

# Cool Soda

## All Lands Restoration Proposal



Cascade Timber  
Consulting, Inc.

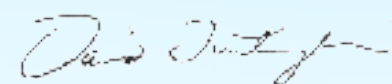


October 2012





Cascade Timber Consulting (CTC), the South Santiam Watershed Council and the Sweet Home Ranger District of the Willamette National Forest have a history of working together. As leaders of our respective organizations, we wanted to further this relationship and look for innovative ways to help each other as we manage lands and support the local economy. We asked a team of Forest Service and CTC employees to consult with local and regional experts, come up with action-oriented ideas and share these ideas with our public stakeholders along the way. “All Lands” means that we wanted this team to look for project opportunities across all ownerships in the project area. This restoration proposal represents a combination of projects that can be implemented in the near term as well as ideas for the long term that need time to develop. The team focused on the 10,000-acre Soda Fork Creek drainage in the upper South Santiam River, but this is only the beginning of much larger collaborative building in Linn County, Oregon.



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District Ranger,  
Sweet Home Ranger District,  
Willamette National Forest



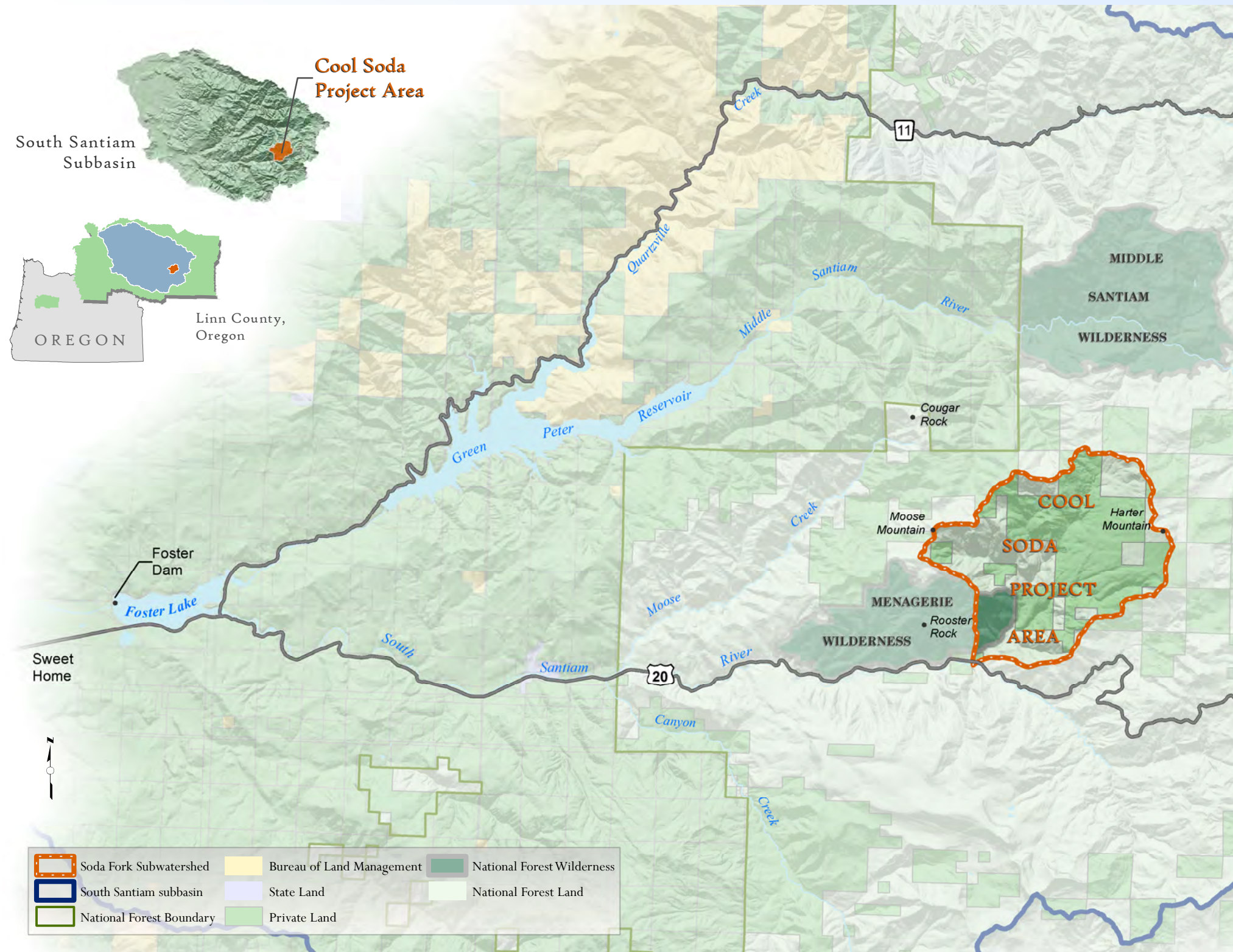
Eric Hartstein  
Coordinator,  
South Santiam Watershed Council





# Cool Soda Planning Area

## Context within the larger landscape...



- The name “Cool Soda” for this project comes from a combination of Cool Camp, an historic trail shelter and later logging camp after World War II, located at the top of the watershed, and Soda Fork Creek, the main tributary to the upper South Santiam River that flows through the project area.
- Harter Mountain on the northeast side of the project area and Cougar Rock a few miles north and west of the project area are sacred places for the tribes. In addition, many of the early native “way trails” converge at the highest elevations of the Soda Fork sub-watershed.
- This project has checkerboard public and private land ownership which is a rare pattern for Willamette National Forest on the west slope of the Cascades. Within the Cool Soda project area, about 60% of the landbase is private and 40% is public. This ownership pattern lends well to an “all lands” approach.
- Historically, this area had fires that typically burned with mixed severity, meaning that there would have been a high diversity of wildlife and vegetative habitats from meadows to dense forest.
- Lower Soda Fork Creek is included in a group of streams within the upper South Santiam Watershed considered strongholds for winter steelhead. The others are Moose Creek, Canyon Creek and the upper South Santiam River.
- Through the late 1980s, management on public and private lands here was very similar. There are many miles of roads under long-term cost share agreements, meaning that these roads are maintained jointly by the Forest Service and Cascade Timber Consulting.
- Forest Service lands in this area are predominately Matrix lands under the Northwest Forest Plan, meaning that their emphasis includes timber production outside of stream side Riparian Reserves. Similarly, private industrial lands are managed to maximize timber production.
- Recreational use in the Cool Soda project area includes scenic driving, dispersed camping related mostly to seasonal hunting of deer and elk and access to the Middle Santiam Wilderness.



# Local History of the Cool Soda Area



Kate Chantell, Molalla Indian, also known as Molalla Kate



**Establishment of Forest Reserves -**  
After President Grover Cleveland proclaimed the first federal forest reserves in 1893, the General Land Office established the Cascade Range Forest Reserve (492,800 acres). In that same year, the town of Sweet Home was incorporated.

**Beginnings of a National Forest -** In 1907, after the transfer of federal forest reserves to Gifford Pinchot's newly formed Forest Service, the Cascade National Forest was established (5,886,840 acres). In 1911, the Oregon reserves were rearranged and the Santiam National Forest was established (710,170 acres). Archie Knowles (pictured right), was an early horseback ranger for the new National Forest.



**Willamette National Forest Established -**  
In 1933, the remnants of the Cascade and Santiam National Forests were combined to form the Willamette National Forest as it is known today (1,678,031 acres).



**Highway 20** road construction completed

Pre-European

1866



**Santiam Wagon Road Lands -**  
On July 5th, 1866 an act of Congress grants odd numbered sections to the Willamette Valley & Cascade Mountain Wagon Road Company in exchange for the construction of the Santiam Wagon Road between Albany and Ontario, Oregon (about 350 miles).

1875

**Early land speculation -**  
Charles Altschul of New York purchases the Santiam Wagon Road sections for the beneficial interest of the investment company Lazard-Freres of Paris, France.

1893



1907

1910

1911

1917

**Shifting ownership -**  
Santiam Wagon Road property is sold to the Oregon Western Colonization Company, jointly owned by Watson P. Davison and Louis W. Hill.

1933

1939

**Beginning of the Hill Family Trust -**  
On August 16, 1917, Louis W. Hill ends his interest in the Oregon Western Colonization Company by accepting most of the timberlands in the west part of the granted lands. Shortly thereafter, he set up three separate trusts for his wife, his children and himself.







**Wartime and Post-war Support from Timberlands** - In 1942, Timber Service Company (TSC) was established and contracted to supply wood from private lands to the World War II war effort. TSC supplied saw logs to Santiam Lumber, later known as Willamette Industries, Inc. After the war, a time of intensive road building and timber harvest occurred on both Forest Service and CTC lands to supply timber products to a growing population in the Northwest. Over 60,000 log trucks came off these lands and the majority of the 72 miles of forest roads in the Cool Soda project area were built to haul this timber.



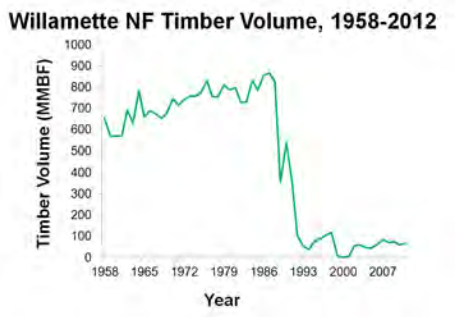
**Foster Dam** opened by Army Corps of Engineers on the South Santiam River for the purposes of flood control and power generation.



**Menagerie Wilderness established** – In 1984, twenty years after the Wilderness Act came into being, Senator Mark Hatfield of Oregon guided a bill through Congress that, among other things, created this 4,800-acre wilderness. The eastern portion of the wilderness extends into the Cool Soda project area.

**The First Forest Plan** is adopted for the Willamette National Forest to guide forest management.

**The Northwest Forest Plan** was adopted for the federal forests within the range of the Northern Spotted Owl and shifted focus from timber harvest to a combination of ecological restoration and resource protection with timber harvest as a much smaller emphasis.



**Land Exchange** between Forest Service and CTC that brought portions of three sections in the Cool Soda project area into CTC ownership.

1942

1957

1968

1977

1984

1985

1990

1994

1995

1996

2012



**A History of Sustained Yield Management** - CTC first contracted with Forestry Consultant David T. Mason in the 1920s (Later Mason, Bruce and Girard). In the late 1950s, CTC established the 52-acre David T. Mason Seed Orchard, one of the first seed orchards in the Pacific Northwest set up to produce fast growing, high quality seedlings for reforestation.



**Willamette Industries, Inc.**

The last contract with Willamette Industries ended and the Hill Family Trust shifted to in-house management and sale of timber.

**Land and Resource Management Plan** for the Willamette National Forest adopted to guide multiple use management.

**The South Santiam Watershed Council (SSWC) formed** - This non-regulatory, grass roots organization was formed in 1995 to provide a voice to local people in managing natural resources. Working closely with a diverse group of stakeholders, the SSWC pursues grant funding for restoration, environmental education and watershed assessments and monitoring.





