

# Gordon Meadows Restoration Plan



*Don Day, Confederated Tribes of Grand Ronde elder, and Wayne Giesy, Oregon Websites and Watersheds Project, Inc. director, view flowering camas fields at Gordon Meadows on June 18, 2007*

## June 19, 2008 Final Report

Prepared for  
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Confederated Tribes of Grand Ronde

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## Mission Statements of Confederated Tribes of Grand Ronde

*The mission of the **Confederated Tribes of Grand Ronde** staff is to improve the quality of life for Tribal people by providing opportunities and services that will build and embrace a community rich in healthy families and capable people with strong cultural values. Through collective decision making, meaningful partnerships and responsible stewardship of natural and economic resources, we will plan and provide for a sustainable economic foundation for future generations.*

*The mission of **Site Protection** is to manage our cultural resources in accordance with our traditions, applicable laws, regulations, and professional standards, wherever they occur on our tribal lands, our ceded lands, and within our traditional usual and accustomed gathering places.*

*The **Cultural Collection** program's mission is to preserve and perpetuate the cultural heritage of the original tribes of the Grand Ronde community by acquiring, managing, and protecting tribally affiliated collections through exhibition, loan, and repatriation.*

*The **Cultural Education** program's mission is to preserve and perpetuate the cultural and linguistic heritage of the original tribes of the Grand Ronde community.*



## Mission of Oregon Websites and Watersheds Project, Inc.

***Oregon Websites and Watersheds Project, Inc.** shows students how to use Internet communications and scientific methodology to help manage Oregon's natural and cultural resources. Students are encouraged to use computer technology, historical documentation, scientific reasoning, community outreach, environmental enhancement projects, and effective long-term monitoring strategies to help make decisions which affect Oregon's quality of life.*

## Gordon Meadows Restoration Plan

The Gordon Meadows Restoration Plan (“the plan”) is a more formal and detailed consideration of a recommendation made in a parent report, The Owl Ridge Trails Project (“the report”). This plan and the earlier report were both written by Bob Zybach, Program Manager of Oregon Websites and Watersheds Project, Inc., (“ORWW”) at the direction of David Lewis, Director of the Cultural Resources Department of the Confederated Tribes of Grand Ronde (“The Tribe”). Funding for these projects was provided by the Tribe as a contract for services with ORWW.

The land on which this project is located is within the ceded lands of the Santiam Molalla Tribe, who resided in the Gordon Meadows area until the early 1850s (see Map 1). These are the ceded lands described in the ratified Willamette Valley Treaty of 1855, which included Molalla, Kalapuya, and Chinook Tribes and bands (David Lewis: personal communication). The land is now mostly owned by the federal government and managed by the US Forest Service as a portion of the Sweet Home Ranger District of the US National Forest Service system (“USFS”).

