



Joint Venture Implementation Plans

Southern Oregon Coast

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Prepared for:

Pacific Coast Joint Venture

Oregon Wetlands Joint Venture
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SOUTHERN OREGON COAST FOCUS AREA

Description of Area

The Land

The Southern Oregon Coast Focus Area covers the area from the California-Oregon border north to the Douglas-Lane County line between Reedsport and Florence. It includes Curry, Coos, and western Douglas Counties. The area is bounded on the east by the Coast Range and, south of the Coquille valley, the Siskiyou Mountains. Elevations in the Coast Range rarely exceed 760 meters (2,500 feet). The more rugged Siskiyou range up to 1,220 meters (4,000 feet) with higher peaks. The area's marine climate is generally moderate, with cool, dry summers and mild, wet winters. Average annual precipitation along the coast ranges from 150 to 200 centimeters (60 to 80 inches). Vegetation is dominated by Douglas-fir forests, with pine and Sitka spruce common along the ocean. The character of the coast varies dramatically from south to north. In southern Curry County, mountains rise precipitously from the ocean's edge in many stretches. North of Port Orford, a broad marine terrace marked by shallow lakes and meandering streams extends to the Coquille River Valley. Further north, extensive coastal sand dunes drift up against the forested hills, with a string of lakes lying along their margins.

Two major rivers that originate in the Cascades, the Umpqua and the Rogue, cut through the Coast Range and the Siskiyou to drain most of southwestern Oregon's interior. The Coquille, Chetco, Elk, Pistol, Sixes, New, and Coos Rivers drain shorter coastal watersheds. The Coos River and several other streams feed into the region's largest bay and most important harbor, Coos Bay. Two other major estuaries are formed by the Umpqua near Reedsport and by the Coquille, where the tidal area extends 58 kilometers (36 miles) upriver to Myrtle Point.

The People

Land use on the South Coast is dominated by commercial timber production, with agriculture largely confined to coastal lowlands and river valleys. Most commercial development has occurred in the coastal strip in the communities along Highway 101. Heavy industrial development is concentrated around Coos Bay and on the Umpqua estuary at Reedsport and Gardiner. U.S. Highway 101 parallels the coast throughout the area; east-west travel is for the most part confined to State Highways 42 and 38, which follow the Coquille and Umpqua Rivers, respectively.

The population of Curry, Coos, and western Douglas Counties in 1990 was approximately 100,000, with the largest concentrations in the Coos Bay-North Bend, Reedsport, Bandon, Brookings, and Gold Beach areas. The economy of the region has

traditionally been heavily dependent on forest products, fisheries, tourism, and agriculture. Employment losses in forest products manufacturing and a substantial influx of retirees have resulted in major demographic shifts in some areas in recent years.

Development pressures along the southern Oregon coast have increased substantially in recent years. The area's growing retirement population and increasing economic reliance on tourism have spurred residential and commercial development and made waterfront properties increasingly attractive to investors. As a result, wetland habitats in many areas face increasing risks from encroachment, pollution, and reduced water quality.

The Wildlife Resources

The South Coast's mild winters, the rich food resources of the sea and estuaries, protected seabird nesting sites, numerous streams, and extensive conifer forests combine to support diverse and abundant wildlife populations. The area has large colonies of breeding seabirds, including common murre, Leach's storm-petrel, three species of cormorants, western gulls, tufted puffins, pigeon guillemots, and others that use the numerous coastal rocks and islands within the Oregon Islands National Wildlife Refuge. Coos Bay is one of the half-dozen most important areas for shorebirds between San Francisco Bay and British Columbia. The southern Oregon coast also provides wintering and migratory habitat for waterfowl of the Pacific Flyway. Its wetlands also include important habitat for a number of threatened and endangered species, including the Aleutian Canada goose, brown pelican, bald eagle, peregrine falcon, Steller sea lion, and the snowy plover (proposed for listing). The forests provide habitat for the northern spotted owl and the marbled murrelet.

