motor vehicles can contribute substantially to the spread of the pathogen. However, mountain bikes, livestock, and even foot travel can also disperse the pathogen across the landscape (Betlejewski 1994).

Treatments

The Williams Port-Orford-Cedar Management Project designed the following treatments to meet the objectives of the strategies outlined above:

Port-Orford-Cedar Exclusion Treatments (Sanitation) in Infested Areas—A prescription was established to provide criteria for Port-Orford-cedar tree removal below a road considering site-specific information, including individual tree height and distance from the road. Other factors considered for sanitation treatments were human safety concerns for falling snags on the roadway, potential Port-Orford-cedar theft, and the associated risk of spreading the pathogen.

Roadside Treatments for Roads Open in Uninfested Areas—Within a maximum distance of 25 feet upslope and 50 feet downslope of the road, as measured from the toe of the fill, all Port-Orford-cedar trees would be removed. Commercial trees would be harvested

and noncommercial trees would be cut, hand-piled and burned. The remaining trees and shrubs would be thinned and the slash would be piled and burned. Bough cutting would only be allowed during the dry season and would occur in uninfested roadside treatment areas first, then infested roadside treatment areas.

Commercial Thinning Treatments in Uninfested Areas—Commercial thinning prescriptions were designed to reduce overall tree density, accelerate the development of larger diameter trees (both conifers and hardwoods), and increase the conifer component of the stands. In these areas, Port-Orford-cedar was favored for retention.

Pre-commercial Thinning Treatments—These treatments were proposed to accelerate the development from early seral shrub stage to a closed-canopy conifer and hardwood forest. In stands infested with *P. lateralis*, Port-Orford-cedar would be selected for removal. In pathogen-free stands, Port-Orford-cedar would be retained, with the exception of areas designed to break up continuous distribution across the landscape.

Road Decommissioning, Closures, and Maintenance—Decommissioning of 0.21 miles of road and the gating of 18 miles of road would close a 4 to 5 square mile un-infested area. Subsequent road maintenance and repair would improve road drainage and reduce sediment flow (USDI, 1998).

Vehicle Washing—Vehicle washing stations would be constructed. All vehicles associated with a timber sale would be washed prior to leaving an infested area and prior to entering an uninfested area. To lower any additional risk, uninfested areas would be entered first, followed by infested areas. Washing would not be required for site-preparation, slashing crews, or bough collectors; however, parking areas, access, and egress routes were identified and work would be permitted only during the dry season.

Monitoring

Effectiveness monitoring was developed as part of the project and builds upon previous work completed by the Southwest Oregon Forest Insect and Disease Service Center. Project implementation and monitoring will determine the effectiveness of this project for meeting long-term objectives.

Local residents were employed to conduct part of the monitoring. This helped create a feeling of local ownership in the project and also built stronger trust between the residents and the BLM.

Reactions of Williams Residents

Information concerning Port-Orford-cedar management and *P. lateralis* control strategies was provided to the community from 1996 through 1998. This outreach consisted of presentations to the Applegate Partnership and the Williams Town Council, and two public field trips to review portions of the project area (fig. 8.1).



Figure 8.1—Teresa Gallagher-Hill, BLM Realty Specialist, discussing reciprocal right-of-way and road use agreements on a public tour near Williams, Oregon

The Williams Neighborhood (described in *Words into Action: A Community Assessment of the Applegate Valley* (Preister 1994)) is recognized as “an independent-minded community represented by resource workers, alternative community, farmers, retirees, commuters, trade and service workers, and many entrepreneurs. Community issues include school funding, forest management, and land use” (Preister 1994). Attitudes from the community concerning BLM activities in the Williams Neighborhood generally range from positive or neutral to those that believe human management has resulted in degradation to the environment” (Preister 1997).

