

Appendix M. Hunt Plan

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M.1 Introduction

The Willapa National Wildlife Refuge (Refuge or NWR) is located on Willapa Bay in southwest Washington. The Refuge was established in early 1937 by President Franklin Roosevelt in order to preserve and manage the important habitats and wildlife of Willapa Bay. The Refuge currently manages approximately 16,000 acres including sand dunes, sand beaches, intertidal mudflats, saltwater and freshwater marshes, grassland, open water, and forested lands.

The Refuge's wetland habitats support wintering populations of waterfowl such as black brant, trumpeter swans, Canada geese, scaup, canvasback, bufflehead, scoters, and American wigeon. The Refuge also hosts some of the largest concentrations of shorebirds on the Pacific Coast during their spring and fall migrations. These large concentrations of migrating shorebirds and the habitats that support them are now recognized as globally significant. The western snowy plover, listed as threatened under the Endangered Species Act, nests along Refuge beaches. Marbled murrelet, black bear, black-tailed deer, Roosevelt elk, bats, bobcats, and grouse can be found in the forests and upland habitats. The cool, wet climate of the Willapa Hills makes the area a "hotspot" of amphibian diversity in Washington. Habitats on the Refuge support up to 13 of the 24 native amphibians that occur in the state. Coastal rivers and streams on the Refuge provide habitat for western brook lamprey; western pearlshell mussel; Chinook, coho, and chum salmon; steelhead; and sea-run cutthroat trout.

The purpose of the Hunt Plan is to outline how the hunting program will be managed on the Willapa Refuge. The Hunt Plan documents how the Refuge will provide safe, quality hunting opportunities, while minimizing conflicts with other priority wildlife-dependent recreational uses (Service Manual 605 FW 2). The Hunt Plan will discuss the following topics: compatibility, the effect of hunting on Refuge objectives, assessment of target species, description of the hunting areas, avoiding biological and public conflicts, and the procedures to conduct the daily hunt.

The Refuge will maintain current hunting opportunities and expand the wildlife-dependent recreational hunting opportunities as identified in this plan and the comprehensive conservation plan (CCP).

The goals of Willapa Refuge as developed for the long term management of the Refuge in the CCP are:

- Goal 1. Protect, maintain and restore ecologically functional late-successional forest habitats (mature and old-growth forest) characteristic of the low-elevation temperate forests in the southwest Washington coastal region for the benefit of endangered and threatened species, migratory and resident birds, and a diverse assemblage of other native species.
- Goal 2. Protect, maintain, and restore estuarine habitats historically characteristic of the southwest Washington coastal region for the benefit of salmonids, Pacific brant, other waterfowl, shorebirds, seabirds, and a diverse assemblage of other native species.
- Goal 3. Protect, maintain, and restore freshwater habitats historically characteristic of the southwest Washington coastal region for the benefit of migratory birds, salmonids, amphibians, mussels, lamprey, and a diverse assemblage of other native species.
- Goal 4. Protect, maintain and restore coastal beach and dune habitats historically characteristic of the southwest Washington coastal region for the benefit of the western

snowy plover, streaked horned lark, pink sandverbena, Oregon silverspot butterfly, and a diverse assemblage of other native species.

- Goal 5. Provide short-grass fields (improved pastures) and grasslands for the benefit of Canada geese, Pacific jumping mouse and other grassland-dependent species and restore grasslands for the Oregon silverspot butterfly.
- Goal 6. Promote the recovery of federally threatened and endangered as well as federal candidate and state-listed species.
- Goal 7. Gather scientific information (inventories, monitoring, research, studies) in support of adaptive management decisions on the Refuge under Goals 1-6.
- Goal 8. Foster a connection between Refuge visitors and nature. Visitors will have the opportunity to participate in safe quality wildlife-dependent recreation activities located throughout Willapa NWR. These activities and programs include wildlife observation, hunting, fishing, interpretation/education, and photography.
- Goal 9. Protect and preserve the cultural resources of the Refuge for the benefit of present and future generations.
- Goal 10. Contribute to the protection of the long-term environmental health of the Willapa Bay ecosystem.
- Goal 11. Provide support for off-Refuge conservation efforts in southwest Washington in partnership with private landowners, agencies, and nongovernmental organizations.

M.2 Conformance with Statutory Authorities

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (Refuge System) and the purposes for which individual refuges were established, as well as other policies, laws, and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), the Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations (C.F.R.) and Service Manual.

Refuge Recreation Act of 1962 (16 U.S.C. 460K) authorizes the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use. The Refuge Recreation Act requires that 1) any recreational use permitted will not interfere with the primary purpose for which the area was established; and 2) funds are available for the development, operation, and maintenance of the permitted forms of recreation.

Fundamental to the management of lands within the Refuge System is the Improvement Act, an amendment to the Refuge Administration Act of 1966. The Improvement Act provided a mission for the Refuge System, and clear standards for its management, use, planning, and growth. Its passage followed the promulgation of Executive Order 12996 (April 1996), Management of Public Uses on National Wildlife Refuges, reflecting the importance of conserving natural resources for the benefit of present and future generations of people.

The Improvement Act recognized that wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation, when determined to be compatible with the mission of the Refuge System and purposes of a refuge, are legitimate and appropriate public uses of the Refuge System. Compatible wildlife-dependent recreational uses are the priority general public uses of the Refuge System and shall receive priority consideration in planning and management.

The U.S. Fish and Wildlife Service (Service) has determined hunting of waterfowl, coot, snipe, elk, deer, bear, and grouse (ruffed and blue) to be a compatible wildlife-dependent recreational use on the Refuge (See Appendix C, Waterfowl, Big Game, and Upland Game Bird Hunting Compatibility Determinations). Based upon biological impacts described in the Hunting Compatibility Determination (CD)s, which are incorporated by reference, hunting on the Refuge is a compatible use and will not materially interfere with or detract from the purposes for which the Willapa Refuge was established. Stipulations within the Hunting CD ensure compatibility and include Refuge-specific regulations; monitoring of hunting activities, habitat conditions, public use activities, and wildlife population levels; and routine law enforcement patrols.

M.3 Statement of Objectives

In the CCP, the Service proposes maintaining existing waterfowl, upland game bird, and big game hunting, and opening additional areas of the Refuge to waterfowl, elk and deer hunting. The objectives of the Hunt Plan directly support several of the Refuge's long-term management goals and Service mandates:

- National Wildlife Refuge System Improvement Act of 1997 states that refuges shall provide quality hunting opportunities wherever compatible.
- Foster a connection between Refuge visitors and nature. Visitors will have the opportunity to participate in safe quality wildlife-dependent recreation activities located throughout Willapa Refuge. These activities and programs include wildlife observation, hunting, fishing, interpretation/education, and photography.
- Protect, maintain, and restore coastal beach and dune habitats historically characteristic of the southwest Washington coastal region for the benefit of the western snowy plover, streaked horned lark, pink sandverbena, Oregon silverspot butterfly, and a diverse assemblage of other native species.
- Promote the recovery of federally threatened and endangered as well as federal candidate and state-listed species.

This hunting program supports the mandate of the Improvement Act that refuges provide for priority public uses, including hunting, where compatible. A Section 7 Endangered Species Consultation will be completed for the existing and proposed changes to the waterfowl, upland game bird, and big game hunts. The current and expanded hunting program would be conducted to meet Refuge objectives for providing quality hunting opportunities, and assisting the Washington Department of Fish and Wildlife (WDFW) with achieving and maintaining state game population objectives.

M.4 Assessment

The hunting program would be thoroughly evaluated on an annual basis to determine if the Refuge is meeting its objectives. If there have been no unacceptable impacts to other wildlife populations or to other public use programs, the hunting program would be continued. At that time, the Service will also consider adding additional hunting areas if appropriate, including any newly acquired Refuge lands. Any reductions in, or other changes to, the hunt program would be made after evaluation of the program.

All existing and proposed hunting areas are located within Pacific County, Washington. Hunting of waterfowl, coot, snipe, elk, deer, bear, and grouse (ruffed and blue) will be allowed on the Refuge

consistent and in accordance with all Washington State regulations except as specifically noted herein.

A. Are populations of waterfowl, coot, snipe, elk, deer, bear, or grouse (ruffed or blue) present in numbers that are sufficient to sustain an optimum population level for priority Refuge objectives other than hunting?

Yes, target wildlife populations are present in sufficient numbers for priority Refuge objectives for wildlife management and for the other priority wildlife-dependent recreational uses (wildlife observation, photography, environmental education, and interpretation). The Refuge has adopted harvest regulations set by the state, which uses concepts of density dependent compensatory mortality and adaptive harvest management to ensure sustained game species populations (See Section M.5.10, Species to be taken).

The Refuge was evaluated to determine the best public use strategy for providing high-quality wildlife-dependent public use opportunities. The Refuge will offer various public use opportunities on nearly the entire Refuge throughout various times of the year. Approximately 160 acres of the Refuge are currently closed to all public use. These areas include areas directly adjacent to buildings and are closed for safety purposes. Approximately 5,670 acres will be open for waterfowl, coot, and snipe hunting. There will be approximately 10,716 acres available for elk, deer, and bear hunting and 5,451 acres open for grouse hunting. Hunting programs need to be based on healthy, sustainable populations of the species hunted. The number of elk that enter the Refuge may vary from year to year. For the Leadbetter Point Unit, reproduction continues to add to the estimated population of 40 to 70 animals. Outside recruitment to the herd may also add to this population annually.