The Steller sea lion colonies at Rogue and Orford reefs constitute the largest breeding population for this species in United States waters south of Alaska.

Virtually all of the South Coast's streams and rivers support runs of anadromous fish, including coho and chinook salmon, and steelhead and coastal cutthroat trout.

Key areas for migrating shorebirds include Coos Bay, the Umpqua River estuary, Bandon Marsh, the New River area, and the beaches and deflation plains in the Oregon Dunes National Recreation Area.

South Coast wetlands and riparian forests also provide important migratory and breeding habitat for a wide variety of neotropical migrant bird species.

The estuaries of the southern Oregon coast provide essential habitat for many of the region's most important fisheries, including salmon, steelhead, crab, bottom fish, and

shellfish. Estuaries provide important nursery and rearing habitat for young salmon and steelhead, and adults use them as temporary holding areas during their return migration from the ocean to upstream spawning areas. Dungeness crab breed in estuaries, and marine fish such as lingcod, flounder, and English sole use estuaries for rearing and feeding. Coos Bay is also a significant producer of oysters, clams, and mussels that are harvested both commercially and recreationally.

The southern Oregon coast's anadromous fisheries, like many other West Coast stocks, have declined substantially in recent decades. Although hatchery stocks have remained fairly stable, wild stocks of salmon, steelhead, and sea-run cutthroat trout have been depleted dramatically in many areas. The American Fisheries Society issued a report in 1991 identifying 22 native, naturally spawning stocks on the southern Oregon coast that have a high or moderate risk of extinction or are of special concern because of their vulnerability or unique character. Seven of the area's coho salmon stocks (Winchuck, Chetco, Pistol, Rogue, Elk, Sixes, Floras) were deemed at high risk of extinction, with three others defined as "moderate" risk. Four chum salmon stocks (Elk, Sixes, Coos, Umpqua) were placed in the "high risk" category. Among South Coast chinook salmon stocks, two spring runs (Coquille and South Umpqua) and three fall runs (Hunter Creek, Lower Rogue tributaries, and Euchre Creek) were classified as "high risk", with several other stocks in the "moderate risk" category. Oregon coastal cutthroat stocks were collectively identified as being at "moderate risk" of extinction.

Factors contributing to the decline of South Coast anadromous fish stocks include habitat loss and degradation, overfishing (primarily of weak stocks taken in mixed-stock fisheries), and genetic interactions with non-native hatchery salmon and steelhead.

Estuarine habitat loss and degradation have contributed to the problems of the South Coast's anadromous fisheries. Pollution, diking of tidal marshes, and loss of shallow subtidal and deep channel habitats through sedimentation have significantly reduced the biological productivity of many estuaries. However, the relative impacts on different species of anadromous fish appear to vary. Chinook and chum salmon are believed to be the most estuarine-dependent species, yet Oregon coastal chinook stocks have remained relatively strong while chum salmon are among the stocks most seriously threatened.

The area provides important wintering and migratory habitat for a number of waterfowl species and supports the highest diversity in the flyway. Species using the southern Oregon coast's wetlands include tundra swans, brant, and five subspecies of Canada geese. Dabbling ducks include mallards, gadwalls, northern pintails, American wigeon, green-winged and cinnamon teal, northern shovelers, and wood ducks. Diving ducks include redheads, canvasbacks, scaup, ring-necked ducks, goldeneyes, buffleheads, and ruddy ducks. Other ducks include scoters, oldsquaw, harlequin ducks, and mergansers.

The heaviest waterfowl use is typically during fall and spring migrations, when many birds use the coastal wetlands as staging areas. Wintering populations are smaller, but coastal habitat becomes more important for many ducks and geese when drought or icy conditions limit habitat availability at inland locations.