Public and community concerns in response to the Williams Port-Orford-Cedar Management Project were compiled from letters, faxes, newspaper articles, and phone conversation records occurring between September 12, 1996, and December 17, 1998. The local watershed council, town council, environmental groups, the timber industry, the Applegate Partnership, and private individuals expressed the following ideas and concerns:

- Project actions or unproven management methods should not take place in Riparian and/or Late-Successional Reserves or unentered forests. Too little late-successional forest remains and old-growth forests are being converted into tree plantations.
- More scientific research and peer review is needed before planning a project of this nature. Some critics stated that the project should be on a much smaller scale, while others thought the project was not large enough to be effective in stopping the spread of the pathogen. Many citizens wanted more scientific evidence supporting the effectiveness of the management techniques before moving forward.
- Bough collecting or logging activities within the project may inadvertently further spread the disease.

- There was general agreement that some management should be attempted, however, there was disagreement as to what types of management should occur. Some people responded with suggestions for what they believed to be less invasive treatments, such as fertilizing soils (suggesting that healthy soils would stop the spread of the pathogen). Other ideas included planting horsetails (*Equisetum*) or other species believed to have anti-fungal properties, focusing priorities on uninfested areas rather than infested areas, and planting Port-Orford-cedar in areas unfavorable to the pathogen.
- Some felt that county, state, and federal agencies need to take more responsibility for management of Port-Orford-cedar and control of *P. lateralis*, with plans encompassing entire watersheds. Mapping of watersheds should be done and treatments should be the same, regardless of ownership. Land exchanges should be considered, blocking up ownership would allow more consistent management.
- A lack of trust was expressed concerning the use of timber harvest to control the spread of the disease. It was felt that this type of management was an excuse to harvest timber and reflected commodity extraction as a priority over the environment. Statements such as, “the proposal calls for killing the cedar in order to save them,” reflected this distrust.
- Some believed the appropriate consultation and review had not occurred, and that the BLM was not following its own management strategies (i.e., Northwest Forest Plan and watershed analysis recommendations).
- Some felt that more restrictive road management should occur across all ownerships, including road decommissioning (with culvert and ditch line removal), gating, installation of more wash stations, and seasonal road closures during the wet season.
- Many watershed residents wanted greater participation in management of their watershed and wanted more efforts to communicate with the public. Earlier notification of meetings, more field trips and presentations to the community, and public education pamphlets were examples of better communication.
- Participants felt the field trips were informative. Some supported the project, stating it was good and should be attempted as long as the watershed was not degraded, local workers were employed, and it contributed to the local economy.

Many diverse opinions on how to address the management of Port-Orford-cedar and control *P. lateralis* surfaced during this public comment period. While all comments were considered and addressed, not all comments resulted in changes to the project. For example, the comment/proposal to fertilize soils to make them less susceptible to disease was not incorporated. An infested part of the project area had previously been fertilized and observations did not show less susceptibility of Port-Orford-cedar to *P. lateralis*.

The project went through extensive peer review during the two-year development period, with reviewers representing the U.S. Fish and Wildlife Service, the Regional Ecosystem Office, Forest Pest Management Northern California Service Center, and the Southwest Oregon Forest Insect and Disease Service Center.

Landscape Approach to Managing Port-Orford-Cedar

The project focuses on lands administered by the BLM. While complementary approaches to Port-Orford-cedar management on private and public lands are desirable, the extent of potential cooperation is difficult to estimate. At least one citizen's opinion was "that if the management techniques proposed as part of this project proved effective, private landowners would likely continue the management practices onto their own lands."²⁴

Others have recognized the need of complementary management that crossed property boundaries. This model of collaboration between citizens, scientists, and managers was recognized by the Forest Ecosystem Management Assessment Team and was deemed important and to be used in conjunction with the concept of Adaptive Management Areas. New working relationships were envisioned which could be developed across land ownership patterns, jurisdictional arrangements, and social environments (Shannon and Sturtevant 1995). There were at least two opinions on how this could be accomplished. In some cases, support was given for the BLM proposal to be a test case. The project could be implemented, and if proven successful, it could then be incorporated on other ownerships. Others thought that the project would not work unless private owners participated from the beginning.

