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The Carbon River Valley Conservation Project: A Lifeline to Mount Rainier National Park



Mount Rainier from Summit Peak in the Clearwater Wilderness. The Carbon River Valley in the distance. Bearhead Mountain to the east. Coplay Lake in the lower right corner.
Photo courtesy Mardy Robins

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APEX

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The Carbon River Valley Conservation Project Mission:

Protect and enhance wildlife habitat, scenic beauty, recreational opportunities, historic communities, and healthy economies in a multipurpose greenway along the Carbon River Valley to Mount Rainier National Park.

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The Carbon River Conservation Project: A Lifeline to Mount Rainier National Park

Mount Rainier is the most spectacular geological landmark in Washington State. On a clear day, the mountain is visible from the Pacific Ocean, the Columbia Plateau, Canada, and Oregon. The daily benefits provided by Mount Rainier include wilderness preservation, wildlife observation, recreation, education, and awe-inspiring moments of natural beauty that thrill and inspire millions of visitors each year. Experiencing Mount Rainier, or Tahoma, at the summit, on the trails, or in a breath-taking view is a priceless part of belonging to the Northwest.

Recognized as a national treasure, Mount Rainier was set aside in 1899 by the people of the United States as America's fifth national park. The Park's boundaries were drawn straight across what was then a vast wilderness and do not reflect the natural ecosystems and ecological processes that maintain the health of the Park and the plants and animals found there. In 1899, Washington State's population was 478,533. In 2002, the population has neared 6 million (Appendix 1; Washington State Office of Financial Management, 2002). Today, population growth, urbanization, and resource extraction on the borders of the park are taking their toll on the integrity of this national gem.

Witnessing habitat degradation and loss, the fragmentation of open spaces, new listings of endangered and threatened species, and diminishing ecosystem health, Park officials proposed a boundary change at the Carbon River entrance (2002 Mount Rainier National Park General Management Plan). This change would protect important habitat for federally listed threatened and endangered species, including some of the remaining nesting habitat for the marbled murrelet (Appendix 2). At present, key private properties are available that fall within this boundary extension proposed by the Park. Now is the time to acquire these properties and make the extension of Mount Rainier National Park a reality.

Changing the Park boundary is part of a larger conservation project connecting Mount Rainier National Park back to the Carbon River watershed. The Carbon River Valley watershed runs from Mount Rainier to the confluence of the Puyallup River. Preserving the upper part of the Valley, from the boundary of the National Park westerly down the Carbon River through the towns of Carbonado and Wilkeson, south to South Prairie Creek (figure 1), is the focus of this document. The Carbon River Valley is a lifeline to Mount Rainier National Park. Sustaining the environmental and economic health of Mount Rainier and the entire valley, this preservation plan establishes an ecological corridor to the mountain through a system of public parklands, privately held preservation lands, and private commercial timberlands under a variety of conservation easements. Future phases of the project will concentrate on the lower Carbon River and its main tributaries, Gale Creek and South Prairie.

The Carbon River Valley Conservation Project is the vision of many people who care about Mount Rainier National Park. Supporters from communities, local, county and state governments, land conservancies, the Puyallup tribe, environmental groups, and Mount Rainier National Park have come together to develop and support a strategy to safeguard the Carbon River Valley and Mount Rainier National Park. Two academic fields, ecological economics and ecosystem health, provide important tools for examining the ecology, economics, and the interrelationship of local communities, visitors, extractive industries, conservation lands, and ecosystems in the Carbon River Valley.

A Vision of Ecological Sustainability and Economic Development

The goal of this plan is to improve the ecological health of Mount Rainier National Park and the Carbon River Valley, while also improving the economic and community health of the area. We propose the following objectives that constitute the Carbon River Valley Conservation Project:

1. Expand the boundary of Mount Rainier National Park three miles down the Carbon River Valley to the area identified in the 2002 Final Environmental Impact Statement and General Management Plan, placing critical riparian habitat and inland rainforest under National Park stewardship.
2. Secure critical wildlife corridors with a system of protected and connected lands (parks) under a variety of public and private ownership. Many of these connective corridors are identified in the Pierce County Gap Application Pilot Project. Fairfax Forest (1040 acres) recently achieved Resource Conservancy Status in a collaboration between Pierce County and the DNR. The North-South Gale Creek corridor and the East-West Carbon River corridor require similar protection through conservation status.
3. Extend the Foothills Rails-to-Trails from Carbonado to Mount Rainier National Park.
4. Designate important historical landmarks such as the Fairfax bridge, portions of State Route 165, the Bailey Willis trail from Wilkeson to Ashford, the Wilkeson Coke Ovens, other mining landscapes and historical town-sites including Fairfax and Upper Fairfax.
5. Enhance economic opportunities in the gateway communities of Wilkeson, Carbonado, Upper Fairfax, Burnett, and South Prairie by emphasizing ecological restoration, tourism, and sustainable timber practices.
6. Collaborate with private commercial landowners to incorporate sustainable practices into management policies in their Carbon River Valley holdings. By initiating innovative timber management through strong, positive, and voluntary economic incentives, an ecological buffer to the Park can be established.
7. Increase, enhance, and preserve perceptual resources such as mountain views, valley vistas, and landmarks for present and future generations.

Figure 1. Overview of the Carbon River Valley in Pierce County.

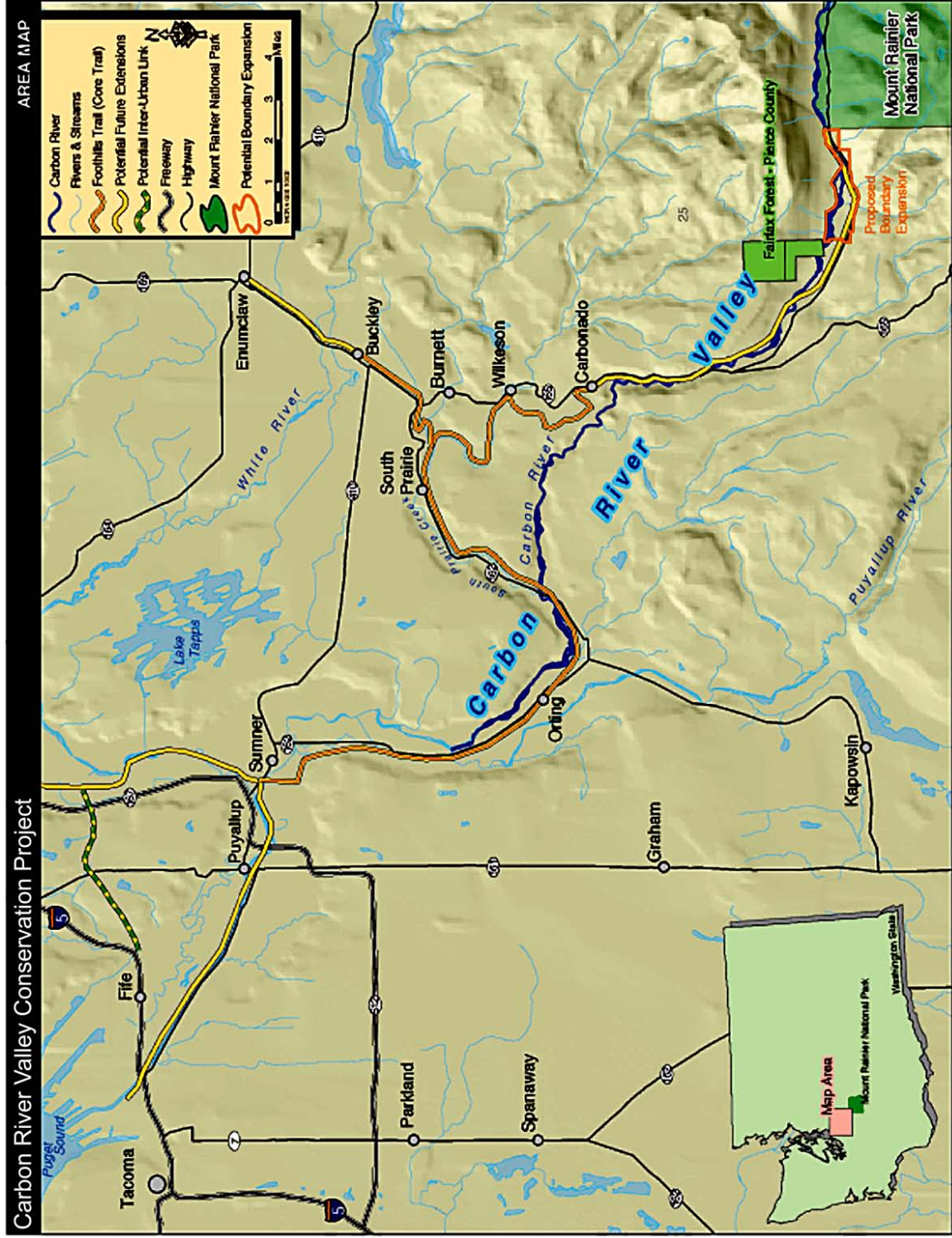
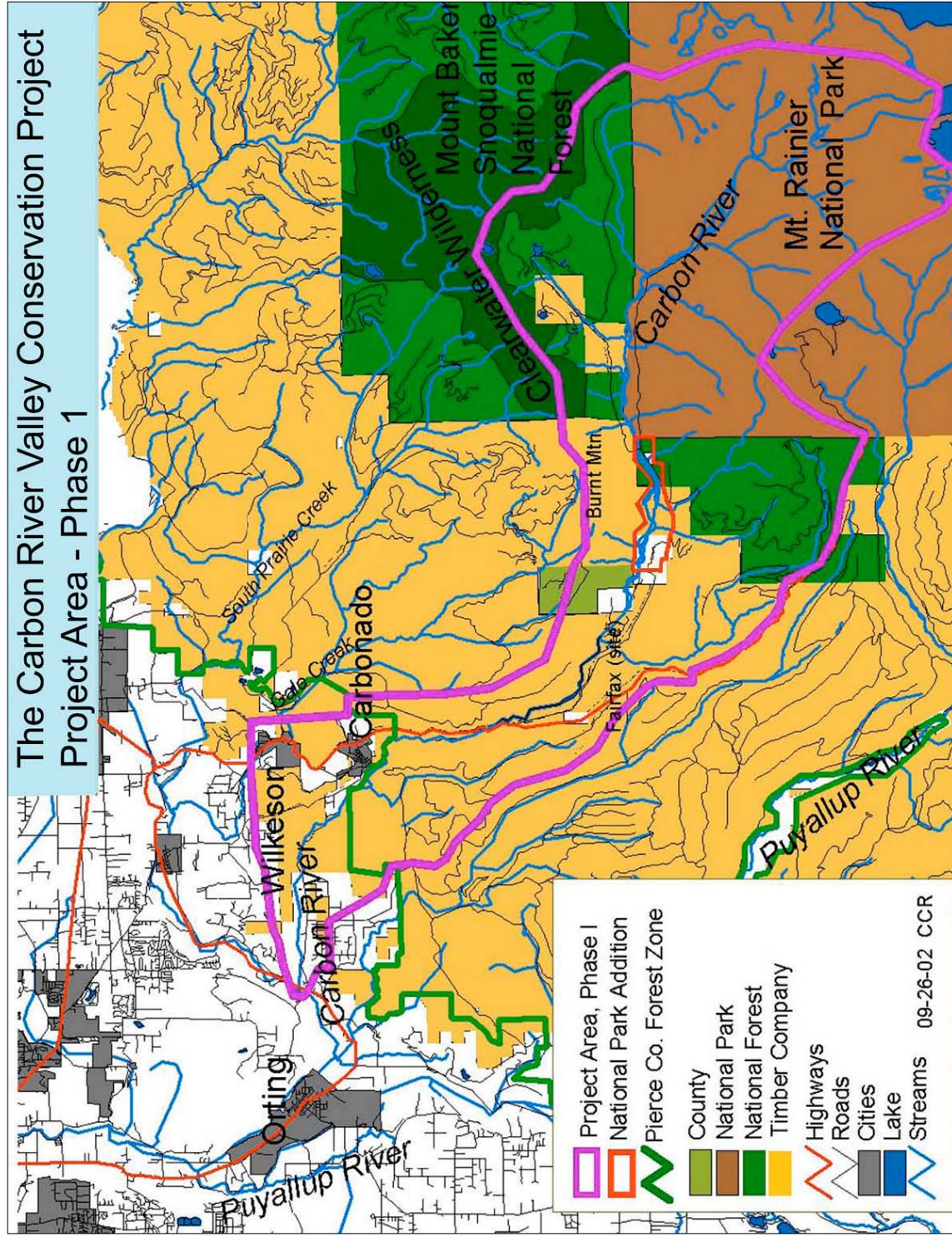