The South Coast includes several areas of particular importance to dabbling ducks, brant, and Aleutian and dusky Canada geese. During the winter, the shallow flooded pasturelands of the Coquille Valley may hold more than half of the entire Oregon coast's dabbling ducks. Coos Bay formerly supported a wintering population of brant and still serves as a staging area for brant migrating northward in the spring. Aleutian Canada geese use the offshore rocks near Bandon and the pasturelands and wetlands in the New River area as staging areas. Aleutians also use Island Rock near Humbug Mountain, Hunters Islands near Cape Sebastian, and Goat Island near Brookings during migration stops. Goat Island has a small remnant wintering population of dusky Canada geese, the southernmost wintering area in the dusky's range.

Wetland Habitats

The largest concentrations of significant wetland habitats in the Southern Oregon Coast Focus Area are found in Coos Bay, along the estuaries of the Umpqua and Coquille Rivers, in the Coquille Valley, in the New River area near Langlois, and in the deflation plains in the dunes system that extends north from Coos Bay to the focus area's boundary. Although heavily modified by human activities, Coos Bay and the Umpqua and Coquille estuaries provide substantial blocks of estuarine habitat with high value for a broad range of wildlife. Adjacent diked and undiked agricultural lands provide important seasonal habitat for waterfowl, shorebirds, and other species. Clearing and draining of the Coquille Valley for agricultural use has dramatically altered the area's natural habitat values, but seasonal flooding of the valley's pasturelands creates conditions that attract the highest numbers of waterfowl on the Oregon Coast. The New River area's unique ecology provides important habitat for a variety of wildlife. The smaller estuaries along the coast and the numerous lowland marshes, ponds, and lakes and other wetlands in the dunes of northern Coos and Douglas Counties have high value for migratory birds and include some of the few areas on the Oregon coast that remain largely undeveloped.

Existing Habitat Protection

The State of Oregon's comprehensive planning requirements and local zoning ordinances provide substantial protection for estuarine wetlands subject to tidal action. Development in estuaries classified as "natural" (Tahkenitch, Tenmile, Twomile, Euchre, and Hunter Creeks and New River) is generally limited to that necessary for

maintenance of existing uses and facilities. Estuaries classified as "conservation" may include some areas subject to more intensive development such as boat ramps and marinas and dredging. Estuaries classified a "shallow draft development" (Umpqua, Coquille, Rogue and Chetco Rivers) or "deep draft" (Coos Bay) may be subject to a range of commercial and industrial development. However, even in "development" estuaries, such uses are limited to relatively small portions of the estuary, with the bulk of the area remaining in "natural" or "conservation" management units.

Varying degrees of protection for wetlands outside of the estuaries are provided by a variety of federal, state, and local laws and regulations, including:

- Section 404 of the federal Clean Water Act, which regulates filling of wetlands.
- The state of Oregon's statewide land use planning program and city and county land use plans, which address wetlands under a number of policies, including Goals 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources), 16 (Estuarine Resources), and 17 (Coastal Shorelands).
- The state of Oregon's Removal-Fill Law, which regulates removal and filling of material in waters of the state, including wetlands.
- The state of Oregon's Forest Practices Act, which limits timber harvests in "significant wetlands."

The focus area presently contains approximately 3,300 hectares (8,100 acres) of secure habitat.

Wetland habitat areas in the Southern Oregon Coast Focus Area that are currently receiving some degree of formal protection include the U.S. Fish and Wildlife Service's Bandon Marsh National Wildlife Refuge (120 hectares - 289 acres); the South Slough Estuarine Reserve (200 hectares - 5,000 acres) managed by the Oregon Division of State Lands; the U.S. Forest Service's Oregon Dunes National Recreation Area (3,070 hectares - 7,580 acres); and U.S. Bureau of Land Management holdings on Coos Bay's North Spit (320 hectares - 800 acres), in the New River area (400 hectares - 1,000 acres), and at Dean Creek (400 hectares - 1,000 acres). State parks encompass about 5,670 hectares (14,000 acres) along the South Coast and include numerous areas of wetland habitat. The Oregon Department of Fish and Wildlife owns several wildlife and public access areas with significant wetlands, including Eel Lake (360 hectares - 882 acres), Empire Lake (40 hectares - 100 acres), and Smith River (20 hectares - 50 acres). Private lands managed for wetland values include a number of duck hunting clubs.