Local Values, Case Study 2: Managing Port-Orford-Cedar in High Plateau

Since Port-Orford-cedar root disease (*P. lateralis*) was first identified in the Smith River basin in 1980, there has been growing public interest in the actions that the Six Rivers National Forest is taking to minimize the risk of spreading the disease. The Forest has undertaken several strategies to control spread, including washing of vehicles, limiting construction and timber harvest activities to the dry season, and altering the design of roads and timber sale operations. One of the most effective control measures is also the most controversial – the gating of roads to prevent vehicles from picking up infested soil and transporting it to uninfested areas. The gating of roads in the High Plateau area within the North Fork Smith River watershed is very controversial. Management of the High Plateau has been the source of conflict among user groups with vastly different interests and core values, and the Forest's efforts to protect Port-Orford-cedar in the area illustrates the difficulties that land management agencies face in trying to resolve these differences. Although this case study focuses solely on the High Plateau area, the issues raised by the public exemplify the concerns expressed regarding Port-Orford-cedar root disease management across the Forest.

High Plateau hardly seems to be the kind of place that would spark much controversy. It is remote; a long drive from any populated area, requiring travel along infrequently maintained and rugged dirt roads. The infertile serpentine soils in the area support only sparse vegetation, giving the area an open, dry, sun-baked character. The area is full of historic mines; mining roads, tailing piles, and old mining equipment litter the area. Yet it is precisely the remote and rugged character of the area that appeals to several distinct and divergent groups.

²⁴ Hill, D.S. on behalf of the Southern Oregon Timber Industries Association. 1998. Letter to the Grants Pass Resource Area Field Manager supporting the Record of Decision for the Williams Port-Orford-cedar Management Project. On file with: U.S. Department of the Interior, Bureau of Land Management, Medford District, Medford, OR.

Public Values and User Conflicts

Botanical and environmental groups value High Plateau for its biological diversity. High Plateau is located within the North Fork of the Smith River. It is part of the Josephine ultramafic sheet (a mineral-rich rock formation), one of the most extensive ultramafic landscapes in North America. Because serpentine soils derived from this ultramafic parent material are infertile, the area is not conducive for growth of most plants, and vegetation is sparse and scrubby. However, a variety of unique plant communities have adapted to tolerate these harsh soil conditions. As a result, the High Plateau is one of the most botanically significant areas on the Forest. Many rare and endemic plant species are found within its plant communities, including one federal and state listed endangered species and nine Forest Service sensitive species.

Port-Orford-cedar is found throughout the North Fork Smith River watershed in association with many of the plant communities and is valued as a member of the forest ecosystem. Particular concern, however, is given to the High Plateau because of its link with unique plant communities. Public interest in this area, coupled with the Forest's recognition of its unique character, led to the establishment of the 21,370-acre North Fork Smith Botanical Area, which is centered around the High Plateau.

Few people travel to High Plateau each year. The Forest estimates that less than 100 vehicles travel the main access roads into the High Plateau--roads 18N09, 18N13, and their associated spur roads--annually, mostly during the summer months. A few people visit the area for botanical and scenic sightseeing, hunting, mineral collecting, and traditional Native American use; but by far the primary use of the area is by off-highway vehicle (OHV) enthusiasts (four wheel drive vehicles, all-terrain vehicles, and dirt bikes).

Although they are small in number, the people who recreate in High Plateau are a vocal group with strong ties to the area. Some of them have been visiting the area for over 30 years, valuing the solitude and challenge that High Plateau offers. OHV enthusiasts like High Plateau for two reasons. First, the area is remote and the roads are rugged and difficult to traverse. High Plateau is crisscrossed with old mining roads; many of them were not built to Forest Service standards. Without adequate drainage, numerous ruts and gullies have been formed by water flowing across the roads. There are also some challenging low water crossings that are impassable during high flows. Second, the route created by the roads 18N09 and 18N13 is the only loop route on the Forest. Organized groups have made annual trips to the area.