# What is this Landscape About?

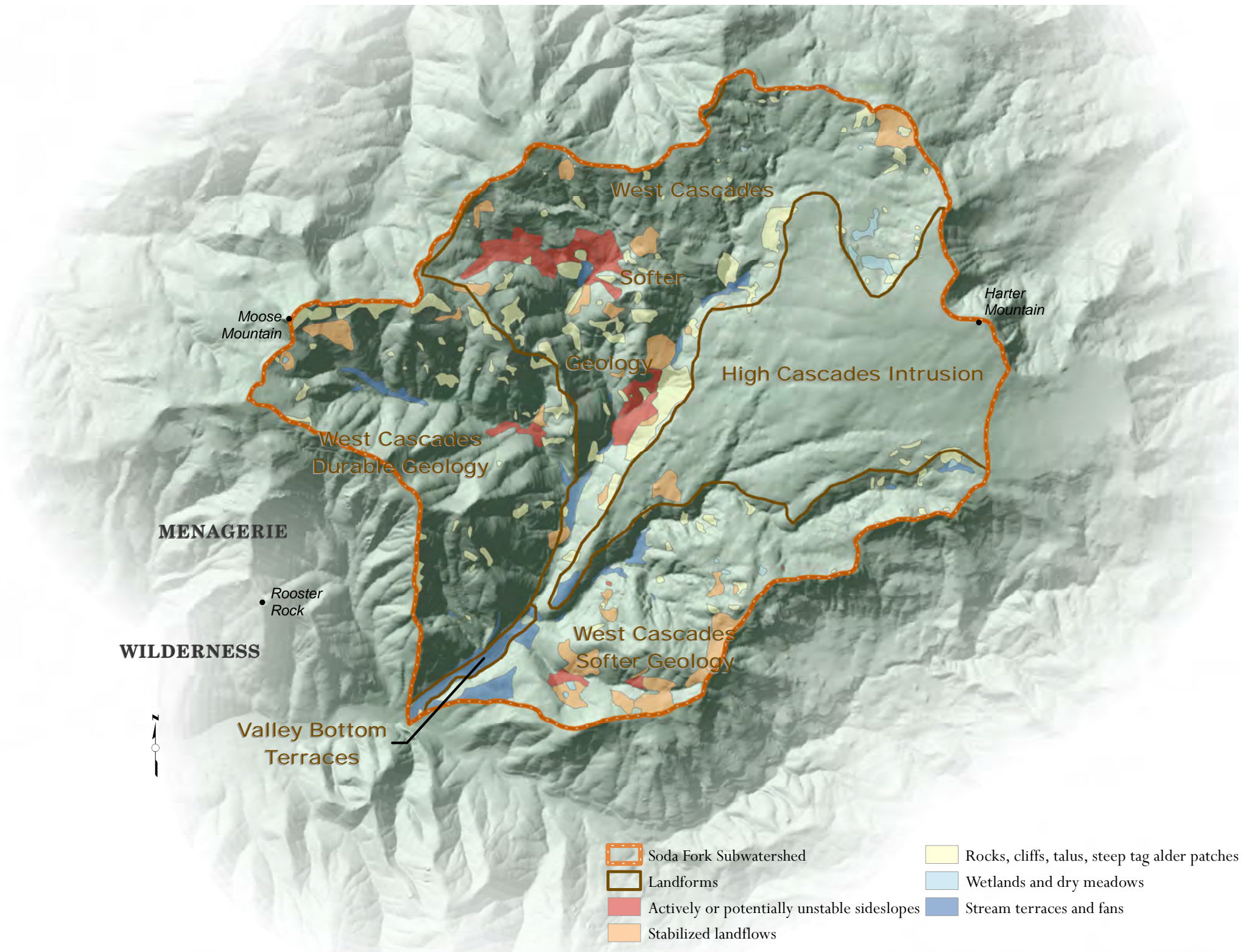
## Natural Foundational Processes - *Geology and Landforms*

*West Cascades, Softer Geology* - This terrain includes unstable areas that are eroding rapidly, and providing gravels and large wood to the streams. These deposits range from 17 to 25 million years old. This topography forms where portions of the geology are softer rocks formed from ash deposits as well as harder lava flows. The lumpy and hummocky terrain is formed by slumping hillsides.

*West Cascades, Durable Geology* - This terrain is dominated by harder, erosion resistant, impermeable rock, steep slopes and shallow rocky soils, resulting in rapid runoff and high intensity flooding. Like the West Cascades, Softer Geology, these deposits range from 17 to 25 million years old. This topography forms where the geology is dominated by harder lava flows and remnant volcano cores. These powerful stream systems require special attention to road/stream crossing structures to accommodate the powerful runoff from storms.

*High Cascades Intrusion* - This high flat area in the northeast portion of the Cool Soda project area is formed by a newer lava flow that filled in an ancient valley. This landform was formed by an isolated volcanic vent that opened up at Harter Mountain between 780,000 and 2 million years ago. While this flat is highly permeable with little runoff during storms, it serves as storage for groundwater that is released in summer. At the base of this landform, springs drain the large groundwater reservoir directly into Soda Fork Creek, keeping it unusually cool throughout the summer.

*Valley Bottom Terraces* - These are the areas where all the eroded material, especially from major landslides, stops and settles. It provides recruitment of gravels and large wood as the stream changes location over time. The more recent lower terraces also provide floodplains for small fish to find refuge during flood events.



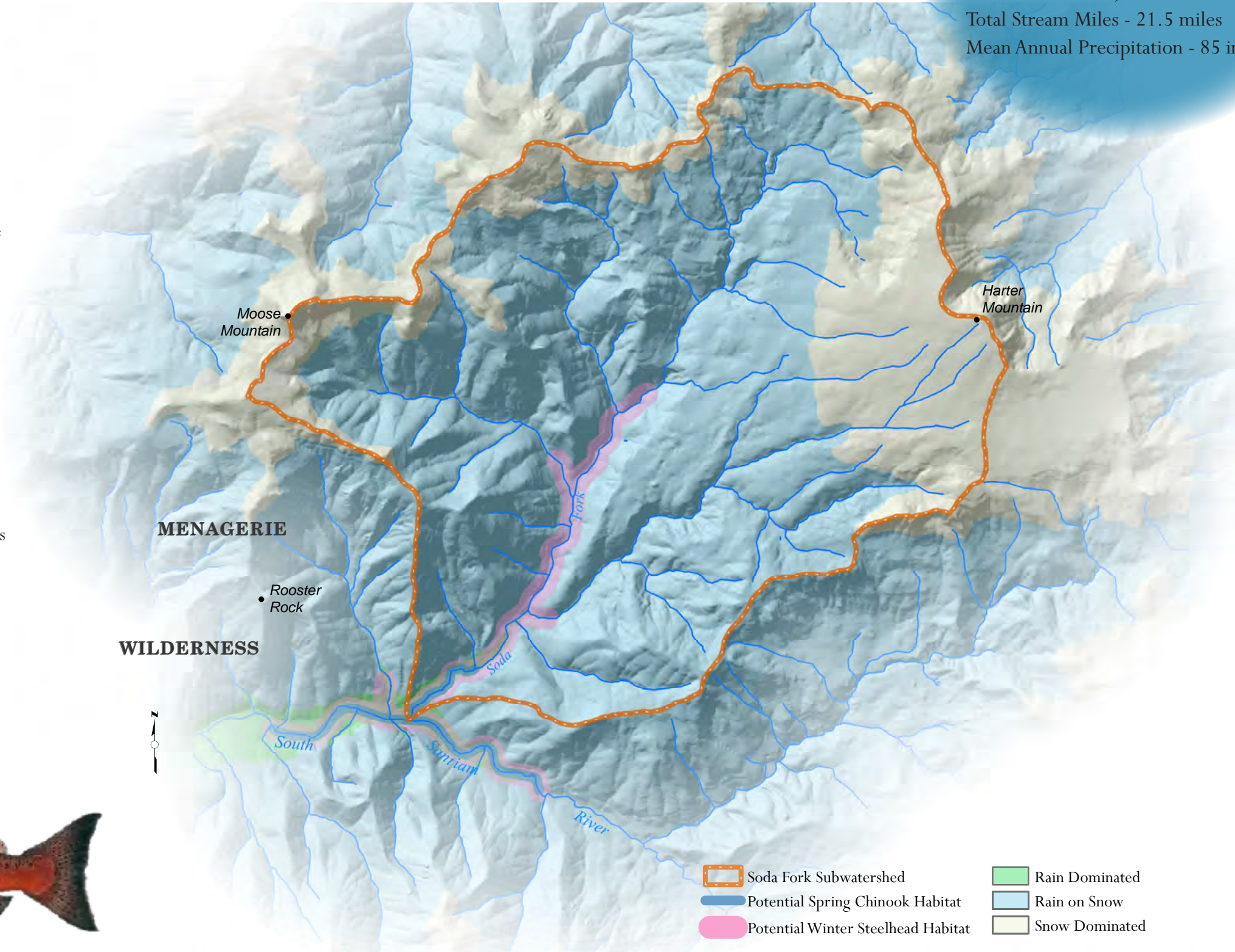


# Natural Foundational Processes - *Hydrology and Fisheries*

**Hydrology** – The Cool Soda project lies in the Soda Fork Creek drainage area. While small portions of this area have snow dominated (Harter Mountain area) and rain dominated (near the mouth of Soda Fork Creek) hydrology, the majority of the area is rain-on-snow dominated. This means that warm spring rains can quickly melt winter snow pack, creating large flood events. This has implications for the amount of wood and gravel that can quickly move through this stream system as well as fish habitat that is naturally created when this happens.

**Fisheries** – This map shows the potential habitat for both spring Chinook and Winter Steelhead, sea going species native to this area. Spring Chinook spawn primarily in main stem rivers with larger cobbles and gravels. A natural barrier limits spawning potential for spring Chinook to the lower 0.6 miles of the Soda Fork main stem. Winter steelhead tend to thrive in steeper, boulder dominated streams and are able to navigate barriers that spring Chinook cannot pass. As such, their historic range likely extended nearly 3 miles up Soda Fork Creek. Resident fish like cutthroat trout and sculpin, along with two species of lamprey eel, also made their home in these waters.

*Basin Characteristics*  
Area - 16.3 square miles  
Max. Elevation - 4,820 feet  
Min. Elevation - 1,420 feet  
Total Stream Miles - 21.5 miles  
Mean Annual Precipitation - 85 inches