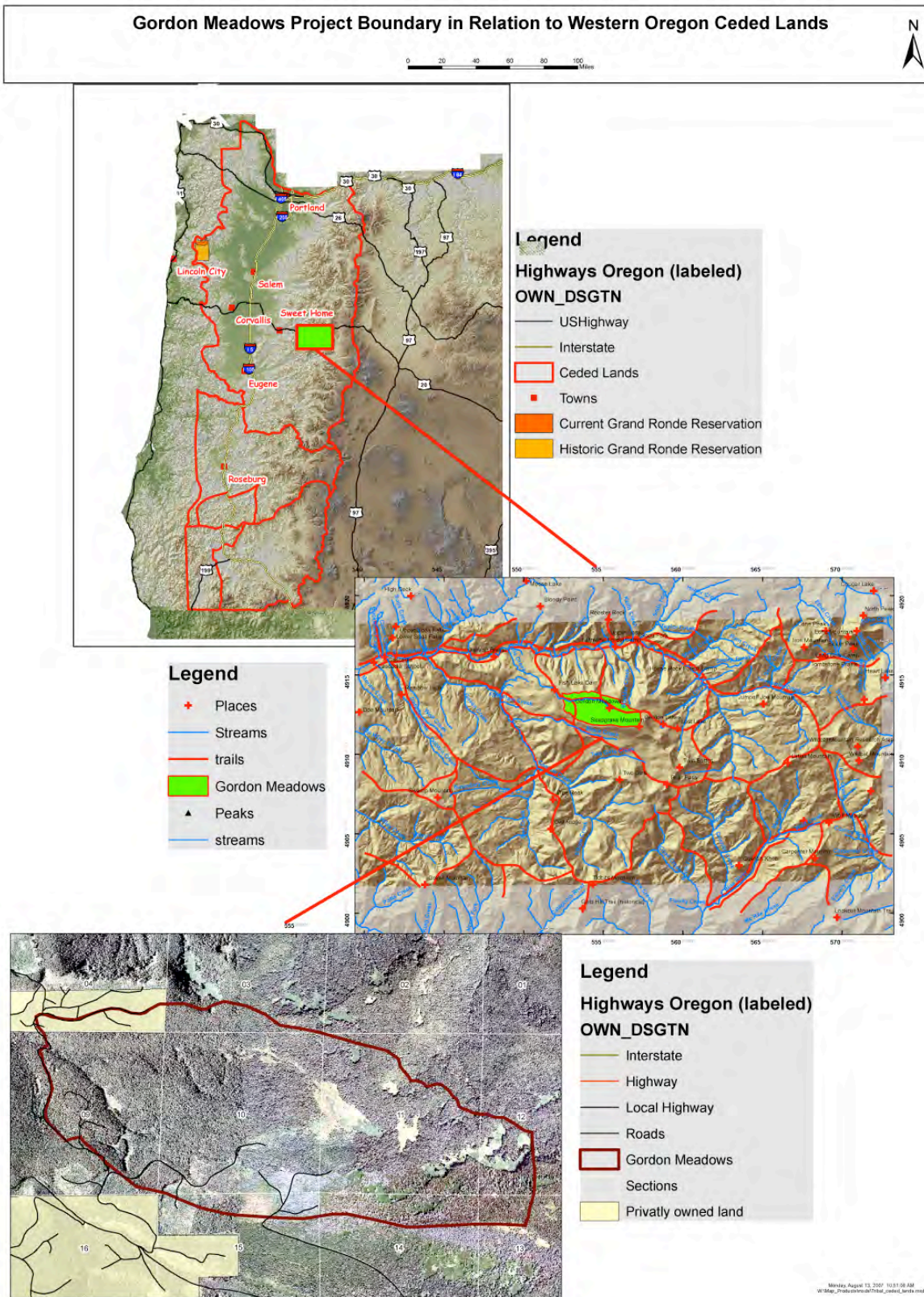
This plan has been prepared for submission to the Tribal Council of the Confederated Tribes of Grand Ronde (“the Council”) for purposes of review and for consideration of a formal resolution of support for its completion. Should such a resolution be adopted, the resolution and plan will be subsequently submitted to the USFS, along with any comments or modifications suggested by the Council at that time. The principal intent of this process is to adopt the plan as a model project of possible management options over the entire Owl Ridge Trails Project area, and for other areas of federal land ownership within the ceded lands boundaries.

Technical information, acknowledgements, formal citations, and references for this plan are included in the parent Owl Ridge Trails Project report.

### **Vision**

The Gordon Meadows Project is intended to restore a significant portion of the South Santiam and Blue River headwaters to a cultural landscape pattern representative of Santiam Molalla people at a time prior to the arrival of white occupation. Such a landscape pattern would feature a network of historical ridgeline and riparian trails, stands of old-growth conifer and hardwood trees, and a vast complex of prairies, berry patches, brakes, and meadows teeming with native wildlife, wildflowers, grasses, ferns, fruits, berries, shrubs, and saplings of all varieties.





Map 1. Gordon Meadows in relation to ceded lands of western Oregon.

Such a restored landscape would be stunningly beautiful, would help protect local communities and wildlife from catastrophic wildfire, would produce abundant stable employment for local and Tribal families, would be economically feasible, and would provide joy and recreation for many generations of people to follow.

The restored area could be used by Grand Ronde Tribal members and their descendents to hunt game, dig edible roots and bulbs, pick berries, gather firewood, and harvest seeds and weaving materials in the manner of their ancestors. Food crops could be prepared, weaving materials processed, hide and antler products manufactured, and firewood burned using the very same plants and animals used by Santiam Molalla and their predecessors for hundreds and thousands of years in the western Cascades. A goal is to restore harmony at some level between the people and their land.