Since the 1980s, these two distinct public interest groups, the environmental groups on the one hand and the OHV enthusiasts on the other, have been voicing their concerns about the Forest's management of High Plateau. Because the area is home to a variety of rare and unique plant communities, botanical and environmental groups have advocated restricting OHV use of the area. They believe that OHV use is not appropriate within a Botanical Area that, according to the Six Rivers Land and Resource Management Plan (USDA 1995), is to be managed to "maintain ecological processes and the unique values for which the area was designated." On the other hand, the OHV community notes that there are few areas in the vicinity which provide the same type of recreational opportunities. Many feel that environmental groups and some Forest Service staff do not like OHV recreation in general, and that the North Fork Smith Botanical Area was established simply to limit OHV use of the area.

Disease Management in the Smith River Basin and High Plateau

Port-Orford-cedar root disease has spread to most of the drainages in the North Fork, Middle Fork, and Main Stem Smith River watersheds. However, the drainages in the High Plateau area (High Plateau, Bear, Stony and Peridotite Canyon Creeks) remain uninfested, forming the largest island of uninfested subwatersheds within the North Fork, Middle Fork, and Main Stem Smith River watersheds. These drainages also represent the largest uninfested island in the Josephine ultramafic sheet. There are a number of theories as to why this area is still uninfested.

One theory is that the low level of use has provided little opportunity for the disease to enter the area. During high flow periods the low water crossings are impassable, preventing travel to High Plateau during much of the wet season. Another untested theory is that infested soil, and thus the pathogen, may be washed from tires during the low water crossings before entering the high country. Some people believe that luck is the only reason why the disease has not yet infected these watersheds.

At the beginning of the debate regarding High Plateau, Forest direction for management of the area was considered by some to be vague and even confusing. According to the Smith River National Recreation Area (NRA) Act of 1990, the management emphasis for the North Fork of the Smith is on “back-country and whitewater recreation, while recognizing the unique botanical communities, outstanding whitewater, and historic and scenic values.” The Act also requires the Forest to “provide for the long-term viability and presence of Port-Orford-cedar and ensure its continued present economic and non-economic uses through implementation of management strategies developed by the Forest Service.” The Smith River Management Plan direction for the North Fork Smith notes that, “the abundant access these [historic mining] roads provide, along with the unusually erosion resistant soils, provide an excellent opportunity for managed OHV use.” In fact, the Plan highlighted roads 18N09 and 18N13 as OHV routes.

As the controversy regarding management of High Plateau was brewing, the Forest was also becoming more proactive in preventing the spread of Port-Orford-cedar root disease within the Smith River Basin. Forest staff installed gates on many roads and closed them during the wet season to prevent the import or export of the disease. Seasonal gates were installed on both 18N09 and 18N13, but they were repeatedly damaged or destroyed by vandals.

The Controversy Heats Up: The Six Rivers Forest Plan

In 1994, Six Rivers National Forest released its draft Land and Resource Management Plan (Forest Plan) for public comment. The Forest received a number of comments about the management of Port-Orford-cedar in general, which are summarized below:

- The Forest must consider the role of Port-Orford-cedar in the maintenance of biological diversity, including its roles in riparian ecosystems, in sensitive plant habitat, and as an old-growth component of ecosystems.
- Current project-level efforts to prevent the spread of Port-Orford-cedar root disease are inadequate. The Forest needs to improve its strategy for preventing the spread of Port-Orford-cedar root disease by analyzing Port-Orford-cedar at a broader scale.
- The Forest should close/obliterate roads, prevent construction of new roads, and prohibit/limit access into watersheds containing uninfested Port-Orford-cedar to control the spread of Port-Orford-cedar root disease.

- Do not log stands containing Port-Orford-cedar until studies are completed for the protection of existing healthy stands.