Winter steelhead\*



Spring Chinook\*

\*Illustrations by Joseph Tomelleri



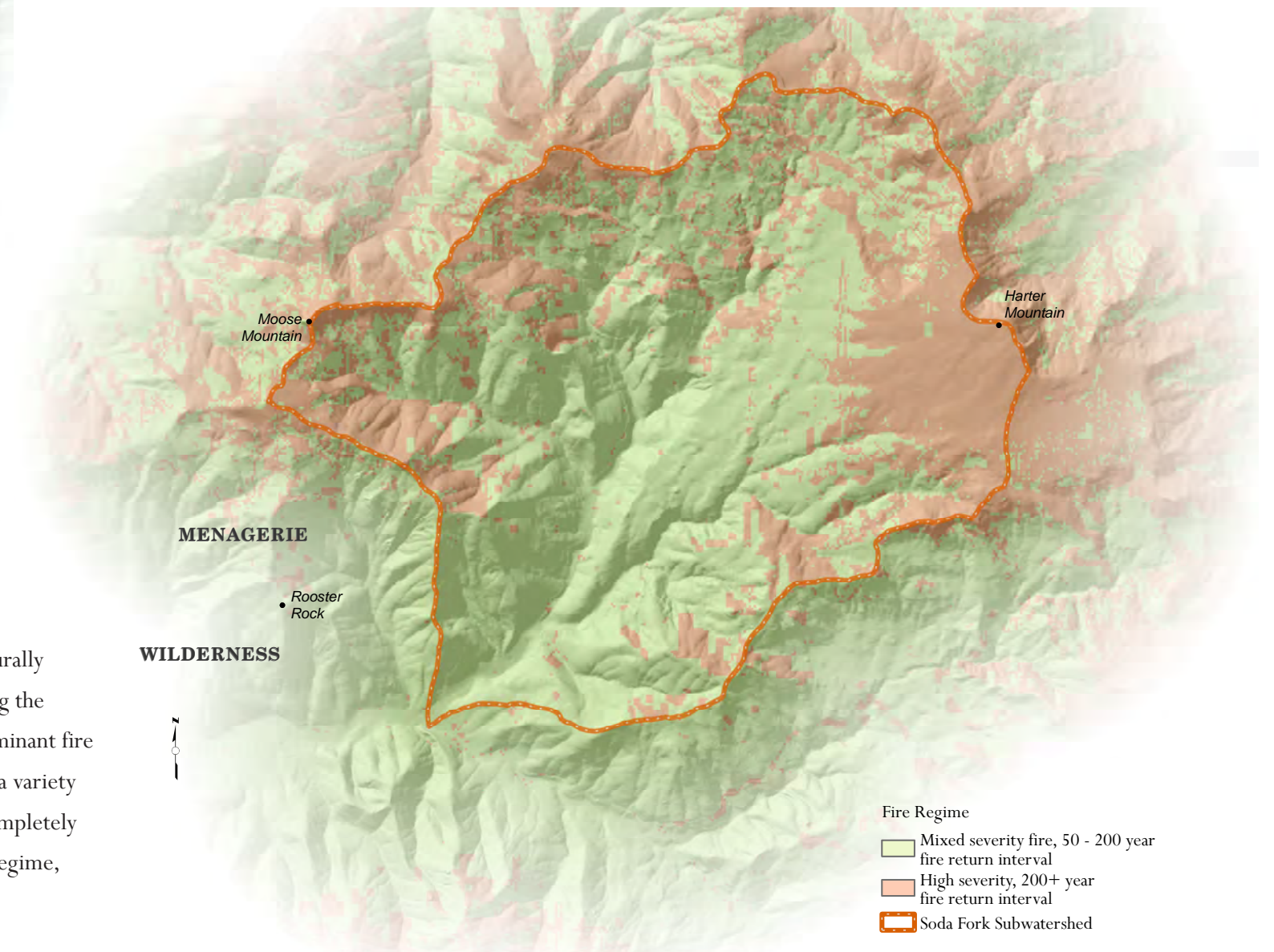
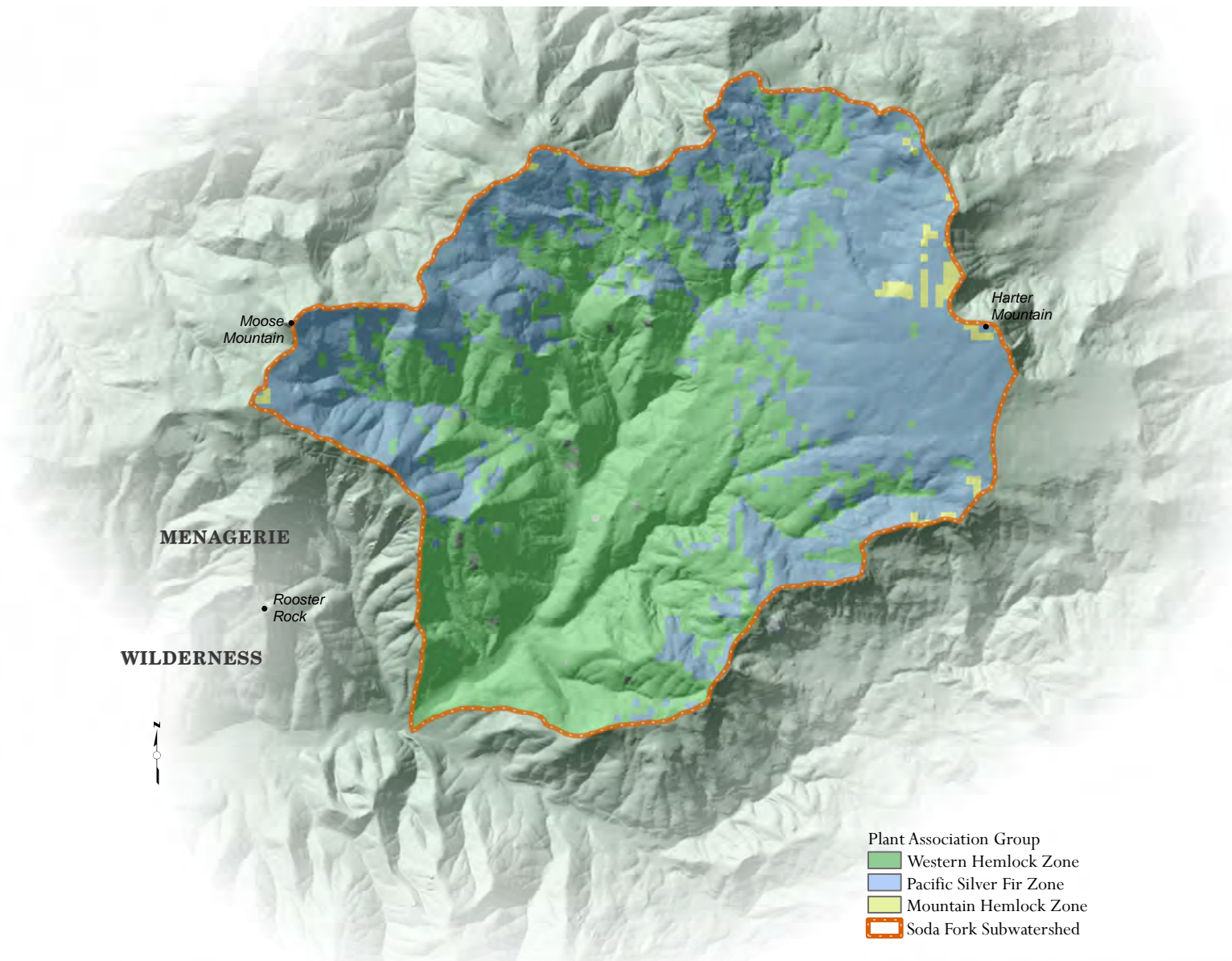
# What is this Landscape About?

## Natural Foundational Processes - *Plant Associations and Fire Regimes*

**Plant Associations** are classifications of plant communities growing under similar environmental conditions such as temperature and moisture regimes, light and soil nutrients. These environmental factors influence the distribution of the plant communities across the landscape.

Plant association series within the Cool Soda planning area include western hemlock, Pacific silver fir and a minor amount of mountain hemlock. The western hemlock series spans a wide range of precipitation and temperatures but generally lies above the warm, dry Douglas-fir zone and below the cooler Pacific silver fir zone. Precipitation here falls as both rain and snow, but winter snow packs are not deep or long lasting. The Pacific silver fir zone lies above the western hemlock zone where growing seasons are short, dry and cool. Winters are wet and snow packs can be persistent. Above the Pacific silver fir zone is the mountain hemlock zone which is characterized by deep snow packs, summer frosts and short growing seasons.


**Fire regimes** refer to the general pattern, frequency and intensity in which fires naturally occur in an ecosystem over an extended period of time. Fire has had an important role in shaping the composition, structure and process of most ecosystems. In the Cool Soda area there are two dominant fire regimes: mixed severity and stand-replacement. In a mixed severity regime, there can be quite a variety of effects on the dominant vegetation from a single fire. In some areas the vegetation may be completely consumed while in others the vegetation survives a less intensive burn. In a stand-replacement regime, most of the dominant vegetation is consumed.







# Benefits from Nature

Ecosystem services, or what we are calling “benefits from nature”, are the goods and services that people receive from natural systems. One aim of the Cool Soda All Lands Approach is to identify the critical values provided by the landscape, highlight how forest management activities across program areas support these benefits, and design a restoration proposal that sustains these values over time. During the first two public meetings held for the project, we asked the stakeholders present to list the benefits of highest importance to them. Our team then organized them into three thematic categories: Streams and Wild Fish, Forests and Wildlife, and Community and Culture. For each of these three themes, we looked at the important objectives in the Cool Soda project area, the projects that would help us meet those objectives and the resulting benefits from nature that would be affected by these projects. The colors, symbols and benefits shown below will appear throughout this document to sew a common thread for each theme.

	Important Objectives in Cool Soda	Potential Projects	Benefits from Nature
 <i>Streams and Wild Fish</i>	Recover Steelhead and chinook habitat	Instream wood placement	Wild fish
	Minimize road impacts on aquatics	Riparian vegetation enhancement	Clean cold water
	Maintain future upland and riparian large wood sources	Culvert replacement to improve wood and gravel routing	Aquatic species diversity and habitat
	Support a natural resource-based economy	Culvert replacement to restore aquatic organism passage	Traditional and cultural uses
		Road sidecast pullback	Aesthetics
			Recreation
			Jobs

	Important Objectives in Cool Soda	Potential Projects	Benefits from Nature		Important Objectives in Cool Soda	Potential Projects	Benefits from Nature
 <i>Forests and Wildlife</i>	Promote tree growth and forest health	Timber harvest	Timber products	 <i>Community and Culture</i>	Foster collaborative approaches to land management	Cultivate partnerships with schools, businesses, and user groups	Jobs
	Enhance high quality early seral habitat	Thinning to enhance forest complexity and diversity	Traditional cultural and special forest products		Support a natural resource-based economy	Land exchange	Timber products
	Develop wildlife travel corridors	Vegetation treatment to enhance early seral habitat	Native plant species diversity		Decrease fire risk	Cooperative road management	Clean water
	Minimize introduction and spread of invasive species	Planting of high quality forage	Clean water		Enhance and protect tribal resources	Fuel reduction	Wildlife species diversity and habitat
	Support a natural resource-based economy	Meadow and wetland restoration	Wildlife species diversity and habitat		Maintain administrative and public access	Traditional burning (Harter Mtn.)	Traditional cultural and special forest products
	Protect legacy features	Snag and down wood creation	Jobs		Provide recreation opportunities	Harvest special forest products	Recreation
		Invasive species control	Old Growth			Interpretive signs	Aesthetics and spiritual values
			Aesthetics and spiritual values			Trail development	Environmental education
			Carbon storage				Public health
			Climate regulation				



## Landscape Challenges



Soda Fork Creek, Sweet Home Ranger District

Soda Fork Creek, Sweet Home Ranger District



### *Bedrock dominated stream*

Over one mile of lower Soda Fork Creek is dominated by bedrock channel bottom, created by a large slide that occurred during a 1996 flood. This condition provides limited spawning and rearing habitat for steelhead, chinook and other resident fish.



**Foster Dam** is a flood control dam approximately 25 miles downstream of the mouth of Soda Fork Creek. It presents the largest impediment to anadromous fish passage in the South Santiam Watershed. Spring chinook and winter steelhead are trucked upstream of this dam so that they have opportunity to spawn and rear in places like Soda Fork Creek. A new collection facility at the dam is currently being designed.

Suttle Camp Creek crossing, Road 2041



Culvert in lower Road 2041

**Undersized culverts** – Old pipes on both Forest Service and CTC managed roads create blockages for fish, gravel and wood movement. Culverts can be upsized to increase natural movement of these resources and decrease maintenance of roads.

Road 2041-315



### *Sources of Fine Sediment*

Past road-building practices and road maintenance pushed fine material over the edge in locations that may saturate and fail into streams during large storms, potentially affecting spawning gravels downstream. In some places, this material can be pulled back with an excavator to prevent fine sediment from getting into the stream.

Road 2041





# Desired Condition

A cold water spring feeding Soda Fork Creek



## *Clean cold water protected*

Soda Fork Creek has a number of cold water springs coming out of the bottom of the large basalt flat in the northeast portion of the project area. Riparian vegetation keeps this water cool in the summer and supplies wood to the stream. Large wood placement in lower Soda Fork Creek would retain gravels that store cool water and release it slowly in the summer.



## *Undersized culverts replaced*

The example above shows a location where movement of fish, wood, stream gravel and flow were limited by the size of the road crossing pipe. The bridge on the right eliminated these blockages and reduced the need for maintenance on the road at this location. This type of upgrade can be done at both this and smaller scales in the Cool Soda project area.

Parrish Lake Road crossing, Detroit Ranger District



## *Continued reintroduction of threatened Chinook salmon and winter steelhead*

Work with Oregon Department of Fish and Wildlife and Army Corps of Engineers to evaluate and monitor re-introduction efforts.



Large wood in a tributary to Soda Fork Creek



## *In-stream large wood restored*

There are opportunities to pull trees down into the stream in lower Soda Fork, creating stable channel features that can collect spawning gravel and create complex hiding cover for fish. In addition, there are key hillslopes and riparian areas on public land where future large wood sources can be protected to sustain healthy in-channel conditions.



