

**FINAL ENVIRONMENTAL ASSESSMENT
CASPIAN TERN NESTING ISLAND CONSTRUCTION PROJECT
FERN RIDGE LAKE
WILLAMETTE VALLEY PROJECTS
LANE COUNTY, OREGON**

INTRODUCTION

This Final Environmental Assessment (EA) addresses construction of an island at Fern Ridge Lake Project to provide nesting habitat for Caspian terns (*Sterna caspia*). Development of alternative nesting habitat locations for Caspian terns, in conjunction with social facilitation measures, is intended to reduce the number of these birds nesting in the Columbia River estuary, thereby reducing their predation on juvenile salmonids. For the period 2001-2005, Caspian terns consumed an estimated 4.2 million juvenile salmonids annually from the Columbia River estuary.

The Fern Ridge Lake Project is one of 13 multi-purpose water projects operated by the U.S. Army Corps of Engineers (Corps) in the Willamette Valley (Corps 1988). It is located in Lane County, Oregon about 6 miles west of the Eugene/Springfield metropolitan area (Figure 1). Congress authorized the Fern Ridge Project in the Flood Control Act adopted on June 28, 1938. Fern Ridge Dam crosses the Long Tom River 23.6 miles upstream of its confluence with the Willamette River, and also impounds tributaries of the Long Tom, including Coyote Creek and Amazon Creek. Authorized project purposes include flood control, irrigation, and navigation. Secondary project purposes include recreation, fish and wildlife management, and water quality.

PURPOSE AND NEED

The purpose of this action is to implement one element of the environmentally preferred management alternative as identified in the Corps' November 22, 2006 Record of Decision (ROD) that adopted the 2005 *Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary, Final Environmental Impact Statement* (USFWS et al., 2005). The need for the proposed action is to reduce the predation related loss of juvenile salmonids in the Columbia River estuary attributable to Caspian terns.

To accomplish the stated purpose and need, the Corps proposes to construct 1 acre of nesting habitat for Caspian terns and, in combination with social attraction measures, attract nesting Caspian terns from the East Sand Island (Columbia River estuary) colony to Fern Ridge Lake.

Caspian Terns

Increases in the number of Caspian terns nesting in the Columbia River estuary over the past decades led to significant concerns in the mid-1990s over their potential impact on the recovery of threatened and endangered Columbia River salmonids (salmon and steelhead). Based upon research results that documented substantial annual juvenile salmonid losses (12.4 million juvenile salmonids in 1998; Collis et al., 2006a), the Caspian tern nesting colony was shifted over the period from 1999-2001 via habitat management and social attraction actions from Rice Island (Columbia River mile 21) to East Sand Island (Columbia River mile 6) in order to diversify the diet of Caspian terns and lessen the number of juvenile salmonids consumed. Management efforts were also initiated and continue annually each spring to preclude their establishment of nesting colonies at the upper estuary locations of Rice, Miller Sands, and Pillar Rock Islands. This effort at upper estuary islands precludes Caspian terns from consuming higher numbers of juvenile salmonids compared to terns nesting at East Sand Island.

Figure 1 - Location Map for Tern Island Fern Ridge Lake Project, Oregon



From 2001 to 2005 the average number of Caspian terns nesting at East Sand Island was approximately 9,108 pairs and they consumed an average of 4.72 million salmonid smolts annually (Collis et al., 2006b). Thus, a substantial savings in juvenile salmonids, approximately 6 to 7 million juvenile salmonids annually, was achieved by this initial management action. However, a considerable number of juvenile salmonids are still consumed by Caspian terns. Consequently, additional actions were considered necessary to reduce juvenile salmonid predation by Caspian terns (USFWS et al., 2005).

