

## Section III - Affected Environment

### Description of Environment

#### Location

The project area is located at the northwest of Boice Cope park at the boat launch. The legal location (description) of the project area is:

Township 31 South; Range 15 West; Section 8; NW1/4 of the NW 1/4 of the SW 1/4

#### Soils

The geology unit underlying the Floras Lake area is the Quaternary unconsolidated sediments. These deposits include alluvium, marine, and fluvial terrace deposits, beach sand, dune sand, stream bench gravels, and glacial moraine. For more details on the geology of this area see Geology, Mineral Resources, and Rocky Material of Curry County, 1997.

The Soil Survey of Curry County identified the maps units of 116D (Ferrelo Soil Series) and 164A (Gearhart Soil Series) to cover the project area (See Attached Map). Field review on May 9, 2000 revealed concurred that these sandy soils encompass the project area. These soils are deep, well drained sand that occurs on stabilized sand dunes. Some of the hazards and limitations associated with this soil is the hazard of blowing, the hazard of ground pollution and droughtiness. For more details on the soil types see the soil series descriptions by the National Cooperative Soil Survey in the Analysis File.

#### Vegetation, Including T&E Species

This area has been visited several times and surveyed extensively for botanical species in recent years. No special status plants are present in the vicinity of the bridge. Vegetation in the vicinity of the bridge includes many weedy species in the disturbed areas and Hooker's willow (*Salix hookeriana*) to the west of the bridge.

Special status plants on the BLM parcel to the west include silvery phacelia (*Phacelia argentea*), pink sand verbena (*Abronia umbellata* ssp. *breviflora*), seaside gilia (*Gilia millifoliata*), seaside cryptantha (*Cryptantha leiocarpa*), yellow sand verbena (*Abronia latifolia*), and short leaved evax (*Hesperevax sparsiflora* ssp. *brevifolia*). Western lily (*lilium occidentale*), a federally endangered species, occurs south of the BLM parcel on state park land (Floras Lake State Park). No habitat is present at the bridge location and on the BLM parcels.

There are no known locations or suspected habitat of any Survey and Manag/Protection Buffer botanical species in the location of the bridge or on the BLM parcel to the west.

#### Aquatic Habitat/Fisheries, Including T&E Species

The area where the bridge replacement project is proposed is located at the outlet of Floras Lake. In this area, the overall low water level of the lake is determined by a fixed wooden weir structure that spans the outlet creek. This structure is comprised of large planks and single logs, and is approximately 10 inches high, and 35-40 feet in length. Several cubic yards of boulders were placed at each end of the weir to prevent end-cutting and channel migration. The weir structure itself is located on what appears to be boulder and cobble fill material. This material was likely placed in order to control erosion and to stabilize the outlet area of the lake.

Aquatic habitat in the vicinity of this weir is stream-like, with moving water and a small area of riffle habitat. The remainder of the channel upstream and downstream, however, more closely resembles the habitat found in the lake, with long, slow moving glide habitats dominating.

The bridge location was approximately 15 feet downstream from the weir structure. The bridge itself consisted of a metal railcar frame mounted on untreated wooden pilings. The approaches to the bridge consisted of gravel and sand fill, held in place by flared wing walls. The wing walls were constructed with wooden planks attached to the uphill sides of the same wooden pilings that supported the bridge structure. The wooden posts are in an advanced stage of decay, and are located on both sides of the active channel, at a distance spanning approximately 45 feet.

The walking surface of this structure was located approximately 8 feet above the surface of the water at low flow. During certain high flow situations, water had been observed to a point where the metal beams supporting the bridge had been partially submerged. This situation occurred as a result of high winter runoff/flooding conditions downstream in the Floras Creek/New River system, which tended to back up water in the low elevation areas (deflation planes) to the north and south of the New River system (including the depression creating Floras Lake, and its outlet stream).

Recently, the metal railcar bridge was removed by the county. The only remaining structures present at the site include the pilings, wing wall, and fill on the the west side of the stream, and the base portions of the pilings, and the remaining fill, along the east side of the stream.

Presently, there is a 7' square floating platform that is anchored to both sides of the channel using a large natural-fiber rope, and an additional rope that spans the channel at a height of approximately 3-4 feet. This float/rope system is currently being used by adventurous individuals to gain access to the western side of the lake, and the ocean beaches.

#### Fish Species Present

Indigenous fresh water fish species known to utilize the Floras Lake system (including the outlet stream to some extent) include migratory cutthroat trout, coho salmon, winter steelhead trout, Pacific lamprey, largescale sucker, and sculpin. It is possible that fall chinook salmon utilize the outlet stream for spawning and rearing, but this has not been verified, and habitat conditions found in that short stretch of stream channel would not be conducive to chinook spawning or rearing.