Large wood jam in Soda Fork Creek main stem

Gravel bed in Suttle Camp Creek



## *Clean gravel beds maintained*

Fish spawning gravels can be affected by fine sediment. By pulling back road sidecast created by past practices, fish eggs in gravels will not be smothered.



# Team and Stakeholder-generated Ideas

(High potential for All Lands collaborative work between Forest Service and Cascade Timber Consulting are marked with a )

- Develop a comprehensive list of undersized culverts on Forest Service and CTC cost share roads and determine proper size for a 50-year flow (State Standard) for the time when these culverts will be replaced. Have this list available for yearly supplements to the cost share agreement for the road system within the Cool Soda project area.
- Develop a new road maintenance plan with updated easements and maintenance levels to reflect today's budget and administrative needs. Consider using the CTC road that begins at the second bridge to connect to Road 2043-330 instead of Road 2041 to access the Cool Camp intersection and the Middle Santiam Wilderness beyond. This route would be much easier and cost effective to maintain long-term.
- Replace Suttle Camp Creek culvert on Road 2041 with a bridge to accommodate passage of native fish, wood and coarse sediment.
- Plan and implement alder conversion to conifer in the riparian area at the confluence of Suttle Camp and Soda Fork Creeks (CTC, Section 6). Re-plant conifers on the Forest Service portions of 1996 landslide path (CTC sections of landslide path are already replanted).
- In Forest Service Riparian Reserves, locate areas where Stewardship receipts could be used to fund fall-and-leave treatments for increased complexity and diversity as well as increased tree growth for future wood source.
- Pull back sidecast fill from Forest Service and CTC cost share roads, particularly those areas where this material is perched above streams. Map stable waste areas for placement of pulled back material.
- To assure future wood sources to streams, protect intact riparian and upland forest on steep hill slopes above main stem Soda Fork Creek, particularly on Forest Service lands in sections 18 and 20.
- Aggressively control brook trout in three-mile section of upper Soda Fork Creek where this non-native species has been introduced. Work with the tribes for simultaneous harvest of fish during shocking and removal.
- Reduce open road density, especially in unstable or highly-dissected terrain. Gate and hydrologically stabilize roads in near proximity to streams. Highest need based on stability and proximity to streams is Roads 2041-100, 2043-410 and 2041-315.
- Implement in-stream habitat enhancement work in the main stem of Soda Fork Creek. Select high intrinsic fish potential areas to improve both chinook and winter steelhead spawning and rearing. Use a very stable form of in-stream restoration technique such as pulling over whole trees with root wads or boulder placement, and keep in mind infrastructure concerns downstream.

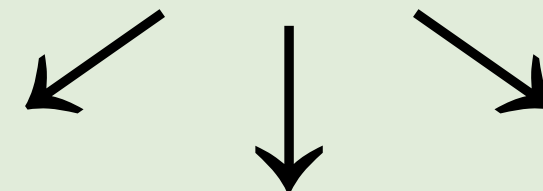
## Multiple Benefits



*Culvert Replacement on Forest Road 2041*



*Long-term Access*



*Reduced Maintenance Over Time*



*Gravel to main stem Soda Fork*

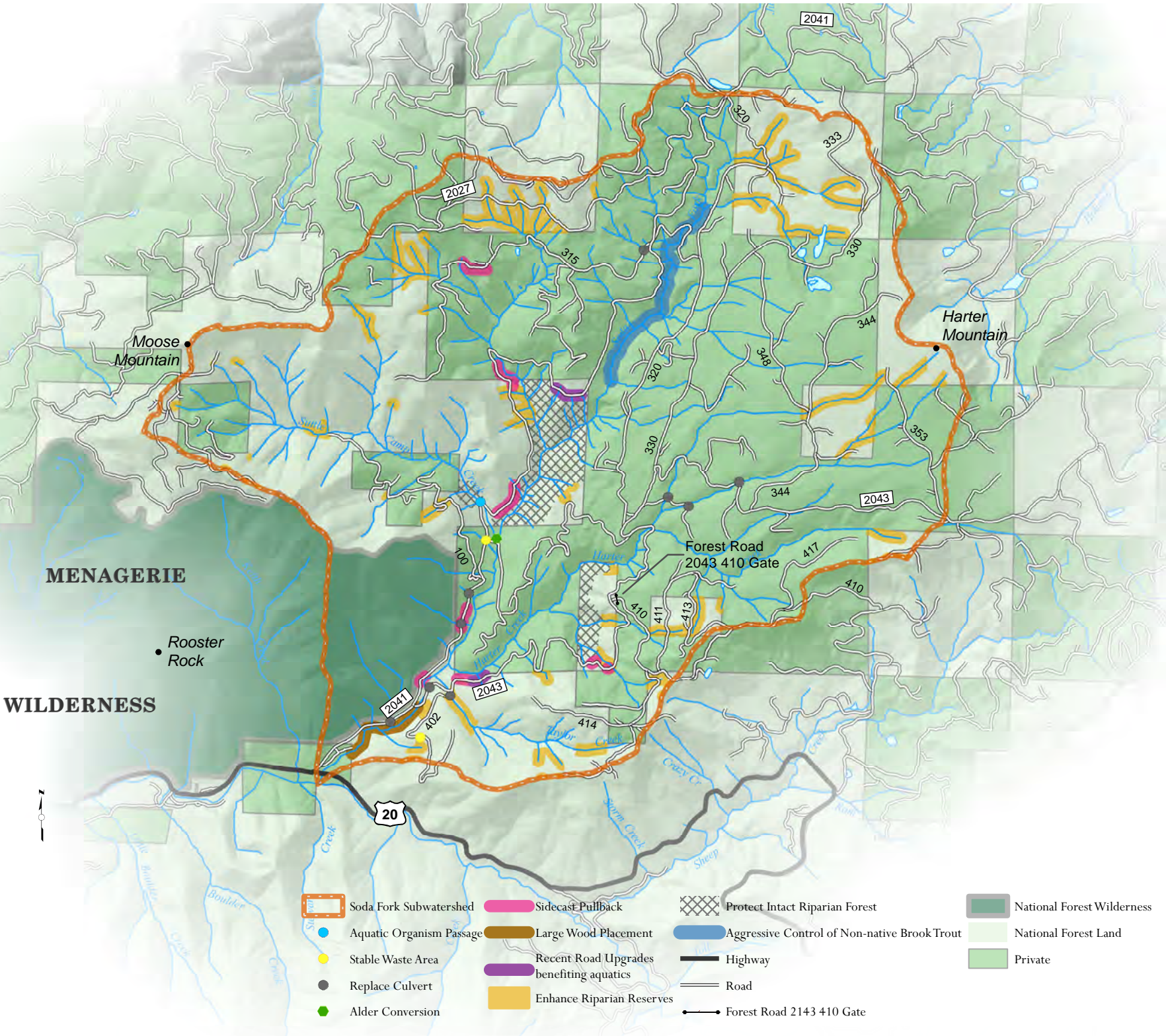


**Example of Multiple Benefits** - Replacing a culvert on Road 2041 with a larger culvert would have many benefits. Gravel, now removed from above the present culvert during maintenance, would be allowed to move into Soda Fork Creek two hundred feet below. This gravel would then seed behind wood that is planned to be placed in the main stem Soda Fork to enhance fish habitat. This gravel would provide spawning area for fish and would store and release cool water in the summer. Road maintenance at this site would also be greatly reduced and long-term access would be maintained.



# Near-term Actions - Next 5 years

- Replace undersized culverts on Roads 2041, 2041- 315, 2043 and 2043-420. Document work in yearly supplements to the cost share road use agreements between Forest Service and CTC (USFS, CTC).
- Pull back sidecast road material on roads 2041, 2041-315, and the 2043 (USFS, CTC).
- Restore passage for fish, wood and gravel at Suttle Camp Creek crossing on Road 2041 (USFS, CTC).
- Aggressively control non-native brook trout (USFS, CTC).
- Pull over 40 large trees with intact root wads into 1 mile of lower Soda Fork Creek main stem on Forest Service land (USFS).
- Convert alder to conifer on 2 acres of 1/4-acre gaps in riparian forest at the confluence of Suttle Camp Creek and Soda Fork Creek (CTC).
- Analyze opportunities to enhance riparian forest structure in plantations and treat as needed (USFS).
- Install a gate on Road 2043-410 to reduce open road density (USFS, CTC).



## Benefits from Nature

Wild fish, Clean cold water,  
Aquatic species diversity and  
habitat, Traditional and cultural  
uses, Aesthetics,  
Recreation, Jobs

## Jobs



Excavator and dumptruck  
hours to replace culverts  
and pull back road sidecast.



One construction job to  
replace the Suttle Camp  
Creek culvert on Road  
2041 with a bridge.



Two seasonal jobs for the  
Forest Service to conduct  
fish shocking for brook  
trout eradication in upper  
Soda Fork Creek.



One week of contracted  
yarder work to pull over  
40 trees in lower Soda  
Fork Creek.

A timber falling job and  
one day of tree planting  
for alder to conifer  
riparian conversion.

Local contractors for  
gate installation.





## Landscape Challenges

### *Altered Forest Structure*

Many stands are densely-stocked with limited understory development and structural complexity. Trees are competing for sunlight, water and nutrients causing reduced growth and vigor. In addition, many of these stands are dominated by a single conifer species, usually Douglas-fir or noble fir, and provide limited habitat for wildlife species.



Mid-seral forest



Scotch broom



Barred owl



False brome

### *Increased Non-native and Invasive Species*

Without natural controls to keep populations in check, non-native species can spread rapidly and affect ecosystems in a variety of ways such as displacing native species and reducing biodiversity, degrading native wildlife habitat, reducing forest health and productivity, altering ecosystem processes, altering native genetic diversity, transmitting exotic diseases to native species, reducing native forage, and further jeopardizing endangered plants and animals. Controlling these species can have a significant economic impact as well. Prominent non-native, invasive species within the Cool Soda project area include: scotch broom, false brome and barred owls.

### *Lack of Diversity in Early Seral Habitat\**

Existing early seral habitat in the Cool Soda project area is mostly the result of timber harvest. However, the character of this habitat is generally not the same as that created through natural disturbances. Common differences include fewer legacy trees, different patch sizes, shapes and distributions of those patches, and a shorter residence time of the habitat on the landscape. Lack of high quality early successional habitat on public lands has resulted in elk primarily foraging in plantations on private land causing damage to planted trees.



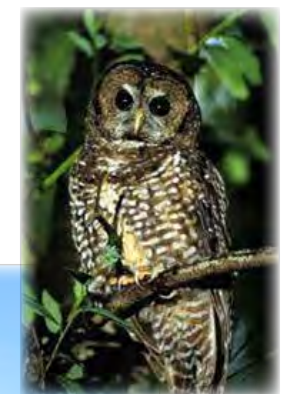
Roosevelt elk



Planted tree pulled from the ground by elk on CTC's lands.

### *Fragmented Habitat*

Past management actions have contributed to the loss of habitat for a variety of species resulting in the need to provide various levels of habitat protection to ensure their continued existence.



Northern spotted owl



# Desired Condition

## *Forest Structural Complexity*

Enhance stand structural complexity and biological diversity in dense, even-aged, single-storied stands. Encourage stand health and vigor and contribute wood products to local markets.



Shrub and small tree layer beginning to develop after thinning.



Retain structural components such as snags and down wood.

## *Native Plant and Animal Communities*

Work cooperatively with all landowners to reduce, minimize, or eliminate the potential for introduction, establishment, and spread of non-native invasive species across all landscapes and ownerships. Once detected, aggressively control non-native, invasive species.