As a result of Caspian tern management actions proposed in 2000, Seattle Audubon, National Audubon, American Bird Conservancy, and Defenders of Wildlife filed a lawsuit against the Corps alleging that compliance with the National Environmental Policy Act for the proposed action of attracting the large colony of Caspian terns from Rice Island to East Sand Island was insufficient, and against the U.S. Fish and Wildlife Service (USFWS) objecting to the potential take of eggs as a means to prevent tern nesting on Rice Island. In 2002, all parties reached a Settlement Agreement that stipulated that the USFWS, Corps, and National Marine Fisheries Service (NMFS) prepare an EIS to address Caspian tern management in the Columbia River estuary and juvenile salmonid predation. The FEIS was completed in January 2005. Records of Decision for the FEIS were issued by the USFWS (lead agency) and Corps in November 2006.

The FEIS identified a management plan for Caspian terns in the Columbia River estuary that will reduce impacts to ESA-listed salmonids while ensuring the conservation of Caspian terns in the Pacific region. The RODs by the USFWS and Corps adopted a modified Alternative C, the preferred alternative in the FEIS, which would reduce tern predation on juvenile salmonids in the Columbia River estuary by managing habitat to redistribute a portion of the tern colony on East Sand Island throughout the Pacific Coast region. The modification to the preferred alternative eliminated further consideration to the development or enhancement of tern nesting habitat at Dungeness National Wildlife Refuge in northwestern Washington due to National Marine Fisheries Service concerns over impacts to listed salmonids in Puget Sound (NMFS 2006).

The redistribution of Caspian terns outlined in the FEIS would be achieved by creating new or enhancing existing tern nesting habitat in Oregon and California and ultimately reducing the tern nesting site on East Sand Island to approximately 1.5 to 2.0 acres. To ensure a suitable network of sites is available for terns on a regional scale, the FEIS proposed to construct/enhance 2 acres of nesting habitat for every 1 acre of nesting habitat that would be eliminated on East Sand Island. The six alternative habitat locations identified as sites for Caspian tern nesting habitat development included Fern Ridge Lake, Summer Lake, and Crump Lake in Oregon, as well as three locations in San Francisco Bay. The proposed action is expected to provide nesting habitat for Caspian terns at Fern Ridge Lake and thereby aid the redistribution of the Columbia River estuary Caspian tern population.

Fern Ridge Lake currently only supports a transient population of Caspian terns with a few birds present on the lake during their spring migration and during the post-breeding dispersal/fall migration timeframes. Appropriate nesting habitat, typically an island with an ample area of bare, unvegetated sand or small gravels, does not currently exist at Fern Ridge Lake. Fisheries resources at Fern Ridge Lake are considered more than adequate to support a nesting population of Caspian terns. Introduced fish species such as bluegill (*Lepomis macrochirus*), black crappie (*Pomoxis nigro-annularis*), brown bullhead (*Ictalurus nebulosus*), common carp (*Cyprinus carpio*), goldfish, largemouth bass (*Micropterus salmoides*), and white crappie (*Pomoxis annularis*) provide an abundant prey base for Caspian terns.

PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The proposed action entails construction of a 1-acre island for Caspian tern nesting habitat in Fern Ridge Lake, Oregon and, in combination with social attraction measures, attraction of nesting Caspian terns from the East Sand Island (Columbia River estuary) colony to Fern Ridge Lake. The proposed action at Fern Ridge Lake represents the initial implementation action for the preferred action as identified in the FEIS and subsequent RODs by the USFWS and Corps. Alternatives consideration was completed during the development of the FEIS (USFWS et al., 2005).

Habitat Construction

The proposed island (Tern Island) would be located immediately northwest of the junction of Royal Avenue and Gibson Island Roads within Fern Ridge Lake (see Figure 1) in the Royal Amazon Management Unit. Royal Avenue would provide a hard surface road access to the proposed island location during fall/winter drawdown of Fern Ridge Lake. Additional road rock would be applied to the surface of Royal Avenue and Gibson Island Road as necessary to support heavy equipment and truck traffic during the construction period. Island construction would occur during the fall and winter (2007-2008) after drawdown has exposed the location.