In addition to these general comments, some people commented specifically about Port-Orford-cedar management and road access in the High Plateau area. Excerpts from their comments are provided below.

- Port-Orford-cedar is often the dominant or only riparian conifer found in the stream corridors within these watersheds. The cedars are also found in other wetlands. On these sites they often provide some of the only available shade. Wetlands and stream corridors, especially in ultramafic soils, harbor many rare and sensitive plant species. The cedar's calcium content also provides important ameliorative effects for other species and possible aquatic invertebrates. Loss of cedar due to root disease introduction will impact riparian ecosystems and sensitive plant habitat and also affect the outstanding values of National Wild and Scenic Rivers.
- The introduction of the root disease into uninfested watersheds is irreversible and causes long-term and continued ecological destruction. Roads and logging have spread the root disease into many of the major watersheds of the Smith River Basin. Subwatersheds (such as High Plateau Creek, Stony Creek, and Peridotite Canyon) may be some of the last best hopes for maintaining uninfected riparian and wetland cedar ecosystems in the Basin especially on ultramafic parent material.
- The High Plateau area contains some of the finest stands of uninfected Port-Orford-cedar remaining on the Smith River NRA, mostly associated with the many drainages flowing into the North Fork of the Smith River. Vehicles entering High Plateau must pass through areas infected with Port-Orford-cedar root disease; the OHV route on High Plateau advocated by the Forest actually passes through the headwaters of Stony Creek, known for its exceptional diversity in rare plants and unique plant communities. The impacts of partial or complete loss of Port-Orford-cedar in plant communities where it is a dominant are not known; such large-scale perturbations could negatively impact the many rare species that often occur with Port-Orford-cedar. Therefore, increased OHV use not only risks loss of the exceptional Port-Orford-cedar stands in this area, but may also impact associated rare species.

In 1995, in response to public comments, the Forest incorporated a number of standards and guidelines into the final Plan, including the following:

- Integrate strategies for reducing the risk of Port-Orford-cedar infection from the root disease into all levels of planning and analysis (e.g. watershed analysis, transportation and recreation planning, Late Successional Reserve Assessments, National Environmental Policy Act [NEPA] assessments) in watersheds where it is present.
- Undertake pro-active disease prevention measures such as road closures, road maintenance, and sanitation removal of roadside Port-Orford-cedar to prevent the spread of the disease, especially to high risk areas. Identify specific prevention measures at the drainage or project level.

In addition, because of the comments that were specifically focused on Port-Orford-cedar root disease and access within the North Fork Smith Botanical Area and High Plateau, a team of Forest specialists assessed the risk of introducing Port-Orford-cedar root disease into the North Fork Smith Botanical Area. The team developed a set of criteria, and used those criteria to assess five alternatives for access. The Forest Supervisor selected an alternative that had a low risk of introducing the disease into the area. The alternative

included: year-round closure of road 18N09, with dry season use allowed under a permit system; and permanent closure of road 18N13 due to the poor road conditions (the road had a low water crossing and year-round wet spots from seeps and springs), and the proximity of Port-Orford-cedar to the road.

However, the Forest Supervisor and Forest planning staff were not aware that the Smith River NRA had signed an agreement with a local four-wheel drive group who adopted Road 18N13 and wanted to maintain it. When the Final Plan was released, they appealed the Forest Plan decision on the basis that it was made without adequate public input. In addition to the closure of Road 18N13, the Forest Plan called for the decommissioning of 25 miles of road annually to benefit aquatic habitats. These measures incensed a number of local individuals and groups who recreate on the Forest and believe that the Forest Service should not close existing roads or access to public lands. They felt that roads were being closed not to protect forest resources, but because people do not like OHVs. They contacted other regional and national groups, and the Forest received numerous letters, plus another appeal from a national four wheel drive association. Their concerns are illustrated in the comments below:

