

Special Status Wildlife Species

Wildlife Species	Status	Habitat Occurrence	Effect of the Alternatives
Birds			
Bald Eagle <i>Haliaeetus leucocephalus</i>	Protected under the U.S. Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act	See detailed information below..	May affect, not likely to adversely affect.
Marbled Murrelet <i>Brachyramphus marmoratus marmoratus</i>	FT, SE	See detailed information below..	May affect, not likely to adversely affect
Peregrine Falcon <i>Falco peregrinus</i>	FSC, SS	Peregrine falcons nest mainly on cliffs along rivers or near lakes. In the spring and fall, migrant peregrine falcons may be present near the park for short periods.	No effect
Osprey <i>Pandion haliaetus</i>	FSC	Osprey nests are located on San Juan Island.	No effect
Black Oystercatcher <i>Haematopus bachmani</i>	SS	Black oystercatcher breeding colonies are located in the San Juan Islands.	No effect
Oregon Vesper Sparrow <i>Pooecetes gramineus affinis</i>	FSC	Vesper sparrows are migratory birds that inhabit dry prairies and rocky slopes in the San Juan Islands from mid-April to late September. This species was documented at the park during 2002 bird surveys and a stable breeding population resides on San Juan Island.	No effect
Streaked Horned Lark <i>Eremophila alpestris strigata</i>	FC, ST or SE	The streaked horned lark has a conspicuously more yellow breast and darker back than any other subspecies of horned larks in the Pacific Northwest. It nests on the ground in sparsely vegetated sites in short-grass dominated habitats (historically prairies) in lowland areas of western Washington and Oregon. It is considered rare and has been extirpated from much of its range	May affect, not likely to adversely affect (wholly beneficial)

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Streaked Horned Lark <i>Eremophila alpestris strigata</i> (continued)		including the Puget Sound region and the San Juan Islands. It was historically a common breeder on the Cattle Point Peninsula. The greatest threat to the streaked horned lark is the loss of habitat, although introduced predators may also have played a role in its decline. For example, the loss of this species from the Cattle Point Peninsula may be attributable more to the introduction of exotic animal species (such as the Eurasian rabbit, Eurasian skylark, feral ferrets, and red foxes) because this area has not undergone a dramatic change in vegetation (U.S. Fish and Wildlife Service, 2003; Washington Department of Fish and Wildlife, 2004; Washington Natural Heritage Program, 2004).	May affect, not likely to adversely affect (wholly beneficial)
Fish			
Bull Trout <i>Salvelinus confluentus</i>	FT	See detailed information below..	No effect
Dolly Varden <i>Salvelinus malma</i>	FP, SC	Dolly Varden are proposed under the similarity of appearance provision of the Endangered Species Act. They occupy the same habitats and have nearly indistinguishable characteristics from bull trout.	No effect
Puget Sound/Strait of Georgia Coho Salmon <i>Oncorhynchus kisuytch</i>	FSC	The evolutionary significant unit (ESU) for this species includes coho salmon from drainages of Puget Sound and Hood Canal, the eastern Olympic Peninsula, and the Strait of Georgia from the eastern side of Vancouver Island and the British Columbia mainland, excluding the Upper Fraser River north of Hope, B.C. (NMFS 2007).	No effect; No waterways sufficient to support spawning coho are present at the park and no development activities are proposed in intertidal areas.
Puget Sound Chinook Salmon <i>Oncorhynchus tshawytscha</i>	FT, SC	See detailed information below..	No effect

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Pacific Lamprey <i>Lampetra tridentate</i>	FSC	Pacific lampreys are found in streams from Hokkaido Island, Japan, and along the Pacific Rim, including Alaska, Canada, Washington, Oregon, Idaho, and California to Punta Canoas, Baja California, Mexico. Pacific lampreys are the most widely distributed lamprey species on the west coast of the United States (U.S.). Their distribution includes major river systems such as the Fraser, Columbia, Klamath-Trinity, Eel, and Sacramento-San Joaquin Rivers. Pacific lamprey distribution patterns are similar to that of anadromous salmonids (USFWS 2004).	No effect; this species has not been documented in marine waters adjacent to the park, and the park does not include waterways suitable for supporting the freshwater phase of this species.
River Lamprey <i>Lampetra ayresi</i>	FSC	River lampreys are found from just north of Juneau, Alaska, to San Francisco Bay in California most notably in association with large rivers, such as the Fraser, Columbia, Klamath, Eel, and Sacramento Rivers (USFWS 2004).	No effect; this species has not been documented in marine waters adjacent to the park, and the park does not include waterways suitable for supporting the freshwater phase of this species.
Mammals			
Pacific Townsend's Big-eared Bat <i>Corynorhinus townsendii townsendii</i>	FSC	Townsend's big-eared bats hibernate in caves and use caves, lava tubes, and abandoned buildings for breeding and roosting sites. Nursery colonies are extremely sensitive to human activity, and sites are readily abandoned if disturbed.	No effect; although the park supports suitable habitat for this species, it has not been documented in the park and none of the proposed actions would affect potential roosting/nursery sites.
Long-eared Myotis <i>Myotis evotis</i>	FSC	This species typically prefers forestlands and heavy chaparral. (Sumner and Dixon 1953). Captured in 2005 survey (Christopherson, 2005) – likely first recorded instance of species in park. Could also have been Keen's myotis – only DNA testing would confirm.	No effect; although the park supports suitable habitat for this species, and it likely has been documented at the park, none of the proposed actions would affect potential roosting/nursery sites.
Keen's Myotis <i>Myotis keenii</i>	SS	May have been captured in 2005 survey (Christopherson, 2005) – but identity likely long-eared myotis (see above).	No effect; although the park supports suitable habitat for this species, and it may have been documented at the

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Keen's Myotis <i>Myotis keenii</i> (continued)	SS		park, none of the proposed actions would affect potential roosting/nursery sites.
Long-legged Myotis <i>Myotis volans</i>	FSC	This bat forages over ponds, streams, open meadows, and forest clearings. Night roosts are usually in caves or mines. Potentially found in Crook house sonar survey, although less likely due to habitat and range distribution (Christopherson, 2002).	No effect
Big Brown Bat <i>Eptesicus fuscus</i>	SS	Recorded as primary species present in Crook house maternity colony (Christopherson, 2002). This colony was documented in 2002 to be one of the largest maternity colonies in Washington. Captured in 2005 survey (Christopherson, 2005).	May affect, not likely to adversely affect
Yuma Myotis <i>Myotis yumanensis</i>	FSC	Recorded as primary species present in Crook house maternity colony (Christopherson, 2002). This colony was documented in 2002 to be one of the largest maternity colonies in Washington. Captured in 2005 survey (Christopherson, 2005).	May affect, not likely to adversely affect
Western Small-Footed Myotis <i>Myotis ciliolabrum</i>	FC	Potentially found in Crook house sonar survey, although less likely due to habitat and range distribution (Christopherson, 2002).	No effect
Southern (Resident) Orca Whale	FE, SE	On November 18, 2005, the Southern Resident killer whales were listed as an endangered species under the federal Endangered Species Act (ESA) (National Oceanic and Atmospheric Administration, 2005). The ESA requires that critical habitat be designated for listed species following public notice and an opportunity for public comment. On November 29, 2006, the final rule to designate critical habitat was published by the National Marine Fisheries Service,	No effect

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Southern (Resident) Orca Whale (continued)	FE, SE	NOAA, and Commerce, in the Federal Register and became effective December 29, 2006. Three specific areas were designated 1) the Summer Core Area in Haro Strait and waters around the San Juan Islands; 2) Puget Sound; and 3) the Strait of Juan de Fuca, which comprise approximately 2,560 square miles of marine habitat (National Marine Fisheries Service, 2006). The Southern Resident killer whales were also listed endangered in Washington State a year earlier in 2004 (Washington Department of Fish and Wildlife, 2004) and under the Species At Risk Act in Canada.	No effect
Humpback Whale <i>Megaptera novaeangliae</i>	FE, SE	Humpback whales migrate to the west coast of North America (from California to southern British Columbia) in summer/fall and have ranges are often relatively close to shore. The humpback whale is unlikely to occur in water close to the project area because waters are too shallow. As shown on the USGS topographic map, waters within 0.5 miles of the project area are no more than 20 feet deep, and most of the waters are less than 10 feet deep.	No effect
Steller Sea Lion <i>Eumetopias jubatus</i>	FT, ST	The steller sea lion inhabits the coastal waters of the North Pacific from California, northern Japan and Korea, to the Bering Strait. Steller sea lions may be present in the marine waters adjacent to San Juan Island, although no communal haul-out sites have been identified.	No effect; because the proposed actions are entirely contained on land, it will not affect this species.

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Harbor Seal <i>Phoca vitulina</i>	SS	Harbor seals inhabit coastal and estuarine waters off Baja California, north along the western coasts of the United States, British Columbia, and Southeast Alaska, west through the Gulf of Alaska and Aleutian Islands, and in the Bering Sea north to Cape Newenham and the Pribilof Islands. They haul out on rocks, reefs, beaches, and drifting glacial ice, and feed in marine, estuarine, and occasionally fresh waters (NMFS undated).	No effect; although this species frequents marine waters at and near the park, none of the proposed actions would affect intertidal or upland haul-out areas used by this species.
Reptiles			
Northwestern Pond Turtle <i>Clemmys marmorata marmorata</i>	FSC	Although this species has been observed on San Juan Island, it is suspected that such pond turtles were transported to the island by humans, as they are far from other known populations (Hays et al., 1999). The western pond turtle is associated with a variety of permanent and intermittent aquatic habitats found from sea level to approximately 1,375 m (4,500 ft); however, all records for Washington are below 300 m (985 ft) in elevation. Pond turtles are most often associated with rivers and streams; however, in Washington and many areas of Oregon the species is found in ponds and small lakes (Hays et al., 1999).	No effect; this species has not been documented at the park and none of the proposed actions would affect potential habitat for this species.
Amphibians			
Western Toad <i>Bufo boreas</i>	FSC	Western Toads are found west of the Rocky Mountains, from Mexico to southern Alaska. They are found in semi-arid and wet forested regions of the Pacific Northwest. They can be found at elevations from sea level to at least 2250 meters (7,425 feet). Western toads use three different types of habitat: breeding habitats,	No effect; this species has not been documented at the park and none of the proposed actions would affect potential habitat for this species.

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Western Toad <i>Bufo boreas</i> (continued)	FSC	terrestrial summer range, and winter hibernation sites. Preferred breeding sites are permanent or temporary water bodies that have shallow sandy bottoms. After breeding, adult Western Toads disperse into terrestrial habitats such as forests and grasslands. They may roam far from standing water, but they prefer damp conditions (BCMwLA, undated).	No effect
Invertebrates			
Island Marble Butterfly <i>Euchloe ausonides insularis</i>	FP	The island marble butterfly was believed extinct for over 90 years, when it was rediscovered on Orcas and San Juan Islands. See detailed information following.	May affect, not likely to adversely affect
Valley Silverspot <i>Speyeria zerene bremnerii</i>	FSC, SC	This butterfly has been documented within the park. It is dependent on early blue violet (<i>Viola adunca</i>) which is known to grow in the grasslands east of the redoubt and South Beach. Early blue violet flowers between April and June depending on the elevation (Washington Native Plant Society, 2004). During Pyle's field survey, it was flowering in early May (Pyle, 2004).	No effect
Propertius Duskywing <i>Erynnis propertius</i>	FSC, SC	The Propertius duskywing is a notable butterfly that occurs within the park (Pyle, 2004). It depends on the preservation of its larval host plant, Garry oak (<i>Quercus garryana</i>), and associated habitat for survival. The Propertius duskywing has been observed nectaring on common vetch (<i>Vicia sativa</i>), manroot (<i>Marah oreganus</i>), and common camas (<i>Camassia quamash</i>), typically in April and May (Pyle, 2004). The park contains Garry oak habitat, as well as common vetch and common camas.	May affect, not likely to adversely affect (wholly beneficial); the park's on-going efforts to enhance Garry oak habitat at English Camp will benefit this species.

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Moss's Elfin <i>Incisalia mossii</i>	Canadian Candidate for Assessment / Washington State Monitor List	The Moss's elfin is a notable butterfly that occurs within the park. It depends on broad-leaved stonecrop (<i>Sedum spathulifolium</i>) which grows on bluffs / rock faces, habitat that occurs on cliff faces or rocky areas in the park.	No effect; although this species has been documented in the park, none of the proposed actions would affect potential habitat for this species.
Taylor's Checkerspot (<i>Euphydryas editha taylori</i>)	FSC, ST or SE	According to the USFWS, four of the five known populations of this species are located in the south Puget Sound region. Historically, it was known to be present in 70 locations in British Columbia, Washington and Oregon. It is dependant on native grasslands. This species was not observed by Pyle during surveys undertaken in 2003 (Pyle, 2003) in the Cattle Point area.	May affect, not likely to adversely affect (wholly beneficial); the park's on-going efforts to restore native prairie at American Camp will benefit this species.

Federal

FE = Federally Endangered: Listed by the U.S. Fish and Wildlife Service as a species that is in danger of extinction throughout all or a significant portion of its range.

FT = Federally Threatened: Listed by the U.S. Fish and Wildlife Service as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FP = Federal Proposed: Species for which the USFWS has proposed in the *Federal Register* listing as threatened or endangered.

FC = Federal Candidate: Species for which the U.S. Fish and Wildlife Service has sufficient information to propose for listing as threatened or endangered.

FSC = Federal Species of Concern: Species whose conservation standing is of concern to the U.S. Fish and Wildlife Service, but for which status information is still needed.

State

SE = Washington State Endangered: Any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state.

ST = Washington State Threatened: Any species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats.

SC = Washington State Candidate: Includes species that the department will review for possible listing as state endangered, threatened, or Sensitive. A species will be considered for designation as a state candidate if sufficient evidence suggests that its status may meet the listing criteria defined for state endangered, threatened, or sensitive.

SS = Washington State Sensitive: Any species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened throughout a significant portion of its range within the state without cooperative management or removal of threats.