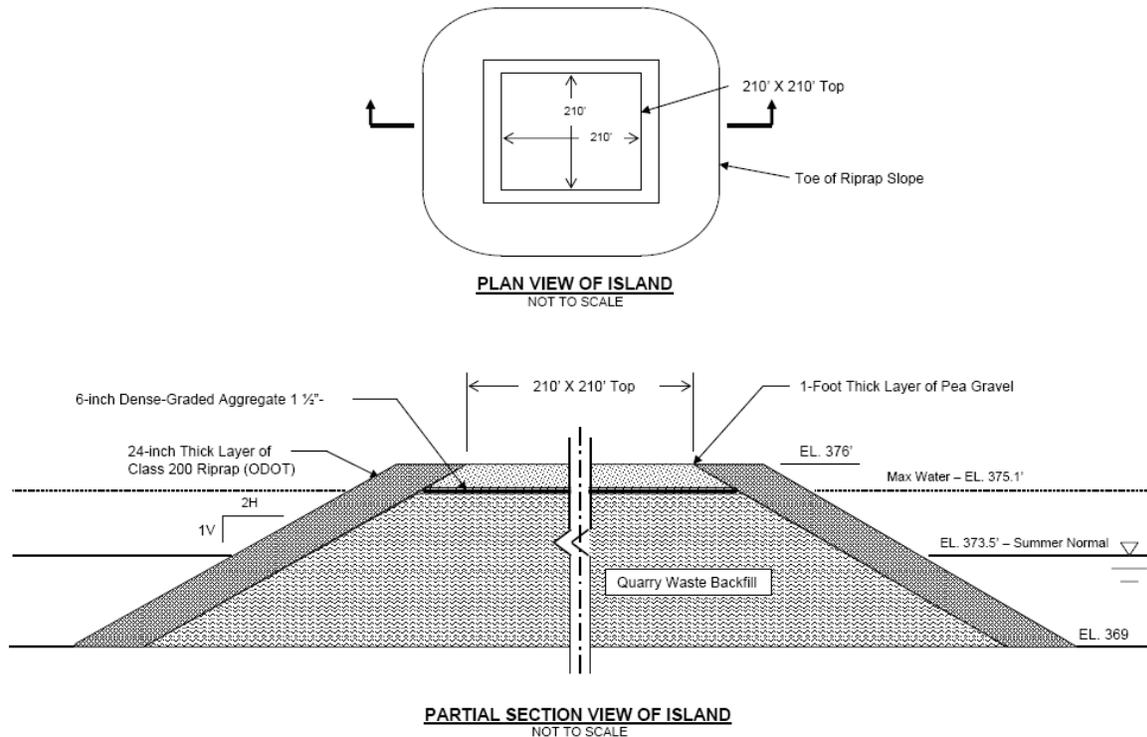
The proposed island location in Fern Ridge Lake has an average substrate elevation of approximately 369 feet National Geodetic Vertical Datum (NGVD; all elevations in this EA are in NGVD). Full pool occurs at elevation 373.5 feet with flood storage potential to elevation 375.1 feet. It is proposed to construct the island to at least elevation 376 feet initially and concede that some settling of base material will occur. This should keep the island surface well above normal full pool elevation. Flood storage surcharge to elevation 375.1 feet is very unusual and would be short-term in nature with such events typically occurring in winter when terns are not present.

The proposed island would be square with side dimensions of approximately 210 feet at the crest excluding revetment; base dimension is approximately 242 feet with side slopes of 1 vertical to 2 horizontal (Figure 2). Island shape is for simplicity of construction. Approximately 6 feet of base fill would equate to approximately 11,400 cubic yards (cy) of quarry waste. Minimal compaction will be employed (less than 4 passes with heavy equipment) with the use of quarry waste. Soil from the adjacent lakebed will not be used for fill material due to soil moisture, compaction, and cultural resource concerns. A filter fabric would be placed on top of quarry rock/local borrow to prevent pea gravel from sifting downward into the base material. A 1-foot layer of pea gravel for the surface of the island would require approximately 1,613 cy of material. Revetment yardage is estimated at approximately 650 cy of Class 200 (Oregon Department Of Transportation standards) stone. This design would create suitable nesting habitat for Caspian terns.