Washing weed seed off a vehicle prior to entering a work area



Scotch broom removal

## *Increased Diversity in Early Seral Habitat*

Expand the variety of early seral habitat across the landscape. Include open areas with low tree densities, structural components such as legacy trees, snags, and large down wood, as well as diversity in herbs and grasses, shrubs, and deciduous hardwoods. These conditions will mimic forest character that once occurred after mixed severity fires and Molalla burning in and around the project area.



Complex early successional forest

## *More Continuous Habitat Between Ownerships*

Some wildlife respond poorly to abrupt edges between forest types. Where feathering edges at these transitions is not in conflict with fire prevention objectives, encourage smoother transitions between differing habitats on both public and private lands, especially in areas of checkerboard ownership in wildlife travel corridors.



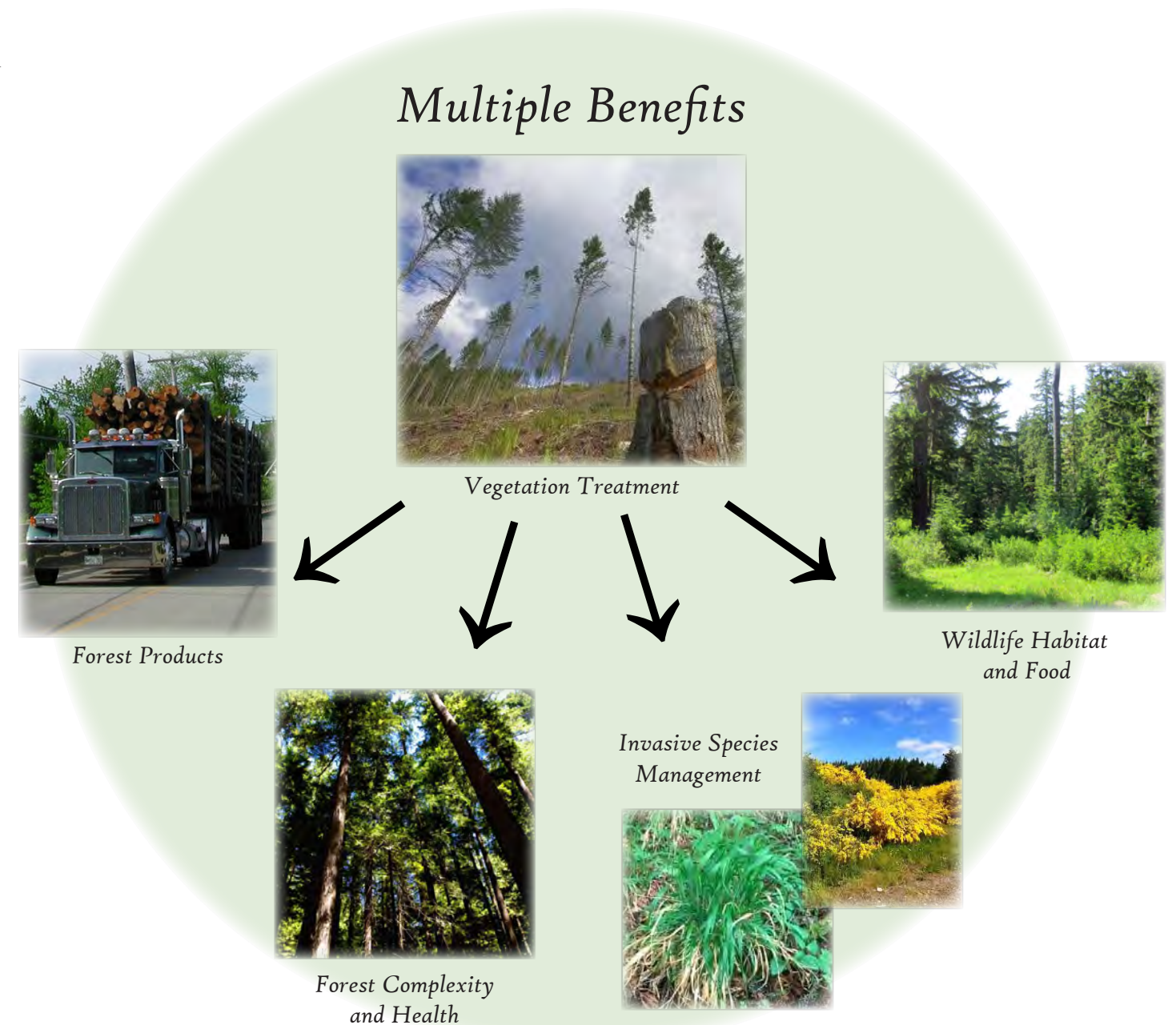
Abrupt edges between private and federal lands



## Team and Stakeholder-generated Ideas

(High potential for All Lands collaborative work between Forest Service and Cascade Timber Consulting are marked with a )

- Plant high quality forage for big game. On Forest Service land within formerly managed units, focus on removing or reducing low quality forage species and plant higher quality species. On both Forest Service and CTC land, use the “linear meadow” concept on native surface roads to expand forage growing areas.
- Continue sustainable timber harvest that supports local economy and industry with the highest potential to do so on CTC lands.
- Employ silvicultural treatments to enhance forest complexity and diversity in homogenous young and mature forests on Forest Service lands. Focus on variable density treatments as the best tool to accomplish this objective.
- Implement meadow and wetland restoration projects with an emphasis on the removal of encroaching conifers on Forest Service lands. Pursue a meadow restoration contract with Rocky Mountain Elk Foundation.
- Design and implement shaded fuel breaks (thinning and removal of ladder fuels) that can serve as early seral habitat and added protection to CTC forest resources.
- Enhance and create special forest products areas for noble fir, huckleberries, beargrass, mushrooms, Christmas trees and firewood.
- Utilize Forest Service Stewardship Authority as a tool to generate forest products receipts and do goods for services work. Focus receipts on early seral, snag and downed wood, and shaded fuel break work.
- Reduce open road density for wildlife by coordinated management and then storage of roads.
- Consider an early seral treatment schedule over the long term and work with partners to fund treatments over time. Based on modeling of historic conditions, use a landscape goal of 5-10% in early seral in the western hemlock plant association and 15-25% of the Pacific silver fir plant association.
- Enhance elk habitat travel corridors through meadow and edge treatments.
- Protect intact Old Growth as refugia for late seral species.
- Protect and enhance special habitats like dry meadows, wet meadows, talus slopes, ponds and seeps, skunk cabbage patches, vine maple patches.
- Work collaboratively to minimize the introduction and spread of invasive plant species. In particular, treat invasive Scotch broom near the Menagerie Wilderness and invasives near Highway 20 at the Mountain House.



**Example of Multiple Benefits** - Vegetation treatments can meet several objectives within the Cool Soda project area. Early seral treatments would provide elk and deer forage and habitat while enhancing shrub communities that could be used by resident and migrating bird species. Treatments to reduce fire risk and improve forest health can often produce commercial timber products. In locations where invasive plants are removed, the treated area can be planted to native species for wildlife and pollinators. Vegetation treatments can be designed to maximize multiple resource benefits while supporting the local economy.



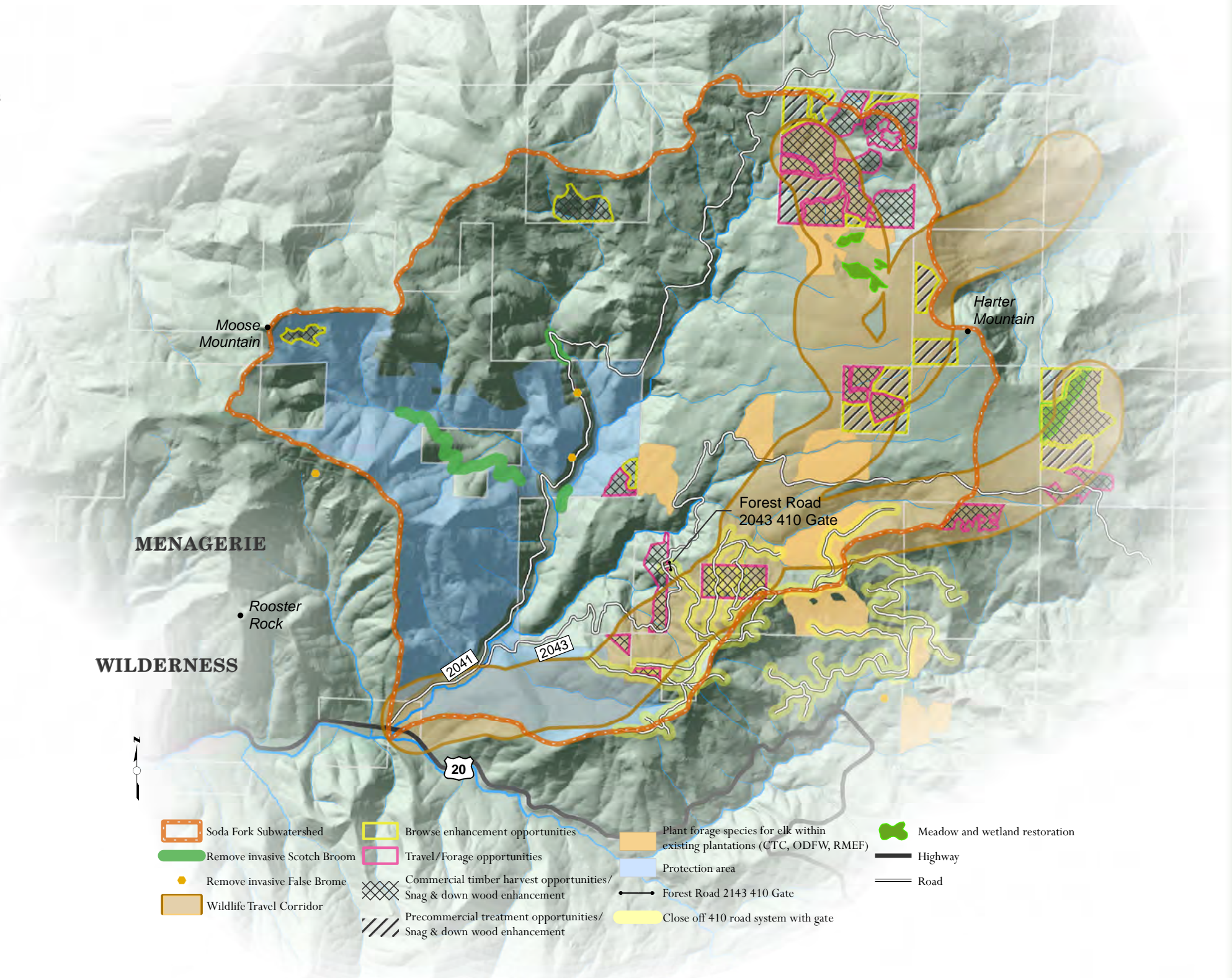
# Near-term Actions - Next 5 years

- Commercially thin to create wildlife corridors (USFS).
- Create snags and downed wood in managed stands (USFS).
- Pre-commercially thin, do browse enhancement and plant native forage species (USFS, CTC).
- Implement meadow and wetland restoration (USFS, CTC).
- Gate Road 2043-410 to reduce open road density for wildlife (CTC, USFS).
- Silviculturally treat homogeneous young and mature forests on Forest Service lands (USFS).
- Work cooperatively to minimize the introduction and spread of invasive plant species (CTC, USFS).
- Protect intact old growth stands (USFS).



## Benefits from Nature

Timber products, Traditional cultural and special forest products, Native plant species diversity, Clean water, Wildlife species diversity and habitat, Jobs



Timber fallers for harvest and special habitat creation



Drivers and operators for harvest and log haul



Mastication contractor for meadow and wildlife corridor enhancement work



Youth corps work to remove invasive species



Local contractors for gate installation





## Landscape Challenges

View of Soda Fork Creek canyon



### Limited Recreation Opportunities

There are no developed trails or campgrounds in the project area. Currently, Road 2041 serves as public access to the Middle Santiam Wilderness trailheads. A number of public and private roads and associated dispersed camping areas are also used by visitors seasonally. There may be opportunities to provide additional trails to view points and unique features that add to visitors' experiences as they pass through this area on their way to roads less traveled.