Birds

Northern Bald Eagle

Bald eagles were federally listed as threatened within the lower 48 states in 1967. On June 28, 2007 a decision was made by the Secretary of the Interior to delist the bald eagle off the Endangered Species List. The bald eagle is still protected by the Migratory Bird Treaty Act and the 1940 U.S. Bald and Golden Eagle Protection Act passed by Congress. The Bald and Golden Eagle Protection Act makes it illegal to possess, sell, hunt, or even offer to sell, hunt or possess bald eagles. This includes not only living eagles, but feathers, nests, eggs, or body parts obtained before the act was established. The Act was amended in 1962 to include the golden eagle, a related species (Wisch, 2002).

Unlike the protection awarded to the bald eagle under the Endangered Species Act, protection under the Bald and Golden Eagle Protection Act does not include habitat protection (Mihelich, 2007). The U.S. Fish and Wildlife Service has also issued guidelines extending protection to bald eagle active or inactive nests. Washington State is also one of the few states with a special eagle law that directs state biologists to work with landowners to leave buffer zones around eagle nests. Both the nest tree and the trees that surround and screen the nest must be left standing (Mapes, 2007).

Bald eagles, the only species of sea eagle native to North America, range throughout much of the continent, nesting on both coasts. They can be found from Florida to Baja California in the south and from Newfoundland to the western Aleutian Islands of Alaska in the north. They are aquatic ecosystem birds primarily foraging on fish but occasionally water fowl, seagulls, carrion and prairie species. Wintering sites typically occur in the vicinity of concentrated food resources such as anadromous fish spawning areas or ungulate winter ranges.

Bald eagles use large trees and other elevated perching and roosting sites. They typically nest in remote areas free of disturbance, mostly in large trees near water but occasionally on cliffs. The nesting season lasts about six months and, in the Pacific Northwest, begins in January. Mated pairs are presumed to be long-term but if one of the mates disappears the other will take a new mate. Often returning to the same nest every year, they lay two to three eggs although usually only one survives (USFWS, 1996).

Based on information from the USFWS for the Cattle Point Road EIS, bald eagle wintering concentrations are located at nine locations within the county including southeast San Juan Island. There are also two communal winter night roosts in the county. Wintering bald eagles occur in the county from about October 31 to March 31 (USFWS Species List, 2004).

The USFWS indicates that 122 nesting territories are located in San Juan County, with nesting activities occurring from about January 1 to August 15. The WDFW priority habitat and species database shows six known nest sites near the Cattle Point area. The larger trees on the forest/grassland fringe on top of Mount Finlayson are likely utilized by bald eagles for perching and roosting.

Numerous bald eagle territories, including the Mount Finlayson Bald Eagle Territory and the Cattle Point Bald Eagle Territory, and Old Camp Bald Eagle Territory are within the park. Bald eagle territories and nest sites are also located on Lopez Island.

Marbled Murrelet

The marbled murrelet is a small seabird (Alcid) that ranges from the Aleutian Archipelago in Alaska to central California. They spend most of their lives in the marine environment foraging on small fish and invertebrates in near-shore marine waters and typically only travel inland to nest.

Murrelet nesting sites are generally in large trees of older coniferous forests, within 70 miles of the shore. Usually nesting is solitary although they are commonly found in groups; a single nesting pair may attract another to nearby habitat (U.S. Fish and Wildlife Service, 1996). Marbled murrelets nest from late March to late September laying a single egg in a season. While nesting, murrelets travel to feed at sea daily. For the purposes of consultation under Section 7 of the ESA, the murrelet breeding season is broken into two periods: April 1 through August 5 is the early season, and August 6 through September 15 is the late season, with some chicks hatched and approximately 50 percent fledged as early as August 6.

The murrelet population within Washington, Oregon, and California is thought to be declining at a rate of at least 4 percent per year (USFWS, 1997). Suitable nesting habitat in Washington, Oregon, and California is found in old growth coniferous stands that are multi-layered with moderate to high canopy closure (Hamer and Nelson 1995, Nelson, 1997). Forested stands with old growth remnants are also used. Trees

with suitable nest platforms are typically greater than 200 years of age and at least 20 inches in diameter at breast height although trees in productive ground may develop these characteristics at a earlier age (or faster rate) (Ralph *et al.* 1995). Younger trees may also develop platforms through mistletoe infestation or in reaction to damage from wind or ice.

The waters of the San Juan Islands are used extensively by murrelets and large concentrations of this species have been found in the waters off the San Juan Islands (Farris and Hall, 2002).

In 1999, NPS and WDFW biologists undertook an assessment of suitable nesting habitat for marbled murrelets within San Juan Island National Historical Park. They delineated the most suitable nesting habitat and recommended the best areas for conducting murrelet surveys. The most suitable potential murrelet nesting habitat within the park was identified at the eastern boundary of the park, within American Camp and adjacent to DNR land (Hall, 1999). Surveys were conducted during the 2001 and 2002 breeding seasons, following the Pacific Seabird Group Inland Survey protocol. During the 2001 survey season, one audio detection was recorded at Jakle's Lagoon; however this may have been a bird on the water. No birds were detected during the 2002 survey season. Since murrelets are capable of traveling up to 70 miles between foraging and nesting areas, and because habitat on the San Juan Islands appears to be less ideal than that available elsewhere, it is possible that birds observed foraging in the San Juan Islands could be nesting as far away as the Olympic Peninsula, Vancouver Island, or the northern Cascades (Farris and Hall, 2002). Results of the survey, therefore, suggest that murrelets feed in the waters off the islands, but may not nest on the islands.

Fish

Bull Trout

Bull trout were historically found in most major river systems in the Pacific Northwest and western Canada. Bull trout have been defined as a distinct species (Cavender, 1978). Biologists had previously identified bull trout as Dolly Varden (*Salvelinus malma*), largely because of the external similarity of appearance. Both species occur together in western Washington.

Bull trout are members of the char sub-group of the family Salmonidae and are native to the waters of western North America. They are well adapted to cold water; their range includes the Columbia River

and Snake River basins, the Klamath River basin of south-central Oregon and streams in Montana, Idaho and Canada, however their populations are scattered and patchy. Some bull trout complete their entire life cycle in the tributary streams in which they were born (resident) while others may migrate to either a lake (ad fluvial), river (fluvial), or salt water (anadromous).

Dolly Varden

Dolly Varden is proposed for ESA listing under the similarity of appearance provision of the Act. Dolly Varden occupy the same habitats and have nearly indistinguishable characteristics from bull trout. USFWS is opting to use the similarity of appearance provision to minimize the potential risk for take of bull trout by anglers fishing for Dolly Varden. Protection for Dolly Varden under the ESA is extended only in those areas where the Coastal-Puget Sound Distinct Population Segment bull trout overlap with Dolly Varden.

Puget Sound Chinook Salmon

Chinook salmon distribution historically ranged from the Ventura River in California to Point Hope, Alaska in North America, and in northeastern Asia from Hokkaido, Japan to the Anadyr River in Russia (Healey, 1991). The Puget Sound Chinook salmon Ecologically Significant Unit (ESU) was listed as threatened on May 24, 1999 (NMFS, 1999). The ESU includes all naturally spawned populations of Chinook salmon from rivers and streams flowing into Puget Sound. Chinook are likely to be present in the waters offshore in the San Juan Islands.

Invertebrates

Island Marble Butterfly

The island marble is a distinctive subspecies of the large marble butterfly (*Euchloe ausonides*), which generally occurs east of the Cascade Range in Washington and British Columbia. The island marble is in complete genetic isolation and is only known to occur in a few locations on San Juan Islands and nearby Lopez Island. Before its rediscovery on San Juan Island in 1998, the island marble had been believed extinct for 90 years (Xerces Society, 2006). Coastal shoreline and adjacent prairie on San Juan Island are vital habitat for the survival of the only known viable populations of island marble. The range of the island marble extends at least as far east as the DNR-administered Cattle Point Natural Resource Conservation Area (Pyle, 2004). It is one of a suite of

species that depend on the once extensive prairies found in the Puget Trough. These prairies have declined to less than 3 percent of their historic extent (Xerces Society, 2006). Because the park's grasslands serve as important habitat for this extremely rare species, its needs are a high priority consideration as those grasslands are managed and restored.

Surveys undertaken between 1998 and 2004 on the San Juan Islands and surrounding area revealed no new sites for the island marble butterfly. Since 2004, DNR, WDFW, and USFWS, NPS, and the Xerces Society have funded and managed several intensive and extensive investigations on the status of the island marble butterfly. Between 1999 and 2007, approximately 160 sites were surveyed for the butterfly (Miskelly, 2007).

In 2006, a survey was funded by USFWS and managed by DNR to determine whether sites occupied in 2005 remained occupied in 2006. Seventy-two sites were surveyed. The island marble was found at 16 sites on San Juan or Lopez islands, most in one of three areas; the southwest coast of San Juan Island, the San Juan Valley on San Juan Island, and the central valley of Lopez Island. The San Juan Valley site was a new discovery, as was a site on Lopez Island. These sites appear to represent two independent populations of the butterfly on San Juan Island and two independent populations on Lopez Island (Miskelly, 2007).

Lambert studied the population ecology and life history of the island marble over two flight seasons (spring 2004 and 2005). The life cycle of the island marble is closely associated with its host plants (tumble and field mustard and Puget Sound peppergrass). Its lifecycle begins in early April shortly after the emergence of leaves and flowering stalks on the host plants at which time adults begin to emerge from pupae. Based on preliminary results from Lambert's work, adults live for 6-9 days, during which they mate and lay eggs. Eggs hatch in May and by June larvae start searching for pupation sites where they wait until the following spring to emerge as adults.

The host plant on which the eggs are laid provides food for larvae in their early stages of development. Supplementary hosts are also used for food later in development; however, the larvae do not pupate on the host plant but rather in surrounding vegetation within approximately two to five meters of their host/food plant. They attach themselves to the base of senescing (dying) grasses, pupate and enter diapause (a waiting period) until the following spring.

All three of the larval host plants known to be utilized by the island marble, tumble mustard (*Sisymbrium altissimum*) and field mustard (*Brassica campestris*), and Puget Sound peppergrass (*Lepidium virginicum menziesii*) occur in the park (Pyle, 2004; Lambert, 2005). Puget Sound peppergrass grows above mean high tide among driftwood along the American Camp shoreline.

Tumble mustard and field mustard are invasive species which utilize a range of habitats throughout the United States, including grasslands (USDA 2004). According to Pyle (2004), during a site visit in May, all concentrations of island marbles were found in proximity to dense or dispersed stands of field mustard on the prairie. Pyle noted that field mustard was more abundant in May and tumble mustard was more abundant in June.

In addition to its larval food plants, the island marble depends at least ten different plants for nectar. Nectar plants used by the island marble are known to include: yellow sand verbena (*Abronia latifolia*), field chickweed (*Cerastium arvense*), field mustard, tumble mustard, yellow and blue forget-me-not (*Myosotis discolor*), sea rocket (*Cakile maritime*, *C. edulenta*), seaside fiddleneck (*Amsinkia spectabilis*), yarrow (*Achillea millifolium*), and death camas (*Zygadenus venenosus*) (Pyle 2004).

Lambert's preliminary results showed that island marble butterflies do utilize areas where their host plants are absent although they are more common in areas where host plants are present. According to DNR staff, there are stands of field mustard, which hosted the island marble butterfly in 2005, on DNR property. Pyle (2004) also documented excellent brooding and foraging habitat within American Camp.

Based upon the finding not to list the island marble butterfly as threatened or endangered, the USFWS and the NPS entered into an agreement for conservation of the species and to contribute to its recovery (National Park Service and U.S. Fish and Wildlife Service, 2006). This agreement defines general guidelines for a broad spectrum of activities at American Camp, including management and restoration of the grassland ecosystem there as a natural component of the cultural/historic landscape.

The activities considered in the agreement encompass the following management actions that would affect the grassland ecosystem or butterfly, including the:

- reduction or elimination of non-native European rabbits;
- proposed Cattle Point Road relocation project as well as ongoing maintenance on existing roads;
- removal of creosoted logs from island marble lagoon habitat along the north shore of American Camp, at Griffin Bay;
- issuance of special use permits at American Camp for certain visitor activities;
- continued cultural and natural landscape restoration activities at American Camp (e.g., prescribed burning, mechanical removal of certain invasive plants, herbiciding, and planting of native species); and
- the probable construction of a new visitor center.

Based on the guidelines, the park and USFWS will:

- Work together and participate in the conservation of the island marble butterfly and its habitat through the Conservation Agreement.
- Use appropriate procedures to ensure adherence to all requirements in the Agreement.
- Meet regularly, at least twice each year, to review the proposed actions for any given year. Review and evaluate the noteworthy successes of the year.

The FWS agrees to:

- Coordinate, consult and provide technical assistance to the NPS on actions that are proposed to conserve and minimize threats to the island marble butterfly.
- Review and provide technical assistance to the NPS on management actions that are proposed for the American Camp unit to ensure that actions will not adversely affect the island marble butterfly or its immature life forms.
- Assist with planning actions to be implemented on the ground. Coordinate with NPS on developing monitoring and reporting objectives.
- Assist the NPS with developing criteria that would trigger changes to their management if specific management goals were not being met.

The NPS agrees to implement the following conservation measures in regards to their management actions to minimize effect to island marble butterflies.

- Restore native grassland ecosystem components of the cultural landscape at American Camp through active management, including the use of prescribed fire. The NPS will restore up to 10 acres of grassland per year to create a mosaic of early seral restoration units, for example a matrix of burn/mow/spray/control in different proportions and conditions. Individual management units will be two acres or less in size. National Park Service staff and cooperators will avoid and minimize prescribed fire treatments beyond the prescription boundary for the action. Staff will not construct fire breaks in island marble habitat and will take care not to trample host plants while applying a wet line or preparing the area for prescribed fire.
- Where NPS actions are proposed that would cause soil disturbance, conduct surveys of island marble habitat for the presence of host mustards. Any ground disturbing activities will be positioned where host mustards are absent or sparse. Care will be taken to avoid habitat with dense stands of *Sisymbrium* or *Brassica* and high numbers of marble sightings. This will also apply to marble nectar locations as well as larval host plant incidence.
- For proposed NPS actions in island marble butterfly habitat, survey any larval mustard plants that are present for the presence of eggs and larvae of island marbles and transplant any immatures that are found to host plants outside the activity area. If adults are observed nectaring in the zone, adults should be netted and transplanted to areas away from the ground disturbance.
- For proposed NPS actions in island marble butterfly habitat, herbicide application will occur according to label instructions and appropriate wind conditions to avoid drift to areas outside the treatment area.
- For proposed NPS actions in island marble butterfly habitat, all vegetation treatments (such as mowing, herbiciding, and burning) will occur in the fall, when pupation will have occurred. Actions will not occur in the spring, when most immature forms of the island marble butterfly will be present. Pupation often takes place some distance from the host plant, so some proportion of larvae present will have left the treatment area.