Threats to Wildlife Habitats

The southern Oregon coast historically provided a wide variety of wetland habitats in its estuaries, lakes, rivers, and freshwater marshes. Shoreline development, harbor dredging, diking, and drainage of tidal marshes, channelization of rivers, clearing of riparian forests, filling and draining of freshwater marshes, road building, and logging in upper watersheds have significantly reduced the quantity and quality of the area's coastal wetlands.

Development pressures along the southern Oregon coast have increased substantially in recent years. The area's growing retirement population and increasing economic reliance on tourism have spurred residential and commercial development and made waterfront properties increasingly attractive to investors. As a result, wetland habitats in many areas face increasing risks from encroachment, pollution, and reduced water quality. Expansion of the cranberry industry may also pose conflicts with wetlands.

Tidal wetlands are afforded a substantial degree of protection under current State and local laws and land use regulations, but protection of riparian habitat, freshwater marshes, and agricultural lands with wetland values is less assured.

Habitat Objectives

Within the Southern Oregon Coast Focus Area the Joint Venture is dedicated to ensuring that the following habitat objectives are met and sustained. These objectives are based on the recommended actions for individual target areas contained in the draft plan. The figures represent estimates of what the Joint Venture hopes to accomplish, given the resource needs and opportunities identified through the planning process and the financial, political and logistical constraints the Joint Venture will have to deal with:

- Permanently protect, through easements or fee title acquisition, an additional 1,060 hectares (2,650 acres) of tidal wetlands, 1,140 hectares (2,850 acres) of freshwater wetlands, and approximately 2,120 hectares (5,300 acres) of uplands that are important to maintaining the habitat values of the wetlands that they are associated with.
- Restore 500 hectares (1,250 acres) of tidal wetlands and 200 hectares (500 acres) of freshwater wetlands.
- Enhance wildlife habitat on 840 hectares (2,100 acres) of freshwater wetlands.

Population Objectives

There are no well defined population goals for most wildlife species. The needs are best addressed in terms of habitat goals. The overall waterfowl objective is to maintain populations equal to the greatest population since 1970. Objectives are to:

- Maintain habitat capable of supporting a peak population of 1,000 tundra swans.
- Maintain habitat capable of supporting a peak population of 200 Canada geese.
- Maintain habitat capable of supporting a peak population of 36,000 ducks.
- Maintain habitat capable of supporting a peak population of 40,000 shorebirds.
- Maintain nesting populations of colonial birds at or above their present numbers.

Recommended Actions

The following discussion is broken down into sections identifying recommendations for specific target areas and general proposals that are directed toward securement, restoration, enhancement, and management of wetland habitat through the Southern Oregon Coast Focus Area.

Area-wide Recommendations

The general actions that would apply to wetland habitats throughout the Southern Oregon Coast Focus Area include the following recommendations:

- Restore diked former tidelands where feasible and appropriate.
- Secure conservation easements from willing landowners on agricultural lands where necessary to maintain open field habitat for waterfowl and other migratory birds.
- Cooperate in programs to assist in reducing the effects of crop depredations by waterfowl and other wildlife
- Pursue land exchanges to block-up Federal land ownership in upstream watersheds along stream corridors to protect sensitive riparian areas with high habitat values.

- Initiate active seasonal management of tide gates to enhance existing wetland habitat where feasible and appropriate.
- Support research to evaluate estuarine habitats needs of anadromous fish and identify criteria and potential sites for habitat rehabilitation, both within estuaries and upstream, where past management practices may have altered habitat.
- Inventory, map, and monitor eelgrass beds in estuaries; establish eelgrass "sanctuaries"; strengthen administrative projections for eelgrass in mariculture and tidelands permit processes.
- Seek changes in State law to eliminate disincentives for wetlands restoration or enhancement by private landowners, including legislation to make lands zoned as Exclusive Farm Use, but used for wetland restoration and wildlife habitat conservation, eligible for agricultural tax deferral.
- Work with local governments to implement Wetland Conservation Plans.
- Support creation of wetlands for wastewater treatment where feasible and appropriate.
- Encourage public use of publicly owned wetland habitat areas at levels consistent with protection of resource values.
- Support "coordinated resource management planning" efforts to control purple loosestrife and other invasive exotic species.
- Encourage coordination of estuarine resource management policies by state agencies.
- Support active effective enforcement of existing laws and regulations for wetlands protection.

