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Project File Analysis

Pixieland and Tamara Quays Asphalt and Noxious Weed Removal

**Hebo Ranger District
Siuslaw National Forest
Lincoln County, Oregon**

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Chapter 1 - Introduction

Background

The Salmon River Estuary is one of the few remaining relatively undeveloped estuaries on the Oregon Coast, although it has a long history of human use. Between 1945 and 1974, most of the estuary had been diked and ditched to create pasture. In 1974, it became part of the Cascade Head Scenic Research Area (CHSRA), and over time, most of the tidally influenced land in the estuary has been transferred to Forest Service ownership. It is also designated as a U.N. Biosphere Reserve. In 1977, the Management Plan was written for the CHSRA; the long-term goal of the plan is restoration of a functioning estuarine system free from the influences of man. Restoration of the salt marshes began in 1978, and has been ongoing, although much work remains to be done to restore hydrologic and ecological functions.

Estuaries are important “nurseries” for young salmon. Recent research has found that 95% of Chinook salmon spend significant amounts of time in estuaries. Recent research done in 2000-2002 in the Salmon River estuary has found that Chinook salmon fry disperse into the estuary in the early spring and many move into restored tidal marsh habitat. They then move into the ocean in early fall after an extended period of time in the estuary. “The absence of fry migrants in the estuary during spring and early summer in 1975-1977—a period that precedes restoration of any of the diked marshes,—and the extensive use of marsh habitats by fry and fingerlings in April-July in 2000-2002 indicate that wetland restoration has increased estuarine rearing opportunities for juvenile Chinook salmon.” (Bottom et al, 2005). The tidal marshes and tributaries support Chinook, coho, steelhead, and cutthroat trout. In the past, salmon were abundant enough to support a family-owned cannery. At the present time, coho salmon are severely depressed in the Salmon River basin; ODFW estimates that current coho numbers are just 10% of what they were in the past. Within the Salmon River estuary, habitat losses from dikes around marshes, loss of off-channel habitat and a decrease in water quality have contributed to the salmon species’ decline.

The Salmon River Hatchery was built in 1975, and produced fall Chinook, coho and summer steelhead. In the last 10 years, only Chinook and coho have been produced, but due to the recent declines in wild coho populations, hatchery production of coho will likely discontinue in the near future. The elimination of hatchery coho production will present an opportunity to return the Salmon River watershed to a wild coho river system.

During the summer of 2006, a graduate student team was hired to develop a restoration plan for the Salmon River Estuary. They identified watershed-wide projects, such as eliminating invasive plant species. They also identified six site specific projects, including the restoration of Pixieland. Fraser Creek should be directly connected to the salt marsh, and provide the ecotone habitat between fresh and salt water.

Pixieland is a now-defunct 57-acre amusement park that was in operation from 1969-1974. It was located east of, and adjacent to, the intersection of Highways 101 and 18 south of the Salmon River. During its operation, it included a frontier village, amusement park rides, and an asphalt parking lot and RV park that covered over 11 acres. A dike was built around the entire 57 acres to protect the park from flooding. A series of pools and channels were dug out of the marshes for water rides. Fraser Creek was re-routed into two parallel ditches separated by a dike. During low flows, most of the water flowed into the ditch that went through Pixieland and joined the Salmon River through a tidegate in the dike. During high flows, water also flowed down the ditch between the dike and Highway 101. See Figure 1 for a map of the existing site. These hydrologic alternations have resulted in impaired fish and aquatic habitat. The dikes have separated the floodplain from the river, and the parking lot supports a community of invasive plant species. The current condition of the site attracts vandalism, illegal dumping and other illegal activities, squatting, and is a popular battlefield for paintball wars.

Tamara Quays is an old trailer park that has been vacant since 2004. The site is now owned by the Siuslaw National Forest as part of the Cascade Head Scenic Research Area. The asphalt roads and concrete trailer pads remain, as well as non-native ornamental plants. Blackberries and scotchbroom have invaded the site. Rowdy Creek was diked and dammed to create “Kingfisher Lake”, an artificial pond on the site.

Purpose and Need for Action

The mandate of the Cascade Head Scenic Research Act (1974) and the Cascade Head Scenic Research Area Management Plan (1977) is to restore the Salmon River estuary to a natural condition. The management plan states: “The long-term goal (within the estuary and associated wetlands) is restoration to a functioning estuarine system free from the influences of man.”

The purpose of this initiative is to begin the restoration of the hydrology, aquatic habitat, estuarine conditions and native vegetation at Pixieland and Tamara Quays. Removing the asphalt and noxious weeds at these two sites is the first phase in restoring these two sites to estuarine conditions, including upland spruce forest. This action is needed because the second phase of restoration at a later date will include removing dikes and restoring Fraser Creek to a more natural channel. Fraser Creek in Pixieland has been severely altered. The dikes have cut off the

floodplain and marshlands from the Salmon River. The ditches have high water temperatures, and are hypersaline. When young salmonids get trapped in the ditches, they often die. Restoring the natural flow of this creek will provide more area of the fresh water-salt water ecotone habitat in the estuary. The site supports invasive plant species. The high elevation areas above the marsh within the site also supported a complex of upland spruce forest and spruce swamps. Forested spruce wetland has become a rare ecosystem due to previous farming and grazing within the estuary.

Proposed Action

- The action proposed by the Forest Service to meet the purpose and need consists of the following:
- Remove 7 acres of asphalt and concrete from the old Pixieland amusement park site and the former Tamara Quays trailer park site.
- Remove 13 acres of invasive plants using non-chemical techniques (mechanical or manual treatments only) at the two sites.
- The invasive plants will be piled and burned on site.
- Replant the areas where asphalt is removed with grasses for rapid re-occupation of the site to reduce invasion of weedy species. Establish native shrubs and/or trees to accelerate canopy shading as control of non-native invasive plants. Mechanical or manual control of competing vegetation may be used as site preparation for establishment of desirable native species.

Decision Framework

The Responsible Official for this project is the District Ranger for the Hebo Ranger District of the Siuslaw National Forest. The environmental assessment for this project provides the alternatives and the environmental effects of implementation upon which a decision will be made by the District Ranger. Given the purpose and need, the District Ranger will determine through a Decision Notice:

- To what extent, if any, will activities called for in the proposed project or management alternatives be implemented?
- What management requirements and mitigation measures (project design criteria) will be applied to these activities?

The primary factors that will influence the District Ranger's decision are based on how well the purpose and need is addressed. The Decision Notice will document this decision and describe

what activities will be implemented to address the problem. The decision will be consistent with the Siuslaw National Forest Plan (SNFP), as amended by the Northwest Forest Plan.

Public Involvement

After identifying proposed actions within project area, the District Ranger sought public comment on them. Letters describing the actions considered in the proposed project were mailed to about 150 parties on January 12, 2007. Public comment was also solicited through news releases sent to the Tillamook Headlight Herald, Lincoln City News Guard, Salem Statesman Journal, and others. The project was listed in the Siuslaw National Forest's Spring 2007 "Project Update". Comments on the proposed project were requested by February 23, 2007. Through these scoping efforts, 11 persons responded. Public comments were very positive towards the restoration effort.

Issues

Significant issues are defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues are defined as those that are: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)

The Forest Service identified two significant issues raised during scoping. These issues are:

How will the invasive weeds be controlled?

Invasive weeds, including Himalayan blackberries, scotchbroom and English ivy, as well as remnant non-native ornamental landscaping species, would be removed mechanically; by hand or with an excavator. The weeds would be piled, and burned on site.

What are the plans for recreational access, specifically parking and trails for those who want to fish along the Salmon River?

There are no plans at this time to develop recreational access at this site. However, future Forest-wide recreation planning is considering providing parking and a trail to the Salmon River. This project will preserve a small portion of the parking lot and two asphalt trails to the river for possible future recreation use.

Chapter 2 - Alternatives

This chapter describes and compares the alternatives considered for the removal of the asphalt, concrete and noxious weeds at the Pixieland and Tamara Quays sites. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social and economic effects of implementing each alternative.

Alternative 1: No Action

Under this alternative, the asphalt, concrete and noxious weeds would remain in place.

Alternative 2: Proposed Action

Under the proposed action alternative, the following work would be done:

- Remove 7 acres of asphalt and concrete from the old Pixieland amusement park site and the former Tamara Quays trailer park site.
- Remove 13 acres invasive plants using non-chemical techniques (mechanical or manual treatments only) at the two sites.
- The invasive plants will be piled and burned on site.
- Replant the areas where asphalt is removed with grasses for rapid re-occupation of the site to reduce invasion of weedy species. Establish native shrubs and/or trees to accelerate canopy shading as control of non-native invasive plants. Mechanical or manual control of competing vegetation may be used as site preparation for establishment of desirable native species.