A restored landscape could also restore sacred sites and provide a Tribal sanctuary for solitude and for spiritual growth and healing. There is a profound sense of place and timelessness in the Gordon Meadows area that is reflected in other locations in the Owl Ridge Trails neighborhood: Wolf Rock; Latiwi Mountain; Bear Pass; Two Girls Ridge; Dobbin Creek Falls; and other spots of likely and similar importance to Santiam Molalla, for which this project can serve as an example for restoration.

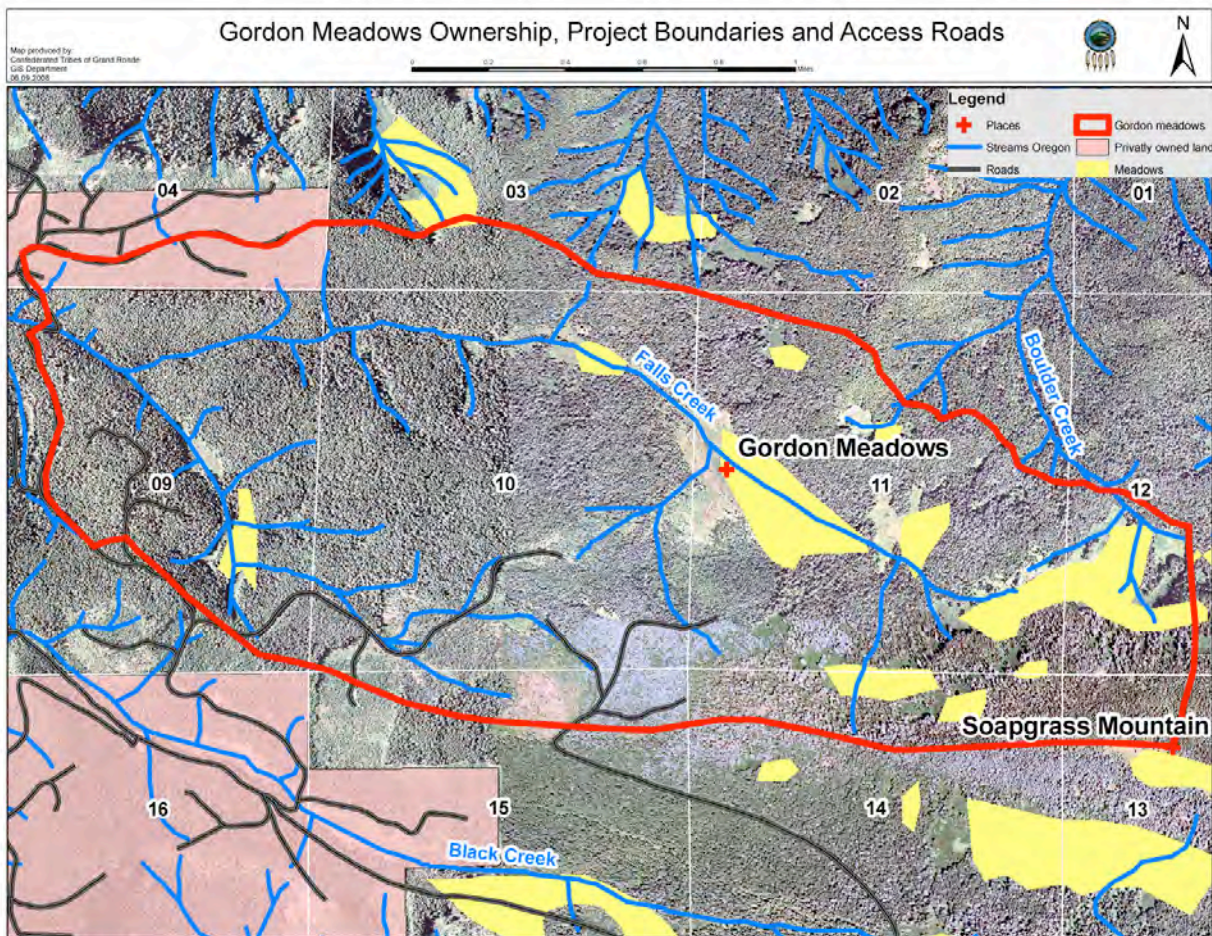
### **Project Location and Boundaries**

Gordon Meadows, in context of this plan, is located within the headwaters of the Falls Creek subbasin of the South Santiam River, in Linn County, Oregon (see Map 1). The proposed project area includes a complex of prairies, meadows, berry patches, brakes, and forested areas (see Tables 1 and 2) within portions of Sections 3, 4, 9, 11, 12, 13, 14, 15, and including all of Section 10, Tsp. 14 S., Rng 4 E.: a total of about three (3) square miles slightly more than 1900-acres in size (see Map 2).

### **Proposed Restoration Time Period**

The Gordon Meadows Restoration Plan is intended to return a portion of the Falls Creek subbasin of the South Santiam River to cultural landscape conditions that existed at the time of occupation by Santiam Molalla people prior to white contact. Santiam Molalla families were ancestors to members of the Grand Ronde Tribe today and considered time periods in a manner different than calendar years now in use. It is believed that human generations were important time frames for the Molalla, and that a period of seven generations was of particular significance.











**Map 2.** Legal and physical boundaries of Gordon Meadows prairie complex.

The lifespan of Tribal elders was also known to be an important time period. For those reasons, this plan will focus on the time that ended seven generations before the birth of current Grand Ronde Tribal elders, and that began seven generations before then. We can translate that time period to current calendar years if we consider 60 years to be the minimum age to attain “elder status,” and 20 years to be an average time between generations. Therefore, the targeted time period of this proposal would have ended 200 years ago (60 years plus seven times 20), and began 140 years (seven times 20) before then. In calendar years that would equate to the time period of 1668 to 1808, which predates historical white and Molalla contact -- with the possible exceptions of incidental contacts with Broughton’s expedition to the Cascades by ship in 1792 and Lewis and Clark’s visit to the Columbia River in 1805-1806.