The proposed island location is at the outer edge of the bulrush (*Scirpus* spp.) vegetation zone, the lowest elevation vegetation zone at the lake. The specific site is characterized by bare ground during the annual drawdown period.

Figure 2 - Plan and Section View of Tern Island at Fern Ridge Project, Oregon

FERN RIDGE LAKE – TERN ISLAND



Additional road rock would be applied to those portions of Royal Avenue and Gibson Island Road on Corps' property to ensure that they were adequate to support construction equipment traffic. Road maintenance will be restricted to a 12-foot roadway width. One turnout will be constructed at a location identified by Fern Ridge Lake resource management personnel. The turnout will be removed upon completion of the island construction effort. Approximately 20,000 square feet of existing clumps of bulrush growing on Royal Avenue would be removed by heavy equipment and replaced on the lakebed adjacent to Royal Avenue and the proposed island. These bulrush clumps are anticipated to reestablish themselves and grow at the locations where they are placed.

A small community of Bradshaw's lomatium (*Lomatium bradshawii*), a federally-listed plant species, occurs on the margins of Royal Avenue. These plants are staked off to identify their location and to direct traffic around them. This management measure has been successful in preserving these listed plants during previous construction efforts further west on Royal Avenue that occurred in the recent past. The delineation of these plants will be rechecked prior to construction start to ensure they are properly marked and they will be avoided during construction.

One willow clump also abuts Royal Avenue. Several overhanging branches will have to be pruned back prior to construction.

AFFECTED ENVIRONMENT

General

Physical, biological, social, and cultural resources were described in detail for Fern Ridge Lake in the Master Plan for Resource Use (Corps 1988) and in the Fern Ridge Embankment Dam Repair, Lane County, Oregon Final EA and Finding of No Significant Impact (September 23, 2005). The Master Plan is on file at both the Portland District Office and at the Willamette Valley Projects Office. The Fern Ridge Embankment Dam Repair EA/FONSI is located at https://www.nwp.usace.army.mil/pm/e/en_plan_assess.asp. These documents are incorporated by reference into this EA.

The Royal Amazon Management Unit is located on the south end of Fern Ridge Lake; Amazon Canal forms its northern boundary and Royal Avenue forms the southern boundary. The unit encompasses inundated and upland areas. There is no direct vehicle access into the unit. A visitor parking area is located on Royal Avenue where the Corps' gate is located and foot access on Royal Avenue into the lakebed, per posted regulations, is allowed.

The land and water areas of the Royal Amazon Management Unit are licensed to the Oregon Department of Fish and Wildlife (ODFW) for wildlife management. Wetlands and adjacent upland areas are typically managed passively to preserve valuable wetland habitat. A sub-impoundment, designed to hold water during fall and winter drawdown, is located North of Royal Avenue and East of Gibson Island Road and is adjacent to the proposed island. This management feature supports substantial wildlife use during fall and winter drawdown.

Soils

Soils in the Royal Amazon Management Unit found below the full pool elevation (373.5 feet) include Veneta, Noti, Natroy, and Linslaw loam and silty clay loam (Corps 1988). At the proposed island site, the predominant soil type has not been identified.

Sediment/Water Quality

In February 2005 (Corps 2005) sediments from the Fern Ridge reservoir were collected and submitted for physical analyses including total volatile solids, and chemical analyses for metals (nine inorganic), total organic carbon, pesticides and polychlorinated biphenyls, phenols, phthalates, miscellaneous extractables and polynuclear aromatic hydrocarbons. Results did not show any contaminate levels of concern in the sediment.

Vegetation

The Royal Amazon Management Unit vegetation consists primarily of submerged and/or emergent aquatic plants. Bulrush generally favors the lakeward edge of the emergent vegetation zone around the margins of the lake. Reed canarygrass (*Phalaris arundinacea*) dominates the wetland fringes of Fern Ridge Lake except where management actions have been implemented to develop natural wetland plant communities. The proposed island location is located on ground approximately 7.5 feet below the maximum conservation pool elevation and thus when exposed by drawdown, is primarily bare ground.