Figure 2. General overview of the upper Carbon River Valley project with Fairfax Forest and the proposed Mount Rainier National Park proposed boundary extension.



The Carbon River Valley



The Carbon River

Photo Courtesy National Park Service

The Natural Environment

The Carbon River Valley begins within Mount Rainier National Park at the Carbon Glacier, the largest and lowest elevation glacier in the continental United States (Filley, 1996). This upper valley, a box canyon, harbors one of the last inland old-growth rainforests in Western Washington, receiving 180-210 inches of rain each year. The rainforest nourishes the dominant trees Douglas fir (*Pseudotsuga menziesii*), Western hemlock (*Tsuga heterophylla*), and Western red cedar (*Thuja plicata*). Diverse habitats throughout the valley support threatened and endangered species including Chinook salmon (*Oncorhynchus tshawytscha*), Sockeye salmon (*O. nerka*), Steelhead salmon (*O. mykiss*), Northern goshawk (*Accipiter gentilis*), Northern spotted owl (*Strix occidentalis caurina*), Marbled murrelet (*Brachyramphus marmoratus marmoratus*), and Van Dyke's salamander (*Plethodon vandykei*) (University of Washington, 2000).

The Carbon River is part of the greater Puyallup River watershed, which includes three main rivers that flow from glaciers on Mount Rainier: the White, Carbon, and Puyallup. These rivers flow into Puget Sound at Commencement Bay in Tacoma and drain sixty percent of Mount Rainier. The Carbon River Valley serves as a critical link and wildlife corridor from the Cascades to the Puyallup and Nisqually Rivers to Puget Sound. The area also provides an ecological buffer zone for the northwest corner of Mount Rainier National Park, reducing harmful edge effects that lead to declining biodiversity within the Park. As part of the Puyallup River watershed, a healthy Carbon River Valley will help prevent erosion and downstream flooding that could impact many communities and resources.

History and Cultural Resources

Important not only for its spectacular and diverse natural resources, the Carbon River Valley also has a rich cultural and economic legacy. The Carbon River and other northerly tributaries

of the Puyallup River flow through subalpine forests from the northwest corner of Mount Rainier National Park past the historic towns of Wilkeson and Carbonado. They join the Puyallup River near the town of Orting and finally flow into Puget Sound on the Tacoma Tide Flats, originally the Puyallup River Delta.

The Carbon River was named for the coal deposits found in the area (The Mount Rainier National Park Official Map and Guide). Towns in the Carbon River Valley, such as Wilkeson, Carbonado, and Burnett, were founded on revenues from coal mining and timber. Today, resource extraction is less important in these local economies. Mining has ended, and timber harvesting has been greatly reduced. These local economies are partly sustained by tourists bound for Mount Rainier National Park, and the Park maintains a seasonal ranger station in Wilkeson. Many residents now commute to Tacoma for work but continue to live in these historic communities due to the aesthetic attributes and natural resources of the area. Once mining towns, Carbonado and Wilkeson are now called gateway communities due to their proximity to the National Park.

The Carbon River Valley also includes other old mining townsites--Fairfax, Upper Fairfax, and Manley Moore, now abandoned. Historic constructions remain from that era: an old railroad bed, sandstone walls that retained the road bed, and foundations of houses. The railroad bed is being considered for inclusion in and expansion of the Rails-to-Trails project. The towns have significant historical landmarks such as Wilkeson's Sandstone School, coke ovens, and cemeteries. The Carbon River Valley is also an integral part of the Puyallup tribe's ancestral homelands.

Property Ownership

Property ownership along the Carbon River is diverse. Government agencies include Mount Rainier National Park (MRNP), United States Department of Agriculture Forest Service (USFS), Washington Department of Natural Resources (DNR), and Pierce County. Although no longer a landowner, the Puyallup tribe is a stakeholder in the Carbon River Valley, having lived off the valley land for centuries. Timber companies own large tracts of land along the valley bottom and canyon walls. Hundreds of families live in the area on large and small pieces of land.

The Carbon River Valley Conservation Project

#1. Boundary Extension of Mount Rainier National Park

Assist Mount Rainier National Park in acquiring approximately 1000-3000 acres of land at the Park's northwest entrance along the Carbon River Valley.

Expanding the boundary of the Park down the Carbon River Valley will accomplish several goals. Mount Rainier National Park will gain jurisdiction over critical forest and riparian habitat. The Park states in their 2002 General Management Plan that the expansion is necessary to protect biodiversity in the Park. Expansion will provide a border area for sensitive habitats in the Park, including old-growth rainforest, which is the densest habitat in the Puget Sound area for the endangered marbled murrelet. The purchase of this additional land would enable the Park to move the Ipsut Creek camping facilities downstream (access to this camping facility is limited due to regular washouts of the Carbon River road). Additional Park land will provide options for camping, educational, and administrative facilities in an all-season location instead of the

present season-dependent location within the current boundaries (Dept. of Interior, 2002). This will help shift higher impact camping outside the current Park boundary and place necessary Park infrastructure in less environmentally sensitive areas. Once in place, the new facilities will require less maintenance and will free up funds devoted to repairing the Carbon River road.