Mitigation

Immediately following the removal of the asphalt and noxious weeds, the area will be seeded with grasses to control erosion and impede the re-establishment of noxious weeds.

Chapter 3 & 4 - Affected Environment and Environmental Consequences

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the table below.

Fisheries

Alternative 1: No action

Alternative 1 would maintain the existing conditions. There would be no effect on existing fish habitat.

Alternative 2: Proposed action

The project area contains Essential Fish Habitat (EFH) for coho and Chinook salmon, as described by the Magnuson–Stevens Act (MSA). The project is designed to avoid adverse impacts on this habitat by minimizing disturbance to water quality and riparian habitat. Based upon the relatively low degree of ground disturbance and the planned erosion control measures, salmon and other fish species utilizing this EFH are not expected to be adversely impacted by project activities.

Water Quality

Alternative 1: No action

This action would have no effect on water quality. The area would remain in its current condition.

Alternative 2: Proposed action

The Pixieland site is surrounded by a dike that separates it from the Salmon River. The old parking lot is on flat ground, and the concrete perimeter surrounds a pond that does not have any drainage out of it. The other ponds and ditches within the Pixieland site connect to the straightened channel that exits the site through a non-functional tidegate. If any sediment did get into these ponds and ditches, it is unlikely that it would enter the Salmon River.

At Tamara Quays, all of the asphalt and concrete scheduled for removal are in the upland areas, and are not near water.

Aquatic Conservation Strategy

Compliance with the Northwest Forest Plan Aquatic Conservation Strategy (ACS), as delineated in the Record of Decision (ROD) for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, is discussed below. The nine objectives of the ACS are listed, and the compliance of this project is noted.

1. *Maintain and restore the distribution, diversity and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.*

This project: The asphalt removal and noxious weed elimination will be taking place on level ground that is above the elevation of the Salmon River marshland. The project is approximately 15 feet away from the nearest water bodies.

2. *Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.*

This project would not affect existing waterways or drainage networks.

3. *Maintain and restore the physical integrity of the aquatic system, including shorelines, banks and bottom configurations.*

This project will not affect shorelines, streambanks or streambeds.

4. *Maintain and restore water quality necessary to support healthy riparian, aquatic and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.*

The ground surface where the work will be done is flat, and will be seeded with native grasses after the work is completed, and prior to the return of the fall rainy season. Surface erosion and sedimentation is not expected to occur. Best management practices will be used to insure that the equipment used does not leak oil or fuel. A spill plan will be part of the contract.

5. *Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate and character of sediment input, storage and transport.*

The ground surface where the work will be done is flat, and will be seeded with native grasses after the work is completed, and prior to the return of the fall rainy season. Surface erosion and sedimentation is not expected to occur. The sediment regime in the area will not be affected.

6. *Maintain and restore in-stream flows sufficient to create and sustain riparian aquatic and wetland habitats and to retain patterns of sediment, nutrient and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high and low flows must be protected.*

This project should benefit the flow regime in the Salmon River estuary by removing an impermeable surface and replacing it with native vegetation. It will improve infiltration and reduce runoff.

7. *Maintain and restore the timing, variability and duration of floodplain inundations and water table elevation in meadows and wetlands.*

This project will have no effect on floodplain inundations or water table elevations.

8. *Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.*

This project will aid in restoring the native vegetation in the area by removing the invasive weeds and asphalt that are currently covering the surface area.

9. *Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.*

This project will aid in restoring the native vegetation in the area by removing the invasive weeds and asphalt that are currently covering the surface area.

Wildlife

Alternative 1: No action

The Pixieland and Tamara Quays sites would continue to be poor wildlife habitat due to a lack of groundcover and an abundance of invasive plant species.

Alternative 2: Proposed action

In the short term, there would be no effect on wildlife habitat. The site is surrounded by two major highways, which create as much noise as the heavy equipment that would be operating on the site. There are no suitable murrelet nesting trees within the area.

In the long term, re-establishing a spruce forest where the old parking lot is now, and controlling the invasive plant species would provide better wildlife habitat.

Noxious Weeds

Alternative 1: No action

The Himalayan blackberries, scotchbroom, remnant non-native ornamental landscaping species and other non-native plants would continue to grow over the area and be sources for propagules.

Alternative 2: Proposed action

The area covered by noxious weeds would be reduced. Grasses, native shrubs and native trees would be planted to occupy the bare soil and compete with noxious weeds.

Cultural Resources

Alternative 1: No action

There would be no effect, as the site would remain in its current condition.

Alternative 2: Proposed action

There are no known historic properties in the area. Within the project site, the landscape has been severely altered. Therefore, there will be no adverse effects to historic properties.

Table 1: Comparison of Effects by Alternative

Issue	Alternative 1: No Action	Alternative 2: Proposed Action
Fisheries	No effect—the area would remain in its current condition.	Any effects to fish habitat would be minimized through erosion control methods.
Water Quality	No effect—the area would remain in its current condition.	Unlikely to affect water quality. The area is flat, and surrounded by a dike that separates it from the Salmon River.
Wildlife	The site would continue to be in a degraded condition.	No effect in the short term. Long-term benefits to wildlife habitat by controlling invasive plant species and re-establishing a spruce forest.
Noxious Weeds	Noxious weeds would continue to grow and provide a seed source.	Noxious weeds would be controlled, and eventually replaced by native species.
Cultural Resources	No change.	No effect to historic properties.

Reference

Bottom, D.L., Jones, K.K., Cornwell, T.J>, Gray, Ayesha, and Simenstad, C.A., 2005, Patterns of Chinook salmon migration and residency in the Salmon River Estuary (Oregon), Estuarine, Coastal and Shelf Science, v. 64, no. 1, p 79-93.

**Wildlife, Aquatic Species, and Federally Proposed, Endangered, and
Threatened Species, and Regional Forester Sensitive Species (PETS) Report**

for the

Pixieland and Tamara Quays Asphalt and Noxious Weeds Removal Project

**Hebo Ranger District
Siuslaw National Forest, USDA Forest Service
April 9, 2007**

A. Biological Evaluation for Federally Proposed, Endangered, and Threatened Species, and Regional Forester Sensitive Species (PETS)

I. INTRODUCTION

Section 7 of the Endangered Species Act of 1973 (as amended in 1978, 1979, and 1982) directs Federal departments/agencies to assure that actions authorized, funded, and/or conducted by them are not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of their critical habitat. The Act also directs each Federal agency to confer or consult with the appropriate Secretary on any action that is likely to jeopardize or affect the continued existence of any species or its habitat. All Forest Service projects, programs and activities require review and documentation of possible effects on Proposed, Endangered, Threatened or Sensitive (PETS) species (FSM 2672.4). In compliance with these directions and policies a biological evaluation must be performed for all federalized ground disturbing activities.

A 5-step process is used to summarize assessment procedures for PETS species currently listed for the Siuslaw National Forest (FSM 2672.4). The PETS species addressed during this process are those on the current Proposed, Threatened, and Endangered Species and the Regional Forester's Sensitive Species List for Region 6 that were updated July 2004.

The 5-step process consists of 1) pre-field review of existing information; 2) a field reconnaissance if listed species or habitats are determined to be present and potentially affected by the proposed action; 3) an evaluation of project effects on species and habitats; 4) an analysis of the significance of the project's effects on local and entire populations of PETS species; and 5) if needed (due to lack of information), a biological investigation. If the biological evaluation determinations indicate there may be an effect to proposed or listed species, conferencing or informal/formal consultation with USFWS, as outlined in FSM 2673.2, would be initiated.

PROJECT DESCRIPTION AND LOCATION

The old amusement park site, known as "Pixieland", is located at the intersection of Highways 18 and 101 in the Salmon River Estuary. The land is owned by the Siuslaw National Forest, and is part of the Cascade Head Scenic Research Area.

Tamara Quays is an old, defunct trailer park located just west of the intersection of Highways 18 and 101. The site is now owned by the Siuslaw National Forest and is also part of the Cascade Head Scenic Research Area.

Thirteen acres of invasive weeds, primarily Himalayan blackberries, and 7 acres of asphalt parking lots and trailer pads will be removed during the latesummer-early fall months of 2007. The blackberries will be removed with heavy equipment, and piled. The piles of blackberry will then be chipped and removed from the site. The asphalt will be removed and hauled to a recycling plant.

EVALUATION OF EFFECTS

Effects of the proposed project are evaluated in relationship to (1) habitat components, (2) direct and indirect impacts to species or their designated or proposed critical habitat, and (3) disturbance. A field review of the project site was conducted on March 4, 2005.

Summary Of Risk Assessment Process

This biological evaluation covers a 5-step process to identify threatened, endangered, and sensitive wildlife species that may be associated with the project area, and to evaluate any impacts the project may have to those species. The 5 steps are as follows:

1. A pre-field review of existing documented information.
2. Field reconnaissance of the project area for evidence of species or habitat.
3. Evaluation of the impacts of the project to suspected or known local populations of PETS species.
4. Analysis of the significance of the projects effects on local and entire populations of the PETS species.
5. If step 4 cannot be completed due to a lack of information, a biological investigation is conducted.*

*Step 5 pertains only to listed species and will not be shown in the table except when applicable.