- Develop a monitoring plan to assess how and whether host plants and adult butterflies are responding to the management actions that are being implemented. All management actions should have pre-treatment and post-treatment assessments for island marble butterflies, eggs and larvae.
- Assess the presence of other butterfly species, and inventory their associated host plants, prior to any restoration action. This applies particularly to the Valley Silverspot (*Speyeria zerene bremneri*) and its host violets (*Viola adunca*) among the American Camp grasslands. (See Pyle, 2004 for existing management recommendations regarding several species of concern in the park.)
- Wherever mustard plants are present in sufficient numbers to provide habitat, avoid management actions that would damage them. This will allow for island marble butterfly dispersal and expansion of the core population found at American Camp.

In addition, there are other items agreed to for research and conservation purposes (see Agreement) (National Park Service and U.S. Fish and Wildlife Service, 2006).

Invasive Species

Invasive species are plant and animal species whose introduction into a non-native habitat may lead to economic and/or environmental harm or harm to human health (National Invasive Species Council, 1999). Because invasive species are not generally native to the area in which they are invading, they often have few predators or diseases to control their proliferation. Native populations are negatively impacted by invasive species through a variety of means including predation, competition, introduction of deadly pathogens or parasites, reduction of genetic diversity, and disruption of available nutrients (Ecological Society of America, 2003). Invasive species can also impact the entire ecosystem by altering habitat, species composition, hydrology, and the timing and severity of disturbances (such as fires, floods, and disease).

According to Executive Order 13112 signed in 1999, the National Park Service is responsible for managing invasive species populations. Invasive species management practices include preventing the introduction of such species, detecting and controlling invasive populations, restoring native species and habitat conditions, promoting public education and awareness about the effects of invasive species, and to

conduct research and develop technologies to reduce introduction and distribution (National Invasive Species Council, 1999).

Invasive Plants

According to state and county Noxious Weed lists, seven Class B species and six Class C species occur in the park (Washington State and San Juan County Noxious Weed Control Boards, 2003). Additionally, the San Juan County Noxious Weed List names five non-listed species that are particularly invasive in the county. All five occur in the park. At present, thirteen exotic and invasive plant species are managed and monitored. Only seven of these plants are listed as noxious weeds. Both park units have infestations of invasive species. However, the distribution and effects are much greater at American Camp.

During the summers of 2000, 2001, and 2002, the park was able to hire a seasonal employee for the purpose of manually removing and monitoring exotic and invasive plants. The entire prairie at American Camp and small portions of English Camp were systematically covered to manually pull, dig, and cut plants. In subsequent years, various park staff and volunteers have manually removed selected exotics, such as tansy ragwort, teasel, and spotted knapweed from high priority locations. In addition, weed crews from the North Coast and Cascades Network Exotic Plant Management Team (EPMT), Washington Conservation Corps, and a variety of volunteer groups have provided assistance. Since 2003, the EPMT has used broadcast herbicide treatments, including applications of Reedeem (triclopyr + clopyralid), Transline (clopyralid), and Milestone (aminopyralid) to control isolated populations of Canada and Bull thistle at both American and English camps. At the request of the network science advisor and park management, the EPMT began assisting with the preparation of prairie restoration plots in 2005 through broadcast application of Roundup Pro (glyphosate). In 2006, the EPMT expanded chemical control to an 80 acre area in and surrounding the prescribed (Rx) burn units at Young Hill, primarily for the control of Canada thistle, bull thistle and St. Johnswort, in response to the Rx burn activity on the site. Representatives from the EPMT, fuels management, and fire ecology, and the park met in the spring of 2006 to discuss the relationship between fire and invasive plants in the prescribed burn units at Young hill. During the summer of 2006, the EPMT mapped infestations of cheatgrass (*Bromus tectorum*) and rip-gut brome (*Bromus rigidus*) in an effort to lobby for their control at the Young Hill site. This would require late fall/early

spring broadcast application of Plateau (imazapic) (Neel, 2007).

The park also implements Integrated Pest Management strategies to control these species, including the use of herbicides. Manual removal methods can be successful for many species especially when the population is small and contained in one location. It appears that scotch broom (*Cytisus scoparius*) has been eradicated from the park, while tansy ragwort (*Senecio jacobaea*), and small patches of herb Robert (*Geranium robertianum*) and spotted knapweed (*Centaurea maculosa*) have been reduced in size. Removal efforts will need to continue to effectively reduce these populations. Other species are prolific and continue to spread, making management difficult. The species causing the most concern include Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), California poppy (*Eschscholzia californica*) Evergreen (*Rubus laciniatus*) and Himalayan blackberries (*Rubus discolor*). In some locations, dense monocultures are forming as they outcompete all other vegetation.

Invasive Animals

The European rabbit (*Oryctolagus cuniculus*) was introduced onto the island in the late 1800s. By the late 1920s and early 1930s, the population was abundant. Because the rabbits favor open habitat over forest, the main rabbit population on the island occurs in the open grasslands at American Camp (Stevens, 1975). The population crashed in the early 1980's, and researchers postulate that a failure in reproduction and/or survival of offspring was the cause of the decline (Taber, 1982). Over the past twenty years, the population has fluctuated, but has not approached levels seen before the crash. The current population is estimated at just under 1,500 rabbits, down slightly since 2006 (Agee, 2007).

European rabbits are an invasive species that compound the problem with invasive plants in the grasslands at American Camp. In fact, the habits of the European rabbit favor the distribution of invasive plant species. Within its home range, a rabbit will eat almost any available vegetation (Stevens, 1975). Because the native plant species are less adapted to grazing than many of the introduced species, rabbit herbivory tends to favor the non-natives, which gradually changes the composition of the prairie.

In addition, over-grazing may result in exposed soil, a likely place for the establishment of invasive plants.

As rabbits colonize an area, they create shelter by digging warrens, which are "complex underground burrow systems" (Stevens, 1975). Numerous large, well-developed warrens exist at American Camp. The digging and excessive use churns and compacts the soil. This affects the soil-water relationship as infiltration is reduced and runoff is increased with soil compaction. It also disrupts the texture of the surface soil by bringing subsurface soil and gravel to the surface (Biggam, 2003). Again, the exposed soil allows for the spread of invasive plants. Thistles and blackberry patches provide rabbits with protection from predators, and rabbits eat thistles near the end of summer when the grasses are dry. Together, these invasive plant and animal species maintain a mutually beneficial relationship that is negatively impacting the native prairie ecosystem at American Camp.

Another invasive species that is of concern to the park is the European green crab (*Carcinus maenas*). From 2000 to 2002, park staff monitored the intertidal zone of Griffin Bay and Garrison Bay with no detections of this species. However, green crabs are present in Willapa Bay and Grays Harbor on the coast of Washington and on Vancouver Island, British Columbia (Washington State Department of Fish and Wildlife, 2000). A native of Europe, the green crab likely arrived in ship ballast or in seaweed used as packing material for bait. This species is an aggressive predator that feeds on a variety of organisms including bivalve mollusks, polychaetes, and small crustaceans (Washington State Department of Fish and Wildlife, 2000). It disrupts and negatively impacts the ecosystem by outcompeting the Dungeness crab (*Cancer magister*) and other native crab species and by heavily feeding on clams and oysters. Additionally, it is a host to a parasitic worm that may affect the health of local shore birds.

Habitat

Marine Habitat

Because a variety of ecosystems are represented, the marine habitat in San Juan County is unique and species rich. Intertidal habitats include sandy beaches, rocky shores, and protected bays. Physical characteristics influencing the shore such as wind, waves, currents, tidal fluctuations, and beach composition (mud, gravel, sand, rock, and clay) are factors that determine the organisms inhabiting the intertidal zone. Biological components, including predation and competition, also influence species composition (Kozloff, 1993).

Located at American Camp, South Beach is composed of sand and gravel, and it is exposed to the open wind and waves of Haro Strait and the Strait of Juan de Fuca. Sandy to gravelly beaches such as this offer little intertidal habitat because no protection is provided from the direct exposure to high wind and wave action. Longshore currents actively move sediment on sandy beaches. Thus, the intertidal zone is in a constant state of flux. However, hearty species such as the razor clam (*Siliqua patula*), and a variety of worms and crustaceans are found on wave swept beaches (Kozloff, 1993). The wetlands and salt marshes lining the shore adjacent to South Beach are critical for nesting and breeding shorebirds.

East of South Beach, the shore is comprised of small pocket beaches divided by rocky coves and headlands. Exposed to strong wave action during storm events, these rocky shores provide crevices, sills, and tide pools where marine organisms thrive. In fact, many species including bull kelp (*Nereocystis luetkeana*) and purple sea urchin (*Strongylocentrotus purpuratis*) favor a turbulent environment (Kozloff, 1993). Subtidally, the northern abalone (*Haliotis kamtschatkana*) is abundant along this stretch (Washington State Department of Fish and Wildlife maps, 2003). Strong tidal currents associated with the western side of the island regularly deliver nutrient rich waters allowing kelps and seaweeds to flourish. These beds support a variety of marine life, and they are prominent feeding areas for birds.

On the northern shore of American Camp, narrow channels and other islands provide protection for Griffin Bay. The shore is less susceptible to strong wind and wave action. However, longshore currents carry sediments along the shoreline to form accretion beaches or berms, which divide the three marine lagoons (First, Jakle's, and Third lagoons) from the bay (Hanson, 2001). The shoreline has a gentle slope, and the substrate is comprised of mud with sand and gravel. Eelgrass (*Zostera marina*) grows in the lower reaches of the intertidal zone as well as the subtidal zone. The plant's spreading rhizomes and extensive root system form mats that help bind the substratum creating a stable habitat for a wide variety of small animals such as sea urchins and pandalid shrimp (Kozloff, 1993; Washington State Department of Fish and Wildlife maps, 2003). Off shore from Fourth of July Beach, two exposed clusters of rocks provide harbor seals (*Phoca vitulina*) with a place to rest, sleep, give birth, and nurse their young. The rocks are utilized year round as "haul-out" sites, and seasonally as pupping grounds (Washington State Department of Fish and Wildlife maps, 2003).

Along the shores of English Camp, Garrison Bay and Westcott Bay are also categorized as protected bays. Wave action is low to moderate allowing fine sediments to settle and form extensive mudflats where marine vegetation flourishes. As a foundation of the ecosystems associated with these bays, eelgrass (*Zostera marina*) supports a wide range of marine



View of Old Town Lagoon from Mt. Finlayson Trail. NPS Photo.

organisms. Algae and other diatoms, jellyfish, snails, sea anemones, sea slugs, small clams and other organisms live on the leaves of eelgrass. The leaves also provide protection for crabs, including the Dungeness crab (*Cancer magister*) and the red shore crab (*Cancer productus*), which primarily feed on small clams. Other species live in the mud on the roots of the eelgrass.

Eelgrass is an important breeding ground for forage fish including Pacific herring (*Clupea pallasii*), Pacific sand lance (*Ammodytes hexapterus*), and surf smelt (*Hypomesus pretiosus*). Surf smelt breeding grounds occur around the perimeter of Bell Point, and Pacific herring spawn throughout both Westcott and Garrison bays. Salmon, lingcod, marine mammals, and sea bird populations feed on forage fish (Larkin, 1999).

In February 2003, severe losses of eelgrass in Westcott and Garrison bays were discovered by the Washington State Department of Fish and Wildlife while conducting an annual Pacific herring spawn survey (Wyllie-Echeverria, Mummford, Jr, Gaydos and Buffum, 2003). Because eelgrass populations expand in spring and summer and decrease during fall and winter, the sites were surveyed again in May 2003. Prior documentation of bottom cover exists for Westcott Bay because it was randomly selected for the Submerged Vegetation Monitoring Project conducted by the Washington Department of Natural Resources in 2000 and 2001. It appears that approximately 35 out of 45 hectares of eelgrass have been lost. Quantifying the loss in Garrison Bay is more difficult. However, the results of the 2003 survey indicate patches south of Bell Point are virtually gone when compared to the DNR 1992 aerial photo of the bays (Wyllie-Echeverria et al., 2003). An explanation for the loss has not been determined. However, Washington State has a no net loss policy to protect eelgrass and the resources associated with it. When eelgrass beds are negatively impacted, mitigation is required to compensate for the loss. Currently, the Westcott Bay Taskforce is seeking out funding sources in order to continue studying the decline.

Wetland Habitat

Wetland is an all-encompassing word to describe any land habitat substantially saturated with water. As some of the most productive ecosystems in the world, wetlands provide important habitat functions such as protecting shorelines during storm events, cycling nutrients, and they store water, which alleviates flooding (Krukeburg, 1991). In addition,

they function as natural reservoirs during droughts, they are nurseries for a variety of fish species including salmonids, and the moisture provided by wetlands is essential in the survival of reptile and amphibian species. Fresh and salt water wetlands occur in both units of the park.

Twenty-six wetland sites are scattered throughout the American Camp unit. Common emergent vegetation includes Hooker's willow (*Salix hookeriana*), Pacific crabapple (*Malus fusca*), nootka rose (*Rosa nutkana*), salmonberry (*Rubus spectabilis*), and a variety of sedges and rushes. There are several small seeps and springs located along the southern boundary where river otter (*Lutra canadensis*) tracks and/or scat was observed (Holmes, 1998). Red-tailed hawk (*Buteo jamaicensis*) and bald eagle (*Haliaeetus leucocephalus*) nests were noted at other sites with larger trees. Important feeding and nesting grounds are located around the three temperate marine lagoons on Griffin Bay.