Under this Hunting Plan, the elk and deer populations will be monitored and the continual expansion kept in check. According to WDFW Wildlife Biologists, the management of the elk and deer herds is necessary to maintain an overall healthy population that does not have negative impacts on the environment or create negative impacts for the community.

B. Is there competition for habitat between target species and other wildlife?

Possibly. While each species occupies a unique niche, there is a finite amount of space available to satisfy various habitat requirements of water, food, cover, breeding, and roosting areas.

Browse is in limited supply on this unit. Non-native beach grass is abundant on the Leadbetter Point Unit. However, it is unlikely that this grass serves as much of a food source for elk. Shore pine dominates much of the shrub/tree community, although willows and other shrubby plants do exist. Shrubs and trees occupy greater than 50 percent of the 1,742-acre unit and coupled with the large areas of predominantly beach grasses, it is not surprising that the native plants which are occurring in the dune habitat restoration area are being consumed or trampled.

Elk are large animals and require extensive amounts of food. A 700-pound elk will typically eat 14 pounds air dry weight (approximately 30 pounds fresh weight) of forage per day (Nelson and Leege 1982). A herd of 40 to 70, or more, elk on the 1,742-acre unit exerts tremendous pressure on the native plant species that do occur, and conflicts with the nesting wildlife that occupy those areas.

Elk compete with deer for food and cover. Elk are often classified as being primarily grazers (feeding on grasses and forbs), whereas deer are often classified as being browsers (feeding on the leaves and twigs of shrubs and trees). However, both elk and deer are generalist herbivores and seek out the highest quality forage available at any given time, whether it be grasses, forbs (herbs other than grasses), or browse (Nelson and Leege 1982; Verme and Ullrey 1984).

Black bears are omnivores and consume both plants and animal matter, including insects. Movement within a home range is associated with seasonal availability of food and breeding activities and dispersal. Habitat competition with other species of wildlife is negligible.

C. Are there unacceptable levels of predation by target species on other wildlife forms?

No, target species (waterfowl, coot, snipe, elk, deer, bear, and ruffed and blue grouse) generally do not prey on other species at unacceptable levels.

Although elk and deer do not directly predate on other species, in large numbers they do create unacceptable levels of competition and habitat destruction (see above).

Predation levels on other species of wildlife have not been observed to be a problem with black bear on the Refuge.

M.5 Description of the Hunting Program

M.5.1 Areas of the Refuge that Support Populations of the Target Species

Target game species commonly occurring on the Refuge include waterfowl, coot, snipe, elk, deer, bear, and grouse (ruffed and blue). Descriptions of upland forest, estuarine open water, intertidal flat, salt marsh, riverine, wetlands, coastal dune and beach, and grassland habitats and their associated plant and wildlife species are described in further detail in Chapter 4 of the CCP. An overview of hunted target wildlife species is also described below in Section M.5.2.

M.5.2 Target Species

M.5.2.1 Migratory Game Birds

Status of Waterfowl, Coots, and Snipe on the Refuge: Willapa Bay is an important wintering ground for geese and ducks, many of which breed in Alaska and northern Canada. The Refuge's wetland habitats support wintering populations of waterfowl such as black brant, trumpeter swans, Canada geese, scaup, canvasback, bufflehead, scoters, and American wigeon. Thirty-five species of waterfowl have been observed on the Refuge.

The Pacific population of western Canada geese (*Branta canadensis moffitti*) nest in central and southern British Columbia, northwestern Alberta, northern and southwestern Idaho, western Montana, northwestern Nevada, northern California, and throughout Washington and Oregon. A large segment of this population is nonmigratory and resident throughout the year. In response to human activities, such as transplants and artificial nesting structures, the population has expanded its historic distribution. Agricultural practices, residential expansion, and park development has further expanded this population. In some urbanized areas, the geese have become acclimated to human interaction and reside in parks.

Willapa NWR, and the fields and farm pastures adjoining Willapa Bay, provide stopover habitat in Washington State for Aleutian cackling geese during the fall migration from September to late November. A peak count at Willapa during the mid-1990s averaged from 300 to 400 birds (Hays 1997; Kraege 2005). Winter goose survey numbers in Willapa Bay were much lower, comprising less than 1 percent of the geese examined from 2000 until 2004, when surveys were curtailed. Low numbers are typically seen during the northern migration in February and March each year. The highest number of spring migrating Aleutian cackling geese in Washington through the mid-1990s was 52 birds recorded in Willapa Bay by Pitkin and Lowe (1995). The 2008 calculated population index for Aleutian cackling geese in the Pacific Flyway was 193,321. The most recent three-year average population equals about 179,000, slightly below the Flyway objective of 250,000 birds set by the Pacific Flyway Council.

A primary rationale for creating Willapa NWR in 1937 was conservation of migratory and wintering populations of brant. Brant are one of the most abundant waterbird species passing through Willapa Bay during annual migrations. Brant utilize eel grass (*Zostera marina*) beds as a primary food source while in Willapa Bay, often numbering in the hundreds of birds. Use of the Bay is greatest during the northern spring migration, with peak bird numbers observed from March through May, with use typically highest in April. Brant also winter in the area from late October to early May. Total numbers of wintering birds are lower than in the spring, averaging several thousand, but overall there is a lesser degree of interannual variation (Wilson and Atkinson 1995). Historically the brant population was much higher than at present. Brant harvest in the Pacific Flyway states for 2007 was estimated at 2,800 birds, with Washington State comprising slightly less than 20 percent of the total rate of harvest. The 2008 population estimate based on an index derived from midwinter surveys totals 24,972.

M.5.2.2 Upland Game Birds

Status of Ruffed and Blue Grouse on the Refuge: Forest grouse in Washington include dusky blue grouse (*Dendragapus obscurus*), sooty blue grouse (*Dendragapus fuliginosus*), and ruffed grouse (*Bonsa umbellus*), which occur throughout the forested lands in Washington. Statewide biological surveys designed to estimate forest grouse populations have not been conducted in Washington (WDFW 2008). Forest grouse can be observed throughout the Refuge and adjacent lands

M.5.2.3 Big Game

Status of Roosevelt Elk on the Refuge: The Roosevelt elk (*Cervus elaphus roosevelti*) is one of six recognized subspecies of elk in North America (Bryant and Maser 1982). They are native to western Oregon and Washington, northwestern California, and Vancouver Island, British Columbia. Statewide elk populations are difficult to estimate but the statewide total ranges from approximately 55,000 to 60,000 elk (WDFW 2009). There are an estimated 16,000-17,000 Roosevelt elk in the

state, of which approximately 7,600 are in the Willapa Hills herd (WDFW 2003). Southwest Washington and the Willapa Hills, which surround the Refuge, support one of the highest concentrations of elk in Washington State. Populations of elk in western Washington are variable, ranging from less than 1 elk/mi² to 12 elk/mi² (USFWS 1978). WDFW has a population objective of 7,600 to 8,800 for the Willapa Hills herd (WDFW 2008). One hundred thousand elk hunters harvest approximately 7,000 elk annual in Washington (WDFW 2008). Herd size is estimated by a range of methods including aerial surveys, cow/calf ratio, analysis of harvest data, etc. Adjustments in season length and the number of antlerless permits issued are used to maintain herd numbers at roughly the population objective.

Elk can be observed throughout the Refuge and adjacent lands. Habitat on the Refuge includes open fields, fresh and saltwater marshes, forested areas, and clearings in forests. An estimate of the elk population in the late 1970s on Long Island was 40 to 45 animals.

Records indicate that elk were not present on Leadbetter Point when the area became part of Willapa Refuge in the 1960s. It is surmised that a small group of elk located to this area in late 1980s or early 1990s by travelling up the Long Beach Peninsula. There are also records of elk swimming from Long Island to the peninsula. Elk are found on the Mainland and Long Island Units of the Refuge on a year-round basis. The population of the mainland elk herds are maintained through elk hunting on surrounding private lands and portions of the Refuge.

Elk hunting is currently prohibited within the Leadbetter State Park and the Leadbetter Point Unit of the Refuge. Elk numbers have grown gradually and continuously since their establishment on the peninsula. In the spring and summer months of 2007, Refuge biologists observed a herd of approximately 30 elk inside the western snowy plover nesting area. Reports of sightings in the area by WDFW and area residents confirm that the overall number of elk has increased and now may range from 40 to 70 animals.

Status of Black-tail Deer on the Refuge: WDFW conducts composition surveys from the air and the ground to index buck, doe, and fawn ratios (WDFW 2009). In western Washington, black-tailed deer (*Odocoileus hemionus*) surveys are coupled with hunter check station information and harvest data to model populations (WDFW 2009). In 2008, population estimates for deer in Game Management Units (GMU) 658, 660, 663, 672, 673, 681 (which includes the Refuge), and 684 was 25,797 (WDFW 2009).