Target Areas

DOUGLAS COUNTY

Dunes Area (South) - The many scattered lakes, marshes, and streams in the stretch of coast between Coos Bay and the Douglas County line north of Reedsport comprise a large and diverse assemblage of wetland habitat types.

The area's lakes and seasonal standing water in the deflation plains among the dunes provide substantial waterfowl and shorebird habitat, and many of the streams have significant fisheries values. This area also supports a number of nesting pairs of bald eagles.

Stabilization of foredunes, a result of the introduction of European beach grass, has created many deflation plain wetlands, but rapid succession will increasingly limit the early community stages that are most attractive to waterfowl and shorebirds.

The Oregon Dunes National Recreation Area contains more than 3,000 hectares (7,500 acres) of wetland habitats, and there may be significant opportunities for wetlands securement and enhancement projects outside the National Recreation Area as well.

Pumping of groundwater for municipal and industrial uses from wells in the dunes area may be contributing to a lowering of surface water levels in recent years. The legislation that established the Oregon Dunes National Recreation Area required development of a surface water management plan to address the issue, but those provisions of the act have yet to be implemented.

Recommended actions:

- Support U.S. Forest Service acquisition of private inholdings with significant wetland habitat within the Oregon Dunes National Recreation Area.
- Develop wetlands interpretive area in the Horsfall area of Oregon Dunes National Recreation Area.
- Enhance freshwater wetland habitat on national forest lands along tributaries to Tahkenitch and other lakes.
- Preserve and enhance habitat for western snowy plover at Tahkenitch and Tenmile spits and Umpqua River north spit.
- Develop surface water management plan to identify surface water values and determine water levels necessary to maintain habitat values.

- Restore wetlands degraded by recreational uses within Oregon Dunes National Recreation Area.
- Work with U.S. Forest Service to ensure that revisions to the Oregon Dunes National Recreation Area Management plan provide for protection and management of wetland habitat.

Umpqua Estuary - The South Coast's second largest estuary, the Umpqua, supports major runs of anadromous fish and is an important area for waterfowl and a wide range of wetland-dependant species, including a number of breeding pairs of bald eagles. The river is one of Oregon's most important producers of salmon and steelhead.

Umpqua Bay, including the lower Smith River, is an important area for dabbling ducks and diving ducks, and it is one of the Oregon coast's two important wintering areas for tundra swans. With 490 hectares (1,200 acres) of tidal marsh, the Umpqua accounts for more than 35% of the total remaining in South Coast estuaries. The Leed's Island area, which includes about 250 acres of tidal and diked freshwater wetlands, could provide exceptional opportunities for restoration, enhancement and public education and interpretation. Wetlands around Scholfield, Providence, and Butler Creeks contain substantial blocks of tidal marsh, and diked pasturelands along the lower Smith River may have restoration potential. The Bureau of Land Management's Dean Creek elk viewing area provides a highly visible site for wetland interpretive and educational efforts.

Recommended actions:

- Encourage active management for waterfowl through cooperative efforts with landowners.
- Provide education and interpretive opportunities at Dean Creek elk viewing area.
- Support maintenance of current zoning for estuarine areas, shorelands, and agricultural lands to protect existing habitat values.
- Support securement and restoration of habitat on Leed's Island.
- Restore diked tidelands along Smith River and main stem Umpqua where feasible and appropriate.
- Create off-channel habitat for anadromous fish.