These lagoons are sites where fresh and salt water mix. The salinity in the lagoons is often lower than that in the bay. Vegetation associated with the lagoons and surrounding salt marshes include sharpfruited peppergrass (*Lepidium oxycarpum*), Nuttall's quillwort (*Isoetes nuttallii*), and erect pygmy-weed (*Crassula connata*), which are listed by the state as sensitive species (Washington Natural Heritage Program, 2003). Other plants unique to the salt marsh plant communities include saltgrass (*Distichlis spicata*) and pickleweed (*Salicornia virginica*). The ecology of these wetlands is linked to the eelgrass and microorganism communities in the bay, which are fundamental to the marine food web (Heater et al., 2000). Specialized algae, bacteria, snails, and anemones are just a few of the organisms contributing to this ecology (Kozloff, 1993).

At English Camp, nine wetland sites have been identified and recorded, and the primary emergent vegetation is red alder (*Alnus rubra*). These sites provide significant feeding, resting, and breeding grounds for a variety of resident and migratory birds including the black brant (*Branta nigricans*), great blue heron (*Ardea herodias*), and osprey (*Pandion haliaetus*) (Larkin, 1998). The red-legged frog (*Rana aurora*) and the Pacific treefrog (*Hyla regilla*) have been observed at a significantly wet site in the northern portion of the unit (Holmes, 1998). Marshes and tidal mudflats occurring along the shore are important to the ecology of the bays.

Terrestrial Habitat

The upland habitat in the park can be categorized into four habitat types: dry forests, wet forests, open Garry oak woodlands, and grasslands. Physical conditions including temperature, precipitation, sun exposure, wind, and soil type are factors that determine the type of vegetation growing at a particular location. Because the island is in the rain shadow of the Olympic Mountains, the drier moderate climate allows for dry habitats that are not common in the Puget Sound Lowland region.

At American Camp, grasslands are the predominant habitat owing to low rainfall, well-drained soil types, southern exposure, and relatively windy conditions near the Strait of Juan de Fuca. American Camp prairie, like most prairies around Puget Sound, was the first choice for pastures and farms. As a result, its native species have been reduced and replaced by non-native pasture grasses and a host of weed species. In spite of that, some high quality remnants of native prairie remain, providing beautiful spring vignettes of blooming camas, chocolate lilies, and buttercups. Along with native grasses such as Roemer's fescue and Alaska brome, a number of other uncommon plant species are found in the prairie. These areas of native vegetation are becoming less common regionally and will serve as a valuable source of genetic material for restoration work at American Camp. The warrens of the European rabbit (*Oryctolagus cuniculus*) disrupt the soil composition in much of the American Camp prairie, which, in turn affects the hydrology associated with the prairie. Other non-native animal species inhabiting the prairie include the red fox (*Vulpes vulpes*) and feral cats. Northwestern garter snakes (*Thamnophis ordinoides*) and Townsend's vole (*Microtus townsendii*) occupy these grasslands, and a variety of birds utilize this area for foraging. Most importantly, from an ecological standpoint, the prairie is habitat for many invertebrates, including several butterfly species that are declining in the region because of habitat loss.

The transitional open Garry oak woodland at English Camp is also relatively dry. The soil is thin and has low moisture holding capacity. However, slightly more moisture is required to sustain a Garry oak woodland than a prairie. Garry oak woodlands are comprised of trees including Garry oaks (*Quercus garryana*), Pacific madrones (*Arbutus menziesii*), and rocky mountain juniper (*Juniperus scopulorum*) scattered throughout a prairie landscape with a variety of wildflowers present in the open understory. These woodlands are often in the transition zone between open prairie and

coniferous forest landscapes, and they are susceptible to invasion by Douglas-fir. Historically, fire has played a role in maintaining these open stands by burning young Douglas-fir and thick shrubbery. Garry oak woodlands are known for their biological diversity and are host to butterfly and insect species, amphibians, reptiles, and a wide variety of birds. Because they have significantly declined in extent, Garry oak woodlands (larger than one acre) are considered state priority habitats.

Wet and dry coniferous forests occur in both park units. Dry coniferous forests are more common to the island due to its geographical location. These forests are dominated by Douglas-fir (*Pseudotsuga menziesii*) with a sparse understory of shrubs. They tend to occur on southerly slopes, including Mount Finlayson, where exposure to sun and wind occurs. Wet coniferous forests are also dominated by Douglas-fir (*Pseudotsuga menziesii*) with a mix of western hemlock (*Tsuga heterophylla*) and western red cedar (*Thuja plicata*). Thickets of salal (*Gaultheria shallon*) and sword fern (*Polystichum munitum*) are common to the understory, and mosses and lichens cover trees, rocks, and soil. These closed canopy forests are common to northern slopes, including Young Hill and Mount Finlayson, where the environment is cool and moist.

The habitat value of both forest types is substantial. They provide nesting, breeding, and foraging opportunities for birds. Woodpeckers and flickers are attracted to the insects living in snags or standing dead trees. Some larger trees are suitable for marbled murrelet (*Brachyramphus marmoratus*) nesting, although this species has not been observed in the park. Reptiles and amphibians rely on moist, fallen trees rotting on the forest floor.

Natural Quiet and Night Sky

The NPS mission emphasizes the preservation and restoration of park natural resources, including natural sounds, referred to as soundscape. Due to the park's rural nature and island setting, the natural ambient sound is generally quiet at the park. Heard from many of the trails, natural quiet sounds include birdcalls, wildlife rustling in the underbrush, and the movement of wind in the trees and grasses. Louder natural sounds such as the crashing of waves are associated with the bluffs and beaches. The natural quiet preserved at the park appeals to many visitors, and it contributes to the purpose of their visit. Air traffic is the number one source of sound pollution in the park. Other noises include vehicles, boating activities in

Garrison Bay, and routine ground maintenance.

Dark night skies are also considered an intrinsic natural resource protected by management policies in the National Park Service. Due to the absence of artificial light, portions of the park are good places to view the night sky. Park programs highlight interpretation and education of the values derived from a dark night sky. Although park hours include day use only, one annual program invites visitors to walk to the from the American Camp visitor center at night to view the dark sky after a talk introducing the fundamentals of astronomy. However, night light pollution from Victoria, British Columbia, is considerable and increasing. This pollution impairs views in the western quadrant of the sky.

Fire

Fire History

Most forest, shrub, and grass ecosystems rely on fire to maintain their vegetative structure and species composition. Lightning-caused fires, though infrequent on San Juan Island, were undoubtedly a part of the park's fire history. Historical accounts have also established that Native Americans burned grasslands and oak woodlands to create habitat for game animals and promote the growth of weaving materials and foodstuffs (Agee, 1987). The frequency with which a given area burned depended most directly on a number of natural and human ignited fires. Other factors affecting fire frequency and fire intensity include plant community types, changes in topography (such as slope and aspect), varying fuel accumulations, and variation in seasonal precipitation.

Nearly a century of active fire suppression has disrupted the ecosystem-regulating effects of recurrent natural and aboriginal fire. This, along with human activity in the area, has resulted in changes to the fuel structure that can potentially generate unnaturally large and intense wildland fires that may threaten human life and property and have negative effects on natural ecosystems.

Between 1980 and 2003, 111 fires were reported in the park. All but five of these were human-caused. Most resulted from camp fires or warming fires that were not built in established fire rings and were not extinguished properly. The largest fire occurred in 1981 and burned 77 acres at American Camp. Most fires occur during the summer months with

the majority of ignitions occurring in June, July, and August when conditions are generally warm and dry with little precipitation.

Prescribed fire activities in the park prior to 2003 were limited to pile burning to dispose of materials generated from hazardous fuel reduction activities and/or maintenance activities. In July 2003, after several years of planning, a 25-acre prescribed fire was conducted on Young Hill, a crucial step in a long-term program to bring back fire as an ecological component of that ecosystem. Douglas fir trees had been thinned from the understory of the Garry oak woodland on the south slope of Young Hill several years earlier to release oaks from competition. The fire was successful in reducing fuel accumulations that had built up from a century of fire suppression and Douglas fir invasion. Fire effects monitoring plots, where fuel loads and a variety of ecological indicators were measured prior to and following the burn, showed enough successful results that prescribed fires have been ignited in two other management units on Young Hill in subsequent years

The park is bordered mostly by privately owned lands, although DNR land borders the southeast portion of English Camp and the eastern boundary of American Camp. Fire protection for the park is provided through a Memorandum of Understanding with San Juan Fire District #3 and DNR.

Current Fire Management

The park completed a fire management plan and environmental assessment in 2005, consistent with NPS Management Policies and Director's Order #18. The plan considers fire management activities over a five year period, and assists park managers in meeting



Prescribed fire treatment at American Camp. NPS Photo.

cultural and natural resource management goals while ensuring that firefighter and public safety are not compromised.

The FMP for the park provides a full range of management options with respect to fire. All unplanned wildland fires will be suppressed immediately upon detection. Mechanical/manual fuel reduction will be used to reduce the risk of wildland fire to life and property and help restore natural vegetative conditions. Prescribed fire will be used in conjunction with manual fuel treatments to reduce fuel accumulations, restore and maintain historical landscapes/view sheds, and manage exotic vegetation.

Under this plan, the fire management program would maintain an organization that would contain 95 percent of all wildland fires in the park within one operational period. Manual fuel treatment objectives would include treating 80 percent of the park's developed zones to change fuel conditions so that predicted flame lengths during a wildland fire under extreme conditions would be less than four feet.

Hazard fuel reduction projects would reduce by 40 percent the fuel accumulations on at least 50 percent of the areas identified at high risk of wildland fire due to fuel accumulations resulting from natural build up and human activities. The goal of the FMP is to meet these standards by 2008.

Prescribed fire will be used to reduce fuel accumulations and help restore natural vegetative conditions in the following areas:

- American Camp Grasslands – Prescribed fire would be one of a number of tools used to restore the grasslands currently dominated by non-native annual grasses and forbs and some sections being invaded by Douglas-fir seedlings. Periodic burning will help control invading weed species, increase biodiversity among native plants, and reduce accumulations of ground fuels. Under this alternative, a minimum 20 percent (approximately 120 acres) of the park's grasslands would be targeted for treatment with prescribed fire by 2009.
- English Camp Oak Woodland – The Garry Oak woodland will be restored using a combination of manual cutting of invading Douglas-fir and prescribed fire. The oak woodland will be burned periodically to remove any regenerating Douglas-fir seedlings that would compete with oak reestablishment. Under this alternative, a minimum 40 percent

(approximately 40 acres) of the park's Garry oak woodlands would be targeted for treatment with prescribed fire by 2009.

- Mature Forests at Both Camps – The mature mixed conifer stands at both camps will be burned to regulate the amount of woody fuel accumulations on the forest floor, promote species diversity, improve wildlife habitat by encouraging growth of plant and shrubs, maintain insect and disease populations at local normal levels, and provide ashy nutrients to the forest. Under this alternative, a minimum 5 percent (approximately 25 acres) of the park's mature mixed conifer forests would be targeted for treatment with prescribed fire by 2009.

Consistent with NPS policy, fire management plans are reviewed and updated as needed every five years.

Fire Camp

The fire camp for the park is presently located at American Camp along Cattle Point Road north of the visitor center. The camp, which is essentially an open area in a field, is a special use camping area that is utilized by groups for up to approximately two months at a time. Fire crews, up to about 20 people, are assembled from other parks to work on projects, such as prescribed burns or vegetation projects. The crew parks, camps, and stores equipment at this location. Facilities needed include tents, portable restrooms and showers. At this time, chemical toilets are brought in when needed and showers are available only in town.

RECREATIONAL RESOURCES

Recreational Activities at San Juan Island National Historical Park

At San Juan Island National Historical Park, beachcombing, picnicking, bird watching, viewing and photographing wildlife, hiking, fitness walking, general sightseeing and attending park interpretive programs are popular activities. A small number of residents engage in horseback riding at American Camp.

On Garrison Bay, public shellfishing is permitted on roughly 900 feet of shoreline within the park. A 94-foot dingy dock is available for access to the park from the water.

The park is a day-use only area. Campgrounds are not available at either American or English camps. Hunting is not allowed in the park. Off-road travel by car, truck, motorcycle, or bicycle, is not allowed in the park. Pets are permitted as defined by the compendium and must be under physical (not voice) control.

Recreational Activities on the San Juan Islands

The San Juan Islands offer a wide variety of recreational activities. Water-based recreation includes whale watching excursions, sea kayaking, scuba diving, sailing and power boating, freshwater and saltwater fishing, windsurfing and clamming.

There are two county parks on San Juan Island. Rueben Tarte County Park is a four-acre day-use park east of Roche Harbor on the north end of the island. The park features a north-facing forest slope and two

small beaches on either side of a rocky peninsula. Amenities include two beaches and a walking path with views across Rocky Bay.

San Juan County Park is a 12-acre park on the west side of the island on Smallpox Bay. Amenities include a campground with 20 campsites and a group camp area, restrooms, a day-use area, beach, and a boat launch. There are views across Haro Strait to Vancouver Island and the Strait of Juan de Fuca. The park is popular for kayak users and is one of three county campgrounds designated as Cascadia Marine Trail campsites.

Five thousand-acre Moran State Park on Orcas Island offers 150 campsites, 30 miles of hiking trails, lake swimming and fishing and panoramic views from 2,400-foot Mount Constitution. Whale watching is a popular activity at Lime Kiln Point State Park; Spencer Spit State Park on Lopez Island has trails, beaches and camping. Eleven marine state parks with mooring buoys have opportunities for camping, picnicking and hiking. A dozen county parks and recreation sites are available for picnicking, some with camping facilities. San Juan County Park has ready water access and is popular with kayakers. The 140-mile long Cascadia Marine Trail for kayakers, which extends from the



Children hike the trail to English Camp Cemetery. NPS Photo.



Sign at Mt. Finlayson NPS boundary. NPS Photo.

Canadian border south to Olympia, Washington, has a number of stopover sites in the San Juans.

The islands are also a popular destination for bicyclists and moped riders. Visitors and residents are able to enjoy golfing and lawn bowling. Skateboarding parks are located on San Juan and Orcas islands. The Whale Museum in Friday Harbor is a year-round attraction for visitors. Each of the four main islands has a historical museum.