The biological evaluation process is summarized below. Step #5 (BIOLOGICAL INVESTIGATION) was not required for any species, and is not displayed. Surveys are not required if potential habitat is not present. The entire analysis area has been surveyed for potential habitat on aerial photos, and to a large extent, on the ground.

Table 1. Siuslaw National Forest Proposed, Endangered, Threatened, and Sensitive Species List

<u>Scientific Name</u>	<u>Common Name</u>	<u>Federal Classification*</u>
Wildlife Species		
<i>Haliaeetus leucocephalus</i>	Northern bald eagle	T
<i>Brachyramphus mamoratus</i>	Marbled murrelet	T
<i>Strix occidentalis caurina</i>	Northern spotted owl	T
<i>Pelecanus occidentalis californicus</i>	California brown pelican	E
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	T
<i>Speyeria zerene hippolyta</i>	Oregon silverspot butterfly	T
<i>Bucephala albeola</i>	Bufflehead	S
<i>Histrionicus histrionicus</i>	Harlequin Duck	S
<i>Falco peregrinus anatum</i>	American peregrine falcon	S
<i>Sorex bairdii bairdii</i>	Baird's shrew	S
<i>Sorex pacificus pacificus</i>	Pacific shrew	S
<i>Arborimus longicaudus (silvicola)</i>	Red Tree Vole	S

<i>Myotis thysanoides vespertinus</i>	Pacific Fringe-tailed bat	S	
<i>Martes pennanti</i>	Pacific Fisher	S,C	
<i>Gulo gulo</i>	California wolverine	S	
<i>Rhyacotriton variegates</i>	Southern torrent salamander	S	
<i>Rhyacotriton kezeri</i>	Columbia torrent salamander	S	
<i>Rana boylei</i>	Foothill Yellow-legged frog	S	
<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	S	
<i>Deroceras hesperium</i>	Evening Fieldslug	S	
Fish Species			
<i>Oncorhynchus kisutch</i>	Coho Salmon	P, S	
<i>Oncorhynchus tshawytsch</i>	Spring Chinook Salmon	S	
<i>Oncorhynchus clarki clarki</i>	Coastal Cutthroat Trout	S	
<i>Oncorhynchus keta</i>	Chum Salmon	S	
<i>Oncorhynchus mykiss</i>	Coastal Steelhead Trout		S
Plant Species			
<i>Abronia umbellata (ssp. breviflora)</i>	Pink sandverbena	S	
<i>Anemone oregana va felix</i>	Oregon bog anemone	S	
<i>Cardamine pattersonii</i>	Saddle Mountain bittercress	S	
<i>Carex macrochaeta</i>	Large-awn sedge	S	
<i>Carex pluriflora</i>	Several-flowered sedge	S	
<i>Cimifuga elata</i>	Tall bugbane	S	
<i>Cordylanthus maritimus spp. palustris</i>	Salt-marsh bird's beak	S	
<i>Dodecantheon austrofrigidum</i>	Frigid shooting star	S	
<i>Eriophorum chamissonis</i>	Chamisso's cotton grass	S	
<i>Erythronium elegans</i>	Elegant fawn-lily	S	
<i>Filipendula occidentalis</i>	Queen-of-the-forest	S	
<i>Fritillaria camshatcensis</i>	Black lily	S	
<i>Geum triglorum var campanulatum</i>	Western red avens	S	
<i>Hydrocotyle verticillata</i>	Water pennywort	S	
<i>Lilium occidentale</i>	Western lily	E, S	
<i>Limonium californicum</i>	Marsh Rosemary	S	
<i>Lycopodiella inundata</i>	Northern bog club moss	S	
<i>Ophioglossum pusillum</i>		S	
<i>Saxifragia hitchcockiana</i>	Saddle Mountain saxifrage	S	
<i>Senecio flettii</i>	Flett's groundsel	S	
<i>Sidalcea hirtipes</i>	Hairy-stemmed checker mallow	S	
<i>Sidalcea nelsoniana</i>	Nelson's checker mallow	T, S	
<i>Silene douglasii var oraria</i>	Cascade Head catchfly	S	
<i>Utricularia gibba</i>	Humped bladderwort	S	
<i>Wolffia borealis</i>		S	
<i>Wolffia columbiana</i>	Columbia watermeal	S	
Fungi Species			
<i>Albatrellus avellaneus</i>		S	
<i>Bridgeoporus nobilissimus</i>		S	

<i>Cordyceps capitata</i>		S
<i>Cortinarius barlowensis</i>	S	
<i>Cudonia monticola</i>		S
<i>Gomphus kauffmanii</i>		S
<i>Leucogaster citrinus</i>		S
<i>Mycena monticola</i>		S
<i>Otidea smithii</i>		S
<i>Phaeocollybia attenuata</i>		S
<i>Phaeocollybia californica</i>		S
<i>Phaeocollybia dissiliens</i>	S	
<i>Phaeocollybia piceae</i>		S
<i>Phaeocollybia pseudofestiva</i>		S
<i>Phaeocollybia sipei</i>		S
<i>Phaeocollybia spadicea</i>		S
<i>Sowerbyella rhenana</i>		S

Lichens

<i>Bryoria pseudocapillaris</i>		S
<i>Bryoria spiralifera</i>		S
<i>Dermatocarpon luridum</i>	S	
<i>Hypogymnia duplicata</i>		S
<i>Hypotrachyna revolute</i>		S
<i>Leiodermia solediatum</i>		S
<i>Leptogium brebissonii</i>		S
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>		S
<i>Niebla cephalota</i>		S
<i>Pannaria rubiginosa</i>		S
<i>Peltigera neckeri</i>		S
<i>Peltigera pacifica</i>		S
<i>Pseudocyphellaria rainierensis</i>		S
<i>Pyrrhospora quernea</i>		S
<i>Ramalina pollinaria</i>		S
<i>Sticta arctica</i>		S
<i>Teloschistes flavicans</i>		S
<i>Tholurna dissimilis</i>		S
<i>Usnea longissima</i>		S

Bryophytes

<i>Encalypta brevicolia</i> var. <i>crumiana</i>		S
<i>Herbertus sakuraii</i>		S
<i>Iwatsukiella leucotricha</i>		S
<i>Plagiochila semidecurrrens</i>		S
<i>Radula brunnea</i>		S
<i>Schistostega pennata</i>		S
<i>Tetraphis geniculata</i>		S

*P=Proposed, E=Endangered, T=Threatened, S=USFS Region 6 sensitive, C= USFWS Candidate

PREFIELD REVIEW

The potential for PETS (proposed, endangered, threatened, or sensitive) species habitats and/or populations to occur in or adjacent to the project area was evaluated using the following information, as well as general field reconnaissance:

Records in Forest offices to determine if any PETS species habitats, individuals, or populations were documented within the project area. This record search included: (1) incidental reports of presence of PETS species from qualified individuals, (2) review of data describing habitats within or adjacent to the project area, and (3) field review of habitat existing within or adjacent to the project area.

Table 2. Biological Evaluation Process Summary by Species

SPECIES	Step #1	Step #2	Step #3	Step #4	Step #6
(TES)	Prefield Review	Field Recon.	Conflict Determination	Analysis of Significance	USFWS Review
	Habitat, Species present?	Habitat, Species present?	Conflict?	Important?	Consultation Completed?
BIRDS					
Marbled murrelet	NO	NO	NO	NO	NO
Northern bald eagle	NO	NO	NO	NO	NO
Northern spotted owl	NO	NO	NO	NO	NO
Western snowy plover	NO	NO	NO	NO	NO
California brown pelican	NO	NO	NO	NO	NO
Aleutian Canada goose	YES	YES	NO	NO	NO
American peregrine falcon	YES	YES	NO	NO	N/A
Bufflehead	NO	NO	NO	NO	N/A
Harlequin Duck	NO	NO	NO	NO	N/A
MAMMALS					
California wolverine	NO	NO	NO	NO	N/A
Pacific fringe-tailed bat	YES	YES	NO	NO	N/A
Baird's shrew	NO	NO	NO	NO	N/A
Pacific shrew	NO	NO	NO	NO	N/A
Red tree vole	NO	NO	NO	NO	N/A
Pacific fisher	NO	NO	NO	NO	N/A
HERPTILES					
Western pond turtle	NO	NO	NO	NO	N/A
Southern t. salamander	NO	NO	NO	NO	N/A
Columbia t. salamander	NO	NO	NO	NO	N/A
Foothill yellow-legged frog	NO	NO	NO	NO	N/A
FISH					
Coho Salmon	YES	NO	NO	NO	N/A
Spring Chinook Salmon	YES	NO	NO	NO	N/A
Chum Salmon	YES	NO	NO	NO	N/A
Coastal Steelhead Trout	YES	NO	NO	NO	N/A
Coastal Cutthroat Trout	YES	NO	NO	NO	N/A
INVERTEBRATES					
Evening Fieldslug	NO	NO	NO	NO	N/A
PLANTS					
Pink sandverbena	NO	NO	NO	NO	N/A
Oregon bog anemone	NO	NO	NO	NO	N/A
Saddle Mountain bittercress	NO	NO	NO	NO	N/A
Large-awn sedge	NO	NO	NO	NO	N/A