COOS COUNTY

Coos Bay - At 5,400 hectares (13,300 acres) in size, Coos Bay is the southern Oregon coast's largest estuary. A rich and diverse ecosystem, it also supports the largest concentration of urban and industrial development on the South Coast.

Much of the bay's shoreline has been heavily impacted by development, and 85% of the original tidal marshes have been lost to diking and filling. However, the bay remains an important source of habitat for dabbling and diving ducks and brant and is one of the most important areas for shorebirds on the West Coast. Coos Bay had the third highest total count of waterfowl on the Oregon Coast in a March 1992 aerial survey. Coos Bay's extensive eelgrass beds, productive sloughs, mudflats, and substantial tidal marshes (700 hectares - 1,726 acres) provide valuable habitat for thousands of shorebirds and a variety of fish. The bay's North Spit supports the largest nesting population of western snowy plovers on the Oregon coast. The South Slough National Estuarine Research Reserve, which encompasses 5,000 acres of the South Slough watershed, provides a unique laboratory for wetland habitat research and restoration.

Recommended actions:

- Restore diked tidelands where feasible and appropriate.
- Support continued habitat restoration, research, and monitoring within South Slough National Estuarine Research Reserve.
- Evaluate privately owned tidelands for acquisition of title where necessary to protect estuarine values.
- Develop a comprehensive planning and management strategy for protection of wetlands and wildlife values on Federal, State, and private lands.
- Support the Bureau of Land Management's snowy plover enhancement efforts on the North Spit.
- Encourage education and interpretation efforts to further public understanding of the values of the Coos Bay estuary.

Coquille River Estuary - Although heavily impacted by diking and sedimentation from erosion in the upper watershed, the Coquille River estuary retains high habitat values for a variety of wildlife. Bandon Marsh National Wildlife Refuge's salt marsh and tidal flats support the highest density of migrating shorebirds on the Oregon coast, including a number of species not found in any other estuary in southern Oregon. The estuary provides habitat for chinook and coho salmon, steelhead, and cutthroat trout. Diked pasturelands above the Highway 101 bridge, including the Philpott Ranch on the north

side of the river, receive substantial winter waterfowl use. Acquisition of the Philpott Ranch property would allow restoration of up to 200 acres of tidal wetlands with major benefits for fisheries, waterfowl and other estuarine habitat values. The U.S. Fish and Wildlife Service's recent acquisition of Coquille Point and the cooperation of local interests have created a unique opportunity for public education and interpretive services linking the estuary with the offshore islands of the Oregon Islands National Wildlife Refuge.

Recommended actions:

- Implement U.S. Fish and Wildlife Service proposals for habitat restoration at Coquille Point and development of visitor and interpretive facilities around Coquille Estuary.
- Secure private lands from willing sellers in the strip between Bandon Marsh and the frontage road for addition to Bandon Marsh National Wildlife Refuge.
- Secure diked former tidelands where restoration is feasible and appropriate, and where landowners are willing.

Coquille River Valley - Largely forested swamp before it was cleared and drained for agricultural use in the 19th century, the wide inland valley near Coquille has lost much of its natural biological diversity but still provides high quality seasonal habitat for many species of wildlife. The valley is the most important waterfowl area between San Francisco Bay and the Columbia River. In winter, the valley's flooded pasturelands provide broad expanses of shallow standing water that attract thousands of dabbling ducks, swans, and shorebirds. A March 1992 aerial survey produced the highest waterfowl counts on the Oregon coast, with the Coquille Valley containing more than half of all dabbling ducks and virtually all of the coast's tundra swans. The area is rated "high priority" in the U.S. Fish and Wildlife Service's ranking of waterfowl habitat protection needs, and is the agency's number 1 priority for protection in Oregon (1989)

Waterfowl and shorebird use in the spring is shortened by landowners' use of pumps to drain the pastures for grazing, and the lack of water precludes virtually any use in the fall. Maintenance of water levels later into the spring would provide substantial benefits for wintering and migratory bird populations.

Recommended actions:

- In cooperation with local landowners, develop strategies involving cooperative agreements, easements or acquisitions.