Regional Recreational Activities

A ferry ride to the mainland opens up still more recreational opportunities. Three national parks—North Cascades, Olympic and Mount Rainier—are each within a one-day drive, as is Ebey's Landing National Historical Reserve on nearby Whidbey Island; so too are Mount Baker-Snoqualmie National Forest, Olympic National Forest and Mount St. Helens National Volcanic Monument. A host of other federal preserves are also nearby, including the Padilla Bay National Estuarine Reserve, Ebey's Landing National Historical Reserve and the Dungeness Spit National Wildlife Refuge. Deception Pass State Park and myriad other state and local parks, historical sites and attractions are also present. Together these recreation sites have hundreds of campsites and hundreds of miles of frontcountry and backcountry trails for day and extended hiking for persons of all experience levels.

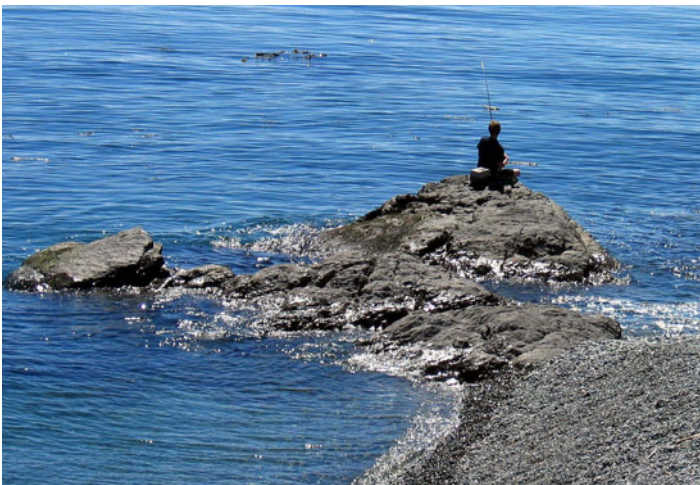
Many hikers trek sections of the Pacific Crest Trail as it winds through the Cascade Range. Challenging rock climbing sites are available and the area's lofty and rugged alpine zones draw mountain climbing enthusiasts from around the world. Snowboarding, downhill, and cross-country skiing are found at

Mount Baker. All manner of boating and water sports are available on the area's many lakes as well as rafting on the Skagit River. Hunting, fishing, horseback riding, mountain biking and a host of guiding and outfitter services are available to the public. The annual Skagit Valley Tulip Festival attracts thousands in April. The Skagit Valley is fast becoming a birding hot spot: overwintering flocks of trumpeter swans and snow geese draw hundreds of viewers; hundreds more crowd the shores and waters of the Skagit River in winter to watch bald eagles feed on salmon. Indian gaming casinos in Anacortes and along the I-5 corridor attract crowds year round.

Seattle lies a short 80 miles to the south and contains a variety of museums, theaters, cultural and sporting venues. Lakes, parks, trails and greenways are scattered throughout the city. Attractions include the Woodland Park Zoo, Seattle Aquarium, Pike Place Market, the University of Washington's Arboretum and Burke Museum, and historic Pioneer Square with the Seattle unit of Klondike Gold Rush National Historical Park.

British Columbia's Vancouver Island is an hour and a half away by Washington State ferry. Here one can explore the rural Saanich Peninsula and the quaint waterfront community of Sidney, BC. Ferries to Vancouver, the Gulf Islands, and northern coastal towns depart from nearby Swartz Bay. Victoria, capital of British Columbia, lies an hour south of Sidney. With its distinctly British flavor and Old-World feel, Victoria has excellent shopping venues and an Inner Harbour ringed with attractions and artisan stands. The Parliament buildings are nearby, as are the world-class Royal British Columbia Museum and Butchart Gardens. Less than a day's drive away is Vancouver, British Columbia, with spectacular Stanley Park and the Vancouver Aquarium, a vibrant international district and Chinatown, the University of British Columbia, the world-renowned Museum of Anthropology, and many cultural and sporting venues. It is the gateway community to a vast outdoor recreational world of parks and natural areas and the Whistler-Blackcomb ski area.

The incredible number and variety of opportunities found in this corner of the Northwest are more than enough to satisfy the year-round recreational needs of any individual or group, whatever their age, activity or skill level.



Saltwater fishing is a popular San Juan activity. NPS Photo.



Aerial View of Friday Harbor. Photo By Robert Demar.

SCENIC RESOURCES

The San Juan Islands are the tops of a submerged mountain range creating varying elevations of topography ranging from sea level plains to gently rolling hilltops. The combination of water, rocky outcrops, forested hills and plains create stunning scenery. The islands are well known for their beauty, rural landscape character, and, since harder to reach, slower pace of life.

Friday Harbor Setting

Friday Harbor is a small town located above a sheltered harbor. The daily ferry traffic determines the amount of car and pedestrian activity. As the county's main transportation and commerce center, the majority of businesses, government offices, and organizations are located here. Views are of early 20th century small town structures, the ferry terminal, surrounding islands and residences and boats docked in the harbor.

English Camp Setting

English Camp is located on the northern and wetter portion of the island. Here, the trees grow taller and denser. Deciduous trees mix with evergreens. Once outside the forest, there are views out across the bay to forested Guss Island and the opposite shore, the parade ground, and to the historic garden and buildings. Remains of sun-bleached clamshells, some ancient, lie scattered on the beach. Bird life is abundant and the occasional deer can be seen. The only reminders of modern life are the residences lining the bay and boats anchored in the water. An entry from an 1860 diary described the camp:

...Captain Bazalgette & three other officers are here in charge. With the former I walked round to see the economy of the arrangements. I was struck with the richness of the soil & abundant fruitfulness of the vegetables which filled the gardens. Game of several sorts is plentiful. Deer can be had whenever wanted. Some of the post go out to shoot them, or Indians bring them. Wild fowl is abundant. There were hanging up in the larder of the kitchen geese, ducks, the common wild duck & canvas back,



*View of English Camp.
NPS Photo.*

teal & wild muscovy. A fine wild goose can be had for a half a dollar if you buy one, later they will be made much cheaper.” (Bagstraw, 1996: p.242)

Walking along the Bell Point Trail the visitor has views out across Garrison Bay. Shell middens are abundantly evident. Visitors can be observed clamming at the public beach or boating in the water.

English Camp cemetery is reached by walking up the slope of Young Hill through the tree canopy. Situated on a former clearing are the headstones of seven graves within a picket fence. It is a quiet and contemplative place with views across the oak woodland. Further up, the trail ends on a rocky granite outcrop with views over Haro Strait, Vancouver Island, numerous islands, and adjacent forests and farmland. The summit of Young Hill is 650 feet in elevation. On October 10, 1860, Anglican Colonial Bishop George Hills noted in his diary a description of the landscape adjacent to English Camp:

We had luncheon, after which I rode out with Lieutenant Sparshot to a lofty spot wherein could be seen the whole lower part of the island spread out, as well as the various islands of the lovely archipelago. In the distance to the east & south were the magnificent elevations of Mount Baker & Rainier. The former some fifty miles, the latter 100 miles distant, being respectively 11,000 & 13,000 feet high. The light played upon the snowy heights & formed all sorts of colours. Upon the elevated ground which runs through the island I had a view of the lower portion which is more open. There were large flocks of sheep & settlers’ houses. The American Camp lay also at a distance before me some twelve miles... (Bagstraw, 1996: p.242)



*View of American Camp.
NPS Photo.*

American Camp Setting

American Camp has the longest undeveloped stretch of beach on the island and has become a favorite destination of both local residents and visitors. People come here for various recreational activities, including whale watching. Up the slope, an ancient prairie lies between the beach and its cliffs and the summit of Mount Finlayson. This vast open space offers outstanding scenic vistas to Mount Baker, the Cascade Mountains, the Olympic Mountains, Mount Rainier (on exceptionally clear days), the Strait of Juan de Fuca, Vancouver Island, and other islands. These views get more expansive as one travels up the slope to the top of Mount Finlayson, which is 290 feet in elevation.

A high bluff quite heavily timbered lies at the east. The valley south of us affords excellent grazing and has been used for that purpose by the Hudson's Bay Company who have had flocks of sheep on it. There are but few trees (oaks) scattered on the southern grassy slope of the mountains (Warren, 1860).

The scenery changes dramatically on the north slope

of Mount Finlayson. Here, the forests are thick, cool, and moist. A trail system has been developed within the park for hiking. Trails lead to lagoons and driftwood beaches with views out over Griffin Bay. A report from Henry Custer, Assistant on a U.S. reconnaissance of American Camp in 1859 states:

The harbor of San Juan, formed by a deep indentation of the south east shore of the island, is according to statement of sea faring men, one of the best and safest on the whole sound, with good anchorage almost everywhere. Small vessels will find excellent harborage in the north west part of the harbor; larger vessels can anchor with perfect safety in the southeast part of it in soundings varying from five to fifteen fathoms. I endeavored to locate the harbor and its islands and rock more correctly than heretofore represented on the maps.

From the eastern boundary of the park the trails continue onto county and state land. Residential development on both the east and west boundaries of the park is visible from some areas within the park.

INTERPRETATION

Interpretation at the park has been guided for many years by an Interpretive Prospectus written in 1984. That plan focused primarily on interpretation of the military period. More recently, park interpretation has evolved to incorporate a broader range of themes, including pre-European history and the natural environment. It is expected that a long-range interpretive plan, as part of an overall comprehensive interpretive plan, will be produced shortly following this general management plan. It should incorporate the broader range of themes as identified in Chapter 2, "Foundation for Planning and Management," "Primary Interpretive Themes," as well as current audiovisual technology and recent developments in professional interpretation.

Interpretive Programs and Opportunities

Wayside signs, exhibits, park publications, ranger programs, self-guided walks and all interpretive programs and media that communicate messages are derived from the Primary Interpretive Themes. Current interpretive programs and opportunities include the following:

Website

The park website provides interpretive materials including:

- Special resources for educators and teachers
- History of American and English camps
- The boundary dispute
- Nature and science resources
- Research materials and information
- Archaeological information

Anacortes Ferry Terminal

The Anacortes Ferry Terminal is run by Washington State Ferries. It serves as the departure point for the ferries to the San Juan Islands and is the primary route to the park from the mainland. Most visitors arrive at the terminal to drive onto the ferry, park their vehicles and walk or ride bicycles. The terminal offers one of the first opportunities to interpret the park. A new wayside exhibit is located at the north of the terminal by the passenger entrance. This exhibit introduces the park to those who may not be familiar with it, and offers photographic snapshots of various park sites. An

identical wayside also is located by the restrooms in the vehicle embarkation parking area.

American Camp

American Camp has the only year-round visitor center inside the park. The facility is a 1979 double-wide trailer that houses interpretive exhibits and a small retail operation where visitors may purchase books, postcards and gifts. The trailer was moved to the site in 1979 as a temporary facility until a permanent building could be constructed. Interpretive opportunities at American Camp include the following:

- A historical self-guided walk is offered at American Camp. A self-guided nature walk is available at Jakle's Lagoon.
- Ranger and volunteer guided walks covering historical and natural themes are scheduled during the summer season and intermittently in winter.
- A full range of interpretive programming covering historical and natural themes is provided during the summer season. Programs include demonstrations of pioneer cooking, Indian use of natural materials in daily life, historical lectures, archaeological and nature walks, 19th century folk music.
- Interpretive displays and exhibits in the American Camp visitor center focus on the peaceful resolution of the Oregon Boundary Dispute, the joint military occupation of San Juan Island and the connections of each to local historical themes. An archaeology exhibit features more than 125 artifacts from the historical period.
- An interpretive slide program on laser disc is presented in the American Camp visitor center.
- Fifty-five pre-historical objects from the park's



Re-enactors interpreting encampment history. NPS Photo.

Burke Museum collection are available for viewing.

- Access is provided to the library and archives by appointment at American Camp.
- Reenactments of life during the joint occupation are scheduled at American Camp on weekends during the summer season.

English Camp

The English Camp Royal Marine Barracks (barracks) serves as the visitor contact station during the summer season. At English Camp, the following opportunities can be explored:

- Within the barracks, visitors may watch an interpretive slide show on laser disc and view a “then and now” photography exhibit.
- A historical self-guided walk is offered at the English Camp parade ground.
- Ranger and volunteer guided walks covering historical and natural themes are scheduled during the summer season.
- A full range of interpretive programming covering historical and natural themes is provided during the summer season. Programs include demonstrations of pioneer cooking, Indian use of natural materials in daily life, historical lectures, nature walks, and 19th century folk music.
- Reenactments of life during the joint occupation are scheduled at English Camp on weekends during the summer season.
- The major summer season event at the park is Encampment at English Camp during which re-enactors from throughout the Pacific Northwest gather to celebrate the peaceful resolution of the boundary dispute. Reenactors stay on the parade ground in historic tents and play historic camp roles. Many activities are

offered over the long weekend.

- Though not currently interpreted, the nearby Crook house may provide future interpretive and visitor contact opportunities.



Needlework demonstration at 2007 Encampment. Photo by Ron Garner.



2007 Encampment at Dusk. Photo by Paul Goldberg.

Other Programs

School Programs

Curriculum-based programs are offered from third through fifth grade and discuss peaceful resolution of conflict, natural history, 19th century history, American Indians, and civics. A teacher's guide was produced in 1999 that explores the boundary dispute and peaceful arbitration. Service learning opportunities are provided for a myriad of activities, including prairie restoration, beach clean-ups and the planting of the formal garden at English Camp. Other service learning projects are in the planning stages.

Junior Ranger Program

The park offers a booklet of historical and nature activities for children to complete while visiting. A junior ranger badge is awarded on completion of the booklet.

Educational Camp

The Oregon Museum of Science and Industry, among others, offers educational camps in the park. Students are taught by trained educators and naturalists who provide safe, high-quality outdoor learning experiences for children of varying ages. Programs vary in topics but include natural and cultural history and marine science. At San Juan Island National Historical Park, these programs are tied to the primary significance of the park and include the cultural and natural resources of the park. Sessions vary in duration from one to two weeks and are located in camping facilities at English Camp.