Systematic surveys of black-tailed deer are not conducted on the Refuge. However, the Willapa Hills and the Long Beach Peninsula support healthy populations of black-tailed deer, and this species has been observed throughout the Refuge.

Status of Black Bear on the Refuge: The black bear (*Ursus americanus*) is the most common and widely distributed species of bear found in North America. In Washington, black bears inhabit 31 of 37 counties, occupying all forested habitats within western Washington, the Cascade Mountain Range, the Okanogan Region, and the Selkirk and Blue Mountains ranges (WDFW 2009). Although no formal statewide bear surveys are conducted in Washington, the black bear population is around 25,000 to 30,000 animals (WDFW 2009). Systematic surveys of black bear are not conducted on the Refuge. However, the Willapa Hills and the Long Beach Peninsula support healthy populations of black bear. This species has been observed throughout the Refuge. Although a population estimate does not exist for the entire Refuge, a study in 1973-1975 estimated the bear population on Long Island to be approximately 30 animals (Lindzey 1976).

M.5.3 Existing Areas Opened to the Public

The Refuge is open for a variety of wildlife-dependent public uses and currently offers waterfowl (3,128 acres), upland game bird (5,451 acres), and big game (6,980 acres) hunting programs (Map M-2).

M.5.4 Existing Waterfowl Hunting Opportunities

M.5.4.1 Leadbetter Point Unit

Portions of the Leadbetter Point Unit are open to free-roam waterfowl and goose hunting according to state regulations. Access is by Stackpole Road. Hunting is prohibited in the snowy plover closure area.

M.5.4.2 South Bay Units

Selected areas of the South Bay Units (Riekkola, Tarlatt, Porter Point) are open for waterfowl hunting (2,884 acres) (Map M-2). The Riekkola Unit is open to goose hunting (244 acres) only from assigned blinds on Saturday and Wednesday. There are eight blinds including one that provides barrier free access to hunters with disabilities. In 2010, 44 hunters (119 visits) used these blinds and harvested an average of 1.34 geese/hunter. This represents only 18 percent occupancy of the Refuge's hunting blinds. Hunters may not possess more than 25 shells per day. Ducks, coots, and snipe may be taken only incidental to goose hunting. Access occurs off 67th Street in Long Beach. Blind selection is done by lottery early in the morning of each hunt. Gates are open from 6 am to 5 pm. There is a small fee (\$5.00) for use of the blinds. The user fee is \$2.50 with a Golden Age or Golden Eagle passport.

Porter Point is open for free-roam waterfowl hunting on Sunday, Monday, and Thursday. The Porter Point Unit is suitable for car-top boats and small craft that can be easily moved. Parking for the car-top boat ramp is available to the northwest of the Riekkola Unit pastures in a delineated graveled parking area with 10 sites for waterfowl hunters. The freshwater wetland can be accessed by the Porter Point Unit dike or boating the wetland. No gas-operated engines are allowed in the freshwater wetland. The saltwater marsh of Willapa Bay can be reached from the existing footbridge on the east end of Porter Point Unit or by walking into the Bay from the dike on the west end of the unit. Signs are placed on the east and west boundary of the Porter Point Unit, extending into the Bay, to delineate the hunt area. Access occurs through the Riekkola Unit, off 67th Street in Long Beach (Map M-2).

M.5.4.3 East Hills Units

Potshot, North Potshot, and Stanley Peninsula are open for waterfowl and goose hunting according to state regulations (Map M-2).

M.5.4.4 Waterfowl Closure Areas

On November 7, 1940, the President issued another Proclamation (No. 2439), "Regulation Designating As Closed Area under the Migratory Bird Treaty Act Certain Lands and Waters Adjacent to and in the Vicinity of the Willapa National Wildlife Refuge Washington." As lands were acquired into the Refuge, with purposes derived from the earlier Executive Order it is also made clear in

several Migratory Bird Conservation Commission Memorandum that “A Proclamation closes to hunting the water surrounding the island.” That island refers to Long Island in south Willapa Bay. The Refuge maintains the Presidential Proclamation Boundary specifically prohibiting waterfowl hunting around Long Island (Map M-2).

Hunting was allowed on the Lewis Unit; however, access via Jeldness Road, a private road off U.S. Highway 101, was closed by property owners in 2008. This unit is now closed to all public access including hunting.

M.5.5 Proposed Waterfowl Hunting Opportunities

The following are changes proposed to waterfowl hunting opportunities.

M.5.5.1 South Bay Units

The expanded waterfowl hunt area identified in the management direction of the CCP will include opening an additional 2,542 acres (5,670 acres total) to waterfowl hunting in all newly restored areas in the South Bay Units (Map M-1). Three blinds will be available for goose hunting on the south half of the Riekkola Unit (100 acres) which will meet or exceed the Refuge’s current average use of 4.4 hunters per day. Two of these blinds will be pit blinds and one will be an above ground barrier-free blind for hunters with disabilities. Two additional blinds will be created for waterfowl hunting. These blinds will provide walk-in access for waterfowl hunting and will provide a new opportunity for Refuge hunters that do not have a boat. One of these waterfowl blinds will also provide barrier-free access. Exact placement of the goose and waterfowl blinds will be determined at a later date to allow for input from hunter working groups and local hunters. Boat access to the South Bay Units will be provided by car-top boat ramp at Dohman Creek. Access to these blinds will be provided on a first-come, first-serve basis from a parking area located near Dohman Creek. In addition, a trail from the parking area will provide walk-in hunter access to Porter Point. According to State regulations, waterfowl hunting will be allowed seven days a week and goose hunting will be allowed two days a week (Wednesdays and Saturdays).

The parking area, car-top boat launch and trail to Porter Point will be open year round to all Refuge visitors. The blinds will be open only to hunters during the hunting season; however, during the non-hunting season, these blinds may be used by any Refuge visitor. This will provide access to additional areas for wildlife observation, photography, environmental education, and interpretation on the Refuge.

M.5.6 Existing Upland Game Bird Hunting Opportunities

M.5.6.1 Long Island Unit

Archery hunters interested in a remote hunting experience find Long Island (GMU 699) a challenging place to pursue ruffed and blue grouse on 5,451 acres. A free Refuge hunting permit is required to hunt on Long Island. No hunting with firearms permitted on Long Island.

Visitors must provide their own boat transportation to and from Long Island. Access is best at a higher tide (6 foot or higher). Construction or use of permanent tree stands is prohibited. Camping is permitted only in designated campsites on the island.

M.5.7 Upland Game Bird Hunting Opportunities

No changes are proposed to the upland game bird hunting opportunities.

M.5.8 Existing Big Game Hunting Opportunities

Willapa Refuge currently provides several opportunities for big game hunters. Big game hunting occurs on both the mainland, in some, but not all, of the management units, and Long Island (6,980 acres) (Map M-2). Existing big game hunting rules and regulations on the Refuge are consistent with the state regulations except as specifically noted herein.

M.5.8.1. Long Island Unit

The Long Island Unit (GMU 699) is annually open to archery Roosevelt elk, black-tailed deer, and black bear hunting (5,451 acres). No hunting with firearms is permitted on Long Island. A free Refuge hunting permit is required to hunt on Long Island. Many people who hunt on Long Island prefer to camp overnight since tides can make travel to and from the island challenging.

Hunters must obtain a Refuge hunt permit by visiting the Refuge headquarters. Hunters that are camping must register their campsite during the early hunt season at the parking lot kiosk prior to travelling to the island. Camping is on a first-come, first-served basis. Groups are limited to five people per campsite. Individuals and groups are limited to 14 consecutive camping nights on the island. Elk/deer/bear/grouse hunters must report success/failure and any hit-but-not-retrieved animals when they return their Refuge permit tag after each trip. Use of bicycles is permitted on Long Island logging roads/trails, except for the Cedar Grove Trail.

M.5.8.2. East Hills Units

Existing elk and deer hunting areas include designated portions of the East Hills Units (Bear River, Headquarters, and Teal Slough Units) (GMU 681). Most of the Refuge lands on the mainland between Bear River and Teal Slough with the exception of the quarters (Q88) and headquarters area are open for those interested in hunting Roosevelt elk or black-tailed deer using modern firearms or archery. The East Hills Units are not open to bear hunting. Use of bicycles is permitted on East Hills Units logging roads/trails, except for the Teal Slough and Willapa Interpretive Art trails.

M.5.9 Big Game Hunting Opportunities

The management direction of the CCP will expand elk and deer hunting opportunities to 10,716 acres in new areas of the Refuge (Map 1 and Map 4 of the CCP) in accordance with the State hunting regulations. No new bear hunting opportunities are proposed in this plan.

M.5.9.1 South Bay Units

Proposed elk and deer hunting areas include portions of the South Bay Units (Lewis, Porter Point, and Riekkola) once tidal restoration activities are complete in the South Bay Units. All of the existing South Bay Units and any future acquisitions are located in GMU 684 and therefore will typically be open for approximately five days in early October. The South Bay Units will not be open to bear hunting.