- The North Fork Smith Botanical Area contains the only real OHV trail system on the Forest. It appears that the designation of this area is intended to stop OHV use, rather than to preserve plant species, because some user groups and individuals object to OHV use and/or believe some OHV users might act illegally.
- The Six Rivers is willing to create any reason to close roads. It is clear that the direction of the Forest Service is to close roads and therefore, close national lands to the public. If the risk of spread of the fungus into the High Plateau area is indeed great, as Forest staff insist, then use of this road (18N09) over the last 30 years would have already resulted in introduction of the disease.
- The basis of this appeal is the plan's reduction in mileage of open Forest Service roads to recreational four-wheel drive vehicles, while the demand is rapidly increasing for areas to drive. Cutting access to those areas simply deprives four-wheel drive owners and their families from experiencing some of the most scenic parts of the forest and increases impacts to other areas.

In October 1995, the Washington Office reversed the Regional Forester's Forest Plan decision based on the fact that the Forest Plan did not specify that it made any site-specific decisions. The appeal decision also required the Forest to perform a site-specific environmental analysis under NEPA (the National Environmental Policy Act) to assess the risk posed to Port-Orford-cedar by road access in the area, and also specified that Road 18N13 remain closed until the analysis was completed. In the meantime, heavy winter rains triggered a large landslide on Road 18N09, making the road impassable and eliminating the only remaining access to High Plateau.

Taking a Strategic Approach

By this time, the two sets of public interests were highly polarized, not just about High Plateau, but about road access and Port-Orford-cedar root disease prevention measures in general. The Forest did not think that immediately performing a site-specific environmental analysis for High Plateau would resolve these differences. Instead, the Forest decided to step back and take a more strategic approach to the interrelated issues of Port-Orford-cedar protection, road access, recreational use, and the management of Botanical and other Special Interest Areas. In February 1996, the Forest leadership team agreed to undertake the following efforts:

Port-Orford-cedar Risk Assessments—The Smith, Klamath, and Trinity River basins were divided into sub-watersheds. Roads and management activities were evaluated in terms of the risk they posed to Port-Orford-cedar. The assessments identified risk levels for both roads and watersheds and proposed mitigation measures. They also prioritized watersheds for protection based on the amount of Port-Orford-cedar in the watershed, the level of risk, and the ability of the Forest to protect the watershed from infestation.

Port-Orford-cedar Plant Association Mapping--The Forest's ecology staff mapped Port-Orford-cedar plant associations throughout northern California. This effort identified the extent and location of the different Port-Orford-cedar plant associations, and also refined information on the extent of the root disease. The mapping effort provided highly detailed information of Port-Orford-cedar that is useful at both landscape and project levels.

Port-Orford-cedar Public Education--The Forest developed posters, brochures, and other information to help get the word out about Port-Orford-cedar, what the Forest was doing to prevent the spread of the root disease, and what the public could do to help. Public affairs officers worked with the newspaper, radio, and local TV on articles, news briefs and interviews about Port-Orford-cedar and the root disease. Forest staff made presentations to schools and special interest groups.

Consistent Policy Regarding Motorized Recreation--The Forest leadership team agreed to a set of guidelines for the management of motorized recreation on the Forest, including the signing of roads for OHV use, special events, public involvement, use of trails, and improved communication about the program with users.

Recreation Master Plan--Development of this plan began only recently. The Plan will evaluate recreational uses and desires in order to develop a broad-scale strategy for recreational management on the Forest. The Plan is being developed collaboratively with interested publics to develop a list of recommendations to meet desired conditions, resolve user conflicts, and provide resource protection.

Special Interest Area (SIA) Management Strategy

The North Fork Smith Botanical Area is one of seven SIAs across the Forest designated for their unique botanical, ecological, or geological features. Many of the issues and user conflicts regarding management of the North Fork Smith Botanical Area also applied to the other SIAs on the Forest. The Forest decided to take a broad look at its management of all of the areas, and to collaborate with all interested publics in developing a strategy to guide their management.