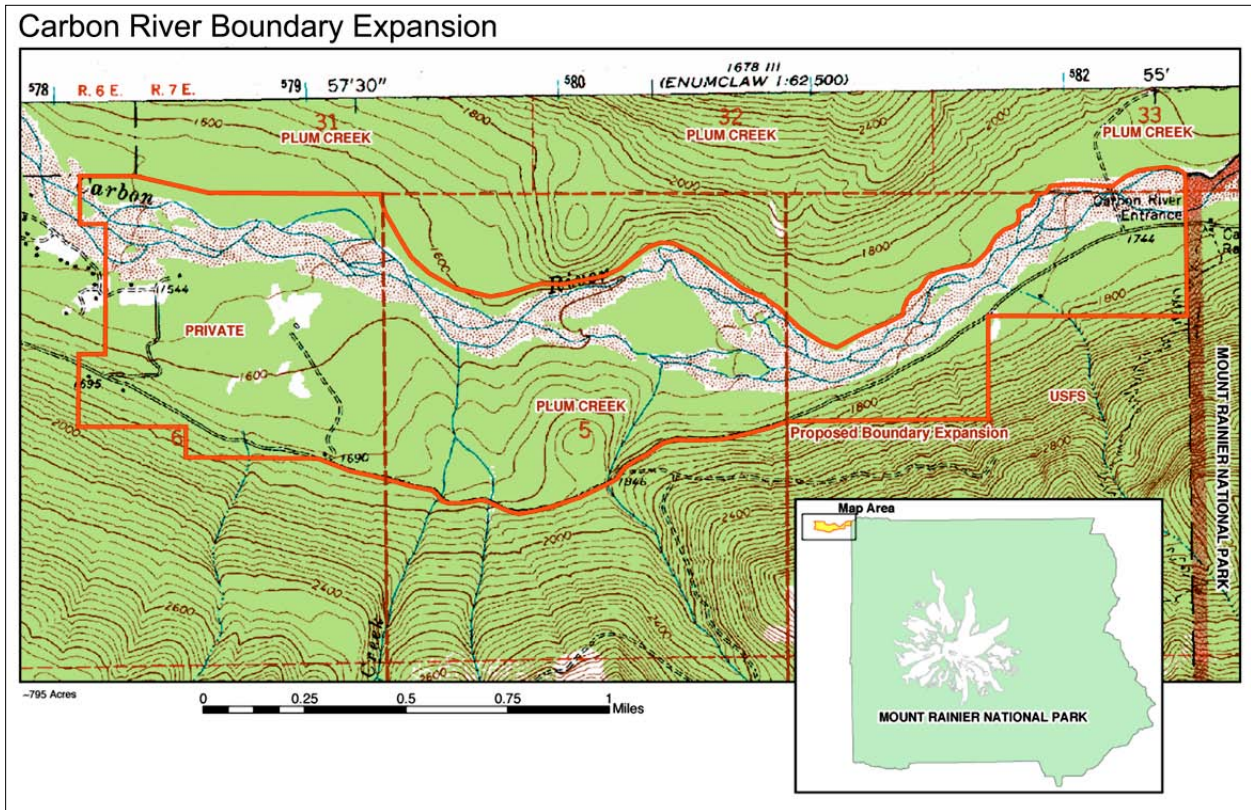


Figure 2. Proposed boundary change of Mount Rainier National Park. The total acres that will be added to the Park maybe between 795-1000 acres. Map courtesy National Park Service.

This boundary change is being proposed to provide for a publicly managed corridor along the upper portion of the Carbon River, which in turn provides added protection of important wildlife habitat and additional opportunities for public use and enjoyment of the area.

(Walkinshaw, Senior Planner, Mount Rainier National Park. September 2000)

The Carbon River Conservation project will support the expansion goal of the Park. Here is an important opportunity for non-profit groups, local landowners, and the public to facilitate the acquisition of key private lands for Park expansion. Citizens can help by advocating for Congressional support and allocation of funds for land acquisition within the boundary change.

#2. A System of Parks and Conservation Easements for Preservation of Wildlife Corridors and Ecosystem Health

Assist in the preservation of wildlife corridors identified in the Pierce County GAP Application Pilot Project. Work with private and public landowners to identify landholdings that are within these corridors. Assist in the purchase of conservation parcels under public or private ownership or in the purchase of conservation easements.

Within the Carbon River Valley, there are a significant number of public parkland owners including Mount Rainier National Park, USFS, the Washington State Department of Natural Resources, and Pierce County Parks and Recreation Department. The Metropolitan Parks District owns land toward the mouth of the Puyallup River. The ecological and recreational benefits from public lands can be increased with collaboration between these agencies

Mount Rainier National Park Superintendent Jon Jarvis and Tacoma Metro Parks Director Jack Wilson have initiated a series of meetings between public parkland managers for all of Pierce County. The purpose is to create a cooperative system of parks throughout Pierce County that will provide a wide range of recreation and open space across the various jurisdictions. This system will link recreation and public lands from Puget Sound to Mount Rainier and can serve as a model for other parts of the country. A system of parks will improve the ecological health of the entire watershed.

Pierce County GAP Application Pilot Project

In 2000, the Pierce County Council and Executive identified critical wildlife corridors in a biodiversity plan known as the Pierce County GAP Application Pilot Project. This plan identifies areas that are important to wildlife biodiversity based upon species richness and representation as predicted by primary land cover. Pierce County has integrated this project into an open space corridor plan.

The Pierce County GAP Application Pilot Project determined that urbanization is the type of habitat conversion of greatest concern in Pierce County and that habitat conversion is the primary cause of biodiversity decline. The study notes that the large amount of resource land at the northwest corner of Mount Rainier National Park is critical for habitat protection (University of Washington, 2000).

This study also recommends managing for certain habitat characteristics which are recognized by the science of conservation biology and biodiversity planning as a means of promoting ecosystem health and habitat function. Habitat characteristics protected through the Carbon River Valley Conservation Project are:

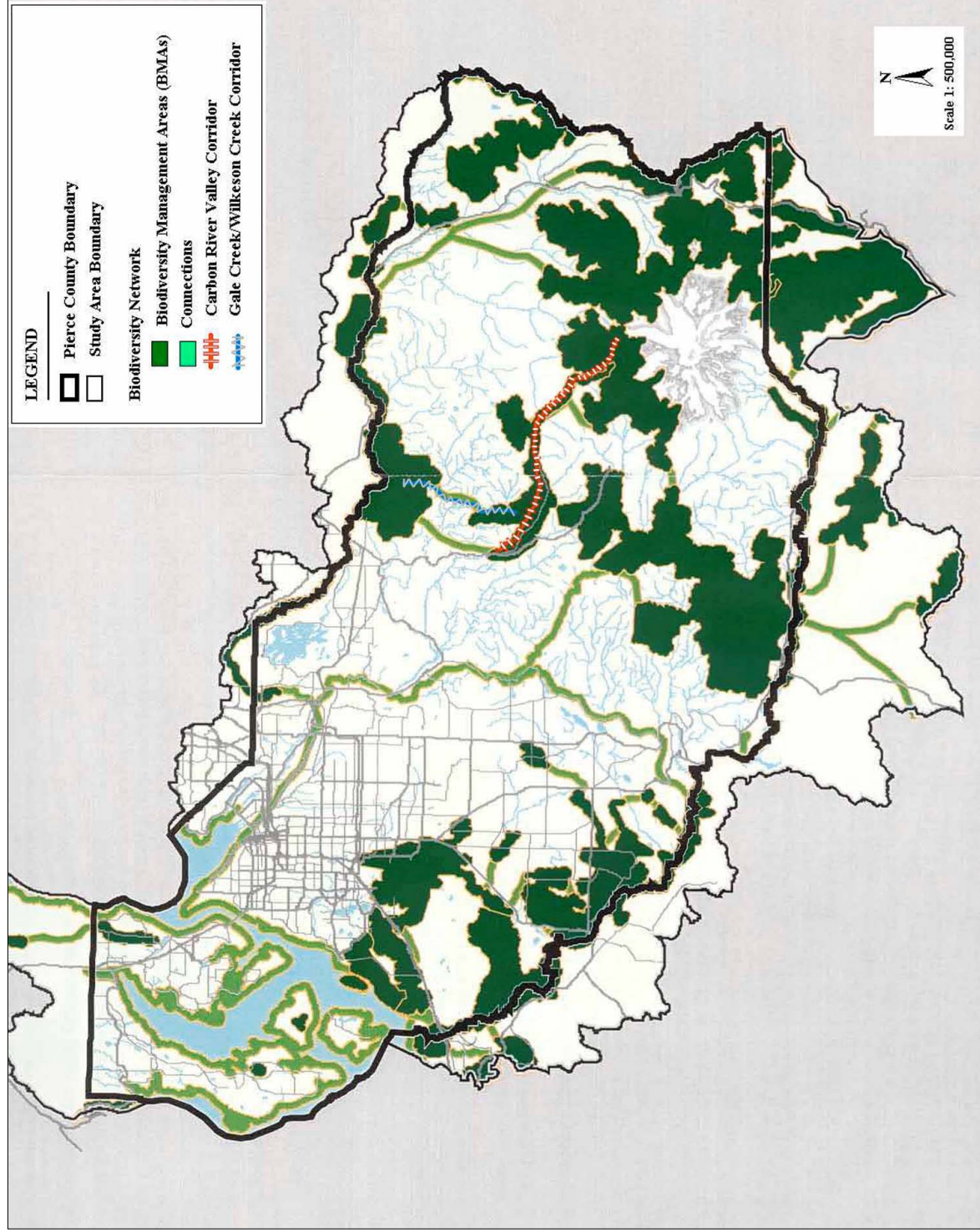
- large, intact areas of native vegetation unbroken by development,
- priority species and habitats,
- rare landscape elements,
- guided development in areas containing shared features,
- movement corridors that connect wildlife habitats,
- ecological processes in protected areas,
- regional persistence of rare species and important local habitat, and
- balanced opportunity for recreation and the habitat needs of wildlife

This scientific study highlighted that the protection of the Carbon River Valley is very important for ensuring biodiversity at the northwest corner of Mount Rainier National Park. Identified in this study were two critical wildlife corridors that run through the Carbon River Valley. The first corridor, the Carbon River Valley corridor, runs from east to west along the Carbon River down into the Puyallup River. The second corridor, the Gale Creek/Wilkeson Creek corridor, crosses the Carbon River drainage north over Gleeson Hill and down Gale Creek. Additional corridors cross south over the Carbon River Valley and link the Carbon, Puyallup, and Nisqually River watersheds (Figure 2).