M.5.9.2 Nemah/Naselle and East Hills Units

Elk and deer hunting opportunities in the East Hills Units will continue as described above. In addition, elk and deer hunting opportunities will be expanded upon acquisition of any new areas within the Nemah/Naselle Unit (GMU 673) and East Hills Units (GMU 681) as identified in the management direction of the CCP (Map 2 of CCP). Currently the land owners allow elk and deer hunting on these proposed Refuge acquisition areas. Elk and deer hunting opportunities would be considered upon acquisition of any new areas in the future and would resolve potential problems over the exact position of the Refuge boundary and complement local hunting activities on adjacent lands. The Nemah/Naselle Unit and East Hills additions will not be open to bear hunting.

M.5.9.3 Leadbetter Point Unit

An early season, muzzleloader elk only hunt and a special permit hunt are proposed on the Leadbetter Point Unit (GMU 684). The entire unit (2,397 acres) will be open to the early elk muzzleloader season, which typically lasts approximately five days in early October. The public will be notified that the entire unit will be closed to all other uses including hiking and waterfowl hunting. Public use of the trails during this time is minimal, due to the inclement weather and seasonal rains that regularly flood the trails. The proposed hunt falls outside the general tourist season. Since the waterfowl hunting season is much longer than the elk muzzleloader season, there would be little, if any, impact on this user group. In keeping with existing elk hunting regulations on adjacent private property and for safety purposes, the use of muzzleloader firearms will only be authorized. The Leadbetter Point Unit will not be open to deer or bear hunting.

A special permit elk hunt will be offered sometime between October and February on this unit only, if needed. If the elk are not found within the unit during the early muzzleloader hunt season, or the elk hunt proves unsuccessful due to weather or other uncontrollable influences, the special permit hunt could be implemented. Opening the special permit hunt would offer an opportunity to assist the state in management of the expanding elk herd. This additional hunt would draw from a pool of hunters who have applied for a muzzleloader permit through WDFW. The number of permits in this additional hunt would be determined after consultation with WDFW after the early season hunt. Currently, the registration process for big game hunting on the Refuge requires an orientation to Refuge boundaries and hunting regulation review; this same process will be used for the elk hunt at the Leadbetter Point Unit.

By issuing the special permit for the muzzleloader elk hunt, it provides the Refuge staff an opportunity to control the number and timing of hunters in a specific area thereby reducing potential hunter impacts to the resource and/or other Refuge users. Providing permits addresses the elk management issue by limiting the amount of animals taken or not taken in the area. Due to the size and shape of the unit and limited access points, the number of hunters will be regulated. There is the potential for elk hunters to disturb waterfowl and waterfowl hunters at certain times of the year. The permit system offers staff the opportunity to monitor take and potential impacts to resources while providing an opportunity for a quality and safe hunting experience.

Since big game hunting on the Leadbetter Point Unit is new and is not an expansion of hunting boundaries, more details on the elk and unit are provided below:

About the Leadbetter Point Unit

Historically, habitats along the Long Beach Peninsula consisted of low hummocky sand dune formations characterized by large areas of open sand with sparsely vegetated native dune plant species. Coastal marine and wind processes worked to maintain native plant communities in early successional stages on the outer prism of the beach. The dunes were more stable and blowouts less frequent; a mosaic of native prairie and dune grasslands, freshwater lakes, swamps, bogs, and spruce-dominated forests developed. High rainfall maintained high water tables favorable for plant growth.

The Leadbetter Point Unit encompasses 2,397 acres and is located at the northern tip of the Long Beach Peninsula, near the mouth of Willapa Bay. The coastal dune habitats consist of sand dunes in various stages of ecological succession including bare unstable sand; beachgrass-covered dunes; a transition zone composed of shrubs, small lodgepole pine (shore pine) and grass; lodgepole pine (shore pine); freshwater wetlands; and salt marsh.

At one time, the Columbia River provided the coastal shoreline with an extensive transport load of sediment; the ocean currents influenced by a long-shore drift deposited the sediment creating and maintaining the coastal sand beaches. Today, dams on Columbia River have altered sediment loads, and jetties at the river mouth and entrances to the bays have altered sediment transport along the coast. The beaches no longer have the natural processes depositing large amounts of sand and sediment necessary to maintain the sand beaches and dune habitats for a variety of native plants.

The habitat has changed in recent history with an accelerated plant succession that is also due to fire suppression efforts. These efforts have encouraged a plant successional progress away from the historic herbaceous beach grass, to a shrub (often invasive non-natives such as Scotch broom and common gorse) habitat leading to a pioneer lodgepole pine or climax Sitka spruce forest.

The west side of the unit is characterized by open wind-swept beaches backed by vegetated dunes. The extreme tip of the peninsula is largely barren sand, and the east side consists of a narrow beach with a few small, sheltered openings cut into the beachgrass by high water in winter. A small, isolated portion of beach exists to the east, on Willapa Bay, and is referred to as Grassy Island although it is attached to the peninsula.

The northern end of the Long Beach Peninsula was in a state of gradual northward accretion from 1965 to 1999. Invasion by non-native beach grasses has followed accretion, progressively filling in the dunes. In conjunction with slowed accretion in more recent years, the vegetation line has moved westward and the vegetation-to-water distance has decreased resulting in a narrower beach. Recent maps from the Washington State Department of Transportation show that the tip or northern portion of the unit has been gradually eroding since mapping efforts began in 1999. As the tip has eroded, the peninsula to the southwest has become wider.

American dunegrass (*Leymus mollis* or *Elymus mollis*), a native dunegrass, exists in small patches on the Refuge unit. Two invasive non-native beachgrass species, American beachgrass and European beachgrass (*Ammophila breviligulata* and *A. arenaria*), planted to stabilize dunes, have changed historical dune morphology and native plant communities. American beachgrass is the most abundant of the three grass species on the Long Beach Peninsula dunes, although all three species can be found growing together and there are patches of these species growing separately. The beachgrasses form a continuous band of vegetation parallel to the high tide mark along the outer ocean beach.

Non-native beachgrasses out-compete native vegetation, alter the dune ecosystem, and form dense stands that reduce the amount and quality of nesting habitat for native wildlife, including the federally threatened, state-endangered western snowy plover and a state-endangered, federal candidate species, streaked horned lark. Non-native beachgrasses have rapidly taken over a majority of formerly open sand dunes that provide nesting habitat for these two species. Western snowy plover numbers have declined along the U.S. Pacific coast due to habitat degradation as well as impacts from the expanding predator populations. One of the most significant causes of habitat loss for coastal breeding population of western snowy plovers has been the encroachment of introduced beachgrasses.

The invasion of non-native beachgrasses has also caused a dramatic reduction of coastal native plants and is a primary threat to the state endangered pink sandverbena (*Abronia umbellata*) which is also a federal species of concern. Pink sandverbena and other rare native dune plants like yellow sandverbena (*Abronia latifolia*), grey beach pea (*Lathyrus littoralis*) and beach morning glory (*Convolvulus soldanella*) are found along the sparsely vegetated sand beaches and coastal dunes.

In order to protect and encourage native plant growth the Refuge has implemented a Coastal Habitat Restoration Project. This ongoing project was initiated in 2002 and has continued each year with successful results. The mechanical and chemical removal and control of non-native beachgrass has resulted in over 120 acres of restored habitat that has successfully attracted nesting western snowy plovers and streaked horned larks. Oystershell was added to portions of the cleared area to provide camouflage for nests and reduce blowing sand to protect the bird nests. This habitat restoration area supports the only known population of pink sandverbena in Washington State; this plant species was thought to be extirpated in the state (federal species of concern, Washington State endangered species). In 2006, pink sandverbena was able to re-establish itself, from a long-term seed bank, because beachgrass had been removed from the site. Thousands of plants now exist at the site due to transplantation of propagated individuals and broadcast seeding efforts as well as a high success rate due to natural seeding.

Leadbetter Point Research Natural Area (RNA) is located entirely in the Refuge. The original designation included 1,705 acres of the peninsula tip, Grassy Island, and the marsh between the island and peninsula tip; however, the unit is now approximately 2,397 acres due to sand accretion at the peninsula tip. This area represents the largest, highest quality coastal sand dune ecosystem in Washington State.

The natural elements protected include salt marsh, native dunegrass, lodgepole pine (shore pine) forest, shrub/lodgepole pine (shore pine), and open beach habitats. The Bay side of the unit contains some of the most significant saltmarsh habitats remaining in Washington. It also contains high-quality examples of high salinity Virginia glasswort/inland saltgrass marsh, low salinity marsh, and transition zone wetlands. Flora associated with the marshes are of primary significance, as are the dune grassland and deflation plain habitat communities. Pockets of native plants within the secondary dune, deflation plains, and dune troughs are also significant ecological features and are of high quality compared to these remaining plant communities in Washington.