Examples of special forest products that come out of Cool Soda



### Uncoordinated Permitting

Both traditional and cultural uses of forest products as well as commercial gathering by permit on both Forest Service and CTC lands have occurred on this landscape. Discussion with the tribes about this area revealed a need for easy access gathering areas for bear grass, huckleberries, and cedar bark, particularly for tribal elders with limited mobility. While commercial collection of noble fir boughs and bear grass occur, many of these use areas need better management to enhance the commercial potential. Coordination of permitting on both private and public lands would also avoid trespass and better serve local contractors.

### Landscape at Risk of Fire

In the checkerboard ownership pattern of Cool Soda project area, an All Lands Approach is tied closely with fire protection of private timberlands. Opportunities exist on public lands along ridge tops and road corridors for treatment of fuels to slow movement of either lightning or human-caused fires on this landscape.



Closed canopy forest in Cool Soda

### Local Economic Need

For many years, Sweet Home's economy was reliant on timber resources, but as the timber industry declined, and less harvest occurred on national forest lands, the town's economy suffered. In 2012, while the state and national unemployment rate was 8-9%, the community of Sweet Home had an unemployment rate of about 11%, and 20% of its people had incomes below the poverty line. Given that Cascade Timber Consulting and the U.S. Forest Service are two of the six largest employers in the community, jobs created by this All Lands Approach are critical to the local economy.



Road 2043

Road 2041-315



### Aging Road Infrastructure

Roads are a critical part of public access for recreation, commercial and administrative use on federal and private lands in the project area. Upgrades to aging infrastructure are needed to maintain current access and there are places where CTC, the party responsible for maintenance under the cost share agreement, returns year after year to do the same fixes or heavy maintenance. Given funding declines and changes to Forest Service management of its lands in this area, there are no long-term funding sources for deferred maintenance. More upgrade and maintenance dollars are needed to improve existing conditions so that access is maintained where needed.



# Desired Condition

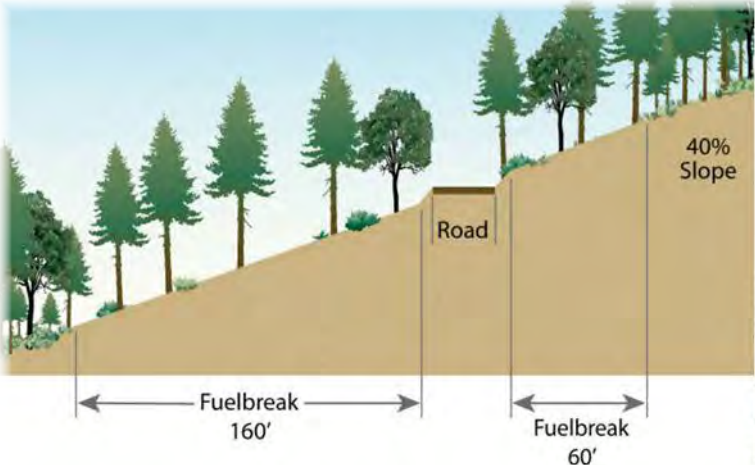
Falls on Soda Fork Creek



Mountain biker in forested terrain

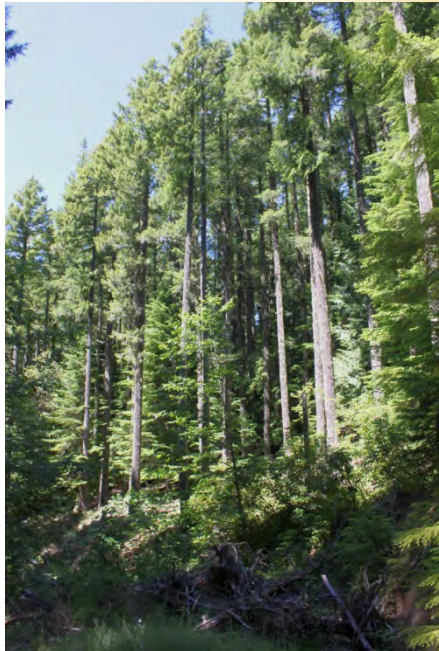
## Expanded Recreation

The falls pictured on the left are a short distance from Forest Road 2041, the main access road through the project area. Expanded recreational opportunities could include the construction of a trail beginning on Forest Service lands and ending on CTC lands with a spectacular view of the falls and river canyon below. Another idea would be the development of a ridgeline hut-to-hut trail system for mountain bikers and winter sports enthusiasts. This trail system could correspond with the same areas where shaded fuel breaks are being considered to aid in fire protection of forestlands.



## Strategic Fuel Breaks

The interface of public and private lands with differing management objectives presents an opportunity to reduce risk of spreading fire after lightning strikes or human caused fires. Along ridge tops and road corridors in the project area, fuels can be treated to lessen the likelihood of crown fires and produce more defensible areas that can be relied on during wildland fire fighting.



Timber resources in need of protection

## Economic Benefit to the Local Community

Jobs created by this proposal are vital to the economy of the local community. Forestry-related jobs will continue to employ local contractors, particularly on CTC lands and to a lesser degree, Forest Service lands. On national forest lands, expansion of recreation has potential to bring more users to a “road less traveled” in this part of Linn County. If there are opportunities to stop in the project area as opposed to merely passing through, the local economy will benefit. More efficient special forest products gathering opportunities and outside money brought in to accomplish vegetative fuels treatments can also employ more local contractors.

## Special Forest Products Coordination

Special forest products are becoming an increasingly important part of forest-related employment in Sweet Home. Improving the permitting system for special forest products could decrease theft and make it easier for people to gather commercial products. Possible improvements include CTC and Forest Service using similar forms, charging the same for commercial products, tracking the products in the same way and selling each other’s permits. On-the-ground improvements could involve marking land boundaries and roads better so that trespass does not occur. Community training taught by both CTC and Forest Service for those interested in permitted commercial gathering, and a special map showing where people are likely to find certain products could also help to expand this economic possibility.



Well-maintained forest roads are key

## Efficient Road System

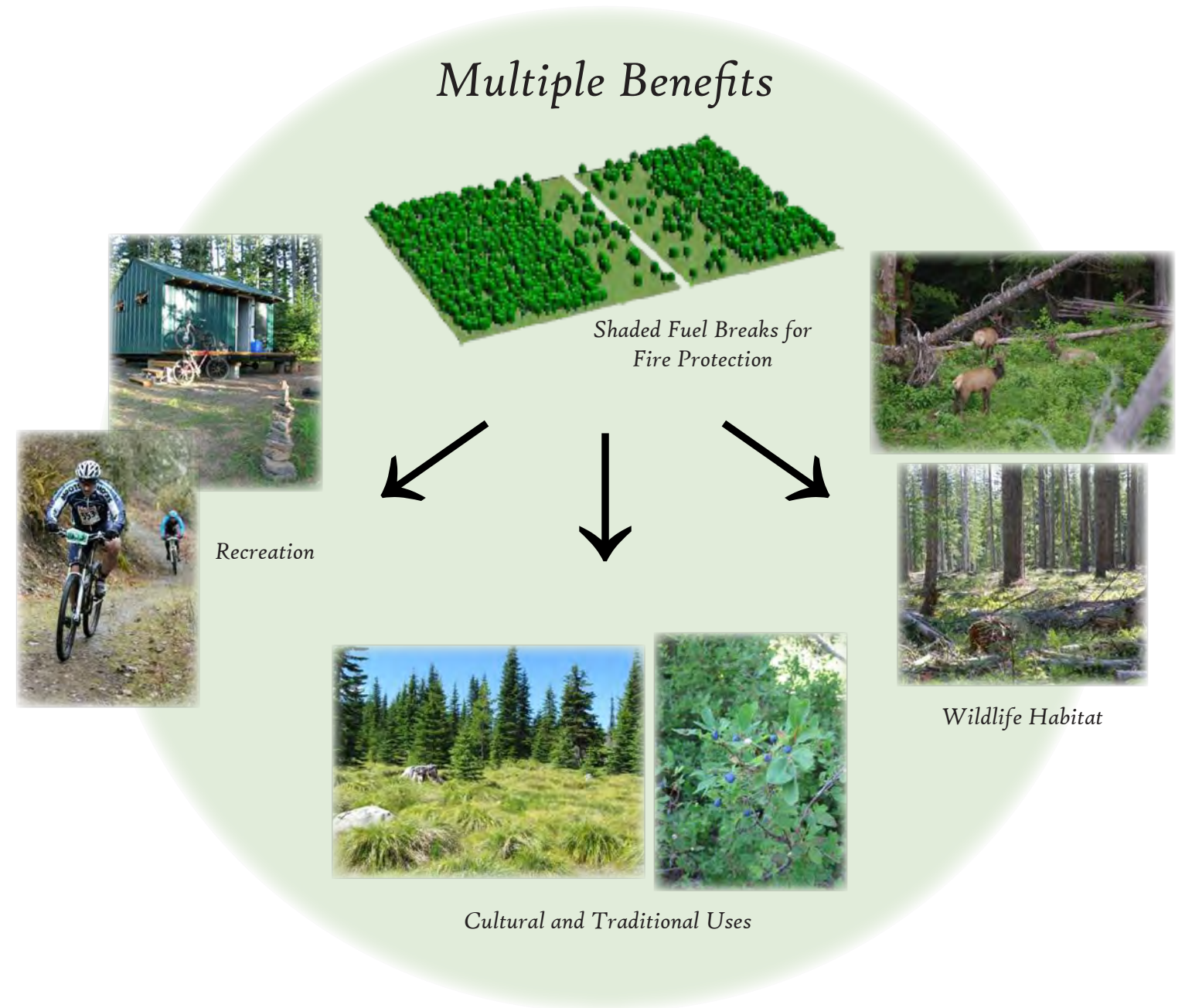
Under the existing Cost Share Road Use Agreements between Forest Service and CTC, there may be opportunities to change maintenance levels, gate roads for fire protection or put roads into storage until needed again. Outdated easements also need to be reconciled after land exchanges done in the past. In addition, funds must be pursued through programs like Legacy Roads and Trails for the Forest Service, State and Private Forestry funds and USDA grants and cost-share programs for CTC to allow the replacement of old culverts with new pipes that meet the State of Oregon 50-year flow standard. Upsized culverts will reduce maintenance costs and will keep roads open for commercial and administrative needs for both parties.



## Team and Stakeholder-generated Ideas

(High potential for All Lands collaborative work between Forest Service and Cascade Timber Consulting are marked with a )

- Construct a community trail to the view of the falls. Use a local portable mill to produce lumber from trees on site for rails and sign posts. Use the trail as an opportunity to do interpretation of forest management objectives on federal and private lands in the area.
- Construct interpretive signs at hunter camps that compare native and modern day hunting practices. Have a target for rifle sighting in the middle of this sign.
- Implement a ridgeline corridor proposal linking cultural, recreation, wildlife and fuel break objectives. Consider the use of huts along this corridor for mountain bikers and winter users of this trail.
- Identify special forest products gathering areas (noble fir boughs, bear grass, Christmas trees) and do treatments to enhance product gathering potential.
- Use special forest products gathering as a fund raiser for local schools, particularly noble fir boughs that could be used to make wreaths.
- Fix or repair substandard road conditions to assure forest products can be hauled and public access for hunting and other recreation continues.
- Make more firewood available for commercial and public use. Post signage that makes clear the property boundaries to avoid trespass during firewood cutting.
- Gate Road 2043 410 to reduce risk of fire starts from public use (dual benefit; also reduces disturbance to wildlife in the proposed travel corridor).
- Use Forest Service Stewardship authority on national forest lands as a tool to meet both silvicultural and watershed restoration objectives. Consider using retained receipts to fund fuels reduction and wildlife habitat enhancement.
- Reintroduce traditional uses such as burning for huckleberry gathering in national forest lands.
- Pursue land exchanges to benefit tribal, wildlife and recreation interests on the east side of the Cool Soda project area.
- Update easements since the 1996 land exchanges between Forest Service and CTC.