Pierce County has very few wildlife corridors that are intact or set aside. Preservation of these corridors should be a high priority. In order to improve the understanding of these critical habitat areas, ground-truthing surveys of plants, wildlife, and habitat should also be conducted. Setting habitat aside in conservation acreage, such as Fairfax Forest, can help assure that ecosystem health and habitat for endangered species will be improved.

Working with organizations such as the Cascade Land Conservancy and the Cascades Conservation Partnership, who created this vision, the County is committed to making preservation of these corridors a reality. Key corridors such as the Carbon River Valley have been targeted for future land acquisition. Setting aside these lands as conservation acreage is a high priority.

Figure 3. Biodiversity Network. Pierce County Gap Application Pilot Project. September 30, 1999.



Fairfax Forest



Accomplished

Fairfax Forest spans 1040 acres, including 400 acres owned by the DNR and 640 acres owned by Pierce County. Fairfax Forest is three miles from the current boundary of Mount Rainier National Park and would be adjacent to the Park if our vision of the Park expansion is realized. Fairfax Forest contains 80 acres of spectacular old-growth forest (400-500 years old), about 885 acres of old natural-growth timber (90-100 years old), and about 75 acres of natural second-growth forest (50 years old). Fairfax Forest is at the juncture of two critical wildlife corridors (the Carbon River Valley corridor and the Gale Creek/Wilkeson Creek corridor), which would be linked to Mount Rainier National Park under the proposed Park expansion. Shifting these precious public lands into conservation status is key to preserving the corridors and ecological integrity of Pierce County, as well as improving the ecological health of Mount Rainier National Park.



The Carbon River Valley Corridor

Photo Courtesy of Dave Batker

Pierce County Parcel



Accomplished

Across the United States, few counties have the opportunity to conserve significant amounts of land or old-growth forest. Indeed, most counties have no old-growth forest left. In a visionary action in February 2002, the citizens, County Council, and County Executive of Pierce County set aside 640 acres of Fairfax Forest as open space for conservation. The land had been classified since the 1930s as surplus property. Fairfax Forest is now zoned for preservation status under the stewardship of the Pierce County Parks and Recreation Department.

In preserving Fairfax Forest, Pierce County also provides important connective wildlife corridors into the upper part of the Valley. Pierce County residents have consistently expressed, in both the 1988 and 1999 Pierce County Parks and Recreation Surveys, that securing more open space

and wilderness areas in the County is a priority (Table 1 and 2). Pierce County will now be able to work with local organizations to establish a management plan, hiking trails, and educational materials for this important site. Fairfax Forest also provides additional recreational opportunities near but outside Mount Rainier National Park. This can contribute to reducing visitor pressure on the most heavily used areas of the National Park.

Table 1. 1988 Pierce County Park and Recreation Resident Survey:
Do park and recreation agencies need to develop more of the following facilities?

Recreational Facilities	YES
Bicycle trails	82.8%
Walking trails in a park?	80.1%
Picnicking areas?	79.6%
Nature trails in conservation areas?	78.1%
Tent campsites?	69.4%
Hiking/backpacking trails?	66.9%

Table 2. 1999 Pierce County Survey of Voters Project Proposals in Priority Sequence

Wildlife Habitat	83%
Salmon Enhancement	78%
Open Spaces	76%
Prime Agricultural Lands	67%
Walking/Hiking Trails	66%
Community Centers	66%
Athletic Fields	65%
Group picnic facilities/day camps	64%
Cultural/Historic Landmarks	58%

Pierce County also owns several other interesting properties along the Carbon River in areas identified in the GAP study as important. These lands are currently in Tax Title or other status and could be moved into conservation status like the Fairfax Forest section.



Accomplished

Washington Department of Natural Resources Parcel

The DNR Board of Natural Resources voted on March 5, 2002, to transfer their Fairfax Forest parcel (400 acres) from Common School trust property to Pierce County for use as recreation and open space. This transfer is another victory for the Carbon River Valley.

The DNR parcel is part of an important wildlife corridor that runs north-south through the Carbon River Valley and into the Cascades. The Carbon River Valley is also rich in northwest culture and history. From the point of view of DNR, it does not seem appropriate for DNR to use its Carbon River holdings for commercial purposes now or in the future.

(Bunning, Regional DNR Director, September 2000)

These two parcels, now custody of the Pierce County Parks and Recreation Services Department, will create an open space park larger than New York City's Central Park. It will also link critical wildlife corridors with Mount Rainier National Park.

USDA Forest Service

The Forest Service owns a significant amount of wilderness and forestlands in and around the Carbon River Valley and Mount Rainier National Park. The Forest Service manages the Clearwater Wilderness, the Gifford Pinchot National Forest, and the Snoqualmie National Forest, as well as five other wilderness areas on the boundary or close to Mount Rainier National Park.

The Clearwater Wilderness is on the northern boundary of the Mount Rainier National Park, and it occupies a portion of the upper Carbon River watershed. The Forest Service has recently put a road across the Carbon River for access to the timberlands and National Forest Lands north of the Park. The National Forest will retain ownership of these lands. However, cooperation and coordination of management among the Forest Service, private landowners, and other public institutions are critical in ensuring that these lands continue to serve the Carbon River Valley area as wildlife corridors. Examining National Forest lands with respect to the Pierce County GAP Application Pilot Project will lead to improving the quality of some of the connective wildlife corridor areas.

Metropolitan Park District

The Metropolitan Park District serves a much larger area than the City of Tacoma and owns Northwest Trek, the Zoo, and many other parks. The Park District does not own land in the Carbon River Valley. However, the Park District may own land containing portions of important wildlife corridors. The District should be involved in discussions concerning our conservation strategy, since they would have jurisdiction downstream toward the mouth of the Puyallup River.

#3. Extension of a Non-motorized Path Linking Puget Sound to Mount Rainier National Park

The extension of the Foothills Rails-to-Trails from Carbonado to Mount Rainier National Park will make this trail one of the most spectacular in the U.S., extending from the Puget Sound area to Mount Rainier National Park.

The Foothills Rails-to-Trails Coalition and Pierce County Parks and Recreation Services Department are working to establish a 30-mile non-motorized bike and walking path that originates in the Puyallup-McMillin area. Several segments of the path are already completed, and a few parts are still under construction and environmental review. One leg of the trail, still under development, will terminate in Carbonado.

The coalition is interested in exploring ideas for a trail that extends past Carbonado to connect with Mount Rainier National Park and other rails-to-trails systems such as the Nisqually trail.

(Bay, President of the Foothills Rails-to-Trails Coalition Board, August 2000)

Extending this trail past Carbonado and into Mount Rainier National Park will provide a low-impact alternative for traveling to the Park. Bikers from Tacoma, Puyallup, Carbonado, and other nearby communities would gain access to campsites and other recreational facilities in the Carbon River Valley. This would be especially beneficial for day visitors who make up a large percentage of tourists to the Park. This trail would also serve as an important link to existing trails, improve the overall trail system, and create a safe non-motorized route from Puget Sound to Mount Rainier.

These paths promote conservation efforts in the area including riparian buffers as identified in the Pierce County GAP Application Pilot Project. Using an abandon railroad right of way, the Foothills Trail would provide low impact public access to a significant corridor of natural, cultural, and historic lands.



Foothills Rails-to-Trails Pathway
Photo courtesy Foothills Rails-To-Trails Coalition

Assisting the Foothills Rails-to-Trails Coalition in cooperation with the Pierce County Parks and Recreation Department in securing the trail is an important part of this project.

#4. Designation of Important Historical and Cultural Landmarks

Enlist the Washington Department of Transportation (WSDOT) and United States Department of Transportation (USDOT) Heritage Corridor Program and the Millennium Trails Program in recognizing State Route 165 as a Heritage Corridor and the Bailey Willis Trail as a Legacy Trail.

State Route 165 from Buckley to Mount Rainier National Park travels through historical towns and forested hillsides with spectacular views of the mountain. The WSDOT and USDOT Heritage Corridors program can enable local groups to be eligible for state and federal funding. These funds can aid historical and cultural preservation projects, ecological restoration, educational and tourism initiatives, and a management and planning process along the State Route 165 corridor. The program encourages towns and local groups of citizens to become engaged in promoting their communities. These benefits can be realized by working with local government and residents, USDOT Transportation, and WSDOT Heritage Corridors Program for the designation of State Route 165 as a Heritage Corridor.



State Route 165: Fairfax Bridge (O'Farrel Bridge) spanning the Carbon River canyon. Photo courtesy www.nwhighways

In developing signage, pull-off sites, and educational areas, the Heritage Corridor designation of State Route 165 would raise public awareness of the Carbon River Valley's unique historic, cultural, and ecological significance. The designation would also improve the local economies of towns that are gateways to the National Park. Similarly, the designation of the historic Bailey Willis Trail that once connected Wilkeson to Ashford will promote this trail's restoration and provide a critical link between the northwest and southwest corners of the Park.