There have been over 200 species of plants have been documented at Leadbetter Point (Sayce 2001) and over 180 species of birds have been documented. Open water off the point supports large concentrations of waterfowl, including brant. Extensive mudflats at low tide support large populations of wintering and migrating shorebirds which also utilize the beach side in large numbers. It has been estimated that this unit hosts approximately seven percent of Willapa Bay shorebirds in

the spring. Willapa Bay has some of the largest concentrations of shorebirds on the Pacific Coast during spring and fall migration. A key stopover site along the Pacific Flyway, it hosts hundreds of thousands of shorebirds, with dunlin and western sandpipers being the most numerous. Although it is not officially a designated site, Willapa Bay meets the criteria for status as a site of international significance in the Western Hemisphere Shorebird Reserve Network. Willapa Bay meets these criteria because it supports up to 15.5 percent of the Pacific Flyway population of wintering dunlin and an average of over 100,000 total shorebirds in the spring. Over 35 shorebird species have been documented.

This area is also considered an important staging site for passerine birds during spring migration. The unit also serves as a daytime roost site for brown pelicans and is an important loafing and resting area for this species (Cullinan 2001). A variety of raptors can be found in the Leadbetter Unit including bald eagles, peregrine falcons, and in some years, snowy owls.

This area of the Refuge is found within the northernmost breeding range for the western snowy plover along the Pacific Coast and is also the largest of the remaining nesting areas for this plover in Washington. The 374-acre nesting area for the federally threatened snowy plover is closed to all public entry from March through September, though the season can vary due to changes in use by snowy plovers.

The primary public access occurs at the end of a narrow road near the northern end of peninsula. The Refuge provides parking, interpretive signs, vault toilets, hiking trails, and viewing platforms. Hiking trails allow visitors to walk through coastal woodlands, salt marshes, and beaches. These trails include 1.3-mile Bearberry Trail, 0.5-mile Beach Trail, and a 1.2-mile Bay Loop Trail which link to the adjacent Washington State Park trails. These trails are often flooded during the rainy season (October through May).

M.5.10 Species to be Taken and Hunting Periods

M.5.10.1 Hunting Season and Bag Limits Overview

Waterfowl populations throughout the United States are managed through an administrative process known as flyways, of which there are four (Pacific, Central, Mississippi, and Atlantic). The review of the policies, processes, and procedures for waterfowl hunting are covered in a number of documents identified below.

The National Environmental Policy Act (NEPA) considerations by the Service for hunted migratory game bird species are addressed by the programmatic document, “Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88– 14),” filed with the Environmental Protection Agency on June 9, 1988. The Service published a Notice of Availability in the Federal Register on June 16, 1988 (53 FR 22582), and the Record of Decision on August 18, 1988 (53 FR 31341). Annual NEPA considerations for waterfowl hunting frameworks are covered under a separate Environmental Assessment and Finding of No Significant Impact. Further, in a notice published in the September 8, 2005 Federal Register (70 FR 53776), the Service announced its intent to develop a new Supplemental Environmental Impact Statement for the migratory bird hunting program. Public scoping meetings were held in the spring of 2006, as announced in a March 9, 2006 Federal Register notice (71 FR 12216).

Because the Migratory Bird Treaty Act stipulates that all hunting seasons for migratory game birds are closed unless specifically opened by the Secretary of the Interior, the Service annually promulgates regulations (50 C.F.R. Part 20) establishing the Migratory Bird Hunting Frameworks. The frameworks are essentially permissive in that hunting of migratory birds would not be permitted without them. Thus, in effect, federal annual regulations both allow and limit the hunting of migratory birds.

The Migratory Bird Hunting Frameworks provide season dates, bag limits, and other options for the states to select that should result in the level of harvest determined to be appropriate based upon Service-prepared annual biological assessments detailing the status of migratory game bird populations. In North America, the process for establishing waterfowl hunting regulations is conducted annually. In the United States, the process involves a number of scheduled meetings (Flyway Study Committees, Flyway Councils, Service Regulations Committee, etc.) in which information regarding the status of waterfowl populations and their habitats is presented to individuals within the agencies responsible for setting hunting regulations. In addition, public hearings are held and the proposed regulations are published in the Federal Register to allow public comment.

For waterfowl, these annual assessments include the Breeding Population and Habitat Survey, which is conducted throughout portions of the United States and Canada, and is used to establish a Waterfowl Population Status Report annually. In addition, the number of waterfowl hunters and resulting harvest are closely monitored through both the Harvest Information Program and Parts Survey. Since 1995, such information has been used to support the adaptive harvest management (AHM) process for setting duck-hunting regulations. Under AHM, a number of decision-making protocols render the choice (package) of pre-determined regulations (appropriate levels of harvest) which comprise the framework offered to the states that year. The Washington Fish and Wildlife Commission then selects season dates, bag limits, shooting hours and other options from the Pacific Flyway package. Their selections can be more restrictive but cannot be more liberal than AHM allows. Thus, the level of hunting opportunity afforded each state increases or decreases each year in accordance with the annual status of waterfowl populations.

Each National Wildlife Refuge considers the cumulative impacts to hunted migratory species through the Migratory Bird Frameworks published annually in the Service's regulations on Migratory Bird Hunting. Season dates and bag limits for National Wildlife Refuges open to hunting are never longer or larger than the state regulations. In fact, based upon the findings of an environmental assessment developed when a refuge opens a new hunting activity, season dates and bag limits may be more restrictive than the state allows.

M.5.10.2. Refuge Hunt Seasons and Bag Limits

Hunting will be permitted in accordance with state and federal regulations (Tables M-1 and M-2 give examples of annual state hunt seasons for areas within the Refuge) to ensure that it will not interfere with the conservation of fish and wildlife and their habitats. Therefore, the sport hunting of migratory and upland game birds and big game on the Refuge is in compliance with state regulations and seasons, the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd-ee), and the Refuge Recreation Act of 1962 (16 U.S.C. 460k).

Table M-1. Willapa Refuge, Waterfowl and Upland Game Bird Hunting Season Bag Limit Summary for 2010-2011.

Species	Dates	Daily Bag Limits	Possession Limit
Ducks (youth hunt)	September 25-26	7 ^A	14 ^A
Ducks	October 16-20 & October 23-January 30 except scaup closed October 16-November 5	7 ^A	14 ^A
Geese (except brant) Mgmt. area 2B	8 am to 4 pm, Saturdays & Wednesdays only October 16-December 22 and January 5-15; December 26, 29; January 2	4 ^B	8 ^B
Brant Pacific County	Jan. 15, 16, 18, 20, 22, 23, 25, 27, 29, 30	2	4
American coot	October 16-20 & October 23-January 30	25	25
Snipe	October 16-20 & October 23-January 30	8	16
Archery grouse (ruffed and blue) GMU 699	September 1-December 31	4 of any species	12 of any species

^A **Daily bag limit:** to include not more than 2 hen mallard, 2 pintail, 3 scaup (see restricted dates above), 1 canvasback, and 2 redhead statewide; and to include not more than 1 harlequin, 2 scoter, 2 long-tailed duck, & 2 goldeneye in western Washington. **Possession limit:** to include not more than 4 hen mallard, 4 pintail, 6 scaup (see restricted dates above), 2 canvasback, and 4 redhead statewide; and to include not more than 1 harlequin, 4 scoter, 4 long-tailed duck, and 4 goldeneye in western Washington.

Season limit: 1 harlequin in western Washington.

^B **Daily bag limit:** to include not more than 1 dusky Canada goose & 2 cackling geese in Areas 2A & 2B; and to include not more than 1 Aleutian goose in Area 2B.

Possession limit: to include not more than 1 dusky Canada goose & 4 cackling geese in Areas 2A & 2B; and to include not more than 2 Aleutian geese in Area 2 B.

Season limit: 1 dusky Canada goose. A dusky Canada goose is defined as a dark breasted (Munsell 10YR, 5 or less) Canada goose with a culmen (bill) length of 40-50 mm. A cackling goose is defined as a goose with a culmen (bill) length of 32 mm or less.

Table M-2. Willapa Refuge, Big Game Hunting Season Bag Limit Summary for 2010.

Species	Dates	GMU	Legal
General deer (black-tailed)	October 16-31	681, 684	2 pt. min.
		684	Any buck
Late deer (black-tailed)	November 18-21	681, 684	2 pt. min.
		684	Any buck
Early archery deer (black-tailed)	September 1-24	681	2 pt. min. or antlerless
		684	Any
Late archery deer (black-tailed)	November 24-December 8	681	2 pt. min. or antlerless
	November 24-December 15	699	Any deer
Early muzzleloader (black-tailed)	September 25-October 3	684	Any buck
Late muzzleloader (black-tailed)	November 25-December 15	684	Any deer
General elk	November 6-16	681, 684	3 pt. min.
Early archery elk	September 7-19	681, 684, 699	3 pt. min. or antlerless
Late archery elk	November 24-December 15	681, 699	3 pt. min. or antlerless
Early muzzleloader (elk)	October 2-8	684	Any elk
Late muzzleloader (elk)	November 24-December 15	684	Any elk
Black bear	September 1-November 15	699	2/season

M.5.10.4 Procedures for Consultation and Coordination with State

To ensure that hunted wildlife populations are sustainable, the WDFW annually reviews the population censuses to establish season lengths and harvest levels. In addition, Refuge staff conducts habitat management reviews of each unit to evaluate wildlife population levels, habitat conditions, and public use activities.