Several-flowered sedge	NO	NO	NO	NO	N/A
Tall bugbane	NO	NO	NO	NO	N/A
Salt marsh birds's beak	NO	NO	NO	NO	N/A
Frigid shooting star	NO	NO	NO	NO	N/A
Chamisso's cotton grass	NO	NO	NO	NO	N/A
Elegant fawn lily	NO	NO	NO	NO	N/A
Queen-of-the-forest	NO	NO	NO	NO	N/A
Black lily	NO	NO	NO	NO	N/A
Western red avens	NO	NO	NO	NO	N/A
Water pennywort	NO	NO	NO	NO	N/A
Western lily	NO	NO	NO	NO	NO
Marsh Rosemary	NO	NO	NO	NO	N/A
Northern bog club moss	NO	NO	NO	NO	N/A
<i>Ophioglossum pusillum</i>	NO	NO	NO	NO	N/A
Saddle Mtn. Saxifrage	NO	NO	NO	NO	N/A
Flett's groundsel	NO	NO	NO	NO	N/A
Hairy-stemmed checker mallow	NO	NO	NO	NO	N/A
Nelson's checker mallow	NO	NO	NO	NO	NO
Cascade Head catchfly	NO	NO	NO	NO	N/A
Humped bladderwort	NO	NO	NO	NO	N/A
Columbia watermeal	NO	NO	NO	NO	N/A
<i>Wolffia borealis</i>	NO	NO	NO	NO	N/A
FUNGI					
<i>Albatrellus avellaneus</i>	NO	NO	NO	NO	N/A
<i>Bridgeoporus nobilissimus</i>	NO	NO	NO	NO	N/A
<i>Cordyceps capitata</i>	NO	NO	NO	NO	N/A
<i>Cortinarius barlowensis</i>	NO	NO	NO	NO	N/A
<i>Cudonia monticola</i>	NO	NO	NO	NO	NO
<i>Gomphus kauffmanii</i>	NO	NO	NO	NO	N/A
<i>Leucogaster citrinus</i>	NO	NO	NO	NO	N/A
<i>Mycena monticola</i>	NO	NO	NO	NO	N/A
<i>Otidea smithii</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia attenuata</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia attenuata</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia dissiliens</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia piceae</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia pseudofestiva</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia sipei</i>	NO	NO	NO	NO	N/A
<i>Phaeocollybia spadicea</i>	NO	NO	NO	NO	NO
<i>Sowerbyella rhenana</i>	NO	NO	NO	NO	N/A
LICHENS					
<i>Bryoria pseudocapillaris</i>	NO	NO	NO	NO	N/A
<i>Bryoria spiralifera</i>	NO	NO	NO	NO	N/A
<i>Dermatocarpon luridum</i>	NO	NO	NO	NO	N/A

<i>Hypogymnia duplicata</i>	NO	NO	NO	NO	N/A
<i>Hypotrachyna revolute</i>	NO	NO	NO	NO	NO
<i>Leiodermia solediatum</i>	NO	NO	NO	NO	N/A
<i>Leptogium brebissonii</i>	NO	NO	NO	NO	N/A
<i>Niebla cephalota</i>	NO	NO	NO	NO	N/A
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>	NO	NO	NO	NO	N/A
<i>Pannaria rubiginosa</i>	NO	NO	NO	NO	N/A
<i>Peltigera neckeri</i>	NO	NO	NO	NO	N/A
<i>Peltigera pacifica</i>	NO	NO	NO	NO	N/A
<i>Pseudocyphellaria rainierensis</i>	NO	NO	NO	NO	NO
<i>Pyrrhospora querneae</i>	NO	NO	NO	NO	N/A
<i>Ramalina pollinaria</i>	NO	NO	NO	NO	N/A
<i>Sticta arctica</i>	NO	NO	NO	NO	N/A
<i>Teloschistes flavicans</i>	NO	NO	NO	NO	N/A
<i>Tholurna dissimilis</i>	NO	NO	NO	NO	N/A
<i>Usnea longissima</i>	NO	NO	NO	NO	NO
	NO	NO	NO	NO	N/A
BRYOPHYTES					
<i>Encalypta brevicolia</i> var. <i>crumiana</i>	NO	NO	NO	NO	N/A
<i>Herbertus sakuraii</i>	NO	NO	NO	NO	N/A
<i>Iwatsukiella leucotricha</i>	NO	NO	NO	NO	N/A
<i>Plagiochila semidecurrens</i>	NO	NO	NO	NO	N/A
<i>Radula brunnea</i>	NO	NO	NO	NO	NO
<i>Schistostega pennata</i>	NO	NO	NO	NO	N/A
<i>Tetraphis geniculata</i>	NO	NO	NO	NO	N/A

EFFECTS ANALYSIS

Federally-listed Species

No known nest sites, suitable habitat, or proposed or designated critical habitat exists in the project area for Northern spotted owls, marbled murrelets, northern bald eagles, western snowy plover, Oregon silverspot butterfly, western lily, Nelson's checker mallow or California brown pelican.

Impacts to Sensitive Species

Of sensitive species listed for the Siuslaw National Forest in Table 1 and 2, the following have potential for occurring in the project area:

Aleutian Canada goose
American peregrine falcon
Pacific Fringe-tailed bat

Remaining species listed in Table 1 and 2 either do not occur within the project area or suitable habitat elements for these species are lacking in the project area.

Aleutian Canada Goose

This species has been documented to use coastal meadow environments near wetlands and coastal streams. There is habitat in the project area for this species but the size and configuration of habitat is small and fragmented, respectively. Because of the amount and distribution of habitat in the project area there is no conflict with this species anticipated with the implementation of the proposed action.

American Peregrine Falcon

The project area does not contain any nesting habitat for this species. Falcons use all coastal environments for opportunistic hunting. The project area is suitable hunting habitat for this bird, but the amount and intensity of human use described in the proposed action would not interfere with occasional hunting in the project area. As a result there is no anticipated impacts to this species from implementation of the proposed action.

Pacific Fringe-tailed Bat

Christy and West (1993) describe fringe-tailed bats as utilizing caves, mines, and buildings for hibernation, maternity, and solitary roosts. They feed predominately on moths along forest edges, roads, or open areas within the forest. Guenther and Kucera (1978) stated this species utilizes, but are not dependent upon snags and down material.

The proposed action could rarely interfere with feeding along the forest road adjacent to the project area. Because the human use in the area will be sporadic and of low intensity, there are no adverse impacts anticipated to this species from the proposed action.

B. General Wildlife and Plant Species Assessment

The Pixieland area is currently covered with an asphalt parking lot, scattered young spruce trees and an abundance of Himalayan blackberries. A non-native shrub was planted as hedges between parking spots. The natural hydrology of the area has been severely altered by surrounding the area with a dike and digging ditches for drainage and for amusement rides.

The old Tamara Quays trailer park is also covered with asphalt, blackberries, Scotchbroom and non-native ornamental plants.

There are no unique habitats for wildlife or plants (wetlands/marsh, or caves/cliffs) that would be impacted by the proposed action. In both areas, the asphalt and noxious weed removal is the first step in planned restoration for the areas that includes restoring appropriate areas to estuary wetlands, and upland areas to mature spruce forest plant communities.

C. MIS Wildlife Species

The Management Indicator Species for the Siuslaw National Forest are marten, Northern spotted owls, pileated woodpeckers, downy and hairy woodpecker, red-breasted sapsucker, flicker, red-breasted nuthatch, ruffed grouse, and coho salmon. Two of these species, marten, and ruffed grouse have habitat in the project area. Both could be occasional users of the area for feeding purposes. Because the surrounding area has abundant habitat with areas of equal or greater solitude, there are no adverse impacts anticipated to either of these species by implementation of the proposed action.

D. Neotropical Birds

Neotropical birds are species that inhabit a wide variety of vegetative types across all areas of the Siuslaw National Forest. Many species of neotropicals use habitats similar to those in the project area. Habitats used by neotropicals in the vicinity of the proposed action are abundant and widespread. Given that human use will not increase due to the proposed actions in these habitats, the abundance of similar habitats surrounding the project area, and that no habitat removal of any kind will occur as part of the proposed action, there are no adverse impacts anticipated to neotropical birds due to the proposed action.