**Example of Multiple Benefits** - The team explored opportunities to meet several objectives with one project. The Forest Service and Cascade Timber Consultants identified areas along roads and at ridge tops where fuels reduction would greatly aid fire suppression efforts in the event of a catastrophic fire in this watershed. Areas with more open tree canopy can also support recreational trails, gathering areas for traditional and cultural uses and wildlife habitat.



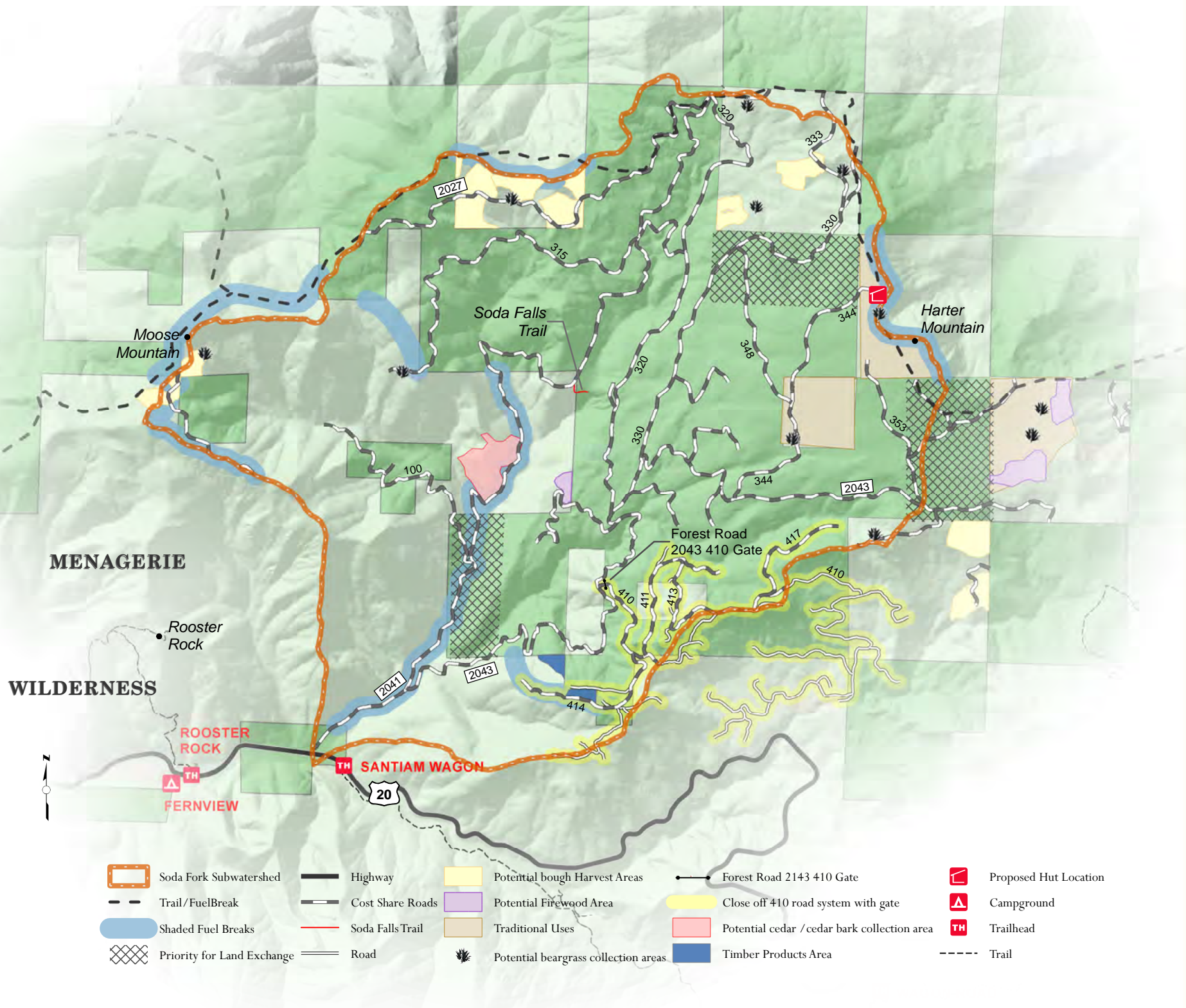
# Near-term Actions - Next 5 years

- Review and revise road cost share agreement. Update easements and consider renegotiating maintenance levels to better reflect today's budget and need (USFS, CTC).
- Plan, design and implement shaded fuel breaks at selected locations on ridgetops and road corridors in the Cool Soda project area (USFS, CTC).
- Reintroduce or mimic traditional cultural burning practices in Harter Mountain vicinity (USFS).
- Harvest mature forest to meet local economic need and create high quality early seral habitat (USFS).
- Harvest special forest products and coordinate between public and private lands (USFS, CTC).
- Make firewood available to the public (USFS, CTC).
- Gate Road 2043 410 to reduce the risk of human-caused fires (USFS, CTC).
- Develop the ideas of a community-built trail to the falls and a mountain bike hut-to-hut trail system on the ridgeline (USFS, CTC).



## Benefits from Nature

Jobs, Timber products, Clean water,  
Traditional cultural and special forest  
products, Aesthetics and spiritual,  
values, Environmental education,  
Public health



## Jobs



Excavator and dumptruck for road work.



Logging contractors for fuel break work.



Permit coordination for special forest products gathering.



Volunteer labor for the trail construction to the view of the falls.

Local contractor to install gate on 2043 410.

Entrepreneurial opportunities for outfitter guides related to the hut-to-hut trail system.

Commercial firewood potential from designated firewood areas.

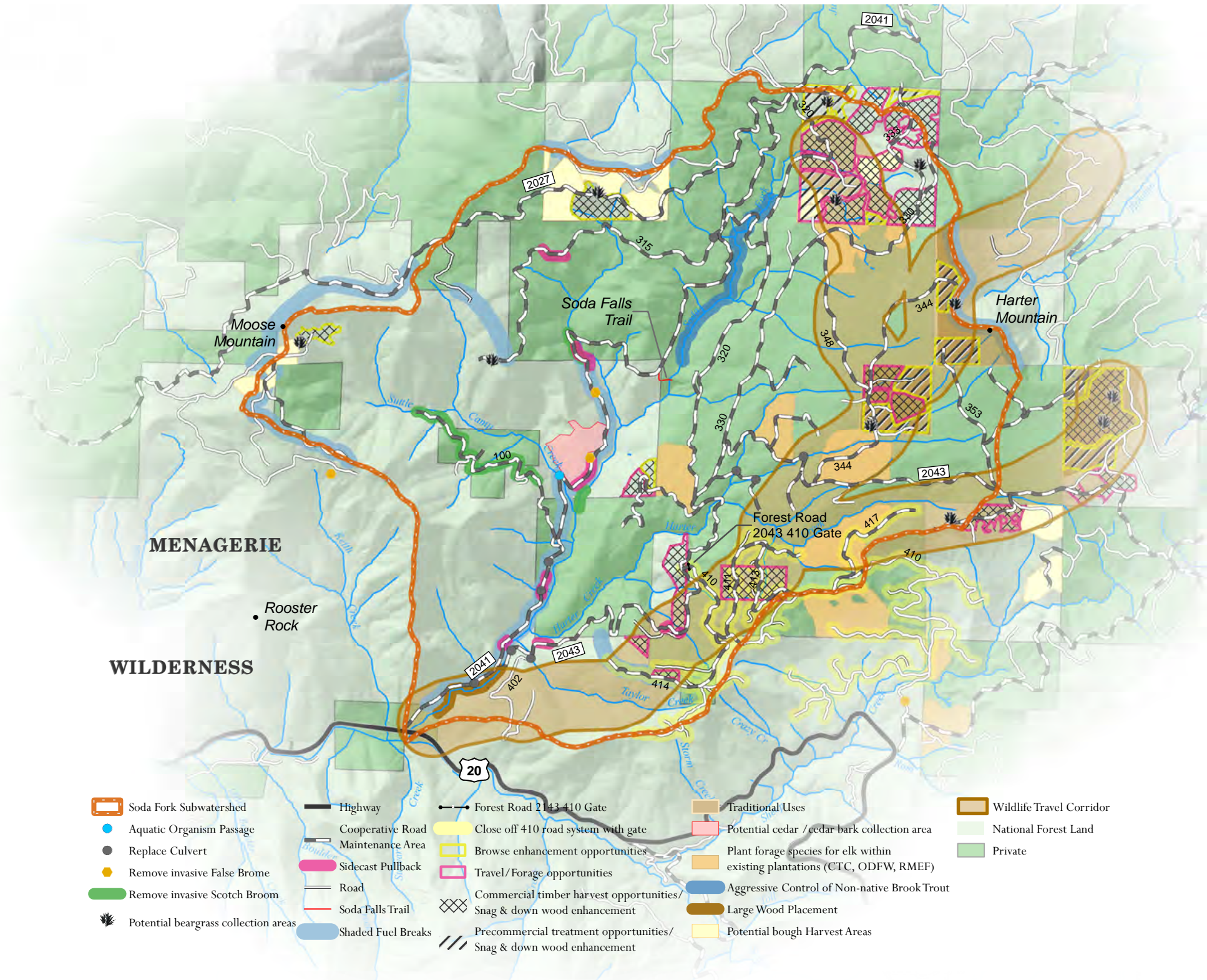


# Summary of Near-term Proposed Actions



## Funding Sources/Tools

Funding Sources	Description
Legacy Roads and Trails Funds	Funding for National Forests to reduce or eliminate road and trail risks to water quality and aquatic habitat, while reducing future maintenance requirements and increasing the safety and durability of the transportation system.
Grants	Funds applied for and provided from any organization whose internal goals align with the proposed project. Usually require and in-kind or cash match. Examples include Oregon Watershed Enhancement Board grants to implement watershed restoration projects, Rocky Mountain Elk Foundation grants to improve elk habitat and Oregon Tourism Commission grants to enhance recreation opportunities.
Partnerships	Agreements to work together on specific projects to leverage resources. Partners include South Santiam Watershed Council, NW Youth Corps, Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, Confederated Tribes of Warm Springs, Audobon Society, National Fish and Wildlife Foundation, National Forest Foundation and other state and federal agencies.
Knutson Vandenberg Trust Funds	Funds collected from timber sale purchasers for sale area improvement work.
Healthy Forests Restoration Funds	Federal funds to conduct hazardous fuels reduction projects on National Forest System lands aimed at protecting communities and watersheds from catastrophic wildfire.
State and Private Forestry Funds	Specially designated funds for collaborative endeavors.
Forest Service Implementation Tools	Description
Timber Sale Contracts	Used to sell timber from national forest lands. The contract describes how the purchaser buys, pays for, harvests, and removes the wood.
Service (Procurement) Contracts	Used to buy services such as tree planting, pre-commercial thinning, trail maintenance, and stream restoration. The contract describes the work to be done and the time period in which it will be completed.
Integrated Resource Contracts (IRC)	Used exclusively for implementing Stewardship contracting projects. IRCs combine aspects of both timber sale and service contracts and must be awarded on a best-value basis. They may also include provisions for the exchange of goods-for-services, the retention of receipts, multi-year contracting, designation by description or prescription, and other special stewardship authorities. This authority is valid through September 30th, 2013.
Participating Agreements	Used to allow organizations or individuals to work on projects with the Forest Service.
Wyden Authority Agreements	Allow the Forest Service to fund watershed improvement projects on non-federal land, provided there is National Forest benefit.
Title II & Title III Projects (Secure Rural Schools & Community Self-Determination Act Projects)	Used to fund county-approved projects that benefit federal resources. This authority is currently authorized through September 30th, 2013.