Information on the Refuge’s hunt program will be published in the state’s regulations. If a special permit hunt is required at Leadbetter Point Unit, the Refuge staff will consult and coordinate with the WDFW regional biologists to determine the number and type of elk to be removed.

M.5.10.5 Methods of Control and Enforcement

The hunting program is managed in strict accordance with all applicable federal laws (50 C.F.R. subchapter C) and to the extent practicable, consistent with applicable state laws.

Hunters will be required to obtain and hold a Refuge permit from the Refuge headquarters prior to hunting on specified units of the Refuge. Permitted hunters must report success/failure and any hit-but-not-retrieved animals when they turn in their Refuge permit tag each day. Refuge and Washington State Fish and Wildlife enforcement officers will patrol and check hunters to ensure they are complying with all regulations.

M.5.10.6 Funding and Staffing Required for the Big Game Sport Hunting Program

It is estimated the following level of involvement by Refuge staff will be required to adequately monitor and manage the hunt program. The costs to administer the new program are found in Table M-3.

Table M-3. Willapa Refuge, Funding and Staffing for the Hunting Program.

Position and GS/WG Level	Involvement	FTE	Cost
Project Leader/Deputy Project Leader (GS 12/13)	Oversight Coordination with Washington Department of Fish And Wildlife	.01	\$ 1,000
Wildlife Biologist (GS-11)	Elk Monitoring, Reporting, Hunt Plan Updates	.05	\$ 4,200
Refuge Manager (GS -11)	Oversight of Hunt Program, Field Monitoring of Hunters	.04	\$ 3,200
Visitor Services Manager (GS-11) / Refuge Law Enforcement Officer (GS-9)	Hunt Plan Orientation, Law Enforcement	.02	\$ 1,600
	Signs, posts, brochures, etc		\$ 5,000
	Total Annual FTEs And Cost	.12	\$14,800

The expansion and continuation of big game hunting would not require any new infrastructure or personnel. Administration of the hunt and annual coordination with the State of Washington would be required as would some law enforcement patrols; however, Refuge staff is in place and capable of conducting these duties. Revision and printing of the Refuge brochure, updating the Refuge website and other outreach information such as informational signage would be required at an estimated cost of \$14,800. Base funding is available to cover these costs.

M.6 Measures Taken to Avoid Conflicts with Other Management Plans

M.6.1 Biological Conflicts/Impacts

M.6.1.1 Biological Environment

There are several minor impacts to the biological environment that would result from continuing the existing big game hunting program and expanding the hunt to areas as proposed.

Elk, deer, and bear are presently thriving in southwest Washington. There are open elk, deer, and bear hunting seasons for archery, modern firearms, and muzzleloaders. While the Refuge hunt would reduce some elk, deer, or bear, the increased hunting opportunities on the Refuge would not have an impact on the overall populations. According to WDFW, controlling elk and deer numbers would help diminish the spread of diseases and parasites. It would also help maintain shrub habitat, which benefits the elk themselves as well as other wildlife such as many birds and small mammals that depend on understory vegetation for food, nests, etc.

Bear will continue to be hunted only on Long Island. A small number of bear are harvested annually due to the archery-only hunt, and impact on the existing population should continue to remain small. Disease and parasites are not an obvious problem with the bear population on Long Island.

Based on discussions with WDFW, there are approximately 40 to 70 elk currently accessing and using the Leadbetter Point Unit. The population may fluctuate due to hunting pressure and disturbance on private property nearby. The number of elk using this unit has steadily increased, and elk numbers are expected to further increase through migration and reproduction. This additional hunt area on the Refuge would provide an opportunity for a high-quality elk hunt and would assist the state with controlling the expanding elk population, while having the added benefit of protecting essential habitat for western snowy plovers, streaked horned larks, and pink sandverbena.

This existing and proposed hunting use would result in temporary displacement of migratory birds and resident wildlife in the hunt areas. Other species which may be temporarily displaced by the existing and proposed hunting program include bald eagles, great blue herons, and other birds that reside in and near Refuge uplands.

Nearby resting and feeding areas would be available for use by waterfowl, migratory birds, and other resident wildlife species that are disturbed. These species would likely move to other areas of the Refuge which are less accessible to the hunters. The combination of limited duration of the proposed hunts and the ability of disturbed wildlife to move to secure habitat represents a minor disturbance to the above-mentioned species.

Due to the limited number of hunters and limited field time, no negative effects to vegetation or fish populations are anticipated.

M.6.1.2 Physical Environment

Hunting activities would not have an adverse impact to the physical environment of the Refuge. The limited numbers of people who would be hunting for the short time frames hunting is allowed would not be enough to cause damage to features such as soils, air quality, and water quality.

M.6.1.3 Social and Economic Environment

There are several minor impacts to the social and economic environment that would result from continuing and/or expanding hunting.

Effects to other public recreational uses are expected to be minimal due to the timing of the activities and limited duration of the hunt. The hunting seasons occur when other public uses are at a minimum because they are outside the main tourist season and generally occur during the seasonal inclement weather.

Maintaining and/or expanding hunting opportunities on the East Hills Units, South Bay Units, Nemah/Naselle Unit, and the Leadbetter Point Unit will complement some of the local state permitted hunting activities. While hunting activity is not expected to increase according to surveys described in Chapter 5 of the CCP, expanding hunting opportunities may result in a slight increase in hunting visitation to the area and enhancement to the local economy.

Overall, hunting on the Refuge would provide increased opportunities for quality wildlife-dependent recreation. The hunt activity would have minor positive benefits to local economy and reduce impacts to the agricultural community. The expanded elk hunt for the Leadbetter Point Unit would create a temporary closure to other public uses, but this impact would be temporary and short in duration and would occur outside the regular tourist season.

M.6.2 Public Use Conflicts

There are several minor public use conflicts that will result from continuing the existing and expanded hunting areas proposed in the management direction of the CCP.

Effects to other public recreational uses are expected to be minimal due to the timing of the activities and limited duration of the hunting seasons. The hunting seasons occur when other public uses are at a minimum because they are outside the main tourist season and generally occur during the seasonal inclement weather. On the East Hills and South Bay units, many of the areas used for elk and deer hunting are not easily accessible to general public. Access to the Long Island Unit requires a boat, and use of the island during fall's wet weather declines drastically for non-hunting recreation.

The current headquarters area (and proposed new headquarters area), where trails and visitor information kiosks exist, will remain closed to all hunting activity. Wildlife viewers and photographers will have access to the South Bay units through the new office/visitor center, and associated trail and observation deck, and trail to Porter Point. Therefore, it is not anticipated that any existing or proposed hunting opportunities will impact nor create a safety problem with other public uses.

At the Leadbetter Point Unit, some noise from the muzzleloaders may be experienced from the public on the adjacent Washington State Parks lands, and the public may occasionally observe elk or

other wildlife species flushed into the open due to hunter activity. Refuge staff will, in advance, post signs and notify the public via media regarding the closure to all other activities on the unit during the elk hunt(s). The hiking trails and waterfowl hunting will be closed to other users during the short muzzleloader season. The closure is for safety purposes and to reduce potential user conflicts, but this hunt is only for a limited time period and occurs when the trails are flooded due to seasonal rains. Again, due to the limited scope and timing of the existing and proposed elk hunt program, all effects are expected to be minor and of short duration.

Without elk hunting on the Refuge, the herd is expected to grow. As the herd increases and outgrows the available habitat on the Refuge, the elk and deer may move off the Refuge into the surrounding areas in search of food. The largest economic impacts of elk in particular are felt in the agriculture industries. Elk and deer may cause damage to local crops and residential landscaping. Other incidental negative economic impacts of elk/deer include elk/deer-vehicle collisions and damage to fences. Implementing this hunt is expected to reduce the negative impacts a larger population of elk/deer may have to the local community.

For the most part, although bears are known to cross the narrow channel between the island and the mainland, most Long Island bears generally remain confined to the island. Bear/human conflicts have occurred on the Long Beach Peninsula but have not been reported from Long Island.

M.6.3 Administrative Conflicts

At this time, no administrative conflicts are anticipated. The Refuge currently has a successful big game hunting program.

M.7 Conduct of the Hunt

M.7.1 Refuge-specific Hunting Regulations

Willapa National Wildlife Refuge (50 C.F.R. Part 32.67). (These regulations will be updated once the tidal restoration of the South Bay Units and expanded hunting opportunities occur.)

A. Migratory Game Bird Hunting. We allow hunting of geese, ducks, coots, and snipe on designated areas of Riekkola, Lewis, Tarlatt Slough, and Leadbetter units in accordance with state hunting regulations and subject to the following conditions:

- 1) Prior to entering the hunt area at the Riekkola and Tarlatt Slough Units, we require you to obtain a Refuge permit, pay a recreation user fee, and obtain a blind assignment.
- 2) At the Riekkola and Tarlatt Slough Units, you may take ducks and coots only coincidental to hunting geese.
- 3) We allow hunting on Wednesday and Saturday in the Riekkola and Tarlatt Slough Units only from established blinds.
- 4) At the Lewis Unit, we prohibit hunting from the outer dike that separates the Bay from the freshwater wetlands.
- 5) At the Riekkola and Tarlatt Slough Units, you may possess no more than 25 approved nontoxic shells per day while in the field.
- 6) At the Leadbetter Unit, you may possess only approved nontoxic shot.