Volunteers in Parks Program

More than 200 volunteers, including 46 Canadian citizens, spend 10,000 hours annually serving the park in a variety of ways, but primarily in interpretation. For example, during summer reenactments, volunteers demonstrate blacksmithing, spinning and weaving, cooperage, military and naval skills and frontier cookery, in addition to staffing the information counters. Volunteers also provide valuable assistance in resource management, historical research, gardening and carpentry.

Regional Theme-related Sites

Fort Rodd Hill and Esquimalt Naval Station

Fort Rodd Hill, a national historic site in British Columbia, Canada, is a coast artillery fort built in the late 1890s to defend Victoria and the Esquimalt Naval Base on Vancouver Island, though there is also a strong connection to an earlier period. The naval base dates back to the 1850s when ships sailed from Vancouver Island to the San Juans and were part of the boundary conflict. The base maintains a museum and archives of value to historical research at San Juan. The Fort includes three gun batteries, underground magazines, command posts, guardhouses, barracks and searchlight emplacements. There are numerous interpretive signs and audio-visual stations, as well as period furnished rooms and friendly, knowledgeable staff. Visitors can explore gun batteries and underground magazines, searchlight emplacements, command posts and other features built a century ago (FortRoddHill.com, 2006). Reenactors from the fort partner with San Juan Island National Historical Park and participate in Encampment.

Gulf Islands National Park Reserve of Canada

The southern Gulf Islands are located in one of Canada's most heavily developed and urbanized natural regions—the Strait of Georgia Lowlands of British Columbia. The national park reserve was established on May 9, 2003 to protect the ecological integrity of a representative portion of this region. It is the first new national park reserve of the twenty-first century and includes thirty-five square kilometres of land and intertidal area spread over fifteen islands and numerous islets and reefs and approximately twenty-six square kilometres of marine areas. One of the most significant achievements of the Pacific Marine Heritage Legacy initiative of the governments of Canada and British Columbia, the new national park reserve offers a variety of opportunities for Canadians to learn about and experience an exceptional coastal island landscape and the cultures of the people who live there (Parks Canada, 2006).

VISITOR USE

Visitor Use Patterns

The NPS Cooperative Park Studies Unit in Moscow, Idaho conducted a Visitor Services Project at San Juan Island National Historical Park in 1994. This standard NPS method for obtaining information about park visitors and visitation patterns took place during August 10-16, 1994. Of 518 questionnaires distributed, 406 were returned.

Results showed that visitors were often in family groups (64 percent). Groups often consisted of two people (35 percent) or three to four people (38 percent). The most common visitor ages were 36-50 years old (37 percent) and 15 years or younger (21 percent). Most (68 percent) were first-time visitors to the park. International visitors were often from Canada (55 percent) and the United Kingdom (12 percent). United States visitors came from Washington (49 percent), California (13 percent) and Oregon (9 percent) and 37 other states. Twelve percent of the visitors lived on San Juan Island either year round or part of the year.

Just over half of the visitors (51 percent) said they were aware of the existence of the park. Most visitors learned about the park from maps/brochures (32 percent), travel guides (25 percent), friends and relatives (24 percent) and several other sources.

Common activities for visitors were sightseeing (94 percent), walking/hiking on trails (78 percent), taking photographs (70 percent) and viewing wildlife (45 percent). The most visited sites in the park were the historical camp at English Camp (72 percent), the American Camp visitor center (57 percent), the historical camp at American Camp (50 percent) and the redoubt/earthen fort (40 percent). One fourth of the visitors went to the Friday Harbor visitor center before visiting the other park sites.

Most visitors (87 percent) used the ferry to get to San Juan Island. To get to the park, most visitors (65 percent) used a private vehicle, followed by rental cars/vans (16 percent). The park was not a primary destination for 80 percent of the visitors. Visitors said their reasons for visiting were to view scenery (87 percent) and learn about history (64 percent). The most used interpretive services were the historical buildings/features (86 percent), visitor centers (72 percent) and outdoor exhibits (71 percent). The

San Juan Island National Historical Park Visitation

Year	Total Visitation	English Camp	American Camp	Friday Harbor
1993	228,817	73,962	154,851	22,171
1994	200,253	76,128	124,125	17,281
1995	205,001	84,233	120,768	15,598
1996	225,954	80,763	145,191	23,603
1997	225,626	80,435	145,191	23,517
1998	250,285	105,092	145,191	19,708
1999	270,668	125,477	145,191	16,923
2000	261,716	115,967	145,749	18,010
2001	286,935	128,025	158,910	14,892
2002	255,077	120,752	134,325	14,594
2003	223,433	73,649	149,784	14,305
2004	270,968	67,827	203,141	9,000
2005	246,779	62,942	183,837	(Closed)*
2006	258,801	68,066	190,736	(Closed)

(NPS Public Use Statistics Office 2007)

subjects visitors would most like to learn about in the future are natural history (68 percent), Native American inhabitants (64 percent) and the history of early settlers (63 percent). The most preferred methods of learning about the cultural and natural history in the future are trailside exhibits (63 percent) and visitor center exhibits (62 percent).

Over one-third of the visitors (38 percent) estimated their total expenditures during this visit as up to \$100. Twenty percent said they spent \$251 or more. The average visitor group expenditure during the visit was \$169; the average per capita expenditure was \$51.

According to statistics reported by the park to Washington DC, visitation has been generally trending upward. The most reliable traffic counter is at English Camp, where counts have increased 69 percent over the past ten years.

June, July and August are the months of highest visitation at the park (about 40,000 per month). There is substantial visitation in the shoulder seasons as well (March through May, and September through October). During the slower winter months of November through February, the park typically receives about one-quarter the monthly visitation of summer.

The San Juan County Public Works Department did a traffic estimate on Cattle Point and American Camp roads in 2000. Their sampling estimated that approximately 253,000 cars travel the road on an annual basis. About 100,000 of those cars go solely to park locations and 153,000 travel as far as the Cape San Juan residential area. These counts suggest that the park may be somewhat underestimating visits to American Camp. The county AADT (annual average daily traffic) predicts an annual traffic increase of 7.46 percent for this area. A new traffic counter was installed at American Camp in summer 2003. Tests in the fall of 2003 will determine the data-gathering protocols that will be used to determine the visitation at that unit.

According to the NPS Social Science Program, tabulations generated by running the NPS Money Generation Model show that the annual economic benefits to the community from San Juan Island National Historical Park are \$15,415,000 in Fiscal Year 2005, based on a visitation of 248,831. Based on this benefit, it is estimated that approximately 337 jobs in the tourism and service sector are tied to the presence of the park (NPS Social Science Program 2005).

Park Special Uses

The park manages the type, size, and location of group activities (larger than 20 persons) through a special use permit system. The goals are, generally, to limit conflicts between users, to prevent unacceptable impacts to natural or cultural resources, and to keep group sizes within the capacity of park facilities. Weddings comprise the largest percentage of special use permits. In recent years, the park has limited weddings to specific locations such as the English Camp parade ground (after regular hours), Fourth of July Beach, and South Beach, with a maximum group size of 75 persons. Because of limited parking, car pooling is strongly encouraged and a parking plan may be required of the applicant. Horseback riding at American Camp is also regulated by special use permit and is governed by a specific set of park regulations. The park often gets requests for groups to hold larger special events. It is clear that a demand exists on the island for large open-space activities. A percentage of these could be accommodated if parking and toilets were improved, particularly at Fourth of July Beach. Many school groups now use that area for field trips and strain its capacity.

Facilities are not the sole limiting factor. Visual intrusion and potential resource impacts may weigh as much or more heavily in the decision to permit a particular large group activity in the park. For additional information, see the “Carrying Capacity” section in the “Alternatives Chapter”.

Federal Lands Recreation Enhancement Act

The National Park Service is participating in a program called the Federal Lands Recreation Enhancement Act (Public Law 108-447), formerly known as the Recreation Fee Demonstration Program. The program allows participating parks to retain generated income from fees and to use them for their own park operation and maintenance. San Juan Island National Historical Park is participating in this program through the shared 20 percent pool for smaller parks. The focus of this program is for improved visitor experience. The park does not charge recreational fees.

Park Hours and Seasons of Operations

The park is a day use park and is open from dawn until 11:00 pm. The administrative headquarters and the visitor center at American Camp are generally open year-round from eight until five o'clock.

SOCIOECONOMIC FACTORS

Regional Setting

San Juan Island National Historical Park is located in northwestern Washington State, approximately 80 highway miles north of Seattle, 18 water miles west of Anacortes, Washington, and 49 miles by ferry and highway from Victoria, British Columbia.

The San Juan Islands are bordered on the west by Vancouver Island and separated from that island by Haro Strait. To the east, Rosario Strait separates the islands from the Washington mainland. The Canadian Gulf Islands lie to the northwest and, to the north, the Gulf of Georgia and mainland British Columbia. The Strait of Juan de Fuca separates the islands from the Olympic Peninsula to the south.

San Juan County contains 172 named islands and islets. In San Juan County, about 20 islands have year-round residents, with the majority living on the four islands served by the state ferry system (Future Directions, Inc., 1999: p.13).

The San Juan Islands are bordered on the west by Vancouver Island and separated from it by Haro Strait, a major shipping channel to Vancouver BC, the largest city in western Canada. To the east, Rosario Strait separates the islands from the Washington mainland. The Canadian Gulf Islands lie to the northwest and, to the north, the Gulf of Georgia and mainland British Columbia. The Strait of Juan de Fuca separates the islands from the Olympic Peninsula to the south.

The park is located on San Juan Island, the second largest of the islands at 55.3 square miles. The other principal islands served by the ferries are Orcas, Lopez, and Shaw.

The park is within Washington's Second Congressional District in San Juan County, Washington.

Location and Access

The park's administrative headquarters is located in Friday Harbor, approximately one-half mile from the San Juan Island Ferry Terminal. Friday Harbor, population 2,040 (Washington State Office of Financial Management, 2003), is the county seat and is the only incorporated town in the San Juan Islands. The American Camp unit of the park is located six miles south of Friday Harbor on Cattle Point Road. The English Camp unit is located on West Valley Road, 9 miles northwest of Friday Harbor and 12 miles from American Camp. English Camp can also be accessed by boat by using the dock the park maintains on Garrison Bay.

Washington State ferries run between Friday Harbor and the mainland a half-dozen or more times a day; inter-island ferries transit Friday Harbor a similar number of times. An international ferry travels once daily to Sidney, British Columbia on Vancouver Island. From there one can travel by road to Victoria, or by road and BC ferry to Vancouver, British Columbia.

The San Juan Islands are popular for bicycling as well, Washington State ferries report that over 38,000 bicyclists ride onto the ferry in Anacortes annually, and a substantial number are carried by vehicles onto the ferry to the San Juan Islands (San Juan County, Nonmotorized Transportation Plan, 2004).

Two commercial airlines and a seaplane service plus several charter airlines serve Friday Harbor. An airport at Friday Harbor accommodates commercial and private planes; private aircraft can also land at a small airstrip at Roche Harbor.



Float plane landing at Friday Harbor. NPS Photo.

Land Use and Ownership Patterns

Though somewhat remote and difficult to reach, San Juan County is one of the fastest growing counties in the Washington State. Natural beauty, solitude, and pleasant weather have attracted many, particularly West Coast residents, to move to the island for recreation or retirement. This interest has prompted an active real estate market promoting purchases of waterfront and view property. The result has been increased subdivision of farms and forests. Conversion to non-rural use is one of the greatest impacts to the open space resources of the county.

There are a limited number of motels and restaurants on the island. The nature of the island and ferry service force either an overnight stay on the island or a rushed visit in order to be on board the last ferry back to the mainland. Long lines of cars waiting for the ferry are common on busy weekends and during the summer tourist season.

NPS Management Zoning

All lands within the boundary of San Juan Island National Historical Park were park-zoned by the NPS in the 1979 *San Juan Island National Historical Park General Management Plan*. The NPS zoning is for management purposes. There are no private in-holdings within the park. Local government zoning does not apply to federal land. Both English and American camps are broadly zoned Historic, thus protecting the historical integrity of these sites. Peripheral areas of the park units are zoned Park Development, for administrative and secondary recreational uses. To maintain the sanctuary qualities of the area for eagles, deer, and marine life, an area in the northeast portion of American Camp is zoned Natural, Environmental Protection Subzone.

Adjacent Town and County Government Zoning

Park Headquarters

In 2004, the headquarters for the park moved from Spring Street in downtown Friday Harbor approximately one-half mile west to Mullis Street. The building is leased by the NPS from a private owner through the General Services Administration. Land use is governed by the town's zoning code. The park's headquarters is located outside the downtown core and is zoned commercial.

English Camp

English Camp, encompassing 529 acres, is situated on Garrison Bay in the northwest section of the island. Lands adjacent to the boundary of English Camp are used for ranching, shellfish farming, timber production, recreation, and home sites. Roche Harbor Resort is located across Westcott Bay from English Camp. The park is situated in the center of the Westcott-Garrison Bay Watershed.