For purposes of this proposal, and using the assumptions and considerations just listed, the targeted time period will be from 1670 to 1810 -- or a period of about seven generations of Santiam Molalla ancestors.



**Table 1.** Gordon Meadows forest, prairie, and meadow complex.

	
Native grasses and conifer plantation	Beargrass meadow and invasive conifers
	
Camas, buttercups, and invasive conifers	Wildflower varieties and willow
	
Bracken fern, willow, and huckleberries	Grasses, wetlands, and second-growth

## Goals

The primary purpose of this proposal is to achieve the following goals:

**1. Restore and maintain Santiam Molallan cultural landscape patterns.** This is the principal goal of this plan. The reasons for achieving this result are listed briefly in the vision statement.

**2. Recreate traditional Molallan hunting, gathering, and resource management practices.** The knowledge and practice of skills belonging to Santiam Molalla have been largely lost or forgotten. Restoration of Tribal landscapes would make it possible to achieve other desirable results and to perform past practices associated with those results. The restoration of regular landscape burning, firewood gathering, pruning, tilling, weeding, and harvesting of food crops, basket weaving, cooking, and carving practices would all be made possible in a more natural environment; one more conducive to learning and enjoying these activities. These actions would likely lead directly to the restoration of seed, bulb, berry, fiber, and fuel productivity of native plants. The reestablishment of traditional hunting activities would likewise lead to a better understanding and capability of restoring and maintaining native animal populations and their habitat.







**3. Reduce wildfire threat to local communities and native wildlife populations.** The restoration of meadows and prairies and the elimination of dead wood and ladder fuels from stands of old-growth will create open corridors and forest openings that cannot carry deadly crown fires. The reintroduction of regular burning and firewood harvesting practices will maintain access and lowered fuel conditions that are conducive to managing ground fires and other wildfire conditions that may develop via lightning strikes, human carelessness, or escaped controlled burns. The combination of reduced crown fire occurrences and increased wildfire management capabilities will aid in the protection of local plant and animal populations and provide increased safety for human visitors and nearby communities. The results would be increased dramatically should this demonstration project be replicated across large areas of the landscape.