- 7) You may not shoot or discharge any firearm from, across, or along a public highway, designated route of travel, road, road shoulder, road embankment, or designated parking area.

B. Upland Game Hunting. We allow hunting of blue and ruffed grouse on Long Island, subject to the following conditions:

- 1) We require you to obtain and carry a Refuge permit and report game taken, as specified with the permit.
- 2) We allow only archery hunting.
- 3) We do not allow firearms on Long Island at any time.
- 4) We do not allow dogs on Long Island.
- 5) Condition A7 applies.

C. Big Game Hunting. We allow hunting of deer, elk, and bear on Long Island, and deer and elk only on designated areas of the Refuge north of the Bear River and east of Willapa Bay, in accordance with state regulations subject to the following conditions:

- 1) At Long Island you must possess a valid Refuge permit and report game taken, as specified with the permit.
- 2) At Long Island we allow only archery hunting and prohibit firearms.
- 3) We prohibit bear hunting on any portion of the Refuge except Long Island.
- 4) We prohibit dogs on the Refuge
- 5) You may not shoot or discharge any firearm from, across, or along a public highway, designated route of travel, road, road shoulder, road embankment, or designated parking area.

We allow hunting of waterfowl, coot, snipe, deer, elk, bear, and grouse (ruffed and blue) on specific designated units of the Refuge in accordance with state regulations subject to the following conditions:

- Law enforcement patrols to ensure compliance with regulations will be conducted. State fish and wildlife officers also patrol the Refuge.
- Harvest and season lengths are established by the state of Washington.
- Hunters are expected to comply with all current applicable state and Refuge regulations. This will be achieved through a combination of printed information, signage, outreach efforts, and enforcement of regulations by state and Refuge law enforcement officers.
- Refuge and WDFW staff will consult on issues regarding law enforcement and any significant changes in the number or behavior of wildlife.
- An Endangered Species Act Section 7 Consultation must be completed.
- Camping, overnight use, and fires are prohibited except in the designated campsites on Long Island.
- Access to the hunting areas will be by boat and/or foot access only.
- All hunters are required to use only federally approved nontoxic shot while waterfowl hunting. Use or possession of lead shot is prohibited while hunting waterfowl.
- Hunters may use dogs to aid in retrieval of birds, but dogs will need to be kept under control at all times.

- Hunters may set up temporary blinds/tree stands along the shoreline which must be removed at the conclusion of each hunting period.
- Additional help will be allowed to retrieve a downed elk.

Leadbetter Point Unit:

- All hunters participating in the elk hunt will be required to obtain a Refuge permit from Refuge headquarters and receive a brief orientation of boundaries and Refuge regulations.
- Hunters will be required to park at the existing parking lot and will be required to walk into the unit; no motorized vehicles are allowed to assist.
- Hunters will be required to return their Refuge hunt permit at the end of the day/trip, reporting any success/failure and any hit-but-not-retrieved animals.
- During the hunt, the entire unit will be closed to other users including waterfowl hunters and hikers during the approximately five-day early elk muzzleloader season.
- To limit the distance a missed shot would travel, only muzzleloader hunting would be permitted. (Archery is not a preferred option because of the likelihood of injured animals moving into public viewing areas, which would increase the likelihood of conflicts between hunters and other users. In addition, archery hunters generally have a lower success rate, which is less likely to take sufficient animals to reach management goals.)

M.7.2 Anticipated Public Reaction to the Hunting Program

Public reaction to hunting is expected to be mixed. There is a consistent desire among certain segments of the public to open more federally managed property, including the Refuge, to hunting. There are very few places in the state of Washington where elk hunters are encouraged in specified areas to take cows and small bulls. Limited hunting opportunities on the peninsula and in other areas should make the expansion of the hunt areas highly desirable among hunters, as hunters would not be crowded and should have an excellent chance at a successful hunt.

Other members of the public are expected to object to the hunting program on the grounds that a Refuge should be “a safe haven” for wildlife with no hunting permitted. One argument often made is to relocate the deer and elk. The WDFW has stated that they no longer conduct relocations for elk or deer. Across the state of Washington, elk are increasingly causing damage to private and commercial property including orchards and landscaping. In addition, elk relocation in the past has proven to be a very expensive option to implement annually and is not considered a feasible long-term solution to the problem; the Refuge is limited on how to manage the growing elk population.

Some members of the public may object because they enjoy viewing and photographing the waterfowl, elk, deer, and bear. The hunters would be on the Refuge for a very limited time, and the waterfowl, elk, deer, and bear would be available to photograph in many other areas of the Refuge and throughout the year.

There may be some opposition to elk hunting on the Refuge by area cranberry growers as they may have concerns that the pursued elk may relocate to and impact their cranberry bogs.

M.7.3 Hunter Application and Registration Procedures

Hunters would apply through the WDFW application processes, and in addition obtain a Refuge hunting permit from the Refuge headquarters.

M.7.4 Description of Hunter Selection Process

The Refuge will be open to those with valid Washington State hunting license. If a special permit hunt is necessary, all permits will be issued according to WDFW regulations and application process.

M.7.5 Media Selection for Announcing and Publicizing Hunting

The hunting regulations specific to the Willapa Refuge will be published in the Washington State Big Game and Migratory Waterfowl & Upland Game pamphlets. Press releases will be issued by the Refuge to local newspapers including *The Daily News* in Longview, the *Wahkiakum Eagle*, the *Pacific County Press*, the *Daily Astorian*, and the *Chinook Observer* in Long Beach. The Refuge's website will be posted and updated with current hunting information.

M.7.6 Description of Hunter Orientation, Including Pre-hunt Scouting

Hunters will be required to obtain a Refuge permit from the refuge headquarters office. At this time a pre-hunt orientation of the Refuge will be given. The orientation will include:

- A review of Refuge-specific regulations.
- Description of check-in and check-out procedures.
- Handout containing maps and/or aerial photographs of Refuge.
- Description of the access areas and location on the maps.
- A review of maps/aerial photographs of the Refuge to familiarize hunters with potential safety issues.
- Description of the current numbers and general location of the elk herd.
- Review areas (using maps/aerial photos) that have may have sensitive wildlife. Request hunters avoid those areas as much as possible.
- Hunters will be able to scout the Refuge after receiving their maps/aerial photos prior to actual hunt days.

M.7.7 Requirements for Hunting

M.7.7.1 Age

Age restrictions will be in accord with WDFW regulations.

M.7.7.2 Allowable Equipment

- Hunters will only be allowed to use muzzleloaders for the Leadbetter Point Unit. Archery only hunting is allowed on Long Island. Hunting in the East Hills and South Bay Units is in accordance with the state regulations.
- Weapons must comply with all Washington State weapon restrictions.

- Dogs, other than certified assistance dogs, are prohibited on the Refuge except while hunting waterfowl.
- Vehicles must remain on county or state roads or in the parking lot at all times.
- No motorized vehicles are permitted on the Refuge.
- All hunters are required to use only federally approved nontoxic shot while waterfowl hunting. Use or possession of lead shot is prohibited while hunting waterfowl.
- Hunters may set up temporary blinds/tree stands along the shoreline, which must be removed at the conclusion of each hunting period.
- Access to the hunting areas will be by boat and/or foot access only. Use of bicycles is also permitted on logging roads/trails on Long Island and in the East Hills Units, except for the Cedar Grove, Teal Slough and Willapa Interpretive Art trails.

M.7.7.3 Use of Open Fires

All open fires are prohibited.

M.7.7.4 License and Permits

All hunters will need a valid Washington State hunting license. All deer/elk/bear/grouse hunters on Long Island and elk hunters on Leadbetter Point Unit will also need a Refuge hunting permit. Currently, all goose hunters at the Riekkola Unit must have a Refuge permit. Once the South Bay restoration is complete, no Refuge permit will be needed.

M.7.7.5 Reporting Harvest

Hunters must report hunting success, failure, or any injured-but-not-retrieved target species to Refuge headquarters at the end of each day/trip. Hunters must fulfill all WDFW reporting requirements.

M.7.7.6 Hunter Training and Safety

Hunters must fulfill all state requirements for training and hunter safety classes.