Fish and Wildlife Resources

The open water habitat that characterizes the proposed island location is utilized by osprey (*Pandion haliaetus*), double-crested cormorants (*Phalacrocorax auritus*), grebes, and waterfowl for foraging and loafing activities. As drawdown lowers the water level and then exposes the site waterfowl, wading birds and shorebirds are more prevalent. Once water has withdrawn further toward the minimum conservation pool, the area supports little wildlife use due to the absence of vegetation and water.

The sub-impoundment adjacent to the proposed island location receives similar wildlife use during full pool periods. However, the retention of water in the sub-impoundment post-drawdown has resulted in the development of emergent and submergent aquatic plants and the site supports use by waterfowl, including tundra swans (*Cygnus columbianus*), wading birds, and shorebirds during fall and winter.

Waterfowl, songbirds, wading birds, and raptors inhabit and/or use the emergent marsh plant communities that ring the perimeter of the lake. Unique non-game species include black-shouldered kites (*Elanus caeruleus*), black terns (*Chlidonias niger*), great egrets (*Ardea alba*), and yellow-headed blackbirds (*Xanthocephalus xanthocephalus*). Voles are present and, along with amphibians and birds, provide a prey base for raptors such as red-tailed hawks (*Buteo jamaicensis*) and northern harriers (*Circus cyaneus*). Other species present include northwestern pond turtles (*Clemmys marmorata marmorata*) and northern red-legged frogs (*Rana aurora aurora*). Upland game and deer are present though not abundant in the fringing marsh habitat.

Bald eagles (*Haliaeetus leucocephalus*) use Fern Ridge Lake year-round, foraging primarily on fish and waterfowl. Bald eagles perch in the cottonwood at the northwest corner of the westernmost Fisher Butte impoundments and on Gibson Island.

Fern Ridge Lake supports naturally reproducing populations of introduced bluegill, black crappie, brown bullhead, common carp, goldfish, largemouth bass, western mosquito fish (*Gambusia affinis*), pumpkinseed (*Lepomis gibbosus*), warmouth (*Lepomis gulosus*), white crappie and yellow bullhead (*Ictalurus natalis*). Native fish inhabiting the lake include cutthroat trout (*Oncorhynchus clarki*), largescale sucker (*Catostomus macrocheilus*), sculpin (*Cottus spp.*), northern pikeminnow (*Ptychocheilus oregonensis*), and redbreast shiner (*Richardsonius balteatus*).

Threatened and Endangered Species

Federally-listed species that may occur in the project vicinity include Fender's blue butterfly (*Icaricia icarioides fenderi*), Bradshaw's lomatium, and Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*). There are no proposed species present in the project vicinity.

Several federal species of concern may be found at the Fern Ridge Project including black tern, purple martin (*Progne subis*), yellow-breasted chat (*Icteria virens*), acorn woodpecker (*Melanerpes formicivorus*), Lewis woodpecker (*Melanerpes lewis*), Oregon vesper sparrow (*Pooecetes gramineus affinis*), long-eared myotis (*Myotis evotis*), Yuma myotis (*M. yumanensis*), fringed myotis (*M. thysanodes*), northwestern pond turtle, and northern red-legged frog.

Cultural Resources

The Fern Ridge area has a long history of human use. The peoples who inhabited the Upper Willamette Valley at the time of contact are collectively known as the Kalapuya. It is generally assumed that these Indians were descendants of the prehistoric people of the Upper Willamette

Valley. The Chemala or Long Tom Band occupied an area west of Eugene including the drainage of the Long Tom River. Historically, the Indian bands that ceded this area are documented under the treaty by the Confederated Bands of the Willamette Valley, January 22, 1855. Their descendants are included in the modern Confederated Tribes of Grand Ronde. The travel route used by early Euro-American explorers to access furs in the Umpqua Valley and northern California passed through now-inundated portions of the reservoir. Settlers located along the travel route, and eventually the area was converted to agriculture. Agriculture remains a prominent use of the area, although rural residential uses are displacing agrarian uses. Rural residential and recreation are the primary uses around the lake itself.