**4. Protect historic old-growth tree populations.** The removal of competing ladder fuels and dead litter on the forest floor (see Table 2) will directly result in increased health and protection of remaining old-growth trees and stands. (See also the discussion on “Old-growth” later in this report.)

**5. Develop local and Tribal employment opportunities.** The restoration of grasslands and forest stands, as described later in this report, will produce a



**Table 2.** Gordon Meadows forested areas.

	
<p>Invasive second-growth conifers</p>	<p>Old-growth and invasive ladder fuels</p>
	
<p>Second-growth conifers, elk, and willow</p>	<p>Falls Creek tributary elk crossing</p>
	
<p>Various conifer ages and species</p>	<p>Snow breakage and windfall</p>

significant amount of employment associated with primary restoration efforts. These jobs include logging, cutting, pruning, burning, and equipment operation jobs at the project site, and planning, trucking, manufacturing, equipment repair, and other support jobs in local and Tribal office locations. Burning, pruning, harvesting, and marketing practices associated with the use and maintenance of the restored landscape will require regular and steady employment for so long as the project exists.

#### **6. Enhance forest aesthetics and local recreational opportunities.**

Tables 1 and 2 provide an indication of the beauty and safety that can be achieved by restoring the Gordon Meadows area to early historical conditions. Hiking, hunting, camping, and photography activities would all be enhanced by the increase in grasslands, wildflower populations, and access to old-growth. Reductions in wildfire and windfall hazards would add to the comfort and safety of visitors. The addition of bulb digging, berry picking, food preparation, basket weaving, and other traditional practices would greatly broaden recreational opportunities. Spirit quests and other cultural activities requiring solitude and contemplation would also be enhanced in more traditional settings.

#### **Funding**

This project can likely be completed at no cost to the Tribe or USFS. This is because of the significant number of logs and quantity of chip products present in the Gordon Meadows area that need to be removed in order to restore grasslands and to protect old-growth. The value of these forest products has been estimated to be sufficient to pay for the thinning, pruning, and broadcast burning operations needed to achieve a restored cultural landscape pattern.

If this proposal can be completed on a stewardship or demonstration project basis with the USFS, Freres Lumber Co. has expressed an interest and a certain amount of confidence in performing the project at cost, or possibly even at a profit (Rob Freres: personal communication, May 14, 2008). As remaining trees die or are thinned and salvaged, additional revenues will accrue over time. These amounts of income can be supplemented with use fees, berry harvests, hunting permits, or other methods to maintain desired landscape conditions. Because this is intended to be a demonstration project, the manner and methods of paying for these operations will be of special interest.

#### **Restoration Methods**

Methods for restoring and maintaining desired landscape conditions have been alluded to in the previous parts of this report and are covered in more detail in

*Final CTGR/ORWW Report: June 19, 2008*



discussions of restoring specific vegetation types in the following pages. Actions that are generally needed to successfully complete this project are listed below:

**Historical research.** In order to restore the Gordon Meadows area to past conditions it is important to perform comprehensive historical research to help determine what those conditions likely were. Sources of information include archaeological reports, anthropological interviews, original land survey notes, eyewitness accounts, aerial photographs, historical maps, documentary photographs, and expert interpretations of these materials. Once this research has been completed, a better idea of historic prairie and meadow extent, forest tree species and distribution, and plant management methods will be achieved. This knowledge can then be put to use for specific planning purposes, including the listing and methods of meeting needed plan objectives.

**Product harvesting.** Logging will need to be performed to remove competing trees and ladder fuels from stands of old-growth and from the perimeters of degraded grasslands. These products will then need to be transported from the project site to sorting and manufacturing locations. Mowing and raking operations will be needed to remove basal fuels from old-growth trees and from the forest floor. Rank vegetation will need to be pruned from overgrown willow and huckleberry stands to rejuvenate them and to prepare these areas for the needed reintroduction of regular burning practices. These actions will result in merchantable products that can be marketed to finance the cost of most or all operations needed to fully implement this proposal.