Non native fish species known to inhabit this lake system include largemouth bass and bluegill.

In addition to the freshwater fish, starry flounder and staghorn sculpin have been found in the lake and/or outlet stream. These fish are usually associated with the saltwater environments found in oceans, bays, and estuaries. It is not clear whether juveniles of these species migrated up the outlet stream to rear in the lake, or whether they came in during the winter, when large ocean waves often breach the foredune the forms the western edge of the lake, thereby allowing for limited saltwater (and potentially fish) intrusion, into the otherwise freshwater ecosystem.

#### Human Uses

There are no visitation numbers recorded for the lands on the west side of the Floras Lake outlet

or for the use of the old bridge that was used to access it. However, Boice-Cope County Park is a popular recreation site immediately to the east of the project area. Last year the park had 6,697 parties visit and pay for a park pass. This figure does not account for how many people were in each party. As with most recreation sites, the park receives the majority of use between May and September. The park is gaining recognition as an ideal spot to windsurf. Two private outfitters, Big Air Windsurfing in nearby Langlois and Floras Lake Windsurfing, offer rentals and lessons at Floras Lake. Other activities that occur in the area are camping, fishing, hiking, wildlife viewing, and kite-surfing. In addition, Floras Bed and Breakfast by the Sea is a nearby lodging establishment whose clientele often hike on the BLM lands on the coastal side of the lake's outlet (phone interview of owner and operator).

The scoping period of this environmental assessment received over 50 letters and emails. All of the comments received requested that the bridge be replaced as quickly as possible. All of the respondents were hikers and some were elderly with minor disabilities.

### Wildlife, Including T&E Species

#### *General Wildlife*

The *Final New River ACEC Management Plan*, May 1995, discusses many of the wildlife species that inhabit the New River area. Most any time of the year, several species waterfowl, shorebirds and wading birds can be found in and around the lake as well as many neo-tropical migratory birds. Several species nest in the vicinity of the lake.

Mammals such as river otter, mink, and beaver utilize the lake, its vegetation and shoreline for foraging and den sites. Beaver routinely cut alder in the vicinity of the bridge and along portions of the lake outlet.

#### *Threatened and Endangered Species*

Bald eagles, and the western snowy plover are regularly observed in the Floras Lake area.

- **Bald Eagle**

Bald eagles use many of the trees along the lake shoreline for perching and have been observed foraging at the lake. In 1992, a biologist was flying the area conducting Aleutian Canada goose surveys and observed an eagle sitting in a nest along the lake. Subsequent visits never confirmed nesting and it is believed the eagle was sitting on an Osprey nest (territorial dispute?). The area was helicopter surveyed again in June 2000, searching for eagles and nests. One immature eagle was observed in the area of New Lake, none at Floras Lake and no nests were located.

- **Western Snowy Plover**

#### *General Information*

A detailed account of the taxonomy, ecology and reproductive characteristics of the western snowy plover can be found in the Services published Final Rule in the Federal Register (58 FR 12864) determining threatened status for the Pacific coast population of the western snowy plover, 5 March 1993.

Currently, an estimated 1,900 snowy plovers breed along the west coast of the United States and at least another 1,900 along the west coast of Baja California (Page *et al.* 1995) Declines in the

breeding population have been specifically documented in Oregon and California. In Oregon, snowy plovers historically nested at 29 locations on the coast. In 1990, only six nesting colonies remained, representing a 79 percent decline in active breeding sites. The 1998 population estimate of 97 snowy plovers recorded on the Oregon coast was down 30% from 1997, and was the lowest number since 1994 when 83 plovers were observed. This population decrease is most probably the result of severe winter storms and possibly El Nino effects that have contributed to higher than normal overwinter mortality (Castelein et al. 1998).

#### *Plover Management at Floras Lake*

When the BLM began its administration at Floras Lake in 1995, it recognized the value of the area for breeding plovers. Posting and signing the beach in an effort to inform the public of the importance of the area for nesting plovers occurred from 15 March thru 15 September each year. The lack of public compliance of these beach closures coupled with the complete failure of all nesting attempts and the abandonment of the Floras Lake nest area by the plovers during the 1998 breeding season prompted reconsultation. During the 1999 western snowy plover breeding season, the BLM, re-consulted with the U.S. Fish and Wildlife Service (USFWS) regarding beach management measures within the New River ACEC, particularly at Floras Lake. The implementation of those beach management actions involved but was not limited to the following:

- providing an on-site Interpretive Specialist at Floras Lake,
- installation of a permanent fence delineating 0.6 miles of fully closed (wet and dry sand) nesting area,
- and the commitment of a substantially increased level of law enforcement.