A number of cultural resource surveys and archeological excavations have been conducted within the Fern Ridge project. The Fern Ridge area was visited by members of the River Basin Surveys prior to 1930 (Strong et al., 1930). Field crews from the University of Oregon surveyed the eastern shoreline (Minor 1978) and the rest of the project was surveyed in the early 1980s (Cheatham 1984, 1988). During these surveys the lake level appears to have been between elevation 353 and 360 feet. Over 119 archeological sites were recorded within the Fern Ridge project boundaries. Over 80 known prehistoric sites spanning 8,000 years of prehistory and a dozen sites with historic components are located within the pool. There has been at least one find of a Clovis point within the fluctuation zone of the operating pool that may date back 10,000 years. The 1980s archeological work included archeological excavations at Kirk Park (35LA565, 566, 567, and 568), Perkins Peninsula (35LA282) and Hannavan Creek (35LA647) to determine site areas and evaluate site significance. In addition to this work, the Long Tom drainage was surveyed (Toepel 1985) and the lower reaches of Amazon Creek (Oetting 1995). The results of these studies indicate a high archeological site density along Long Tom and Coyote creeks.

Surveys of the Fern Ridge reservoir pool were conducted in 1980-1981 during periods of lowered pool levels and re-survey and site relocation investigations were conducted during a drawdown period for emergency dam repair in 2005 by Heritage Research Associates and Portland District staff archaeologists. The results are found in the report, *Archaeological Survey and Site Relocation Project Fern Ridge Reservoir, Lane County Oregon* by Robert Musil (2007). Copies of the original site forms and updated site forms have been provided to the Oregon State Historic Preservation Office and trinomial designations are being assigned to the recorded sites.

All of the sites within the project boundaries should be considered potentially eligible for the National Register of Historic Places. The archeological investigations at the six sites in the 1980s have probably yielded enough information to establish their eligibility, but no formal assessment has been completed.

Socio-Economic Uses

The principal socio-economic use occurring in the southeastern portion of Fern Ridge Lake relate to wildlife observation, recreational hunting, hiking and biking activities. Royal Avenue serves as a travel corridor for individuals pursuing these activities. Most of these activities occur in the adjacent Fisher Butte Management Unit where a system of impoundment dikes provide ready access and wildlife resource viewing and use opportunities. Waterfowl hunting occurs in the fall and winter period and encompasses adjacent impoundments, the sub-impoundment near the proposed island and other areas within the lakebed.

ENVIRONMENTAL EFFECTS

Soils

Direct impacts to soils will occur from construction activities. The principal impact will result from construction of the island, covering soils at that location with rock and borrow material. This impact will slightly exceed 1 acre. Access to the site will primarily be on Royal Avenue with some traffic on Gibson Island Road. These sites are already roadbeds and will be upgraded with a layer of gravel immediately prior to island construction. One turnout will be constructed adjacent to Royal Avenue using rock; this site will be remediated post-construction. Other than the minor construction impacts identified, no significant impacts to soils are expected.

Sediment/Water Quality

The sediments analyzed from Fern Ridge reservoir (Corps 2005) did not show any contaminate levels of concern. The exposed materials at the island location after construction will consist of native rock, which do not pose a concern for contamination. Also, construction will be done out of the water during the seasonal low-water level in the reservoir, so there will be no in-water construction turbidity concerns.

Vegetation

Bulrush that has encroached on Royal Avenue will be removed and replaced on adjacent lands within the drawdown zone, including areas around the proposed island. These trans-located bulrush clumps are anticipated to root and survive. Some trimming of a willow clump overhanging Royal Avenue will occur but the majority of the plant will remain untouched. The area proposed for the island has little or no emergent vegetation (bulrush) present and minimal impact is expected. Emergent and submergent aquatic plants that occur in the sub-impoundment will not be impacted. Emergent wetland plants adjacent to Royal Avenue will not be impacted by construction traffic which will be confined to a 12-foot-wide existing roadway plus one turnout.