The Carbon River was named for the vast coal deposits mined there in the early years of this century, and several abandoned town sites testify to the large number of people who once lived further up the valley. The Washington State Capitol was built from sandstone carved from the quarry at Wilkeson as was the spectacular Wilkeson School. The Wilkeson Historical Society has identified and supports the preservation of the many historical and ecological landmarks along the Carbon River Valley. These sites are important reminders of the heritage of Washington State and of the Pacific Northwest.

The Millennium Trails program is similar to the Heritage Corridors Program but has a different emphasis. The Millennium Trails Program recognizes, promotes, and supports trails as a means to preserve open space, interpret history and culture, and enhance recreation and tourism. These corridors include hiking trails, bicycle paths, greenways, and scenic byways through rural and urban landscapes as well as cultural and heritage trails that preserve and commemorate major events in our nation's history (Millennium Legacy Trails, 2000).

This program is a public-private partnership involving the White House Millennium Commission, the National Rails-to-Trails Conservancy, and the US Department of Transportation. The Foothills Trail has already been designated under this program. Other Carbon River trails, such as the Bailey Willis Trail, should be designated in an effort to promote their restoration and to protect the land around them.



Cultural Landmark: The Wilkeson School

Photo courtesy Mardy Robins

In the winter of 2003, the National Park Service will lead a transportation study of the road corridors leading to the Carbon River entrance at Mount Rainier National Park. The project will identify natural, cultural, recreation, and transportation opportunities along the road corridors and within gateway communities. This information will be used to prepare a highly graphic 'ideas' publication (design charette) to help illustrate the possibilities for partnerships and collaboration on mutually beneficial projects.

#5. Enhancement of Economic Opportunities in Historic Gateway Communities

This vision will assist Gateway communities in developing sustainable economies that retain the rural character of the area and that encourage grassroots, community-focused businesses.

The towns of Wilkeson, Carbonado, and Burnett are historical and exciting communities. Located on the edge of Mount Rainier National Park, they are referred to as gateway communities.

It is the Park's vision to cooperatively establish a recreational hub outside the Park's Carbon River Entrance that will provide camping, picnicking, and hiking opportunities, along with administrative support facilities (housing and maintenance) that will enhance the Park's ability to protect the northwest corner of the Park.
(Walkinshaw, Senior Planner, Mount Rainier National Park, September 2000)

Pierce County is going to grow rapidly in coming years. This growth, which has led to development and sprawl in other parts of the county, has already begun to threaten the things that make our communities special.
(Miller, member of Wilkeson Historical Society, August 2000)



The historic town of Wilkeson located on SR 165

Photo courtesy Liz Carr

Retaining the rural character of the area and encouraging community-based businesses, the Carbon River Conservation Project will help manage increased urban growth in a sustainable way. These economic opportunities will be in balance with the Carbon River Valley's natural environment while highlighting the area's cultural and ecological heritage. In addition, this type of economic development will benefit the Park by providing services such as visitor information about area attractions, restaurants, accommodations, and alternative transportation to the Park. Cooperatively, the Park, local governments and businesses, and citizens will increase awareness of local Washington State history, promote conservation, and provide sustainable economies.

¹ ***#6. Collaboration with Private Commercial Landowners to Incorporate Sustainable Practices into Management Policies in their Carbon River Valley Holdings***

Initiate innovative timber management around Mount Rainier National Park through strong, positive, and voluntary economic incentives.

Historically, the local economy of the Carbon River Valley has been dependent on intensive resource extraction such as logging, coal mining, and sandstone quarrying. Many of these activities have slowed or stopped altogether as these resources have been depleted, and the economies of nearby towns no longer wholly depend upon these industries. Most of the private land in the Carbon River Valley is owned by timber companies, and unlike coal mining, timber will continue to be an important part of local economies. Plum Creek and Rainier Timber LLC, managed by the Campbell Group, are the largest landowners. Plum Creek's holdings follow the Carbon River and include some of the river's riparian zone. Plum Creek and Rainier Timber own much of the land surrounding Mount Rainier National Park including some lands adjacent to the Park.

Commercial timber companies and conservation interests must work together. Managing private lands in a sustainable and profitable manner while recognizing the importance of ecological services and reducing the negative impacts of logging is crucial for the economic and ecological health of the Valley. In critical areas, conservation easements provide the economic incentive and ability for timber companies to consider alternative management systems. These systems reduce the need for short-term timber production and can increase the emphasis on quantity and quality of the timber harvested. Conservation easements along the boundaries of the Park would provide an ecological buffer. Focusing on long-term timber production allows for diversity that more closely resembles a natural forest and provides for greater ecosystem services. Diverse forests also have increased resilience and resistance to disease and pests.

Ecologically-focused policy tools, such as conservation easements, provide incentives for landowners to protect certain parcels of land but still allow for commercial use. They also provide an incentive for landowners to retain their land instead of selling off their holdings for real estate and development. Such sales often translate into urban sprawl, threatening the character of rural communities like those in the Carbon River Valley.

Besides the production of timber, forests provide clean, abundant water, flood protection, carbon sequestration, habitat for endangered species, recreational opportunities, and aesthetic value. That timberland owners can only capture income from timber harvesting and not from these other services is proof of a market failure. Critical ecosystem services are undervalued and may be lost, creating greater public and private expense. For example, harvesting without sufficient consideration for flood protection can create vast public and private expenses in flood, road, and property damage. The decline in native species populations due to habitat loss goes unmeasured as a cost until restrictions mandated by the Endangered Species Act are implemented. Many timberland owners want to preserve these important services. However, competition and company shareholders expecting high rates of return place significant economic pressure on timber companies to discount the ecological services outside timber production.

Conservation easements purchased by non-profit land conservancies or government agencies can eliminate some of this market failure. Easements allow timber companies to be paid for preserving ecosystem services and functions that might be lost without alternative management. Ecosystem health principles encourage longer rotations, mixed species, selective cutting, and adaptive management. They also enable landowners to hedge against future uncertainty by keeping options open for meeting unexpected changes in ecological conditions or societal demands. In ecological terms, this also means retaining higher quality ecosystem services such as water quality, healthy soil, and flood prevention. Moreover, timber from sustainably managed lands is often of higher quality due to its age and can be of greater value due to labeling initiatives that market eco-friendly products. Selective harvesting under conservation easements would require less capital investment and provide more jobs.



Selective logging to preserve ecological services and scenic views
Photo courtesy Washington Forest Protection Association



Traditional harvest cuts in the Carbon River Valley

Photo courtesy Mardy Robins

#7. Preservation of Perceptual Resources such as Scenic Views and Historic landmarks

By carrying out the steps outlined in Steps 1-6 the perceptual resources and the scenic value of the Carbon River Valley would be preserved.

Several examples of natural and cultural resources are given in goals 1-6: connective corridors, critical wildlife habitat, trails, landmarks, and historic communities. Valuable but impossible to quantify in financial terms are scenic mountain views, the feeling of being in wilderness or an old-growth forest, and the spiritual renewal after a visit to the National Park. These elements are perceptual resources, unique attributes that inspire people. The preservation of these attributes was important to the establishment of Mount Rainier National Park and is also important to this conservation project.

Confronted by this magnificent gift of nature, the rational response is to preserve it as a Carbon River Parkway, under national or state or county auspices, and build a foot-and-horse trail, open the whole year, through the gorgeous gorge and forest, over the colorful rocks and by the foaming cataracts, past the old coal mines and coke ovens and vanished villages.

(Manning, author, 1979)

The preservation of scenic views in the Carbon River Valley corridor provides a sense of place in western Washington with its coniferous forests and wild mountain rivers. Retaining the symbolic and sacred significance of Mount Rainier, its surrounding landscapes, and the artistic qualities of this place are important to many people in the Northwest.

A Changing Approach to Forest Management in Washington State

Communities across Washington State are concerned about their local forests. Population growth is accelerating the conversion of vital forestlands to housing and development. These communities are demanding that forestlands be protected and managed not only for timber production but to conserve water resources, prevent erosion and flooding, preserve habitat, protect endangered species, maintain aesthetic beauty, and continue to provide jobs and economic stability as well. In order to protect enough habitat to sustain biodiversity and maintain both the economic and ecological integrity of these forests, a new approach to conservation needs to be initiated. This approach should include large-scale landscapes, preserved forests, and timber-producing lands. The Carbon River Valley Conservation Project provides an innovative preservation approach that will address deepening concerns that affect local economies and the environment

Ecological Economics and Ecosystem Health

The Carbon River Valley Conservation Project is grounded in the principles of two academic fields: ecosystem health and ecological economics (Appendix 3). These fields were created to solve critical problems that the disciplines of ecology and economics alone appear to be incapable of solving. Ecological economics recognizes a great variety of economically and aesthetically valuable ecosystem services that forests provide.