With the implementation of the management plan, overall compliance was noticeably improved during the 1999 season, particularly at Floras Lake. The increase of law enforcement coverage provided by the BLM as well as State Police and Curry Counties Sheriffs Department (81, 685, 116 hours respectively) from the start of the plover season and the randomness of their patrol schedule set the tone that we were serious about compliance. All hours totaled approximately 882 with 38 verbal warnings and 10 citations issued, mainly to people entering the closed areas and having their dogs off leash.

#### *Plover habitat at Floras Lake*

The Floras Lake/New River Overwash and the New River spit nesting sites represent some of the most important and productive nesting areas for snowy plovers on the Oregon Coast. The Floras Lake snowy plover nesting site includes a 2 mile stretch of beach from the southern BLM property boundary at Floras Lake to the 2 overwash areas near the confluence of Floras Creek and Floras Lake outlet. At Floras Lake, the BLM manages the majority of this nesting site; the 2 overwash areas however, are on Curry County property. Survey efforts in 1998 noted continued use of nesting areas on the beach west of Floras Lake, although all four nests failed and the plovers abandoned the site mid-season (Castelein et al. 1998). Since 1985, winter surveys by Oregon Department of Fish and Wildlife (unpublished data) have noted 0-2 birds in the New River/Floras Lake area. Although no plover nests were located at Floras Lake during the 1999 breeding season, plovers were occasionally observed in the area.

Floras Lake is rather unique among other Oregon coast nesting areas in that the beach is quite

steep and narrow. At other nesting areas, nesting habitat on the dry sand portion of the beach has been closed to human use (either through physical barriers or through "voluntary" closures) while allowing human traffic on the wet sand beach. A dry sand closure at Floras Lake would be less effective because plovers nest close to the high tide line. Walkers would be forced to walk near or through nesting habitat, particularly at high tide, because of the narrow beach, hence the full beach closure at the main nesting area during the breeding season.

#### *Snowy Plover Critical Habitat*

On 7 December 1999 the U. S. Fish and Wildlife Service issued its Final Rule, Designating Critical Habitat for the Pacific Coast Population of the Western Snowy Plover; 50 CFR Part 17, Page 68508. This Final Rule became effective 6 January 2000. Critical Habitat Unit OR-7 encompasses approximately 351 acres and extends from China Creek (Bandon Beach State Park) south to Floras Lake (14.5 miles). Critical Habitat Unit OR-7 encompasses all coastal BLM-administered lands within the New River ACEC. The BLM manages approximately 145 acres of the proposed CHU; the remainder is State Park, county, and private ownership.

The Service designates critical habitat in areas that have the physical and biological features necessary to conserve a threatened or endangered species. These areas may require special management considerations. In the Proposed Rule, the Service determined that the following physical and biological features, and primary constituent elements are essential to the conservation of the western snowy plover:

- Space for individual and population growth.
- Food, water, air, light, minerals, and other nutritional or physiological requirements.
- Roost sites.
- Sites for breeding, reproduction, and rearing of offspring.
- Habitats (nesting grounds and feeding sites) that are protected from disturbance and are representative of the historic geographical and ecological distribution of the species.

#### Hydrological Resources

Floras Lake is a natural lake and has a surface area of approximately 236 acres and is at an elevation of 10 feet above mean sea level. It drains an area of 10 mi<sup>2</sup>, to the south including the tributary of Boulder Creek and other unnamed streams. Floras Lake is a medium-sized lake and is shallow; about ½ of the lake is usually less than 10 feet in depth. The lake was formed by a low wall of shifting sand on the west side that cut it off from the Pacific Ocean. This sea wall can sometimes naturally partially breach but will rebuild with summer or winter winds.

The Floras Lake outlet channel bankfull width in the area of the proposed bridge replacement site is about 35-40 feet. This channel joins the junction of Floras Creek and New River a short distance downstream. The outlet channel is at a low gradient and is straight through the bridge replacement site. A lake control structure has been emplaced near the bridge replacement site in the past, consisting of what appears to be channel base level rock armoring across the bottom and extending into the channel sides. A one row height of flashboards has been added to raise the lake level about 8-10" during low flows.

The low flow lake level (without control) appears to be an expression of the surrounding water table. The difference between low and high flow elevation can be as much as 5-7 feet. Under

flooding conditions, water can back up from Floras Creek and New River to the north as flow enters the low gradient deflation plain and cause a backwater effect south up the Floras Lake outlet channel through the bridge replacement site to Floras Lake. Flooding water levels have been over the Boice Cope parking lot several times in the last 10 years.

#### Cultural Resources

A class I inventory (review of project documentation and records check) shows no known cultural resources in the immediate vicinity of this project area. Site visits in the past have not found any cultural resources either.