**Burning.** Maintenance of grasslands, brakes, berry patches, and old-growth trees is known to require the regular use of fire. Preparing the landscape for the reintroduction of cultural burning practices is dependent on the logging, mowing, raking, and pruning practices just described. Chipping tree tops, limbs, ground litter, and rank vegetation will likely result in merchantable products in most instances, but may also be necessary in areas where harvesting chips is impossible or economically impractical. In such areas where chips cannot be reasonably removed from the project site, they can be distributed along the ground and allowed to decompose before burning is reintroduced. By these methods fire can be more readily controlled during planned burning operations, and the effects on soil and remaining vegetation is more likely to be beneficial rather than harmful.

**Cultivation.** As retained trees die or shed their parts during wind, ice, or snow events, they can be salvaged for firewood (as done regularly by Santiam Molalla), or used for commercial log or chip products, to help finance other needed landscape maintenance practices, such as periodic trail repair and broadcast burning operations. Beargrass and willow can be systematically

burned and harvested for basket weaving products, and huckleberries, blackberries, strawberries, elderberries, ferns, and fern roots can be harvested for Tribal needs or commercial purposes. Camas and tiger lilies can be dug for similar reasons. Seed can be gathered from buttercups and native grasses for food preparation and restoration purposes. Edible greens and barks can also be gathered for their food value, or for other traditional uses. The same opportunities exist for medicinal plant uses, natural dyes, carving materials, and other native plant and animal products. The combination of these practices, if systematically and diligently applied across the landscape, will result in cultural patterns that can be economically and ecologically maintained over long time periods. The cultural and recreational value of these practices should be apparent, as should their value to the long-term maintenance of local native plant and animal populations.

### Vegetation Types

The wide variety and diversity of native species and vegetation types is illustrated in Tables 1 and 2 and documented in the parent Owl Ridge Trails report. Four principal vegetation types are of particular interest to this proposal because of their associate with Santiam Molalla culture: 1) old-growth conifer trees; 2) camas prairie; 3) huckleberry fields; and 4) beargrass meadows.



**Old-growth.** Numerous conifer trees of several different species exist in the Falls Creek basin that are many hundred years of age. Some of these trees appear to have existed during the entire 1670 to 1810 time period that is the focus of this proposal, including the tree pictured to the left. If this tree had, in fact, been in existence 350 years ago, it may have likely been as a sapling or second-growth. Note that the younger trees currently crowding this giant relict are not only competing for sunlight, water, and nutrients needed for its continued sustenance; they are also providing ladder fuels that can reach the larger trees upper branches and readily kill it during a forest wildfire. Dead wood and debris around the tree's trunk can also kill it during a ground fire by girdling the tree of living tissue around its base.



In order to protect and maintain existing populations of old-growth conifers in the project area, it is helpful to consider such trees in context to their younger, healthier, and life-threatening progeny. For this purpose I have defined five basic age groups of Gordon Meadows' conifer trees: 1) super old-growth, 2) old-growth, 3) large second-growth, 4) second growth, and 5) young trees. The following paragraphs describe each of these groupings in more detail, and suggest a management strategy for maintaining traditional stands of healthy old-growth into the foreseeable future.

**Super old-growth.** These are the trees that were living before 1670. Many of them were likely old-growth even at that time. These trees are more than 335 years old at the time of this writing, and were likely familiar (or even well-known) to the Santiam Molalla and their visitors during the 17<sup>th</sup> and 18<sup>th</sup> centuries. They are the largest, grandest, most obvious, and among the most threatened cultural landscape artifacts remaining at this time.

The highest priority should be given to preserving and restoring all super old-growth trees, snags, and stumps for so long as evidence of their existence remains. All dead material should be cleared around their basal areas to mineral soil for a distance of at least 20 feet. All competing large second-growth and younger trees should be removed to ground level for at least a tree length of each living tree. For each living super old-growth with a dead top, the largest and healthiest nearby large second-growth should be preserved as a replacement. For each super old-growth snag or stump, the two largest, healthiest, nearby large second-growth should be preserved. In areas where logging has taken place, or invasions of competing conifers has been more recent, the three largest and healthiest nearby second-growth should be selected. If only younger trees are available, then the three largest trees of the same species should be selected for preservation. Selected trees should also be cleared of dead basal material to mineral soil for at least 20 feet. In instances where no replacement trees of similar size or of the same species are located, then healthy seedlings of the same species should be planted in spatial patterns similar to remaining or documented historical patterns. As replacement trees die or shed parts, dead wood should be routinely harvested for firewood or marketing in order to eliminate fire hazards. Should changing climate or weather conditions cause mortality problems in super old-growth or their replacements, then more adaptable conifer species should be selected for future stand maintenance needs.