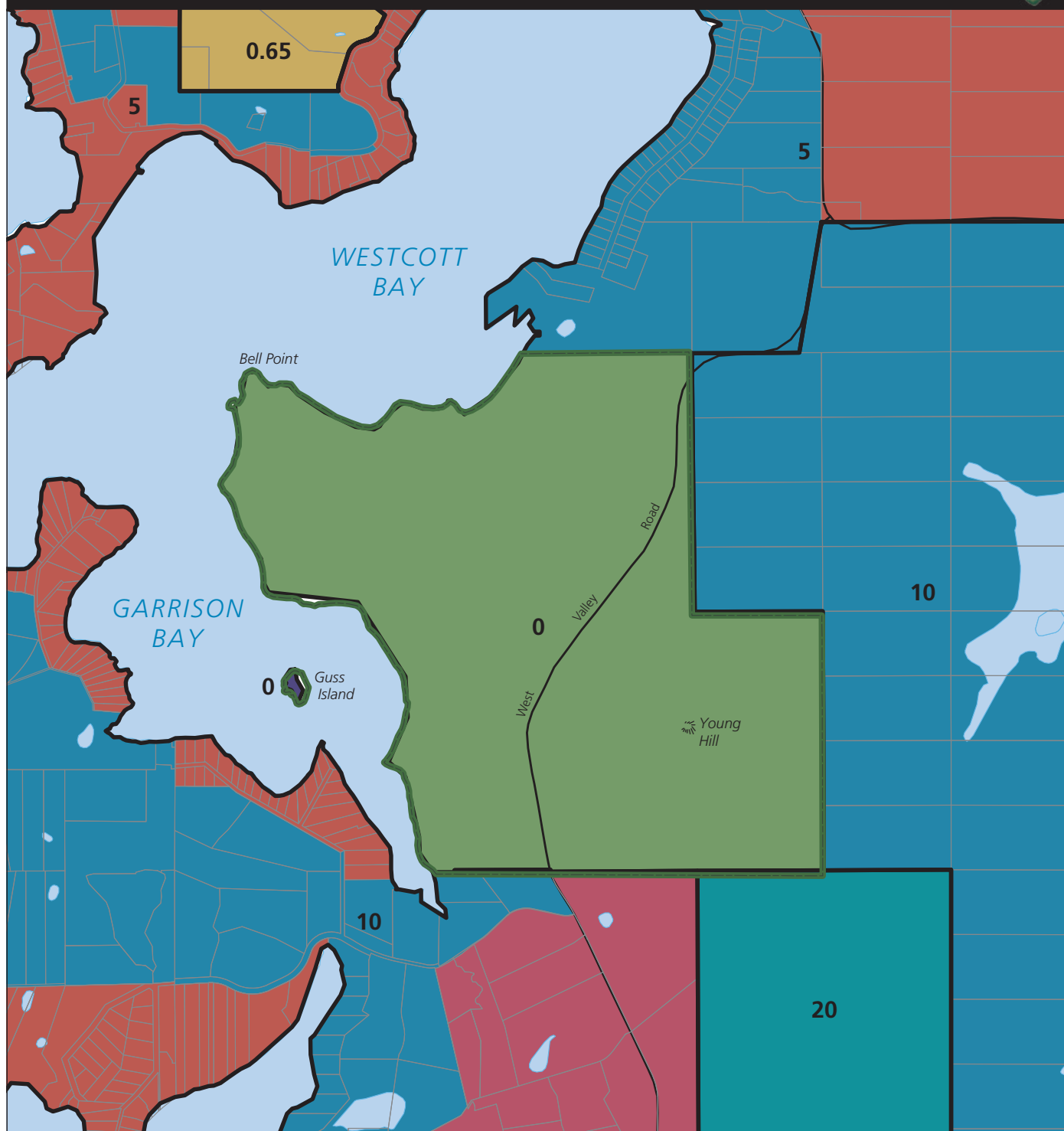
According to the Westcott-Garrison Bay Watershed Assessment Report, the park is recognized by San Juan County under a land use classification entitled Special Districts under the Conservancy designation. This class of lands was developed to "protect, conserve, and manage existing natural conditions, resources, and valuable historic, scenic, education, or scientific research areas for the benefit of existing and future generations without precluding compatible human uses" (San Juan County, *Westcott-Garrison Bay Watershed Assessment Report*, 1999: p.20).

The majority of the watershed is classified as Rural Land under two land use designations: Rural Farm Forest and Rural Residential. The Rural Farm Forest Land designation is designed to provide landowners with the opportunity for small-scale farming and forestry practices while maintaining the rural character of the land. The Rural Residential designation allows for varying densities of residential development. The 200-foot shoreline areas both north and east of the park allow for one residential unit every one-half acre. To the north of the park, the non-shore adjacent land is zoned one residential unit for five acres. Adjacent land to the east and south of the park is zoned one unit for ten acres. (See Figure 21: English Camp: County Zoning.) (Please note that residential density is indicated by a number, such as "10" which means one unit per 10 acres.)

The Roche Harbor Resort, on the northwest coast of San Juan Island, hired an architecture and community planning firm to develop a design plan for the future of the 2,200 acre resort. The plan was completed in 1994 and updated in 1996 in response to some community concerns about the physical scope of the village development and the possibility of including non-resort based commercial activities. The plan includes six districts with a core resort district and a variety of surrounding resort and rural residential areas. It also includes a district for existing subdivisions. Zoning in the Existing Subdivisions district ranges from one unit per .5 acres to two acres; however, the total number of dwelling units for this 500 acre zone is not known.

English Camp: County Zoning

San Juan Island National Historical Park GMP/EIS



Land Use

- Agricultural Resource
- Conservancy
- Forest Resource
- Master Planned Resort
- Natural
- Rural Farm Forest
- Rural Residential



Density*



Parcel



Park Boundary



Primary Road

*Residential Density is indicated by a number, e.g. **10** = 1 unit per 10 acres
0 = Publicly Owned Conservancy Lands

Note: Some smaller parcels predated the currently allowed residential densities.

Figure 21

0 500 1,000
Feet



Produced by: National Park Service
PWRO-Seattle GIS Group

Date Created: February 28, 2007

Data Sources: NPS - lakes, park boundary, roads, shoreline

San Juan County - density, land use, parcels, roads

i:\gis\arcmapdoc\sajh\gmp\ec_county_zoning_v4.mxd

Zoning for the additional five districts ranges from one unit per .65 acres for the 177 acre Resort Core district to one unit per ten acres in the 1,430 acre Rural Farm Forest district, and allows for a total of 739 residential units over 2200 acres (Hewitt-Isley, 1996)

Development of shoreline lots on Garrison Bay and Westcott Bay and addition of boat docks are having increasing impacts on the English Camp cultural landscape.

Mitchell Hill Trust Land

The drainage basin also includes designated Resource Lands. One of these tracts, a 312.32-acre property on Mitchell Hill contiguous to the southern boundary of English Camp, is managed by the Washington State Department of Natural Resources (DNR) and is designated as Forest Resource Land. These lands are designated to “protect and conserve forest lands of long-term commercial significance for sustainable forest productivity and provide for uses which are compatible with forestry activities while maintaining water quality, and fish and wildlife habitat” (San Juan County, *Westcott-Garrison Bay Watershed Assessment Report*, 1999: p.24).

Washington State Department of Natural Resources manages the site as one of the “Common School Trust Lands” for the benefit of public schools. Much of this site is forested with trees ranging from seedlings to 120 years old. Grazing occurred in the past and timber was harvested in the 1940s and 1990s. A portion of the historic military road from English Camp bisects the northern edge of property (San Juan Islands Trust Land Advisory Committee, 1985).

In 1983, the San Juan Islands Trust Land Advisory Committee, established by the Commissioner of Public Lands, considered alternatives for this site. One alternative recommended adding it to San Juan Island National Historical Park. The recommended alternative suggested multiple-use forest management, including rehabilitation and reclamation, and compatible recreational activities such as walk-in or bicycle campgrounds, primitive cabins, and other uses. There was interest expressed from the county and local residents to convert the old military road to a general hiking trail connecting to other off-site trails. In recent years, subsequent discussions between the DNR, the San Juan County, and other groups, led to a consensus that Mitchell Hill should be added to San Juan Island National Historical Park.

American Camp

American Camp totals 1,223 acres and is located on the southeastern tip of the island. Adjacent lands are used for watershed and natural resource protection, recreation, and residential housing.

On the eastern boundary of the park unit are five publicly owned parcels, described in more detail in the next section. One is jointly owned by the San Juan County Land Bank and the Washington Department of Natural Resources. Three others are owned by the DNR. The fourth parcel is owned by the Bureau of Land Management (BLM).

To the east and north of the DNR properties are the Cattle Point Estates and Cape San Juan residential subdivisions. There are approximately 150 potential lots. One-half of these have been developed. Lot sizes vary from half an acre to nearly six acres, the larger lots being located in Cattle Point Estates. The subdivisions are served by several community wells and a desalinization plant located in parcel 2. Parcel 2 is owned by the Cattle Point Water District. This parcel contains a reverse osmosis treatment facility to serve certain residential portions of Cattle Point Estates. The major of the tract is in a wooded setting that surround the treatment facilities and an associated utility access road.

Each home has an individual septic system. Past water availability problems and saltwater intrusion issues have caused development to be limited to five units per phase in order to monitor the effect of water use on already developed adjacent properties. The current county zoning in Cattle Point Estates is R-3, Rural Residential, which allows an average density of one unit per three acres. Cape San Juan is zoned at one unit per half acre.

On the western boundary of the park are the Eagle Cove and Eagle Cove Estates residential subdivisions. Both subdivisions total 43 single-family lots, averaging approximately one acre in size. Over one-half of the lots have been developed. County zoning is Rural Residential, which allows an average density of one unit per five acres. Both were platted before enactment of the county zoning ordinance.

Under the current zoning ordinance, which is based on performance standards, industrial and commercial uses are permitted only as a conditional use subject to approval by the San Juan County Commissioners. County adherence to recent state Growth Management legislation is expected to

retain a somewhat rural status for lands surrounding both English and American camps. However, building density already platted before that act could greatly alter the character of the landscape. To date, availability of water has been a limiting factor in development; that could easily change anywhere on the island, as it did several years ago when a desalinization plant was built to supply residents at Cattle Point Estates.

Effects on San Juan Island National Historical Park include the increasing visual impact of homes along the western boundary of American Camp, particularly viewed from the redoubt, portions of the trail system and from the site of the former Belle Vue Sheep Farm. Visual impacts of housing are also increasing to the east side of American Camp. Increased residential development in the area has also resulted in increased vehicular traffic along Cattle Point Road. (See Figure 22: American Camp: County Zoning.) Increased development, with its increase in hardened surfaces, can affect surface water runoff, water recharge, and water quality. The addition of wells and increased water extraction is known to contribute to salt water intrusion into underground aquifers. Development can also fragment wildlife habitat and cause a number of other negative impacts to neighboring conservation properties.

Cattle Point Public Lands

The Washington Department of Natural Resources manages three parcels at Cattle Point, Parcels 1, 3, 4, and 7. Parcel 1 (20.08 acres) is known as the Third Lagoon Preserve and is jointly owned and managed by DNR and the San Juan County Land Bank. This property was acquired in 2000 using county and

Interagency Committee (IAC) funds. It includes upland forest and 1100 feet of shoreline and is 20 acres in size.



Parcel 3 (39.84 acres) and Parcel 4 (38.77 acres) are both contiguous to American Camp and include 1,430 feet of beach on the southern boundary of the Strait of Juan de Fuca. Both parcels were originally school trust lands, but DNR transferred (or more accurately, purchased and divested) the parcels out of that program and the parcels are now managed as the Cattle Point Natural Resource Conservation Area (NRCA). Natural Resource Conservation Areas in Washington State are lands designated to maintain, enhance or restore ecological systems and habitat for threatened, endangered, sensitive plants and animals while providing opportunities for education and low-impact public use.

Parcel 7 is a 10.29-acre site, known as the Cattle Point Interpretive Area with 1,265 feet of waterfront and



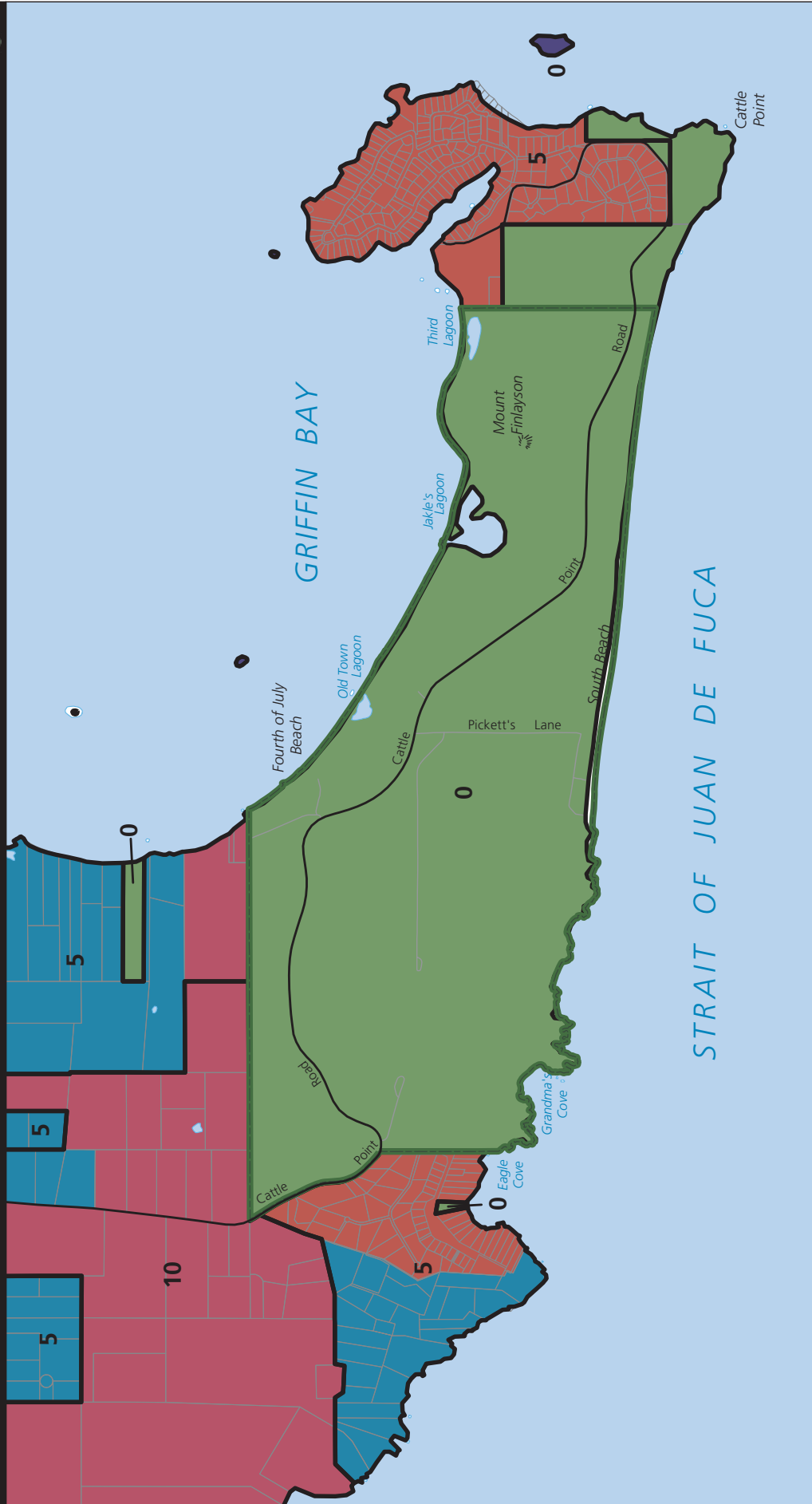
Laundress house and development to the west. NPS Photo.