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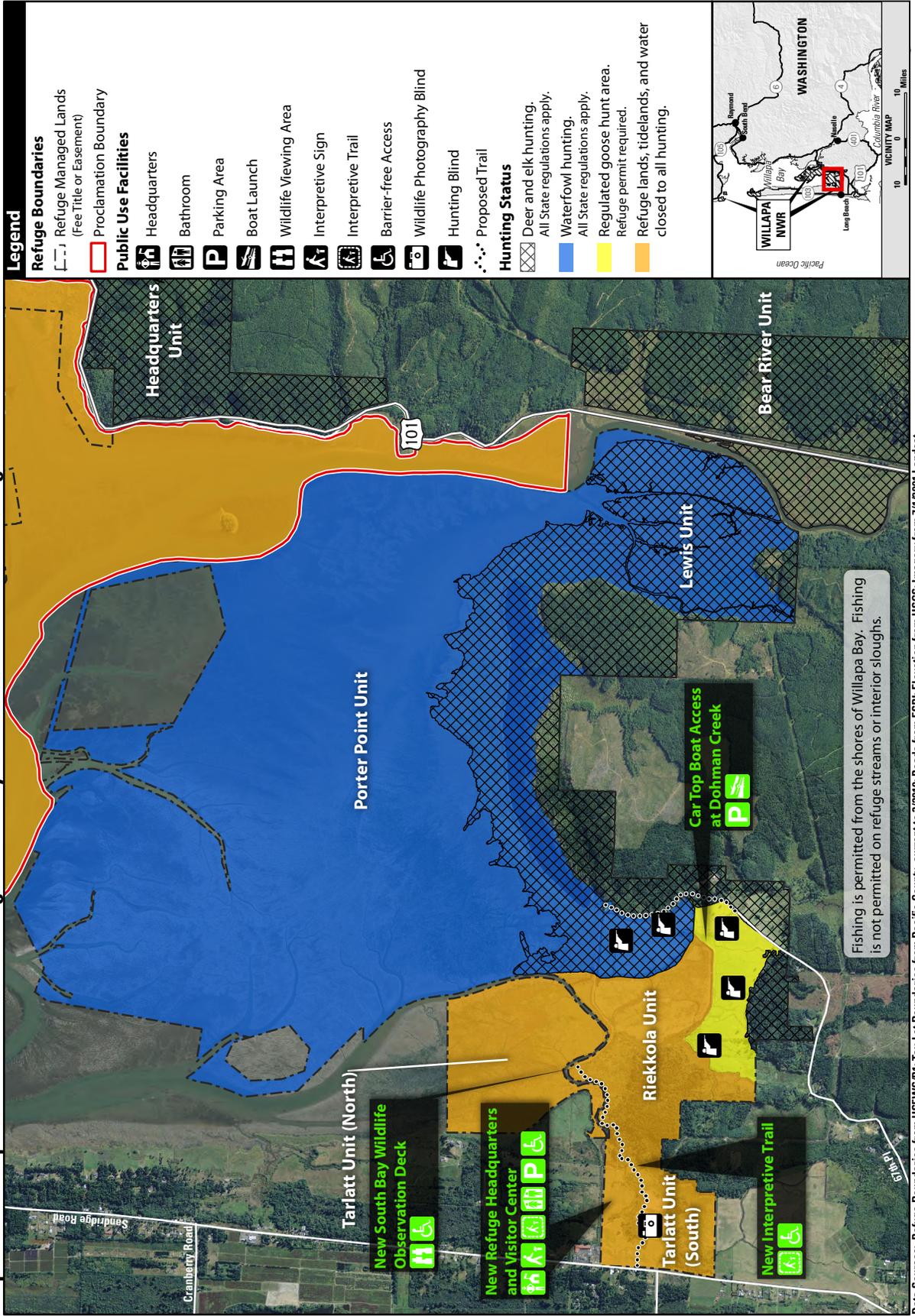
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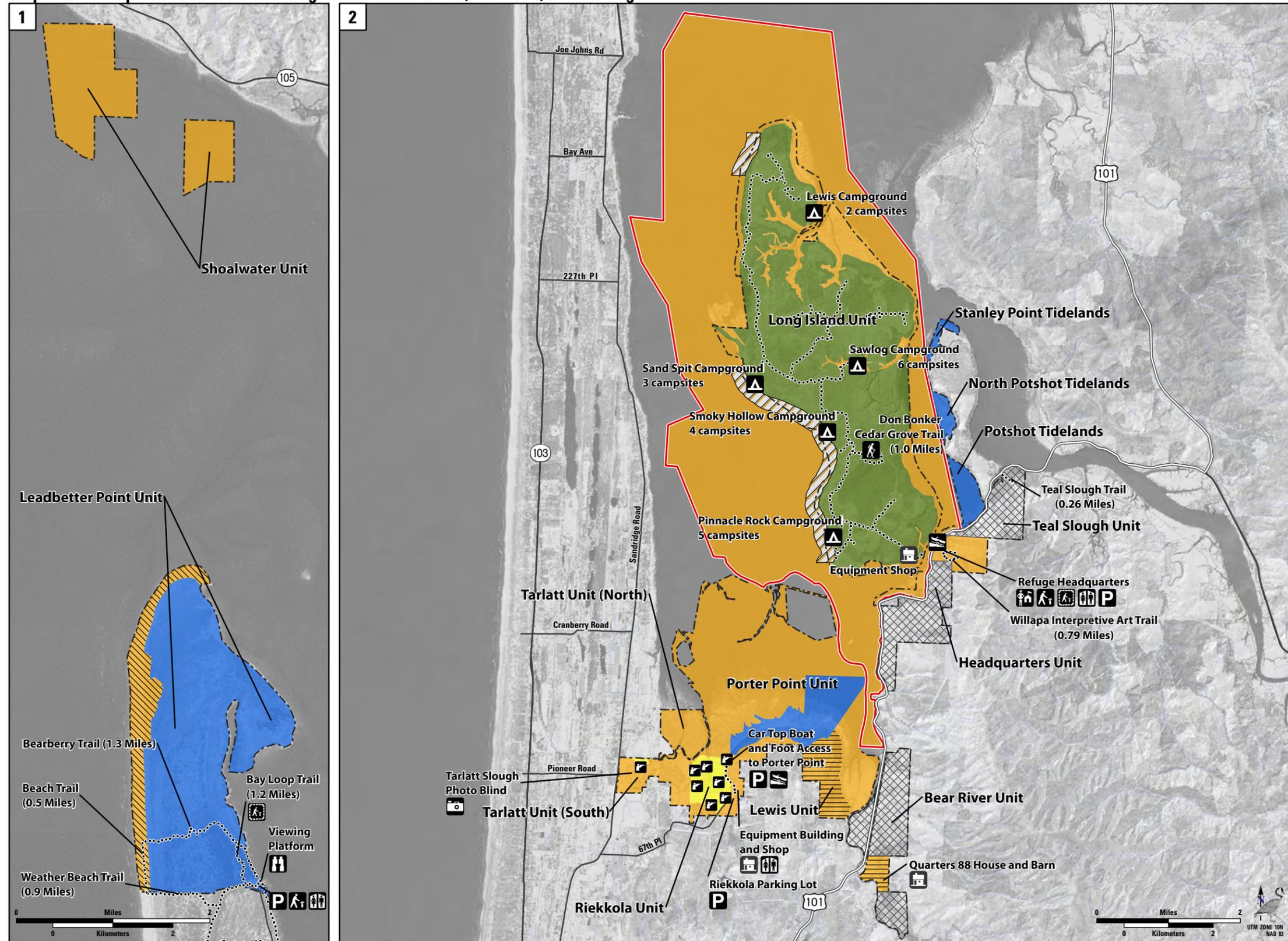
Map M-1. Willapa National Wildlife Refuge South Bay Units Public Use under Management Direction.



Data Sources: Refuge Boundaries from USFWS/RI; Tax Lot Boundaries from Pacific County, current to 3/2010; Roads from ESRI; Elevation from USGS; Imagery from 7/1/2001 Landsat

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Map M-2. Willapa National Wildlife Refuge Current Public Use, Facilities, and Hunting Status.



Legend

Refuge Boundaries

- Refuge Managed Lands (Fee Title or Easement)
- Proclamation Boundary

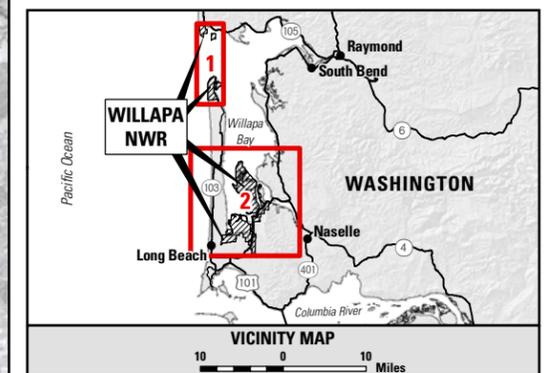
Public Use Facilities

- Headquarters
- Refuge Building (Closed to Public Use)
- Bathroom
- Parking Area
- Boat Launch
- Campground
- Wildlife Viewing Area
- Interpretive Sign
- Interpretive Trail
- Wildlife Photography Blind
- Hunting Blind
- Trails

Hunting Status and Closed Areas

- Deer and elk hunting. All State regulations apply.
- Waterfowl hunting. All State regulations apply.
- Archery hunting for elk, deer, black bear, and grouse (ruffed and blue). Refuge permit required.
- Regulated goose hunt area. Refuge permit required.
- Refuge lands, tidelands, and water closed to all hunting.
- Areas Open to Clamming
- Closed to Public Use
- Closed to Public Use (March 15-September 30)

Fishing is permitted from the shores of Willapa Bay. Fishing is not permitted on refuge streams or interior sloughs.



Data Sources: Refuge Boundaries from USFWS/R1; Hydrology from NHD USGS; Roads from ESRI; Imagery from 07/01/2001 Landsat

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