The purpose in using more trees as replacements for the super old-growth is to anticipate occasional mortality or mass tree-killing events or conditions. As these replacement trees age, some thinning of live trees may be considered. As fuels develop in the forested understories, they should be routinely broadcast burned in order to eliminate basal girdling, competition, and crown fire

potentials. Where old-growth are scattered through berry patches, brakes, or grassy prairies, burning should be regularly performed at schedules that most favor the understory plants.

**Old-growth.** These trees began growing after 1670 and before 1810. They are generally more than 200 years old, but less than 335 years old at the time of this writing. Most of them would have been familiar parts of the landscape to Santiam Molalla and local visitors during the latter portions of the targeted time period of this proposal. The treatment of old-growth trees should be identical to that of super old-growth, but the number of replacement trees should be more conservative. This is to insure that desired cultural landscape patterns do not become cluttered with an overabundance of snags, stumps, and replacement trees. It is unlikely that much dead tree material was ever allowed to accumulate during the time of Santiam Molalla occupation because of the regular practices of firewood gathering and broadcast burning. There is no evidence that so many old trees existed in the environment during that time, nor even so many total trees as is now being proposed. It is suggested that 1.5 healthy, nearby large second-growth, or two smaller trees, be left as replacement for each dead-topped old-growth, old-growth snag, or old-growth stump. Consideration of age, size, proximity, spacing, and species selection should otherwise be the same as for super old-growth replacement trees.

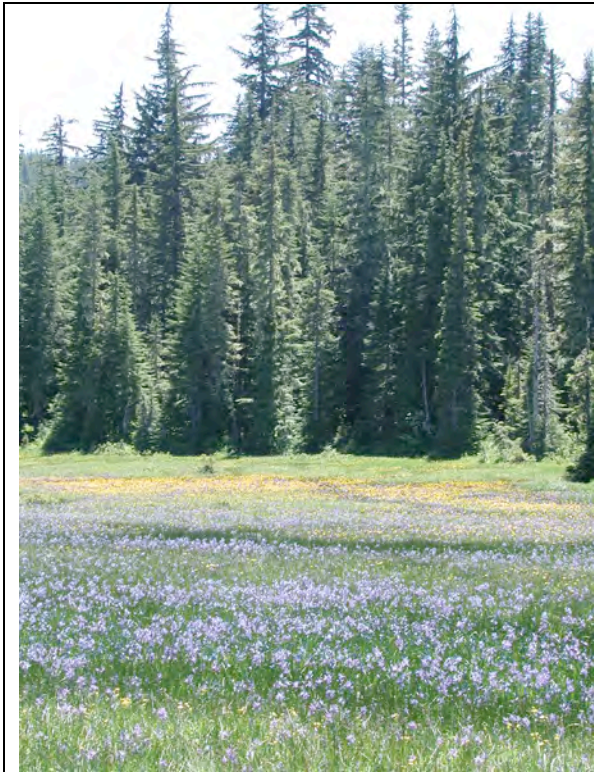
**Large second-growth.** These trees are more than 80 years old, but less than 200. For purposes of this proposal, their highest and best use is as replacement trees for dead, dying, or aging old-growth and super old-growth. All others should be harvested and their stumps cut as flush to the ground as possible. It is likely that the greatest market value for products harvested during the restoration process would come from this population. In addition to selling logs from these trees, tops, limbs, and stumps could be chipped and sold as fuel for energy production.

**Young second-growth.** These trees are 30 to 80 years of age, and of generally merchantable size. Their treatment would be the same as for large second-growth, but their open market value and possible use as replacement trees for old-growth would be secondary to large old-growth. They are more likely to be of a different species than old-growth or super old-growth, and their selection as replacement trees may be inclined more toward their species, rather than for age or size as with large second-growth.