The development of the SIA Management Strategy was one of the first efforts the Forest undertook in collaboration with public stakeholders. Because some of the public perceived Forest staff members as biased in one way or another, the Forest hired an outside facilitator to help manage the process and facilitate all of the public meetings. The Forest did not hold open public meetings, but rather invited all of the groups and individuals who had expressed their concerns over the previous 10 years. The facilitator asked each to participate, and also asked for the names of other people or groups who they thought would like to be involved.

Over 30 people attended the first meeting. At this meeting, Forest staff outlined the decision space for the group, and asked that the group provide input on how they use the areas, why they value each area, concerns about management of the area, and possible management activities that could resolve conflicts and achieve desired conditions. A Forest Service pathologist also gave a presentation about Port-Orford-cedar and the root disease, explaining how the disease is spread and what can be done to prevent the spread of the disease.

Over the next eight months, a core group of about 20 people met six times. Members included representatives of environmental groups, botanical groups, OHV groups, mining claim holders, and individuals who like to recreate in these areas. This group listened to each other's interests and concerns, learned about the ecology of the areas, discussed ways to resolve user conflicts, and suggested possible actions to improve management of the areas. The groups agreed on almost all of the possible management activities, but could not agree on Port-Orford-cedar root disease prevention measures and access into the North Fork Smith Botanical Area. Instead, they developed a range of alternatives for access to the area, and asked for a team of Port-Orford-cedar experts to perform a site-specific risk assessment on the alternatives. They agreed that only alternatives with a low risk of introducing the root disease to the area should be carried forward into a site-specific NEPA analysis. Although the group could not come to resolution on access in the High Plateau area, they were very positive about the process. Many commented that they were glad to have the opportunity to hear and understand opposing points of view, and thought it was valuable for both "environmentalist and access people" to work on management strategies together.

Assessing the Level of Risk to Port-Orford-Cedar in High Plateau

In the fall of 1998, a team of two Forest Service Port-Orford-cedar experts visited the North Fork Smith Botanical Area and High Plateau. Since the Six Rivers Forest Plan was released, the Forest had remapped both Port-Orford-cedar and roads in the area, and the team combined this information with their on-the-ground observations to assess the level of risk for the alternatives developed by the public group. The team considered a number of factors in their risk assessment, including the value of Port-Orford-cedar, the hazard to the area if the disease was introduced, the level of exposure (e.g. number of vehicles, season of use, density of Port-Orford-cedar), and the susceptibility of Port-Orford-cedar to the disease once exposed. Based on their analysis, the team decided that there were only two possible ways of achieving a low risk of introducing the root disease to the area: either close all the roads, or upgrade the roads to eliminate water from the road (bridges at low water crossings, improved drainage design to eliminate standing water and ruts). The latter option would also require removal of Port-Orford-cedar in close proximity to roads.

The results of the risk assessment meant that only one of the alternatives developed by the public group was implementable; all the others needed additional mitigations (e.g. road upgrades) in order to achieve a low risk. Ironically, the road upgrades would eliminate much of the challenge that makes the roads appealing to some OHV users. And the upgrades would make the area more accessible, thereby increasing the level of use, and possibly increasing the risk of introducing the root disease.

The Forest reviewed the risk assessment, and analyzed the costs associated with the mitigations needed to keep the roads open and achieve a low risk of introducing the disease to the area. After weighing a number of factors, the Forest proposed to close all the roads (18N09, 18N13, and the spurs off these roads) in the North Fork Smith Botanical Area year-round. Because the gates that are currently in place have been repeatedly vandalized, the closure would be implemented by removing sections of road rather than gating year-round. This proposal goes far beyond the Forest's typical protection measure of seasonal gating. If implemented, it would be the first year-round closure that also restricts administrative access.

Why Propose A Year-Round Closure?

Because of the sensitivity of the area, the Forest wanted to provide a higher level of protection in the High Plateau area than is typically provided elsewhere on the Forest.