Direct/Indirect Effects on Essential Fish Habitat

The Magnuson –Stevens Act designated Essential Fish Habitat for coastal coho and Chinook populations. The project activity area does not include aquatic habitat. The project is designed to avoid adverse short-term impacts on essential fish habitat.

EFFECTS/IMPACTS DETERMINATIONS

Based on the information presented in this assessment, I determine that:

- a) Implementation of proposed activities is expected to have no effect on Federally-listed species or their proposed or designated critical habitat on the Siuslaw National Forest.**
- b) Implementation of proposed activities is expected to have no negative impacts to Regional Forester Sensitive species known to occur or potentially occurring on the Siuslaw National Forest.**
- c) Implementation of the proposed activities is expected to have no negative impacts to neotropical birds known to occur or potentially occurring on the Siuslaw National Forest.**

Prepared by: /s/ *Paul Thomas* _____ April 7, 2007 _____
Paul Thomas Date
Acting Forest Wildlife Biologist
Siuslaw National Forest

Prepared by: /s/ *John Sanchez* _____ April 7, 2007 _____
John Sanchez Date
Forest Fisheries Biologist
Siuslaw National Forest

References:

Christy, R.E. and S.D. West. 1993. Biology of bats in Douglas-fir forests. *In* M.H. Huff, R.M. Holthausen, K.B. Aubry, tech eds. Biology and management of old-growth forests. Gen. Tech. Rep. PNW-GTR-308. USDA Forest Service, Pacific NW Res. Station. Portland, OR

Guenther, K. and T.E. Kucera. 1978. Wildlife of the Pacific Northwest: occurrence and distribution by habitat, BLM district and national forest. USDA Forest Service, Pacific NW Region.

**Biological Evaluation of Proposed, Endangered, Threatened and
Sensitive Vascular Plant, Bryophyte, Lichen and Fungi Species**

for

**Pixieland and Tamara Quays Asphalt and Noxious Weed Removal
Project**

**Hebo Ranger District
Siuslaw National Forest
USDA Forest Service**

INTRODUCTION

Forest Service Policy requires that all actions be taken to “assure that management activities do not jeopardize the continued existence of sensitive species or result in an adverse modification of their essential habitat” (FSM 2670.3). Section 7 of the Endangered Species Act of 1973 (as amended in 1978, 1979, and 1982) directs Federal departments/agencies to assure that actions authorized, funded, and/or conducted by them are not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of their critical habitat. The Act also directs each Federal agency to confer or consult with the appropriate Secretary on any action that is likely to jeopardize or affect the continued existence of any species or its habitat. All Forest Service projects, programs and activities require review and documentation of possible effects on Proposed, Endangered, Threatened, or Sensitive (PETS) species (FSM 2672.4). In compliance with these directions and policies a biological evaluation must be performed for all federalized ground disturbing activities.

A 5-step process is used to summarize assessment procedures for PETS species currently listed on the Regional Forester’s Sensitive Species List for the Siuslaw National Forest (FSM 2672.4). The PETS species addressed during this process were based on the Regional Forester’s Sensitive Species List for Region 6 (last revised 07-21-2004) and the current U.S. Fish and Wildlife Service Federal Species List.

The 5-step process consists of 1) pre-field review of existing information; 2) a field reconnaissance if listed species or habitats are determined to be present and potentially affected by the proposed action; 3) an evaluation of project effects on species and habitats; 4) an analysis of the significance of the project’s effects on local and entire populations of PETS species; 5) if needed (due to lack of information), a biological investigation is completed.

A determination of No Impact for PETS species can be made at any step in the process, at which time the biological evaluation is complete. If the biological evaluation determinations indicate there may be an effect to proposed or listed species, conferencing or informal/formal consultation with USFWS, as outlined in FSM 2673.2, would be initiated.

PROJECT DESCRIPTION AND LOCATION

The Project Area includes the former Pixieland amusement park and the former Tamara Quays trailer park. The project area includes about 13 acres of invasive weeds, primarily Himalayan blackberries, and 7 acres of asphalt, associated fill, and concrete, located on the Siuslaw National Forest, Hebo Ranger District, Lincoln County, Oregon. The legal description is Township 6 South, Range 11 West, Section 25, and Township 6 South, Range 10 West, Section 30.

The project proposes to mechanically remove invasive weeds, primarily Himalayan blackberries and remove asphalt and concrete from the site. Associated fill may be stored on site.

Step 1. Pre-field Review of Existing Information

Management proposals are investigated to determine whether potential PETS species habitat may exist within or adjacent to the project area. Sources used include the Oregon Natural Heritage Database of rare species, the Siuslaw National Forest sensitive species plant database, Inter-agency Geographic Biotic Observations (GeoBob 2007), scientific literature, aerial photos, topographic maps, and knowledge provided by individuals familiar with the area. Appendix A lists the habitat and identification period for PETS botanical species documented from, or suspected to occur on, the Siuslaw National Forest.

PETS botanical species documented to occur within or adjacent to the project area: **None**

Known PETS species sites in the general vicinity of the Project Area:

Species	Location	Distance from Project Area
<i>Sidalcea hirtipes</i>	T.6S. R.11W. S. 27	2.0 miles
<i>Usnea longissima</i>	T.6S. R.11W. S. 14	2.5 miles
<i>Sidalcea hirtipes</i>	T.6S. R.11W. S. 15	2.6 miles

Table 2. PETS botanical species documented or suspected to on the Siuslaw NF

<u>Species</u>	<u>Common Name</u>	<u>Habitat in Project Area?</u>
<u>Vascular Plants</u>		
<i>Abronia umbellata</i>	pink sandverbena	No
<i>Anemone oregana</i> var. <i>felix</i>	Oregon bog anemone	No
<i>Cardamine pattersonii</i>	Saddle Mountain bittercress	No
<i>Carex macrochaeta</i>	large-awn sedge	No
<i>Carex pluriflora</i>	several-flowered sedge	No
<i>Cimifuga elata</i>	tall bugbane	No
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	salt-marsh bird's beak	No
<i>Dodecantheon austrofrigidum</i>	frigid shooting star	No
<i>Eriophorum chamissonis</i>	Chamisso's cotton grass	No
<i>Erythronium elegans</i>	elegant fawn-lily	No
<i>Filipendula occidentalis</i>	queen-of-the-forest	No
<i>Fritillaria camschatcensis</i>	black lily	No
<i>Geum triflorum</i> var. <i>campanulatum</i>	western red avens	No
<i>Hydrocotyle verticillata</i>	water pennywort	No
<i>Lilium occidentale</i>	western lily	No
<i>Limonium californicum</i>	marsh Rosemary	No
<i>Lycopodiella inundata</i>	northern bog club moss	No
<i>Ophioglossum pusillum</i>	adder's tongue	No
<i>Saxifragia hitchcockiana</i>	Saddle Mountain saxifrage	No
<i>Senecio flettii</i>	Flett's groundsel	No
<i>Sidalcea nelsoniana</i>	Nelson's checker mallow	No
<i>Sidalcea hirtipes</i>	hairy-stemmed checker mallow	No
<i>Silene douglasii</i> var. <i>oraria</i>	Cascade Head catchfly	No
<i>Utricularia gibba</i>	humped bladderwort	No