**Young trees.** These trees are 30 or less years of age and more likely to be plantation Douglas-fir or shade tolerant seedlings and saplings than of the same species as old-growth or super old-growth. They are the last choice as replacement trees and can generally be characterized as seedlings, saplings, or



poles have little market value. In most instances, trees belonging to this age class should be completely removed from the environment and kept from recurring through regular broadcast burning practices. In the few instances where insufficient large second-growth or second-growth exist to serve as replacement trees for old-growth and super old-growth, then planted trees of an appropriate species may better serve the restoration goals of this plan rather than the young trees that currently exist in the environment.



**Camas.** Gordon Meadows is largely characterized by an extensive camas prairie that was undoubtedly harvested and maintained by Santiam Molalla women and children during late spring, summer, and early fall months, while the prairie was free of snow. A thick thatch now covers most of the camas fields, and bulbs appear to be crowded too close together to allow for full development. These conditions have probably been exacerbated by more than a century of livestock grazing and compaction, and by the near lack of regular harvesting or burning in more than 150 years. Despite this abuse and neglect, the remaining stands are in excellent condition for restoration. Experimental methods of thatch removal are probably a good beginning point for restoring these prairies to past cultured conditions.



**Huckleberries.** Several varieties of huckleberries exist in tracts that were once obviously much larger in size than their present extent. These tracts have become compromised by rank growth of unmanaged shrubs and seedlings, and by extensive invasion of conifers from scattered old-growth and from adjacent stands of second-growth. Restoration will include the systematic removal of most invasive conifer trees to historic field boundaries and pruning before burning.



**Beargrass.** The headwaters of the Falls Creek basin form on the western slope of Soapgrass Mountain -- which is another name for beargrass. Santiam Molalla likely ate bulbs of this plant, and two-year old leaves were carefully gathered for weaving and trading purposes. Plants were thus managed by systematic digging and by period burning and the pruning of leaves. These methods, in addition to the removal of invasive conifers, should be sufficient to restore these meadows.

**Conclusions**

This proposal has the principal goal of restoring historic Santiam Molalla cultural landscape patterns and practices to a portion of the USFS Willamette National Forest in Linn County, Oregon. There are multiple benefits associated with this plan, including restoration of an important visual aspect of Oregon history, the protection of native wildlife and human lives and communities from wildfire, improved local and Tribal job and cultural use opportunities, the preservation of historic old-growth trees, and the enhancement of native plant and animal habitat. The cost of implementing this demonstration project can likely be borne by the judicious harvesting and processing of excess trees and other plant materials already present on the site.



Grand Ronde Tribal members and guests visit Gordon Meadows on July 26, 2007. Activities included camas digging, berry picking, seed gathering, talk, and meditation.

## **Project Collaborators**

In order for this proposal to be successful, it is critical that the Grand Ronde Tribe assumes a leadership position, and that the USFS display a strong willingness and capability to fully cooperate with Tribal goals and directives.

Freres Lumber Co. has expressed a strong interest in purchasing products and performing associated operations needed to complete this project, and Oregon Websites and Watersheds Project, Inc. (ORWW) has demonstrated the capability to perform needed research, planning, and public outreach functions.

Other potential collaborators who have expressed an interest in aiding or otherwise supporting this proposal include Cascade Timber Consulting, Inc., of Sweet Home, the Rocky Mountain Elk Foundation, and the Nature Conservancy.

**Steering Committee.** To help facilitate and ensure the implementation and successful completion of this plan, it is highly recommended that a “Gordon Meadows Steering Committee” be formed of representatives of key participating organizations. The proposed committee should include between four and seven individuals, representing the US Forest Service Willamette National Forest, Confederated Tribes of Grand Ronde, ORWW, and Freres Lumber Co., at minimum, and Rocky Mountain Elk Foundation, Cascade Timber Consulting, Inc., and The Nature Conservancy as possible additions.

This combination of leadership, resource managers, expertise, and landowners is sufficient to complete this project in a timely, professional, scientifically sound, and economically efficient manner.

The added cooperation of interested members of the public, environmental organizations, other public agencies, academic institutions, local governments, and supportive businesses would greatly enhance the likelihood and quality of success of this proposal. Every effort should be made to gain the trust and assistance of such people and organizations wherever possible.