Proposed Action Table

Landscape Challenges	Near-term Action Opportunities	Outputs	Outcomes	Benefits from Nature	Costs/ Revenues
Streams and Wild Fish					
Remove barriers to fish, gravel and wood movement	Replace undersized culverts	6 miles of stream restored (USFS, CTC)	Reduces risk of failure on 6 undersized culverts with deep fills showing signs of imminent failure that are directly upstream of ESA listed fish species. 90% of aquatic risk culverts will be replaced in the watershed.	<ul style="list-style-type: none"><li>Clean cold water</li><li>Wild fish</li><li>Jobs</li></ul>	\$240,000
Minimize sources of fine sediment	Excavate road sidecast	1 mile of stream restored (USFS, CTC)	90% of the high aquatic risk side cast areas will be stabilized. May prevent approximately 100 cubic yards of fine sediment from entering Soda Fork Creek.	<ul style="list-style-type: none"><li>Clean water</li><li>Aquatic sp. diversity and habitat</li><li>Jobs</li></ul>	\$20,000
Remove barrier to winter steelhead, bedload movement, and wood transport	Install bridge at Suttle Camp Creek to restore aquatic organism and gravel/wood passage	½-mile of stream restored (USFS, CTC)	Removes only unnatural barrier to ESA-listed fish in watershed. Allows sediment routing of major source of hard competent-durable gravels directly into a ESA-listed fish spawning flat. Reintroduces genetic diversity to resident fish above the culvert.	<ul style="list-style-type: none"><li>Wild fish</li><li>Traditional cultural uses</li><li>Jobs</li></ul>	\$250,000
Restore native fish species	Aggressively control brook trout through shocking and removal	3 miles of stream restored (USFS, CTC)	Objective will be to limit the population of brook trout to 5-10% of the current numbers. Decimated amphibian populations will be able to recolonize 3 miles of upper Soda Fork Creek.	<ul style="list-style-type: none"><li>Aquatic sp. diversity and habitat</li><li>Jobs</li></ul>	\$100,000
Improve channel scoured to bedrock that currently lacks complex habitat and spawning areas for anadromous fish.	Implement in-stream large wood placement through tree tipping	1 mile of stream restored (USFS)	90% of the most important stream reach for anadromous fish in the Cool Soda planning area will be restored by increasing structural complexity through introduction of large wood. Retained gravels will store cool water and release it slowly in summer.	<ul style="list-style-type: none"><li>Wild fish</li><li>Clean cold water</li><li>Jobs</li></ul>	\$50,000
Increase conifers in riparian areas to provide shade and sources of large wood	Convert alders to conifers (Suttle Camp and Soda Fork Creek confluence)	2 acres (CTC)	50% of the historic cedar density would be restored in the alder-dominated floodplains on listed fish habitat.	<ul style="list-style-type: none"><li>Clean cold water</li><li>Wild fish</li></ul>	\$7,500
Forests and Wildlife					
Treat densely-stocked stands that inhibit wildlife movement across landscape.	Commercially thin to create wildlife corridors	830 Acres (USFS) 5 MMBF (USFS)	22% of identified wildlife corridor treated to improve ability of wildlife to move about the landscape and seasonally. Also pulls elk away from CTC plantations to minimize damage to trees.	<ul style="list-style-type: none"><li>Wildlife sp.diversity and habitat</li><li>Timber products</li><li>Hunting<ul style="list-style-type: none"><li>Jobs</li></ul></li></ul>	\$75,000
A lack of snags and down wood left in managed stands have altered forest structure	Create snags and down wood	995 Acre (USFS)	Restores 39% of plantations on USFS that currently lack snag and down wood habitat necessary for species persistence.	<ul style="list-style-type: none"><li>Wildlife sp. diversity and habitat</li><li>Healthy forests</li></ul>	\$25,000
Lack of diversity in early seral habitat across the landscape	Enhance early seral habitat <ul style="list-style-type: none"><li>travel/forage creation,</li><li>browse enhancement,</li><li>rhododendron removal</li></ul>	397 Acres (FS) 636 Acres (CTC) 1173 Acres (FS)	11% of CTC and 33% of FS plantations enhanced for wildlife movement and initiation of preferred forage species.	<ul style="list-style-type: none"><li>Wildlife sp. and habitat diversity</li><li>Timber products/Spec For. Prod.</li><li>Hunting<ul style="list-style-type: none"><li>Jobs</li></ul></li><li>Traditional cultural uses</li></ul>	\$40,000
Meadows and wetlands in some areas have been encroached by trees and shrubs.	Cut back encroaching vegetation to restore meadow and wetland	150 Acres (FS)	Treats 43% of encroached meadows and wetlands. Limits tree encroachment on meadow habitat. Improves foraging potential by planting native species and cutting back encroachment of shrubs and trees. Improves water storage and filtration.	<ul style="list-style-type: none"><li>Wildlife sp. diversity and habitat</li><li>Hunting<ul style="list-style-type: none"><li>Jobs</li></ul></li><li>Clean cold water</li></ul>	\$10,000
Big-game forage areas	Plant forage species	636 acres	15% of big game travel corridor planted with appropriate forage species.	<ul style="list-style-type: none"><li>Wildlife sp.diversity and habitat</li><li>Hunting</li></ul>	\$70,000
Protect wildlife from harassment	Gate 410 road to reduce open road density for wildlife.	4,725 acres of habitat	Closes 10% of total road system and reduces road density from 4.5 to 4.0 miles/sq. mile in Soda Fork. Also closes 7.5 road miles outside of project area.	<ul style="list-style-type: none"><li>Wildlife sp.diversity and habitat</li><li>Hunting<ul style="list-style-type: none"><li>Jobs</li></ul></li></ul>	\$5,000
Enhance forest complexity, diversity, health and vigor	Thin homogenous young forests on USFS	0.7 MMBF 92 acres	15% of plantation acres not treated for wildlife would be treated to promote tree growth, forest health, and increase forest complexity, vigor and disease/fire resistance.	<ul style="list-style-type: none"><li>Timber products<ul style="list-style-type: none"><li>Jobs</li></ul></li><li>Jobs/Healthy Forests</li></ul>	\$10,500
Native species habitat	Remove invasive plant species.	1.8 mi. of roadside and 0.5 acre patches treated	100% of known false brome sites treated to limit non-native species establishment and future spreading of existing populations. Scotch broom site would need to be treated annually. Improves productivity and disease resistance.	<ul style="list-style-type: none"><li>Native plant sp.diversity</li><li>Healthy forests<ul style="list-style-type: none"><li>Jobs</li></ul></li></ul>	\$1,250 for false brome \$25,000 for scotch broom



Proposed Action Table (Continued)

Landscape Needs	Near-term Action Opportunities	Outputs	Outcomes	Benefits from Nature	Costs/ Revenues
Community and Culture					
Improve maintenance and management of cost-share road system	Review/revise road cost-share agreements - ID aging infrastructure that may affect future access.	Revised agreements on 7 segments of road totaling about 4 miles	Re-evaluates about 8% of cost-share roads (4 miles of 48 miles)	<ul style="list-style-type: none"><li>Clean cold water</li><li>Wild Fish</li><li>Wildlife sp.diversity and habitat</li><li>Jobs</li><li>Recreation</li></ul>	Probably even trade between cost-share areas with land exchanges
Reduce risk of wildfire on NFS and commercial private forest lands	Create shaded fuel breaks through ground and ladder fuel treatments	5 miles of ridgelines and 5 miles of roadsides treated	5 miles of ridgeline available for recreation opportunities in shaded fuel breaks 40% of high hazard zones treated along major travel routes	<ul style="list-style-type: none"><li>Recreation</li><li>Traditional cultural uses</li><li>Hunting<ul style="list-style-type: none"><li>Forest Products</li></ul></li></ul>	\$15,000 fuel treatment \$10,000 from harvest
Encourage traditional cultural use of landscape resources	Reintroduce or mimic traditional cultural burning practices in the vicinity of Harter Mtn.	40 acres burned	80% of traditionally burned acres treated	<ul style="list-style-type: none"><li>Traditional cultural uses</li><li>Wildlife sp.diversity and habitat</li><li>Recreation</li><li>Special Forest Products</li></ul>	\$32,000
Better coordination of collection of special forest products between public and private lands.	Enhance special forest product harvest opportunities and coordinate harvest requirements between public and private lands	25 permits issued  150 acres of SFP enhanced	95% of all accessible acres of appropriate size trees for bough harvest made available 100% increase in tons of beargrass made available for harvest 50% of acres of noble fir habitat improved out of total available noble fir habitat for bough harvest	<ul style="list-style-type: none"><li>Jobs</li><li>Special Forest Products</li><li>Traditional cultural uses</li></ul>	\$50,000
Limited recreational opportunities	Develop community-built trail to waterfall, ridgeline trail through shaded-fuel break, hut to hut/mtn biking	About 5 miles of shade-fuel breaks/trail  750 feet of trail to access Soda Falls	Increases recreational opportunities by 90% and diversifies activities by about 30%.	<ul style="list-style-type: none"><li>Recreation</li><li>Aesthetics and spiritual values</li><li>Environmental Education</li><li>Public Health</li><li>Traditional cultural uses</li><li>Jobs</li></ul>	\$25,000
Lack of firewood gathering opportunities in close proximity to population centers	Increase firewood availability	20 cords of firewood	Meets an additional 5% of the local demand for firewood. Currently the USFS meets about 60% of local firewood requests.	<ul style="list-style-type: none"><li>Traditional cultural uses</li><li>Aesthetics and spiritual values</li><li>Jobs<ul style="list-style-type: none"><li>Fuel/energy source</li></ul></li></ul>	\$200
Local economic development	Harvest timber products from both public and private lands	2.5 MMBF (USFS)	20% of available mature forest on high soil productivity lands to be harvested and replanted for sustainable timber production.	<ul style="list-style-type: none"><li>Jobs</li><li>Timber products</li><li>Wildlife sp.diversity and habitat</li></ul>	\$250,000
Protect cultural, wildlife, and aquatic resource values	Pursue land exchange between USFS and CTC	400 Acres	Protects 16% of important stream and adjacent riparian habitat in the Cool Soda mainstem. Protects 30% of important meadow and wetland areas. Protects important cultural resources	<ul style="list-style-type: none"><li>Aesthetic and spiritual values</li><li>Clean cold water</li><li>Wild fish</li><li>Aquatic species diversity</li><li>Traditional and cultural values</li></ul>	Trade





# Participants and Contributors to Cool Soda All Lands

## Forest Service Core Team

Johan Hogervorst and Anita Leach, Co-team Leaders  
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 Tiffany Young, Wildlife Biologist  
 Jon Meier, Heritage, Recreation and Cultural Coordinator  
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 Nikola Smith, Ecosystem Services  
 Kimberly Hoover, Graphic Design lead for proposal  
 Jeremy Hobson, GIS and Graphic Design for maps

## Cascade Timber Consutling Core Team

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 Bill Marshall, Silviculture  
 Milt Moran, Sales and Logging Operations

## Stakeholders and Participants

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 Stephanie Gatchell, USFS Aministrative Officer  
 Andy Geissler, American Forest Resource Council

## The Design Charrette Process

*April 30-May 7th, 2012* - Knowledge Transfer Sessions for Collective Learning- 38 experts shared with the core team on five separate thematic days: physical sciences, vegetation, wildlife, social and cultural and aquatics

*May 22nd, 2012* - Public Stakeholder Meeting #1 - Inherent Potential of the Landscape in the Cool Soda Project Area

*June 14th, 2012* - Public Stakeholder Meeting #2 - Existing Condition in the Cool Soda Project Area

*August 7th, 2012* - Public Stakeholder Meeting #3 - Initial Ideas for a Management Plan for Cool Soda All Lands

*August 21st, 2012* - Public Stakeholder Meeting #4 - Draft Management Plan for Cool Soda All Lands

*September 28th, 2012* - Restoration Proposal draft complete

*November 15th, 2012* - Final Restoration Proposal completed for distribution to stakeholders

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