Pixieland and Tamara Quays Asphalt and Noxious Weed Removal Project

<u>Species</u>	<u>Common Name</u>	<u>Habitat in Project Area?</u>
<i>Wolffia columbiana</i>	Columbia watermeal	No
<i>Wolffia borealis</i>	northern watermeal	No
<u>Bryophytes</u>		
<i>Encalypta brevicolla</i> var. <i>crumiana</i>	extinguisher moss	No
<i>Herbertus sakurarii</i>	herbertus	No
<i>Iwatsukiella leucotricha</i>	hairy leaf-tip moss	No
<i>Plagiochila semidecurrrens</i> var <i>alaskana</i>	Alaska cedar-shake	No
<i>Radula brunnea</i>	brown flatwort	No
<i>Schistostega pennata</i>	green goblin moss	No
<i>Tetraphis geniculata</i>	four-tooth bent knee moss	No
<u>Lichens</u>		
<i>Bryoria pseudocapillaris</i>		Yes
<i>Bryoria spiralifera</i>		No
<i>Dermatocarpon luridum</i>	brook lichen	No
<i>Erioderma solediatum</i>	mouse ears	Yes
<i>Hypogymnia duplicata</i>	ticker tape lichen	No
<i>Hypotrachyna revoluta</i>	powdered loop lichen	Yes
<i>Leiodermia solediatum</i>	treepelt lichen	No
<i>Leptogium brebissonii</i>		Yes
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>		Yes
<i>Niebla cephalota</i>	powdery fog lichen	No
<i>Pannaria rubiginosa</i>	brown-eyed shingle lichen	No
<i>Peltigera neckeri</i>	black saddle lichen	No
<i>Peltigera pacifica</i>	fringed pelt lichen	No
<i>Pseudocyphellaria rainierensis</i>	specklebelly	No
<i>Pyrrhospora quernea</i>		No
<i>Ramalina pollinaria</i>	chalky ramalina	Yes
<i>Sticta arctica</i>		No
<i>Teloschistes flavicans</i>		No
<i>Tholurna dissimilis</i>		No
<i>Usnea longissima</i>	Methuselah's beard lichen	Yes
<u>Fungi</u>		
<i>Albatrellus avellaneus</i>		No
<i>Bridgeoporus nobilissimus</i>	noble polypore	No
<i>Cordyceps capitata</i>		No
<i>Cortinarius barlowensis</i>		No
<i>Cudonia monticola</i>		No
<i>Gomphus kauffmanii</i>		No
<i>Leucogaster citrinus</i>		No
<i>Mycena monticola</i>		No
<i>Otidea smithii</i>		No
<i>Phaeocollybia attenuata</i>		No
<i>Phaeocollybia californica</i>		No
<i>Phaeocollybia dissiliens</i>		No
<i>Phaeocollybia piceae</i>		No
<i>Phaeocollybia pseudofestiva</i>		No
<i>Phaeocollybia spadicea</i>		No
<i>Phaeocollybia sipei</i>		No
<i>Sowerbyella rhenana</i>		No

Step 2: Field Reconnaissance

A field survey was conducted in the Project Area on May 27, 2007. All habitats identified as having potential for PETS species were surveyed, including soil, duff, litterfall, down wood, snags, live tree and shrub boles and branches and rock.

The Project Area includes the former Pixieland amusement park and the former Tamara Quays trailer park. In Pixieland, most of the treatment area is associated with the RV park's roads and landscaped RV parking pads. Railroad tracks from an old amusement ride are on top of the concrete to be removed. Landscaping plants and invasive non-natives are present throughout the old RV park and old amusement ride sites. Site preparation for the RV park and paving may have included grading and filling that could have impacted fungal below-ground habitat. Grading and filling may also affect restoration of vegetation that would stabilize the site and prevent occupation of the site by aggressive non-native species such as Himalayan blackberry and scotch broom.

The forest habitat in the Pixieland Project Area has been highly disturbed. Vegetation from the asphalt and concrete removal areas were cleared during construction of the amusement park. As a result, there is little potential habitat for terrestrial PETS vascular plants, bryophytes and fungi. Some Sitka spruce (*Picea sitchensis*) appear to have been planted for landscaping purposes. Native tree species such as red alder (*Alnus rubra*), shore pine (*Pinus contorta*) and willows (*Salix* species) have seeded into the site. The understory is currently dominated by non-native species. The asphalt and concrete areas appear to have the potential to support a Sitka spruce/salmonberry (*Picea sitchensis/Rubus spectabilis*), Sitka spruce/swordfern plant association (*Picea sitchensis/Polystichum munitum*), or Sitka spruce/salal plant association (*Picea sitchensis/Gaultheria shallon*) (McCain and Diaz 2002). Developed areas were briefly visited to confirm that the vegetation is comprised of non-native species typical of residential landscaping, lawns, pastures, and waste places. Potential habitat for PETS botanical species in these areas is limited to epiphytic lichen species. .

The forest habitat around the Tamara Quays asphalted area is in a similar condition. The site was cleared and landscaped for the trailer park development. Non-natives include trees as well as shrubs and weedy herbaceous species.

Appendix B lists all species inventoried in the Project Area.

Survey Results

The survey did not detect the presence of any PETS botanical species.

PETS botanical species found within or adjacent to the project area: None

Step 3: Risk Assessment of the Proposed Action

Table 3 displays the effect of the proposed action for PETS species identified in Step 1 as having potential habitat in the project area.

Table 3. Biological Evaluation Process Summary by Species

	Step #1	Step #2	Step #3	Step #4	Step #5
SPECIES	Potential Habitat in Project Area?	Located in field?	Determination of Effects.	Analysis of Effects	Biological Investigation
Lichens					
<i>Bryoria pseudocapillaris</i>	Yes	No	No Impact	N/A	N/A
<i>Erioderma solediatum</i>	Yes	No	No Impact	N/A	N/A
<i>Hypotrachyna revoluta</i>	Yes	No	No Impact	N/A	N/A
<i>Leptogium brebissonii</i>	Yes	No	No Impact	N/A	N/A
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>	Yes	No	No Impact	N/A	N/A
<i>Ramalina pollinaria</i>	Yes	No	No Impact	N/A	N/A
<i>Usnea longissima</i>	Yes	No	No Impact	N/A	N/A

Implementation of the Pixeland and Tamara Quays Asphalt Removal and Noxious Weed Removal Project will have no impact on PETS vascular plant, bryophyte, lichen and fungi individuals or habitat.

 X No Impact (NI)

 May Impact Individuals or Habitat (MIIH), but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species.

 Will Impact Individuals or Habitat (WIIH) with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species.

The Biological Evaluation is complete.

Prepared by: /s/ Cindy McCain
Cindy McCain
Ecologist

 June 4, 2007
Date

References Cited:

GeoBob. 2007. Inter-agency Geographic Biotic Observations. Ad hoc query of database downloaded from http://www.or.blm.gov/geobob/SM_Data/default.asp.

McCain, Cindy and Nancy Diaz. 2002. Field Guide to the Forested Plant Associations of the Northern Oregon Coast Range. US Department of Agriculture, Forest Service, Pacific Northwest Region, Portland, OR. R6-NR-ECOL-TP-02-02.

Appendix A – Habitat and Identification Period of Documented or Suspected PETS Species

Vascular Plants	Habitat and Identification Period
Pink Sandverbena (<i>Abronia umbellata</i> spp. <i>Breviflora</i>)	Beaches and foredune; open sand. June-Sept.
Oregon bog anemone (<i>Anemone oregana</i> var. <i>felix</i>)	Coastal marshes and sphagnum bogs from Lincoln Co. north into Washington. Mar.-June
Saddle mountain bittercress (<i>Cardimine pattersonii</i>)	Bogs, wet areas, moist cliffs and edges. May-June
Large-awned sedge (<i>Carex macrochaeta</i>)	Moist openings, usually close to beaches. June-Aug.
Several-flowered sedge (<i>Carex pluriflora</i>)	Sphagnum bogs, brackish water near the coast. June-July
Tall bugbane (<i>Cimicifuga elata</i>)	Moist forests along edges and roadside, often north slopes with big-leaf maple. May-Aug.
Salt-marsh bird's beak (<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>)	Low, sandy salt marsh, fringes of lakes and bogs. Substrate is organic muck over sand. June-Aug.
Frigid shooting star (<i>Dodecatheon austrofrigidum</i>)	Stream sides on rocks below the high water line, mostly at higher elevations. May-June
Chamisso's cotton grass (<i>Eriophorum chamissonis</i>)	Coastal fens, swamps and bogs. Southern extent is Lane Co. May-Aug.
Elegant fawn-lily (<i>Erythronium elegans</i>)	High elevation meadows, bogs, rock cliffs and open coastal forests. May
Queen-of-the-forest (<i>Filipendula occidentalis</i>)	Moist headwalls, seeps, and wet rocks above high water along streams. May-Aug.
Black Lily (<i>Fritillaria camschatcensis</i>)	Moist open places, bogs and marshes. May-Aug.
Western red avens (<i>Geum triflorum</i> var. <i>campanulatum</i>)	Exposed grassy and dry area at high elevation. May-June
Water pennywort (<i>Hydrocotyle verticillata</i>)	Dune deflation plains, bog edges, marshes and ponds. July-Aug.
Western Lily (<i>Lilium occidentale</i>)	Open forest or shrublands on poorly drained soils, often along margins of ephemeral ponds/small channels under shrubs. Northern extent is Coos Co. June-July
Marsh Rosemary (<i>Limonium californicum</i>)	Salt marsh. Northern extent is Alsea Bay east of High School. July-Sept
Northern Bog Clubmoss (<i>Lycopodiella inundata</i>)	Dune deflation plains, coastal bogs and lake margins. Year-round