Ecological economics also addresses three critical problems: ecological sustainability, equity/opportunity, and economic scarcity or efficiency. This ecological economic analysis is broader than traditional economic analysis and is better suited to understanding ecological and social issues in areas like the Carbon River Valley. The economic health of communities is tied to ecological sustainability, whether it is timber extraction, tourists drawn to the beauty of old growth trees, or a combination of these and other ecological services that provide economic benefits. Sustainability allows a long-term and ultimately more economically productive approach. Often, many of the economic benefits produced in a rural area like the Carbon River Valley are not retained by local communities. Thus, directly examining the issues of equity and economic opportunity is critical to local economic development. Taking an ecosystem health approach in the Carbon River Valley, combined with ecological economics, would allow for wide differences in land use but would have the capacity to improve both ecological and economic benefits by identifying practices which enhance sustainability and value.

Forests, for example, are vital ecosystems. We all use marketed forest products. Forests also help regulate global climate, freshwater supplies, flooding, landslides, and fisheries production

and are a vast storehouse of biodiversity. The nature of forest ecosystems, or whether they exist at all, is increasingly dependent on human decision-making. Public and private decisions have determined where the high-quality forests of the national parks and wilderness areas exist, where forests of natural growth or plantation timber abide, and where forest ecosystems disappear altogether, being converted into farms, housing, or parking lots.

In the Carbon River Valley, vast forested areas have been managed for timber production only, while little or no attention has been given to other highly valuable ecosystem services or the sustainability of forestry. This has been costly financially, ecologically, and socially. This “market failure” has resulted in the degradation of forest ecosystems and the services they provide, the loss of jobs dependent on the forest products industry, and higher costs to the public, private companies and individuals. The fields of ecological economics and ecosystem health provide practical tools for examining these difficult problems over an entire landscape, such as the Carbon River Valley. Where should lands be placed in preservation status? How can forest management practices be improved to retain critical ecological and economic benefits that forests provide? How can forest-dependent jobs be more sustainable? Ecological economics examines these questions.

Northwest Organizations Preserving Forestlands

Many organizations are committed to preservation of forestlands in Washington. The following organizations are working together in the Carbon River Valley. Their guiding principles have shaped this project and will shape the future of Washington State forests and the Carbon River Valley.

APEX

APEX is a non-profit environmental organization implementing two new academic fields, ecological economics and ecosystem health, to change and improve human interaction with ecosystems (Appendix 3). Apex has worked on sustainable fisheries in the Northwest, clean production, the global phase-out of highly toxic chemicals, and new rules governing international trade and finance. APEX is also facilitating collaboration among all of the organizations in the Carbon River Valley Conservation Project.

During 2000 and 2001, APEX successfully organized public and conservation groups to place over 1000 acres of ecologically critical land, including old growth forest, in permanent conservation status in the Carbon River Valley. We are now working to bring ecological economists and ecosystem health experts together with environmentalists, companies, individual landowners, American Indians, parks, state, local and federal government agencies to examine the entire Carbon River ecosystem.

Cascade Land Conservancy

Cascade Land Conservancy (CLC) is a private, non-profit organization that conducts voluntary transactions to preserve natural resources and open space lands in urban and rural communities. CLC works collaboratively with individual landowners, organizations, and local governments to protect and steward our wetlands, shorelines, forests, wildlife, and rare plant habitats, stream corridors, and urban open spaces.

The CLC has developed their Foothills Forest Conservation Program to conserve forests on the westside of the Cascades, including Pierce County. The Conservancy is aware that likely nodes

of spreading development are in the Carbon River Valley near Carbonado, Wilkeson, and Fairfax. CLC has proposed using Federal Forest Legacy funding on large areas of the Carbon River Valley. These lands, owned primarily by Plum Creek Timber Company and Rainier Timber LLC, managed by the Campbell Group, have been and would continue to be managed for timber but would have conservation easements on them to prevent future development. These lands are productive and support second growth forests. The timber is easily accessible with the dense road network. The CLC is discussing a proposal to be phased in over several years with land-owners and is working to secure funding from Congress. The CLC project has scored well in the state ranking process. Their approach would retain forestry across the landscape and complement other land acquisition and preservation programs that are focused along the river and SR 165. Avoiding further loss and fragmentation of forest would be key factors in prioritizing this program.

The Washington State Forest Legacy Program

The Forest Legacy Program is a federal grant program to protect forestlands from conversion to non-forest uses. In Washington State, the program is guided by the US Forest Service and carried out through the Department of Natural Resources.

Through the program, federal grants pay for conservation easements and other measures that prevent development. The Forest Legacy Program provides for both traditional forest uses and the protection of water, cultural resources, fish, and wildlife. Washington was one of the first states to participate in the federal Forest Legacy Program and has used it successfully to reduce urban sprawl and protect forestlands in key locations since 1993.

Cascades Conservation Partnership

The Cascades Conservation Partnership is a non-profit organization that has a broad coalition with many non-profit organizations, coalitions, federal agencies, and private companies. The Cascades Conservation Partnership has a four-year campaign to bring into public ownership key lands in the central Cascades of Washington that provide important wildlife habitat and recreational values. The focus is on protecting wildlife connectivity, old-growth forests, roadless areas, salmon streams, and trails. The Partnership is raising private funds and working to secure public funds for these acquisitions. By mid-2002, the Partnership will have raised over \$14 million in private funds, and Congress will have appropriated over \$30 million. Most of the lands will become part of the national forests, and a few will be added to state park or wildlife areas.

One key acquisition area for the Cascades Conservation Partnership is the upper Carbon River Valley. The Partnership has targeted four parcels, 2,500 acres in total, within the national forest and owned by Plum Creek Timber Company. One parcel, located near the northwest corner of Mount Rainier National Park, is between the Carbon River Road and the Carbon River. This parcel will be added to Mount Rainier National Park as part of their boundary expansion proposal. In addition to the river replete with salmon, this parcel has second growth riparian forests and a small knoll adjacent to the road that will make a fine overlook and interpretive area. A second parcel borders both the river and the National Park. There is a bridge that crosses the river, and the north side of the land extends to the top of Burnt Mountain. The other two parcels that are targeted for acquisition are located up Cayada Creek. One borders the Park and has been clear-cut in recent years. The other parcel borders the Clearwater Wilderness and is mostly second-growth forest. Within that parcel is Surprise Lake, and the surrounding roadless basin could be added to the Clearwater Wilderness.

The Pacific Forest Trust

The Pacific Forest Trust (PFT) is dedicated to enhancing, restoring, and protecting private, productive forests with a primary focus on California, Oregon, and Washington. PFT also works nationally to advance these goals. Founded in 1993, PFT is a non-profit conservation organization that collaborates with landowners, forest managers, government agencies, and the public to sustain private, working forests for all the values they provide. PFT's goal is to keep private forests healthy, whole, and productive, providing a wide range of services such as clean water and carbon sequestration. Longer harvest rotations and older forests achieve multiple public benefits, including increased carbon stores and improved wildlife habitat. Pacific Northwest forests are among the world's best carbon sinks, and PFT is helping establish a forest-based carbon market to reward landowners who manage for this service.

The Pacific Forest Trust has pioneered the use of conservation easements on managed forestlands. These voluntary agreements prevent forest conversion and guide sustainable forest management. PFT works cooperatively with forest owners, ranging from large industrial companies to families and individuals to American Indians, helping them develop their conservation options and design easements that work for them. Using these voluntary enforceable deed restrictions, landowners can protect the stewardship investments they have made in their properties. There are two general types of conservation easements. When conservancies or public entities pay landowners to relinquish development rights, landowners retain ownership and full use of lands for forestry. When landowners receive compensation for conservation measures beyond regulatory requirements, they agree to provide additional stream buffers or use harvesting practices that increase ecological values. Conservation easements are the best legal means to permanently protect the important natural values of a forest property and provide consistency in management while keeping the land in private ownership and use. Land trusts, such as PFT, which are selected by the landowner become responsible for monitoring compliance with the easement and ensuring its provisions are being honored.

PFT also provides tools and information to promote the greater understanding and use of stewardship forestry, which manages the natural diversity of forests for both economic and ecological productivity. The Pacific Forest Trust supports the Carbon River Valley Conservation Project and has helped formulate this vision.

The Evergreen Forest Trust

The Evergreen Forest Trust (EFT) has developed an innovative approach to timber management by ensuring that forestland never converts to residential or commercial development. The Carbon River Conservation Project hopes to implement a similar approach to forest management in the Carbon River Valley.

Evergreen Forest Trust is a non-profit corporation created by regional business and environmental, government, and academic interests to acquire, manage, and protect forestland in Washington State. EFT employs an innovative approach to acquiring, managing, and protecting forestland that will offer the public the benefits it desires, provide landowners with fair market value for their property, allow limited foresting, and maintain jobs for forest-dependent communities.

EFT's board negotiates with private landowners to acquire forested property at fair market value. EFT then designs conservation easements and a land management plan that exceeds state and federal environmental regulations. Tax-exempt revenue bonds fund the land

acquisition by EFT. The land is managed under the conservation plan, and the proceeds from the sale of timber go toward repaying the bonds.

An example of their work is in the recent acquisition of 100,000 acres of Weyerhaeuser Forest Land in Eastern King and Snohomish Counties. In January 2002, Cascade Land Conservancy, Evergreen Forest Trust, and Weyerhaeuser Company announced a purchase and sale agreement that transferred approximately 100,000 acres of Weyerhaeuser forestland to the non-profit Evergreen Forest Trust.