Fish and Wildlife Resources

Construction and implementation of the nesting areas will benefit Caspian terns and perhaps other colonial nesting species such as double-crested cormorants and white pelicans (*Pelecanus erythrorhynchos*) that occur at Fern Ridge Lake by providing suitable nesting habitat. Attraction of Caspian terns to the nesting island will be facilitated by the employment of decoys and a sound system playing Caspian tern vocalizations recorded from an existing colony.

Wildlife resources using the adjacent sub-impoundment will be impacted during island construction. They are anticipated to avoid the portion of the sub-impoundment near the construction site. Construction impacts will be temporary in nature and upon completion of construction, wildlife use of the sub-impoundment will resume to normal levels.

There will be negligible impact to wildlife at the proposed island location. Construction would occur post-drawdown when wildlife use of the location would be minimal. Construction equipment accessing the island site will result in disturbance to wildlife using areas adjacent to Royal Avenue during the construction period. Much of this area is composed of a reed canarygrass monoculture and supports limited wildlife use. The habitat conditions will limit further the temporary impact to wildlife, which is expected to occur. Disturbance to wildlife using the wetland management cells in the adjacent Fisher Butte Management Unit will likely be minimal. The perimeter dikes forming these wetland management cells provide a visual barrier for wildlife

utilizing the interior of the cells from construction traffic using Royal Avenue. In addition, there will be minimal disturbance to bald eagles due to the proposed action.

Fisheries resources in Fern Ridge Lake are abundant. Establishment of a Caspian tern nesting colony at Fern Ridge Lake is not anticipated to noticeably lower the population of any fish species at the lake. Caspian terns nesting at Fern Ridge Lake can be anticipated to forage in the Willamette and McKenzie Rivers given their foraging range (up to 37 miles) and availability of prey species in these rivers. Typically, Caspian terns forage near their colony location given an adequate prey base. Fern Ridge Lake provides an adequate prey base for Caspian terns and it is unlikely that they would forage extensively at a distance from the nesting island.

Overall, no long term negative impacts to biological resources are expected from implementation of this proposal.

Threatened and Endangered Species

Biological Assessments (BA) were prepared for the Caspian tern FEIS that addressed listed species in the vicinity of Fern Ridge Lake that might be affected by development of nesting habitat for terns or from tern foraging activities on fisheries resources. The USFWS and NMFS each prepared biological opinions addressing the potential impacts to listed species under their jurisdiction. These documents are available at https://www.nwp.usace.army.mil/pm/e/en_plan_avian.asp.

The USFWS concurred with the Corps determinations in the BA that the proposed action at Fern Ridge Lake may affect, but is not likely to adversely affect Bradshaw's lomatium, Kincaid's lupine, Fender's blue butterfly, and Oregon chub. Conservation measures recommended by the USFWS to protect these ESA-listed species will be implemented. These measures include fenced exclusion areas, flagging of occupied habitat prior to proposed construction and maintenance activities, and restriction of construction, maintenance and monitoring activities to Royal Avenue and Fern Ridge Lake.

The NMFS concluded that the relocation of Caspian terns to Fern Ridge Lake was not likely to jeopardize the continued existence of the Upper Willamette River spring Chinook salmon and is not likely to destroy or adversely modify designated critical habitat for the species. An annual take limitation of 216 juvenile was established by NMFS for the Fern Ridge Caspian tern population. Take will be determined based upon these surrogate criteria: (1) the increase in the Caspian tern population (maximum 600 birds); (2) Caspian tern productivity; (3) the season average fish consumption rate; and (4) the percent of salmonids in the Caspian tern diet. Should take be exceeded based upon the surrogate criteria, then consultation with NMFS would have to be reinitiated. Monitoring will be required to evaluate these criteria and determine the level of take.

Cultural Resources

There are no historic properties within the area of this undertaking; however, a historic site designated FR15H is situated south of Royal Lane. The proposed construction site occurs on the opposite side of the road, well outside the cultural resource area of concern. No impacts to this site will occur from this project. Based on the survey and site relocation data, it has been determined that the proposed project would have no effect on any historic property.