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Adder's tongue (<i>Ophioglossum pusillum</i>)	Edges of lakes, ponds, dune deflation plains. July-Aug.
Saddle Mountain saxifrage (<i>Saxifraga hitchcockiana</i>)	Grassy, rocky or gravelly areas at higher elevations. Apr.-Aug.
Flett's groundsel (<i>Senecio fletii</i>)	Open rocky tallus slopes. June- July
Hairy-stemed checker mallow (<i>Sidalcea hirtipes</i>)	Grassy meadows, coastal bluffs. June-Aug.
Nelson's checker mallow (<i>Sidalcea nelsoniana</i>)	Wetland prairies, endemic to the Willamette Valley. June-Aug.
Casacade Head catchfly (<i>Silene douglasii</i> var. <i>oraria</i>)	Grassy coastal bluffs. May-July
Humped bladderwort (<i>Urticularia gibba</i>)	Standing or slow moving water. July-Sept
Dotted watermeal (<i>Wolffia borealis</i>)	Ponds, free floating. May-October
Columbia watermeal (<i>Wolffia columbiana</i>)	Ponds, floating below the surface. May-October
Fungi	Habitat and Identification Period
<i>Albatrellus avellaneus</i>	Terrestrial in old growth forest, sea level to montane. Associated with conifer roots most likely Sitka spruce. Oct.-Jan.
Noble polypore <i>Bridgeoporus nobilissimus</i>	On true fir (<i>Abies</i> spp.) trees, snags and stumps particularly noble fir (<i>A. procera</i>). Year-round.
<i>Cordyceps capitata</i>	Terrestrial in conifer or hardwood forest, parasitic on deer truffles (<i>Elaphomyces</i> spp.). Siltcoos River, Cascade Head Exp. Forest. Sept.-Nov.
<i>Cortinarius barlowensis</i>	Terrestrial in coastal to montane conifer forests. Sept.-Nov.
<i>Cudonia monticola</i>	Terrestrial in spruce needle litter and coniferous debris. Aug.-Nov.
<i>Gomphus kauffmanii</i>	Terrestrial in deep duff and humus under pine or true fir. Marys Peak. Sept.-Nov.
<i>Leucogaster citrinus</i>	Mycorrhizal, associated with Douglas-fir, shorepine, western hemlock and subalpine fir. Aug.-Sept.
<i>Mycena monticola</i>	Terrestrial in conifer forest above 3,000 feet. Aug.-Nov.
<i>Otidea smithii</i>	Terrestrial on exposed soil, duff or moss under cottonwood, Douglas-fir and w. hemlock. Aug.-Dec.
<i>Phaeocollybia attenuata</i>	Terrestrial in conifer forest. Mary's Peak, Indian Ck., Five Rivers, Cascade Head Exp. Forest. Oct.-Nov.
<i>Phaeocollybia californica</i>	Mycorrhizal, associated with P. silver fir, Douglas-fir and w. hemlock. Cascade Head Exp. Forest. March-May, Oct.-Nov.
<i>Phaeocollybia dissiliens</i>	Mycorrhizal, associated with P. silver fir, Douglas-fir and w. hemlock. Cascade Head Exp. Forest. Oct.-Nov.
<i>Phaeocollybia piceae</i>	Mycorrhizal, associated with P. silver fir, Douglas-fir and w. hemlock. Cascade Head Exp. Forest. Oct.-Nov.
<i>Phaeocollybia pseudofestiva</i>	Terrestrial under mature mixed conifers and hardwoods. Marys Peak, Cascade Head Exp. Forest. Oct.-Dec.
<i>Phaeocollybia sipei</i>	Mycorrhizal, associated with P. silver fir, Douglas-fir and w. hemlock. Mary's Peak. Oct.-Nov.
<i>Phaeocollybia spadicea</i>	Terrestrial in low-elevation Sitka spruce forest. Cascade Head

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	Exp. Forest. Oct.-Nov.
<i>Sowerbyella rhenana</i>	Terrestrial in moist, mature conifer forests. Oct.-Dec.
Lichens	Habitat and Identification Period
<i>Bryoria pseudocapillaris</i>	Exposed coastal trees and shrubs near the coast, Epiphytic. Sutton Ck. Year-round.
<i>Bryoria spiralifera</i>	Exposed coastal trees and shrubs near the coast, epiphytic. Bluebill Lake. Year-round.
Brook lichen <i>Dermatocarpon luridum</i>	Freshwater aquatic on rocks or bedrock In streams, rivers or seeps above 1,000 Feet elevation. Usually submerged. Year-round.
Mouse ears <i>Erioderma solediatum</i>	Semi-open habitats on the coast. Epiphytic On ericaceous shrubs and conifer trees. Coos Bay dune sheet. Sutton Area. Year-round.
Ticker tape lichen <i>Hypogymnia duplicata</i>	Sitka spruce zone, also cool moist peaks and ridges, usually epiphytic. (Mt. Hebo, Mary's Peak, Yachats Mt.). Tree boles and branches. Year-round.
Powdered loop lichen <i>Hypotrachyna revoluta</i>	Coastal, usually on bark occasionally on rocks. Year-round.
Treepelt lichen <i>Leiodermia solediatum</i>	Coastal shrub thickets and wooded deflation plains. Epiphytic on ericaceous shrubs and conifer trees. Sutton and Eel Creek areas. Year-round.
<i>Leptogium brebissonii</i>	Coastal forest edges, shrub wetlands, riparian areas. Cascade head, Sutton Creek and Cedar Creek. Year-round.
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>	Moist habitats, usually epiphytic on trees, occasionally on decaying logs, rock and moss. Year-round.
Powdery fog lichen <i>Niebla cephalota</i>	On trees, rocks and shrubs in exposed windswept locations in the fog belt. Year-round.
Brown-eyed shingle lichen <i>Pannaria rubiginosa</i>	Dune deflation plains, low elevation mature riparian forest and wetlands. Canal Creek, Sutton Area. On bark. Year-round
Black saddle lichen <i>Peltigera neckeri</i>	Mossy logs, soil and tree bases in wet forested habitats. Year-round
Fringed pelt lichen <i>Peltigera pacifica</i>	Coastal, mossy logs, soil and tree bases in wet forested habitats. Year-round
Specklebelly <i>Pseudocyphellaria rainierensis</i>	Tree boles in moist, old growth forest at 300-4,000 ft., elevation. Tree boles. Year-round
<i>Pyrrhospora querneae</i>	Coastal stabilized dunes, rocky Headlands and estuary areas. Usually Epiphytic. Horsfall, Gwynn Creek. Year-round
Chalky ramalina <i>Ramalina pollinaria</i>	Low-elevation swamps, usually with Sitka spruce. Epiphytic. Year-round
<i>Sticta arctica</i>	Exposed rocks and moss covered soil of windswept ridges or marine terraces. Mt. Hebo, Cascade Head. Year-round.
<i>Teloschistes flavicans</i>	Coastal headlands, usually epiphytic on spruce. Year-round
<i>Tholurna dissimilis</i>	Epiphytic on exposed branches and twigs in humid alpine and sub-alpine habitats. Year-round.
Methuselah's beard lichen <i>Usnea longissima</i>	Epiphytic on conifers and hardwoods, usually at low elevation in riparian areas. Year-round.
Bryophytes	Habitat and Identification Period
Extinguisher moss <i>Encalypta brevicolla</i> var. <i>crumiana</i>	Soil in shaded crevices of basalt on ridgetops subject to frequent fog. Year-round

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<i>Herbertus sakuraii</i>	Peat substrates in cool moist locations. Year-round
Hairy leaf-tip moss <i>Iwatsukiella leucotricha</i>	Bark of conifer and hardwood trees on ridges subject to fog penetration at higher elevations near the coast. (Mt. Hebo). Year-round
Alaska cedar-shake <i>Plagiochila semidecurrrens</i> var. <i>alaskana</i>	North face of exposed basalt ridges and Cliffs at high elevations in the Oregon Coast Range. (Mt. Hebo). Year-round
Brown flatwort <i>Radula brunnea</i>	North face of exposed basalt ridges and Cliffs at high elevations in the Oregon Coast Range. (Mt. Hebo). Year-round
Green goblin moss <i>Schistostega pennata</i>	Caves, mine shafts, old root cellars and dark recesses under old rootwads of large windthrown trees. Year-round
Four-tooth bent knee moss <i>Tetraphis geniculata</i>	Older conifer forest, occurring on snags, logs and stumps. Year-round