Evergreen Forest Trust proposed to purchase the property with Community Forest Bonds (tax-exempt bonds). To pay back the bonds, Evergreen Forest Trust will continue to harvest timber from the land, but on a not-for-profit basis. When bonds are repaid, Evergreen Forest Trust may discontinue timber harvest or use the proceeds to finance additional conservation. The property will now be called the Evergreen Forest at Snoqualmie. Cascade Land Conservancy, instrumental in negotiating the agreement, holds the conservation easement on the property, which immediately removes the possibility of development, sets aside 20,000 acres in ecological reserves, and guarantees the careful stewardship of the property in perpetuity.

A Sustainable Carbon River Valley

Procedural Tools

The policy tools described in Table 3 address the challenges facing Mount Rainier and the Carbon River Valley more constructively than the fragmented regulatory tools inherent in most land use management and planning policies (University of Washington, 2000). Most importantly, these tools address factors such as sustainability and biodiversity, instead of narrowly managing for a particular species or for a single human use or goal. Not only do these tools encourage participation in decision-making processes, they also avoid or minimize regulatory-style tools, which generally require strong governmental involvement and resources. These procedural tools involve different levels of government, create a more balanced approach, and reduce the potential for competition among interests, local communities, and regions around the Mount Rainier and Puget Sound area.

Table 3. Procedural Tools for Creating a Sustainable Carbon River Valley.

Type of Tool	Carbon River Example	Benefit
Acquisition		
Fee Simple Purchase	MRNP with help of Cascade Land Conservancy acquires land and expands Park's boundary along Carbon River	<ul style="list-style-type: none"> ▪ MRNP gains management of parcels, managing land under Park's preservation-based mission
Conservation Easements 1) Purchase of Development Rights 2) Supplemental Conservation Measures	Forestlands- Timber companies designate a portion of their land as permanent conservation easements Rails-to-Trails and Pierce County purchase development rights on some properties in order to connect MRNP to Foothills Trail Forestland and stream buffers or ecologically sound harvesting practices	<ul style="list-style-type: none"> ▪ Landowner retains ownership and full use of lands for forestry and receives payments for relinquishing rights to develop property ▪ Conservation easement status is transferred with land even if ownership changes ▪ Land owners retain property while designating certain sections to be developed only for use as a Rail-to-Trail segment ▪ Lower impact development restricts certain uses of land benefiting the public good ▪ Landowner receives compensation for conservation measures beyond regulatory requirements
Transfer of Development Rights & Density Credits	Riparian Parcels	<ul style="list-style-type: none"> ▪ Landowners obtain economic value from property while meeting growth management and forest conservation goals by transferring development rights into urban areas ▪ The transfer of development rights avoids pockets of development in forest zone ▪ The transfer decreases habitat loss and fragmentation
Public Benefit Rating System	Historic preservation Aquatic protection	<ul style="list-style-type: none"> ▪ Landowners gain financial incentive to conserve special features of the property that have public benefit, beyond regulatory requirements
Regulatory		
Growth Management Act	Forest Production Zone	<ul style="list-style-type: none"> ▪ The Growth Management Act encourages clustering of development and infrastructure ▪ This act encourages long-term retention of forest lands by discouraging development in forest lands
County and City Zoning	Critical areas designations	<ul style="list-style-type: none"> ▪ Zoning assures compatible land uses and encourages retention of forests
Forest Practices Act	Forest lands	<ul style="list-style-type: none"> ▪ The Forest Practices Act ensures basic standards to protect water quality and fisheries
Incentives		
Designation Programs	Historical Landmark designation: Fairfax town site Wilkeson Coke Ovens Scenic Byway designation: Carbon River Bridge Legacy Trails designation	<ul style="list-style-type: none"> ▪ Designation restricts certain land uses, while encouraging tourism and recreational opportunities ▪ It recognizes ecological and cultural heritage areas ▪ It enables communities or other stakeholders to acquire additional funding for projects
Public-Private Partnerships	MRNP coordinates with gateway communities on recreational opportunities, visitor information centers, and general community development initiatives	<ul style="list-style-type: none"> ▪ Partnerships encourage participation from stakeholders ▪ Cooperation reduces duplicated efforts and competition ▪ Partnerships make better use of limited resources

A Partnership Forum

Many local citizens, groups, land trusts, the Puyallup tribe, state and county agencies, and Park officials concerned about the future of the Carbon River Valley and Mount Rainier National Park have formed an informal working group to create and carry out this vision. The Carbon River Conservation Project was developed through collaboration among the following organizations:

Mount Rainier National Park	Pacific Forest Trust
APEX	Sierra Club
The Mountaineers	The Puyallup Tribe of Indians
Foothills Rails-to-Trails	Puyallup River Watershed Council
Cascade Land Conservancy	National Parks Conservation Association
Tahoma Audubon Society	North Cascades Conservation Council
The Wilkeson Historical Society	Biodiversity Northwest

APEX serves as the organizing catalyst and facilitator of the group, acting to

- bring stakeholders together to refine this common vision and outline the actions necessary to implement it;
- work with local citizens, citizen groups, government agencies, the Puyallup tribe, and private landowners to implement the concepts of ecological economics and ecosystem health and to determine how these principles can be used in their communities to support sustainable development; and
- work with timber companies operating in the Carbon River Valley to implement sustainable forest management practices appropriate for their holdings and to maintain buffer zones which will allow Mount Rainier National Park to maintain high-quality interior habitats and ensure greater protection for the Carbon River Valley.

What WE Can Do

If you are concerned about the future of the Carbon River Valley and about the health of Mount Rainier National Park, there are many ways you can get involved to preserve and protect Mount Rainier's lifeline.

- * **Raise the awareness of governmental agencies. Tell them that Mount Rainier National Park and the Carbon River Valley are important to you by contacting the organizations with jurisdiction in this region.**

Mount Rainier National Park
Star Route, Tahoma Woods
Ashford, Washington 98304-9751
Ph: 360 569 2211
Email: MORAINfo@nps.gov
Website: www.nps.gov/mora/home.htm

Pierce County Council
County-City Building
930 Tacoma Ave
Tacoma, WA 98402
Main switchboard: 253 798 5800
Pierce County Executive: 253-798-74

USDA Forest Service
US Department of Agriculture
Chief Dale Bosworth
Sidney R. Yates Federal Bldg.
201 14th St. SW

Mount Baker-Snoqualmie National Forest
450 Roosevelt Ave. E.
Enumclaw, WA 98022
Ph: 360 825 6585

Washington, DC 20250
Ph: 202 205 1661
Website: www.fs.fed.us

Washington Department of Natural Resources

Commissioner of Public Lands
P.O. Box 47001
Olympia, WA 98504-7001
Ph: 360 902 1004; Fax: 360 902 1775
e-mail: information@wadnr.gov
Website: www.wa.gov/dnr/base/dnrhome.html

South Puget Sound Region
950 Farman Street N
PO Box 68
Enumclaw, WA 98022-0068
Ph: 360 825 1631

Washington State Elected Officials

Senator Patty Murray

Seattle Office
2988 Jackson Federal Building
915 2nd Avenue
Seattle, Washington 98174
Ph: 206 553 5545
Fax: 206 553 0891
senator_murray@murray.senate.gov

Senator Maria Cantwell

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Seattle, WA 98174
Ph: 206 220 6400
Fax: 206 220 6404

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173 Russell Senate Office
Washington, D.C. 20510
Ph: 202 224 2621
Fax: 202 224 0238

Washington DC Office
717 Hart Senate Office Building
Washington, DC 20510
Ph: 202 224 3441
Fax: 202 228 0514

District 9

Congressman Adam Smith

Tacoma Office
1717 Pacific Avenue #2135
Tacoma, Washington 98402
Ph: 253 593 6600
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Fax: 253 593 6776

District 8

Congresswoman Jennifer Dunn

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Washington DC Office
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Washington DC Office
1501 LHOB
Washington, DC 20515
Ph: 202 225 7761

31st Legislature District

Senator Pam Roach

202 Irving R. Newhouse Bldg
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Olympia, WA 98504-0431
Ph: (Olympia): 360 786 7660

Congressman Chris Hurst

331 John L. O'Brien Bldg
PO Box 40600
Olympia, WA 98504-0600
Ph: 360 786 7866

Congressman Dan Roach

413 John L. O'Brien Bldg
PO Box 40600
Olympia, WA 98504-0600
Ph: 360 786 7846

* **Volunteer with groups who are working in this region**

APEX

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Ph: 206 652-1262
e-mail: MtRainier@a-p-e-x.org
Website: www.a-p-e-x.org/MtRainier

Tahoma Audubon Society

Ph: 253 565 9278
Fax: 253 565 5479
Website: www.worldstar.com/~audubon/

Cascade Land Conservancy

615 Second Avenue, Suite 525
Seattle, WA 98104
Ph: 206 292 5907; Fax: 206 292 4765
e-mail: info@cascadeland.org
Website: www.cascadeland.org

Foothills Rails-to-Trails

PO Box 192
Puyallup, WA 98371
Ph: 253 841 2570
e-mail: bugtrail@aol.com

Mount Rainier National Park Associates

9230 41st Ave NE
Seattle, WA 98115-3802
Website: www.mount-rainier.org
Fax: 206 284 4977
Website: www.mountaineers.org

Wilkeson Historical Society

PO Box 300
Wilkeson, WA 98396
Ph: 360 829 0537

Mountaineers

300 3rd Ave West
Seattle, WA 98119
Ph: 206 284 6310
Fax: 206 284 4977
Website: www.mountaineers.org

Mountaineers Tacoma Branch

2302 North 30th Street
Tacoma, WA 98403-3322
Ph: 253 566 6965
Website: www.tacomamountaineers.org

National Parks Conservation Association

Northwest Region
705 Second Avenue, Suite 203
Seattle, WA 98104
Ph: 206 818 4041
e-mail: hweiner@npca.org
Website: www.npca.org

Sierra Club

8511 15th Ave NE
Seattle, WA 98115
Ph: 206 523 2147

* **Donate to the Carbon River Valley Conservation Project**

Donations are tax-deductible and can be made to:

Tides Center-APEX

The Carbon River Valley Conservation Project

1305 Fourth Avenue, Suite 606

Seattle, WA 98101

Ph: (206) 652-1262

e-mail: MtRainier@a-p-e-x.org

Website: www.a-p-e-x.org/MtRainier

In-kind donations are also appreciated, especially in the form of volunteers, paper and printing costs, website development, and office equipment.