- Enhance waterfowl habitat through active water management to extend seasonal inundation of low-lying pasturelands.
- Provide for a mosaic of diverse habitats through maintenance of agricultural uses and restoration of riparian vegetation and natural wetland communities.
- Secure designation of a portion of the area as a waterfowl sanctuary.

CURRY COUNTY

New River - The estuary and associated dunes, lakes, streams, marshes, and lowland pastures in the Langlois area provide a rich diversity of wetland habitats for waterfowl, fisheries, and other wetland-dependent species.

The area provides important habitat for a number of threatened and endangered species. The western snowy plover population is one of the largest on the Oregon coast. Peregrine falcons and bald eagles have been observed foraging in the area year-round, and several historic nesting sites are nearby. Aleutian Canada geese use New River as a resting area during both fall and spring migration; a peak count of 1,843 Aleutians was made in the area's bottomlands during the 1991 spring migration. The area also supports dabbling and diving ducks and large numbers of shorebirds.

The river supports native coho and steelhead stocks, and the fall run of exclusively wild chinook salmon is one of the best on the southern Oregon coast; however, low summer flows caused by loss of wetlands and upstream diversions are reducing rearing habitat and limiting productivity.

Recent acquisitions by the Bureau of Land Management provide the foundation for increased focus on protection and management of wetlands in the area. The Bureau of Land Management has designated its lands as an "Area of Critical Environmental Concern."

Recommended Actions:

- Support Bureau of Land Management acquisition of lands with high habitat values, through exchange or purchase of lands from willing sellers.
- Enhance wildlife values through active management of habitat on Bureau of Land Management lands.
- Maintain and enhance habitat values on other private lands through cooperative agreements or conservation easements.

- Secure minimum stream flows necessary for wildlife, including lease or purchase of water rights.
- Maintain habitat base for staging Aleutian Canada geese.
- Maintain or restore habitat for the western snowy plover.
- Restore historic wetlands in balance with existing habitat use.
- Develop education and interpretive programs.
- Support zoning to protect private agricultural lands from more intensive development.

Small Estuaries - The small estuaries of the Sixes, Elk, and Winchuck Rivers all provide significant pockets of wetlands in areas where similar habitat is severely limited by topography. All three estuaries have also been identified as high priority corridors for maintenance of aquatic diversity by the American Fisheries Society (1991). Other coastal streams with small estuaries and significant fisheries values include the Rogue, Chetco and Pistol Rivers, and Twomile, Tenmile, Floras, Euchre, and Hunter Creeks.

Recommended actions:

- Support maintenance of current zoning to protect existing habitat values.
- Block-up public ownership through land exchange to protect upstream riparian areas.

OTHER AREAS NOT ASSOCIATED WITH SINGLE COUNTIES

Offshore Rocks and Islands - Virtually all of the southern Oregon Coast's offshore rocks, reefs, and islands are included in the Oregon Islands National Wildlife Refuge, which includes more than 1,400 rocks, reefs, and islands off the Oregon Coast. Together with Three Arch Rocks National Wildlife Refuge off Tillamook County, the two refuges protect habitat for the majority of Oregon's estimated 1.1 million nesting seabirds and most of the haul-out sites for seals and sea lions along the Oregon Coast. The offshore rocks and islands provide habitat for several listed threatened and endangered species, including bald eagles, peregrine falcons, California brown pelicans, Aleutian Canada geese, and Steller sea lions. The Rogue and Orford reefs off Curry County support the largest breeding populations of Steller sea lions in U.S. waters south of Alaska.

Disturbance of nesting birds and pinnipeds on the offshore rocks and islands by low-flying aircraft, nearby boats, and other human uses is a growing problem.

Recommended actions:

- Support education and interpretive efforts to increase public awareness of effects of human disturbance on nesting seabirds and marine mammals.
- Support establishment of permanent and seasonal buffer zones to exclude non-emergency human uses within 500 feet of sensitive offshore rocks and islands.