Socio-Economic Uses

Construction activities will result in the short-term closure of the Royal Avenue access route to walk-in use by wildlife observers, hunters, and other recreationists for safety reasons during work

days. These areas are expected to be open during the weekends. The balance of Royal Amazon and Fisher Butte Management areas would remain open to public use subject to existing regulations during the construction period. Wildlife observation and hunting opportunities along the Royal Avenue access route and near the island will be reduced during the construction period due to disturbance. Post-construction, wildlife use and observation/hunting would return to pre-construction levels.

COORDINATION

This Final EA is being distributed for a 30-day public review. Review comments will be requested from federal, state, and local agencies, as well as various interested parties. Many of these agencies and parties will be sent a copy of the draft EA, including the following:

U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
National Marine Fisheries Service
Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians
Confederated Tribes and Bands of the Yakama Indian Nation
Confederated Tribes of the Umatilla Indian Reservation
Confederated Tribes and Bands of the Yakama Nation
Confederated Tribes of the Warm Springs Reservation
Confederated Tribes of Siletz Indians
Nez Perce Indian Tribe
Oregon State Historic Preservation Office
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Water Resources
Oregon Parks and Recreation Department
Washington Department of Fish and Wildlife
Lane Council of Governments
Lane County Commissioners
Lane County Parks
Columbia River Inter-Tribal Fish Commission
Northwest Indian Fisheries Commission
Northwest Power and Conservation Council
Columbia Basin Fish and Wildlife Authority
Columbia River Estuary Study Taskforce
National Audubon Society
Seattle Audubon Society
Portland Audubon Society
Lane County Audubon Society
American Bird Conservancy
Defenders of Wildlife
The Nature Conservancy
Native Fish Society
Oregon Trout
Federation of Fly Fishers
Salmon for All

CONSULTATION REQUIREMENTS

- a. Clean Water Act of 1977 (33 USC 1344): The proposed action is in compliance with Section 404 (b)(1) of the Clean Water Act under Nationwide Permit No. 27, which authorizes the construction of small nesting islands. Section 401 Water Quality Certification for Nationwide Permit No. 27 is provided in a letter from the Oregon Department of Environmental Quality dated July 18, 2007.
- b. Coastal Zone Management Act of 1972, as amended: Not applicable.
- c. Endangered Species Act of 1973, as amended: Biological opinions were received from the USFWS and NMFS for the proposed action. The proposed action may affect, but is not likely to adversely affect, threatened or endangered species under the jurisdiction of USFWS. The NMFS concluded that the relocation of Caspian terns to Fern Ridge Lake was not likely to jeopardize the continued existence of Upper Willamette River spring Chinook salmon, and is not likely to destroy or adversely modify designated critical habitat for the species.
- d. Fish and Wildlife Coordination Act: The proposed action has been coordinated with the USFWS in compliance with this Act concurrent with review of this EA. The USFWS was the lead agency for the 2005 *Caspian Tern Management to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary, Final Environmental Impact Statement* (USFWS et al., 2005).
- e. Wild and Scenic Rivers Act: Not applicable.
- f. Marine Protection, Research and Sanctuaries Act of 1972, as amended: Not applicable.
- g. Cultural Resources Acts: Consultation for compliance with Section 106 of the National Historic Preservation Act, as amended, is underway and we are seeking concurrence with a no affect determination. The lakebed was surveyed for cultural resources during 2005 when the lake was drawn down for repair to Fern Ridge Dam. Cultural resources are located south of the project area but will not be impacted by the proposed action.
- h. Executive Order 11988, Flood Plain Management, 24 May 1977: The proposed action would have no adverse effect on flood plains or flood heights.
- i. Executive Order 11990, Protection of Wetlands, 24 May 1977: The proposed action would have no adverse effect on wetlands.
- j. Analysis of Impacts on Prime and Unique Farmlands: The proposed work would not impact any prime or unique farmlands.
- k. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The proposed action would not be affected by the requirements of this Act.
- l. Migratory Bird Treaty Act: The proposed action is in compliance with this act.

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