APEX is a project of the Tides Center which provides core management services to new and existing nonprofit organizations promoting social change.

APPENDIX 1

Mount Rainier National Park Statistics

Comparison of Washington State Population, MRNP Visitors, MRNP Acreage

Year	WA Population	% Increase	MORA Visitors	% Increase	Acreage	% Increase
1900	478,533 ¹	--	2000 ⁴	--	207,360	--
1931	1,563,400 ²	69.39	293,562 ⁴	99.32	241,782	14.24
1960	2,853,200 ²	45.21	1,538,663 ⁴	80.92	241,782	0
2000	5,803,400 ³	50.84	1,764,091 ⁵	12.78	235,612 ⁵	-2.62

1. Taken from *1899 Washington State Governor's Budget* report, Seattle Public Library.
2. Taken from *Population Trends 2000*, website: www.ofm.wa.gov/poptrends/poptrends.pdf.
3. Taken from April 2000 estimate, Washington Office of Financial Management, website: www.ofm.wa.gov.
4. Taken from Mount Rainier National Park Archives.
5. Statistic for visitors in 1999, taken from MRNP *Draft General Management Plan*, August 2000.

Timeline of Mount Rainier National Park Boundary Changes

Year	Boundary
1899	US Congress set aside 207,260 acres in an 18 mile x 18 mile square area for the creation of Mount Rainier National Park.
1926	The borders of the Park were adjusted to follow more natural boundaries.
1931	The Eastern boundary was extended by 34,000 acres, reaching the ridges of the Cascade Mountains.
1960	The Park acquired land near Ashford for its Headquarters and administrative offices.
1986	Minor adjustments were made between Mount Rainier National Park and the wilderness areas and USDA Forest Service lands.
2000	Official total acreage of Mount Rainier National Park is 235,612.

Statistics from:

Mount Rainier National Park. 2000. Website: www.nps.gov/mora

Catton, Theodore. 1996. *Wonderland: An Administrative History of Mount Rainier National Park*.

Website: www.nps.gov/mora/adhi/adhi.htm

Filley, Bette. 1996. *The Big Fact Book About Mount Rainier*. Issaquah, WA: Dunamis House. 88-89.

APPENDIX 2

Special Status Species: Federal and State-listed Threatened and Endangered Species that occur or have the potential to occur in Mount Rainier National Park.

* SPECIES HAVE BEEN OBSERVED IN THE CARBON AND PUYALLUP RIVER AREAS.

Listed

Northern spotted owl (*Strix occidentalis caurina*) *
Marbled murrelet (*Brachyramphus marmoratus*) *
Bald eagle (*Haliaeetus leucocephalus*) *
Gray wolf (*Canis lupus*)
Canada lynx (*Lynx canadensis*)
Grizzly bear (*Ursus arctos*)
Chinook salmon (*Oncorhynchus tshawytscha*)*
Bull trout (*Salvelinus confluentus*) *

Proposed

Cutthroat trout (*O. clarki*)
Coho salmon (*O. kisutch*) *

Species of Concern that inhabit the Park

Northern goshawk (*Accipiter gentilis*)
Olive-sided flycatcher (*Contopus cooperi*)
Peregrine falcon (*Falco peregrinus*)
Long-eared myotis (*Myotis evotis*)
Long-legged myotis (*M. volans*)
Cascades frog (*Rana cascadae*)
Western Toad (*Bufo boreas*)
Van Dyke's salamander (*Plethodon vandykei*) *
Larch mountain salamander (*P. larselli*)
Fender's soliperlan stonefly (*Solieria fenderia*)

Species of concern that may inhabit the Park

California wolverine (*Gulo gulo luteus*)
Pacific fisher (*Martes pennanti pacifica*)
Valley silverspot (*Speyeria zerene bremeri*)
Whulge checkerspot (*Euphydryas editha taylori*)

Many federally-listed species also are listed by the Washington Department of Fish and Wildlife as endangered, threatened, candidate, or sensitive species. Of the species identified above, northern spotted owl, peregrine falcon, gray wolf, grizzly bear, and fisher are listed as state endangered. Marbled murrelets, bald eagles, ferruginous hawk (*Buteo regalis*), and Canada lynx have state-threatened status. The northern goshawk, California wolverine, Pacific Townsend's big-eared bat (*Plecotus townsendii townsendii*), Chinook salmon, bull trout, western toad, Van Dyke's salamander, and California floater (*Anodonta californiensis*) are all state candidate species, and the Larch Mountain salamander is a state sensitive species (Dept. of Interior, 2000).

Appendix 3

Ecological Economics and Ecosystem Health

The economy is dependent on the services, resources, and waste sinks of the environment. Often, environmentally destructive activities are driven by economic decisions that do not account for costs related to ecosystem damage. The academic fields of ecosystem health and ecological economics were created to solve critical problems that the disciplines of ecology and economics alone were incapable of solving. Ecological analysis is better suited for pristine ecosystems and fails to incorporate human interaction with ecosystems. Economic analysis ignores the importance of sustainable ecosystem services to the economy. Environmental and economic crises often arise in this gap. To address this problem, ecological economics and ecosystem health draw from ecology and economics, as well as other disciplines, to work out practical solutions for maintaining ecosystems and a steady stream of economic benefits for local communities.

Ecological economics also addresses three critical problems: ecological sustainability, equity/opportunity, and economic scarcity or efficiency. This broader economic analysis is better for understanding areas like the Carbon River Valley. The economic health of communities, whether this involves timber extraction, tourists drawn to the beauty of old growth trees or a combination of these, is tied to ecological sustainability and ecological services that provide economic benefits. Sustainability allows a long-term and ultimately more economically productive approach. Often many of the economic benefits produced in a rural area like the Carbon River Valley are not retained by local communities. Thus, examining the issue of equity and economic opportunity directly is critical to local economic development.

Decisions about how humans interact within an ecosystem landscape, like the Carbon River Valley, should be made in dialogue with the community, private businesses, non-profit groups, and government agencies. This cooperative process is as important as the concepts and principles of ecological economics and ecosystem health.

Ecological Economics and Forests

Decisions about logging at a corporate and market level have generally focused on timber production alone because there is a ready market for timber. Other critical ecological services such as climate regulation, groundwater recharging, flood protection, aesthetic value, and biodiversity are benefits not traded in markets but are of great economic value and are typically excluded from land management decisions. Little ecological research has examined all the possible timber management options, from a pristine forest to a monoculture plantation of trees, including how differing forests provide potential for jobs and local economic development. Ecological economics and ecosystem health look precisely at what areas are critical to hold in a pristine state and how management can be improved economically and ecologically. Every ecosystem and every community may well have a different management regime depending on the particular geophysical conditions, ecological situation, and cultural, historical and current community values. Ecological economics recognizes a great variety of economically and aesthetically valuable ecosystem services that forests provide. Some of these services, such as timber value, are easily identified and given a dollar value because they are marketed commodities. Other ecosystem services not traded in markets can also have definite dollar values, such as flood protection and landslide prevention services. These services can and have been valued, though they are not easily quantified. Other valuable services cannot be fully

quantified, such as the aesthetic worth of Mount Rainier. The differences in land and home prices with a view of The Mountain provide only a small fraction of the total value. They omit the value of daily and future aesthetic appreciation that has no connection to any market and that some describe as priceless. Ecological economics examines all the market and non-market benefits of forests and associated ecosystems.

Ecosystem Health and Forests

Ecosystem health specifically addresses how human intervention changes ecosystems. It recognizes the complexity of forest ecosystems, including variations in species composition, topography, rotation cycles, age differentials among trees, etc. The differences among possible ecosystem states depends on the nature of human intervention combined with the history, topography, climate, biology, geology, and economics of the area. Ecosystem health uses four ecological measures, sustainability, activity, organization, and resilience, to account for a variety of ecosystem services and to establish that different ecosystem states may be sustainable or unsustainable. These measures are critical to understanding ecosystems and the economic benefits they support.

An ecosystem is healthy and free from 'distress syndrome' (irreversible process of system breakdown leading to collapse) if it is stable and sustainable--that is, if it is active and maintains its organization and autonomy over time and is resilient to stress. (Costanza, 1992)

Taking an ecosystem health approach in the Carbon River Valley combined with ecological economics would allow for wide differences of land use. An ecosystem approach would have the capacity to improve both ecological and economic benefits by identifying land use practices that enhance sustainability and value.

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