Appendix B. Species Inventory of the Pixieland and Tamara Quays Site

Plants_Symbol	Scientific Name	Common name
	TREES	
	non-native trees	
		<i>redwood</i>
ACER	<i>Acer sp.</i>	<i>ornamental maples</i>
ACSA2	<i>Acer saccharinum</i>	<i>silver maple</i>
CHAMA4	<i>Chamaecyparis sp.</i>	<i>ornamental Chamaecyparis</i>
JUNIP	<i>Juniperus sp.</i>	<i>ornamental juniper</i>
PRLA5	<i>Prunus laurocerasus.</i>	<i>cherry laurel</i>
SORBU	<i>Sorbus sp.</i>	<i>mountain ash</i>
	native trees	
ACMA3	<i>Acer macrophyllum</i>	<i>big leaf maple</i>
ALRU2	<i>Alnus rubra</i>	<i>red alder</i>
FRPU7	<i>Frangula purshiana</i>	<i>cascara</i>
PISI	<i>Picea sitchensis</i>	<i>Sitka spruce</i>
PICO	<i>Pinus contorta</i>	<i>lodgepole pine</i>
PYFU	<i>Pyrus fusca</i>	<i>Pacific crab apple</i>
SALA5	<i>Salix lasiandra</i>	<i>Pacific willow</i>
SASC	<i>Salix scouleriana</i>	<i>Scouler's willow</i>
TSHE	<i>Tsuga heterophylla</i>	<i>western hemlock</i>
	SHRUBS	
	non-native shrubs	
		<i>heather</i>
CORYL	<i>Corylus sp.</i>	<i>hazel - cultivar</i>
CRATA	<i>Crataegus sp.</i>	<i>hawthorn</i>
CYSC4	<i>Cytisus scoparius</i>	<i>Scotch broom</i>
EUONY2	<i>Euonymus sp.</i>	<i>spindletree</i>
HEHE	<i>Hedera helix</i>	<i>English ivy</i>

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LONIC	<i>Lonicera sp.</i>	<i>honeysuckle species</i>
UNASSGND	<i>Pachistima spp.</i>	<i>boxwood</i>
RHODO	<i>Rhododendron X spp.</i>	<i>ornamental rhododendron species</i>
RUAR9	<i>Rubus armeniacus</i>	<i>Himalayan blackberry</i>
RULA	<i>Rubus laciniatus</i>	<i>evergreen blackberry</i>
	native shrubs	
RIBR	<i>Ribes bracteosum</i>	<i>stink currant</i>
ROGY	<i>Rosa gymnocarpa</i>	<i>bald-hipped rose</i>
RONU	<i>Rosa nutkana</i>	<i>Nootka rose</i>
RUPA	<i>Rubus parviflorus</i>	<i>thimbleberry</i>
RUUR	<i>Rubus ursinus</i>	<i>trailing blackberry</i>
SARA2	<i>Sambucus racemosa</i>	<i>red elderberry</i>
SPDO	<i>Spiraea douglasii</i>	<i>Douglas spiraea</i>
SYAL	<i>Symphoricarpos albus</i>	<i>snowberry</i>
VAOV2	<i>Vaccinium ovatum</i>	<i>evergreen huckleberry</i>
VAPA	<i>Vaccinium parvifolium</i>	<i>red huckleberry</i>
	Forbs	
	non-native forbs	
AJUGA	<i>Ajuga spp.</i>	<i>bugle</i>
CHLE80	<i>Chrysanthemum leucanthemum</i>	<i>ox-eye daisy</i>
CONVO	<i>Convolvulus spp.</i>	<i>bindweed</i>
COCO7	<i>Cotula coronopifolia</i>	<i>brass buttons</i>
DACA6	<i>Daucus carota</i>	<i>Queen Anne's lace</i>
DIFU2	<i>Dipsacus fullonum</i>	<i>teasel</i>
DIPU	<i>Digitalis purpurea</i>	<i>common foxglove</i>
GEMO	<i>Geranium molle</i>	<i>dovefoot geranium</i>
HYPE	<i>Hypericum perforatum</i>	<i>St. John's wort</i>
HYRA3	<i>Hypochaeris radicata</i>	<i>hairy cat's-ear</i>
ILAQ80	<i>Ilex aquifolium</i>	<i>English holly</i>
LOCO6	<i>Lotus cornicularis</i>	<i>birds-foot trefoil</i>
MYDI	<i>Myosotis discolor</i>	<i>common forget-me-not</i>
PLLA	<i>Plantago lanceolata</i>	<i>English plantain</i>
POCU6	<i>Polygonum cuspidatum</i>	<i>Japanese knotweed</i>
RARER	<i>Ranunculus repens var. repens</i>	<i>creeping buttercup</i>
RUAC3	<i>Rumex acetosella</i>	<i>sheep sorrel</i>
RUMEX	<i>Rumex spp.</i>	<i>sorrel species</i>
SEJA	<i>Senecio jacobaea</i>	<i>tansy ragwort</i>
SODU	<i>Solanum dulcamara</i>	<i>European bitterweet</i>
SONCH	<i>Sonchus sp.</i>	<i>sow-thistle</i>
TAOF	<i>Taraxacum officinale</i>	<i>common dandelion</i>
TRDU2	<i>Trifolium dubium</i>	<i>small hop-clover</i>
TRPR2	<i>Trifolium pratense</i>	<i>red clover</i>
VISA	<i>Vicia sativa</i>	<i>common vetch</i>
	native forbs	
ACMI2	<i>Achillea millefolium</i>	<i>yarrow</i>
EPAN2	<i>Epilobium angustifolium</i>	<i>fireweed</i>
FRVE	<i>Fragaria vesca</i>	<i>woodland strawberry</i>
GEMA4	<i>Geum macrophyllum</i>	<i>large-leaved avens</i>

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HELA4	Heracleum lanatum	common cow-parsnip
LYAM3	Lysichitum americanum	skunk cabbage
MAOR3	Marah oreganus	manroot
MOPA2	Montia parviflora var. flagellaris	small-leaved montia
OESA	Oenanthe sarmentosa	water parsley
PEFR5	Petasites frigidus	coltsfoot
POGL8	Polypodium glycyrrhiza	licorice fern
POAR8	Potentilla argentea	silver cinquefoil
TEGR2	Tellima grandiflora	fringecup
TOME	Tolmiea menziesii	piggyback plant
	FERNS (native)	
ATFI	Athyrium filix-femina	lady fern
BLSP	Blechnum spicant	deer fern
EQHY	Equisetum hyemale	scouring rush
POMU	Polystichum munitum	swordfern
	GRASSES and GRASSLIKES	
	non-native graminoids	
AICA	<i>Aira caryophellea</i>	<i>silver hairgrass</i>
ANOD	<i>Anthoxanthum odoratum</i>	<i>sweet vernalgrass</i>
BRMO2	<i>Bromus mollis</i>	<i>soft brome</i>
FEAR3	<i>Festuca arundinacea</i>	<i>tall fescue</i>
HOLA	<i>Holcus lanatus</i>	<i>common velvet-grass</i>
JUBU	<i>Juncus bufonius</i>	<i>toad rush</i>
	native graminoids	
CALY3	Carex lyngbyei	Lyngbye sedge
CAOB3	Carex obnupta	slough sedge
CAPA14	Carex pachystachya	thick-headed sedge
CAST33	Carex stipata	sawbeak sedge
ELPA3	Eleocharis palustris	creeping spike-rush
GLLE2	Glyceria leptostachya	slender-spiked mannagrass
JUBA	Juncus balticus	Baltic rush
SCMI2	Scirpus microcarpus	small-flowered bulrush
	LICHENS	
MESU4	Melanelia subargentifera	melanelia lichen
METE7	Menegazzia terebrata	honeycombed lichen
PASU63	Parmelia sulcata	shield lichen
PENE12	Peltigera neopolydactyla	felt lichen
PLGL60	Platismatia glauca	ragbag lichen
PLST6	Platismatia stenophylla	ragged lichen
RAFA60	Ramalina farinacea	faranose cartilage lichen
TUCH60	Tuckermannopsis chlorophylla	greenleaf tuckermannopsis lichen
USCO3	Usnea cornuta	beard lichen
	LIVERWORTS	
FRNI3	Frullania nisquallensis	hanging millipede liverwort
PONA7	Porella navicularis	tree-ruffle liverwort
	MOSESSES	
CACU18	Calliergonella cuspidata	calliergonella moss
DISC71	Dicranum scoparium	dicranum moss

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EUOR2	<i>Eurhynchium oreganum</i>	Oregon eurhynchium moss
FIBR70	<i>Fissidens bryoides</i>	bryoid fissidens moss
HOFU70	<i>Homalothecium fulgescens</i>	tree mat homalothecium moss
HIHE3	<i>Hypogymnia heterophylla</i>	tube moss
ISMY2	<i>Isothecium myosuroides</i>	cat-tail moss
NEDO70	<i>Neckera douglasii</i>	Douglas' neckera moss
ORLY	<i>Orthotrichum lyellii</i>	Lyell's bristle moss
ORPU8	<i>Orthotrichum pulchellum</i>	Orthotrichum moss
PACH11	<i>Parmotrema chinens</i>	Chinese parmotrema moss
PHFO6	<i>Philonotis fontana</i>	swamp moss
POUR3	<i>Pogonatum urnigerum</i>	pogonatum moss
POCU38	<i>Polytrichum commune</i>	polytrichum moss
RAAC4	<i>Racomitrium aciculare</i>	racomitrium moss
RHYTI2	<i>Rhytidiadelphus</i> spp.	goose neck moss species
RHRO7	<i>Rhytidiopsis robusta</i>	pipecleaner moss