Many factors were considered in proposing to implement a year-round rather than a seasonal closure. These factors are highlighted below:

The closure is proposed within a botanical area that was designated specifically to maintain the ecological processes and unique botanical features of the area. A number of rare and endemic plants are found within plant communities associated with Port-Orford-cedar. If the disease is introduced to the area, both Port-Orford-cedar and the plants associated with it could be negatively affected.

The National Forest Management Act requires the Forest to maintain viable populations of species, and the Smith River National Recreational Area Act requires the Forest to provide for the long-term viability and presence of Port-Orford-cedar.

The High Plateau, Bear, Peridotite Canyon, and Stony Creek watersheds form the largest remaining island of uninfested watersheds in the North Fork, Middle Fork, and Main Stem Smith River; they also form the largest island of uninfested watersheds in their ecological type, making this area an important refugia. The Forest believed that the need to protect these refugia, plus the threat to a variety of plant species, warranted a higher level of protection in this area.

Keeping roads within the area open would require extensive sanitation of Port-Orford-cedar located along roads in order to remove the host from the pathogen. Forest staff did not believe that large-scale removal of Port-Orford-cedar was in keeping with the goals and objectives for management within a botanical area, particularly because Port-Orford-cedar is associated with many of the unique plant communities for which the area was designated.

Forest staff estimated that it would cost between \$275,000 and \$750,000 to upgrade the roads, install stream crossings, and eliminate drainage problems. The Forest did not think that the low level of use of Roads 18N09 and 18N13 justified the level of investment needed to upgrade the roads.

Seasonal gates in the area have been repeatedly vandalized, and the remoteness of the area makes it difficult to check on the gates and enforce the closure.

The Public Response

Because the proposed action goes beyond standard Port-Orford-cedar protection measures and eliminates road access to the High Plateau area, the Forest knew that many people would be upset by the action, particularly the members of the SIA Management Strategy group who helped develop the alternatives for access in the High Plateau area. The first thing that Forest staff did was to invite them to a meeting in order to present the findings of the risk assessment and to explain the reasons for the Forest's proposed action. At the meeting, the risk assessment team discussed their assessment and findings, and the District Ranger told the attendees why he was proposing to close the roads. The public members who advocated for keeping roads in the area open did not like the proposal; however, a number of them said that they understood the Forest's dilemma between providing access and the need to protect Port-Orford-cedar from the root disease.

The Forest issued a letter to the public in June 1999. The letter described the proposed action to close the roads within the North Fork Smith Botanical Area, and asked for comments on the proposal. The Del Norte County Board of Supervisors held a public hearing regarding the proposal, and over 60 people attended. Many provided statements to the Board, both for and against the closures.

When the Forest Service proposes an action, they typically hear primarily from those who oppose the action; people who support the action typically do not comment. However, the Forest heard from a number of people who did support this proposed action. Some of them cited recent introductions of the root disease into areas within the Kalmiopsis Wilderness and the Klamath River Basin as examples that the Forest Service's current mitigation measures are inadequate in preventing the spread of the disease. People who support the proposal believe that the road closures are the only effective means of preventing the spread of the disease into the area and protecting the unique character of the North Fork Smith Botanical Area.

Some of those who want to keep the roads open, see in the proposal, an attempt by the Forest Service to eliminate their access to their lands. They also fear that this closure will set a precedent, leading to year-round closures of other roads and other areas of the Forest to prevent the spread of Port-Orford-cedar root disease. Some of the people opposed to the road closures organized a petition and gathered hundreds of signatures to protest the proposed action. In recent Forest Service public meetings, some attendees have been quite hostile. One person threatened to dump buckets of infested soil in areas that the Forest is trying to protect, because the Forest typically does not gate areas that are already infested in the Smith River drainage.

Clearly, no amount of public involvement or education will be able to resolve this issue in a way that satisfies everyone, for it touches the core values of distinctly different publics; however, an agency whose mandate is multiple use cannot expect to always reach consensus on such thorny issues. A final decision on High Plateau has not been made.

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