Housing developments to the east of American Camp. NPS Photo.

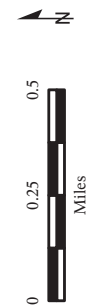
American Camp: County Zoning

San Juan Island National Historical Park GMP/EIS



- Land Use**
- Agricultural Resource
 - Conservancy
 - Natural
 - Rural Farm Forest
 - Rural Residential

- Density***
- Parcel
 - Park Boundary
 - Primary Road
 - Secondary Road



*Residential Density is indicated by a number, e.g. 10 = 1 unit per 10 acres
0 = Publicly Owned Conservancy Lands
Note: Some smaller parcels predicated the currently allowed residential densities.

Produced by: National Park Service, PW/RO-Seattle GIS Group
Date Created: February 28, 2007
Data Sources: NPS - lakes, park boundary, roads, shoreline
San Juan County - density, land use parcels, roads
i:\gis\arcmapdoc\sjah\gmp\ae_county_zoning_v4.mxd

Figure 22

is located on the eastern edge of the Cape of San Juan. It consists of a former U.S. Navy radio compass station recently converted to a picnic shelter with trails leading to the beach. (The U.S. Navy radio compass station was established at Cattle Point in 1921 and operated during the 1920s. Other stations were located on New Dungeness Spit and Smith Island, which allowed triangulation. Ships used this service to figure out where they were, even in dense fog.)

Parcel 5 at Cattle Point is owned by the BLM. The DNR has a non-monetary Recreation and Public Purpose lease from BLM on the property and manages it similarly to its neighboring parcels. This 27-acre property has about 1,500 feet of shoreline and a Coast Guard navigation aid station, sometimes referred to as a lighthouse.

The DNR and NPS both manage the forests on Mount Finlayson, which according to the San Juan Island Trust Advisory Committee report, are the “largest expanse of natural forest land on the southern part of San Juan Island.” The stabilized sand dunes on the southern portion of the site are part of a fragile ecosystem and “should be considered as a possible Natural Area Preserve.” The committee stated that there is a strong ecological and spatial relationship of this ecosystem with adjacent NPS lands. Certain DNR parcels were identified as having “special biological values or natural undisturbed features that represent San Juan County before human disturbance,” and should be preserved. Cattle Point, due to its grasslands and shoreline, was identified as having “Preserve potential” (San Juan Islands Advisory Committee, 1983: p.xv). Those recommendations led to the transfer of the school trust parcel into the NRCA program and eventually to acquisition of the Third Lagoon parcel, whose land was cited as an “outstanding example of a freshwater marsh with a high priority for acquisition” in The Nature Conservancy’s 1977 inventory (San Juan Islands Advisory Committee, 1983: p.113). Because of legal obstacles, The Nature Conservancy opted not to purchase the property, which was later bought by the Land Bank and DNR.

An easement exists with Cape San Juan Associates (the community to the east of the DNR parcel) for a water pipeline right-of-way from DNR to the Cape San Juan community. The right-of-way includes the pipeline route, well, and storage tank. The well has been the only water source for part of the community and is located in an aquifer recharged by rainwater. Maintaining the quantity and quality of the water

supply was stated as a concern of the community. The Cattle Point Water District owns a 2.36-acre parcel sandwiched between Parcel 1, the Third Lagoon Preserve, and Parcel 3. The water district maintains a desalinization plant there, along with a pipeline to saltwater and an easement across the Third Lagoon Preserve for that pipeline.

One alternative recommended by the San Juan Islands Trust Land Advisory Committee in 1983 was for DNR to donate its land to the NPS. This alternative acknowledged that a transfer would have to be initiated by DNR and that the NPS may not want to acquire land with an encumbrance such as the Cape San Juan well. When Third Lagoon was acquired in 2000 by DNR and San Juan County Land Bank, the county’s stated intent was to transfer it in time to the NPS.

Population Trends

San Juan County

San Juan County, the smallest of Washington’s 39 counties, has a population of just over 14,000 people (U.S. Census Bureau, 2000). Agriculture, which took the form of fruit production and row crops, especially peas and potatoes, was a dominant use of the land early on but has shrunk to a few remaining livestock operations and a growing number of small farms catering to organic and specialty markets. Wholly agricultural lands constitute only 12 percent of the total county acreage. In addition to agriculture, the island economy was also fueled in earlier days by commercial fishing, timber harvesting, and limestone mining. All have given way in the post World War II era to tourism and recreation services, which are by far the largest contemporary industries in the county (San Juan County Profile, September 1999. Labor Market and Economic Analysis Branch, Washington State Employment Security Department).

Population forecasts for San Juan Island are provided by the Office of Financial Management, Washington State. In 2010, the population on San Juan Island is expected to reach 8,869 and by the year 2015, reach 10,065.

Tourism has a large impact on the county population. On an average day in August, county population can increase by approximately 60 percent, and if spreading out the number of tourist-days over the full year effectively increases the county population as much as 35 percent (San Juan County 2005. Washington State

Ferries reported that 717,372 people arrived in Friday Harbor by ferry in 2006.

Approximately 15 percent of San Juan Island is classified as open space, which includes parklands and other natural reserves; the remaining 85 percent of the land base is characterized as residential or potentially residential space.

Socially or Economically Disadvantaged Populations

Population Trends

San Juan County is one of the fastest growing counties in Washington. During the 20-year period 1980-2000, the population grew by nearly 80 percent (from 7,838 to 14,077); no other county grew at a faster rate. From 1990-2000, the rate was slightly over 40 percent; only Clark County expanded more quickly. By contrast, state population levels increased only half as fast—by 43 percent for the period 1980-2000 and by 21 percent from 1990-2000.

For the period 1980-2000, San Juan County gained 6,239 residents. Of that number, 378 or just 6 percent were the result of natural population increase (2,079 births and 1,712 deaths); the remaining 5,872 (94 percent) resulted from net in-migration. Projections for 2000-2025 show a gain of 8,457 residents; even though the natural population is expected to decrease by 3,477 (3,063 births and 6,540 deaths) during that time, these figures will be more than offset by an expected net in-migration of 11,934 people. (U.S. Census Bureau, Census 2000 and Washington State Office of financial Management, 2002)

The demographics of population change in the San Juans are unusual. Given the attraction of the islands, most people do not move there to work; they move there to live. In addition, many of the migrants are retirees. San Juan Island has the highest proportion of elderly people in the state.

Demographics

The gender makeup of San Juan County remained relatively constant between 1990 and 2000. Females accounted for 50.5 percent of the population in 1990 and 51.3 percent in 2000. Racial composition of the population changed subtly from 1990-2000. Whites comprised nearly 98 percent of the residents in 1990; ten years later, their estimated share size of the population had decreased to 95 percent.

While white residents only decreased a few points in share size, they increased by 36 percent in actual numbers during 1990-2000. During the same period the nonwhite population increased by 55 percent, but the actual numbers for this group are small. There were only slightly over 400 non-whites in the county in 2000. All racial groups registered positive growth during the period.

People of Hispanic origin can be of any race and are tallied separately. During the decade, the county's Hispanic population grew by 180 percent, increasing from 121 to 338. Their total population share size remains small, however, at only 2.4 percent.

When compared to statewide racial statistics, Hispanic, Asian and African American populations are significantly underrepresented in San Juan County and in the park's visitor population. The percentage of American Indians is also less than the state average (0.8 percent vs. 1.6 percent). Native American youth are occasional visitors to the park in educational groups; they are specifically recruited as students in the Oregon Museum of Science and Industry's summer science camp based at the park's English Camp unit. (U.S. Census Bureau, Census 2000)

Economically Disadvantaged Demographics

The most recent and readily available source for unemployment data characterized by race and gender is the 2000 Census. While Census data are valuable because they are one of the few sources for this type of information, the data were gathered at a single moment in time. The information from this "snapshot" of the population, therefore, should not be interpreted as annual averages.

According to the 2000 Census, the San Juan County civilian labor force totaled 6,822 individuals. Of this total, 2.4 percent of the male population of working age was unemployed; for females, the figure was 4.0 percent. Taken together, the county average unemployment rate was 3.2 percent. Unemployment rates are highest for Native American males (12.9 percent) and Hispanic females (13.8 percent), but these individuals comprise only a small portion (less than 1 percent) of the total labor force. Unemployment rates for all groups in San Juan County were less than those for Washington as a whole; statewide unemployment averaged 6.2 percent in 2000, rising to 14.7 percent for American Indians and 12.5 percent for the Hispanic population.

Statistics indicate that 6.0 percent of the families in San Juan County are in poverty; statewide, this figure is 7.3 percent. The rate for individuals in poverty is similar: 9.2 percent for San Juan County versus 10.6 percent for the state as a whole. For individuals over 65, the poverty rate falls to 3.1 percent, significantly lower than the state rate of 7.5 percent and likely a reflection of the relatively affluent retired segment of the county's population.

No survey or interview data exist for the percentage of park visitors who are unemployed or whose income is below the poverty line. Moreover, the park does not have current data on the racial makeup of its visitor population. Casual observations and the impressions of park staff who contact visitors are that park resources are enjoyed by a mix of visitors, including the economically disadvantaged. In this regard, it may be important that the park does not charge any entrance or recreational use fees that could operate as a barrier to visitation.

Contemporary Tribal Communities

Contemporary tribal communities descendent from indigenous populations of San Juan Island include residents of American Indian reservations; a federally recognized tribe without a reservation; First Nation reserves in Canada; and a small number of families still living in the San Juan Islands who are not federally recognized as tribes. At least some of the island American Indians are registered as members of other tribes, such as the Samish. In the United States, the Lummi and Swinomish Nations have reservations that are closest to San Juan Island. The Lummi reservation is 35 miles northeast on the mainland, north of Bellingham. The Swinomish reservation is about 25 miles east on Fidalgo Island, south of Anacortes and west of La Conner.

The land base of both the Lummi and Swinomish reservations was created by the 1855 Point Elliott Treaty and modified by an Executive Order in 1873. In contrast, the Samish were not identified in the final draft of the Point Elliott Treaty and they did not receive a portion of the Swinomish reservation in 1873 that was supposed to have been established for them. Some Samishes took up residence on the Lummi and Swinomish reservations where they intermarried, but others lived outside of reservations entirely. A Samish village on Guemes Island was occupied until 1912 when economic pressures led tribal members to sell land they had homesteaded (Suttles, personal communication). Throughout the early twentieth

century, the Samish lived at various places on the mainland and continued to use fishing villages in the San Juan Islands. Some resided outside of reservations, while others returned to Lummi and Swinomish reservations or even moved to more distant reservations such as Tulalip. Federal recognition of a group known as the Samish Nation took place in May 1996. Tribal headquarters are in Anacortes, but the tribe does not have a reservation.

There are three separate Klallam (also known as Clallam and S'Klallam) reservations in their primary historic homeland in the United States on the south side of the Strait of Juan de Fuca. Under the terms of the Point No Point Treaty of 1855, the Klallam were entitled to share a reservation with the Skokomish on the Hood Canal. Instead, they stayed in their traditional area and continued to travel to the San Juan Islands for fishing and other purposes. One group of Klallam families purchased acreage east of Port Angeles in 1874 and received federal recognition as the Jamestown S'Klallam Tribe in 1980. Another group maintained residency on the Kitsap Peninsula near the lumber mill town of Port Gamble where they acquired acreage purchased on their behalf by the federal government in the mid 1930s. At the same time, a third group that came to be known as the Lower Elwha Tribal Community received acreage near Port Angeles. Port Gamble and Lower Elwha received both federal recognition and land pursuant to the Indian Reorganization Act of 1934.

There are several First Nation reserves north of San Juan Island where descendents of the Songhees and Saanich tribes live. In British Columbia, Canada, west of Victoria, the Songhees reside on two reserves at Esquimalt. North of Victoria, there are Saanich living on four reserves on the Saanich Peninsula. The ancestors of both the contemporary Songhees and Saanich used fisheries on the west side of San Juan Island into the early 1900s. Likewise, their ancestors are among the ancestors of individuals in two federally non-recognized tribes that still reside on San Juan Island, the Mitchell Bay Band and the San Juan Tribe of Indians.

Mitchell Bay is a short distance south of Garrison Bay and the English Camp unit of San Juan Island National Historical Park. A survey was conducted between 1916 and 1918 to determine the number of Indians who were living outside of reservations (Roblin, 1919). It identified the following tribes and number of individuals as San Juan Island residents: "Mitchell Bay, 41; Klallam, 48; San Juan Tribe, 6;

Lummi, 4; Swinomish, 1” (as presented in Boxberger, 1994: p.39). Mitchell Bay and San Juan Indian Tribes may have been two distinct names used by certain individuals and families in earlier times to refer to their descent from certain individual tribes or different sets of Canadian and United States tribal groups such as the Songhees, Saanich, Samish and Lummi. Both the Mitchell Bay and San Juan groups pursued land claims and federal recognition, but by 1982 “the Department of the Interior defined the Mitchell Bay Indians, as a ‘group’ of Indians who are similar to the San Juan Island Indians” (Ruby and Brown, 1986: p.133). It is said that the membership was 110 individuals in 1989 (Suttles, 1998: p.22).

A *Seattle Post-Intelligencer* newspaper article in 2002 said that an extended family with Indian heritage continued to live on San Juan Island and nearby Stuart Island. At the time, one gentleman who was 72 years old and had “one-quarter Indian blood” lived in Friday Harbor and continued to own and use a reef net at Reid Harbor on Stuart Island near where his 94-year old aunt lived. She recalled a scene from her youth on Stuart Island: “Along this beach here there was nothing but Indian camps. Saanich, from Canada, used to come up in big long canoes.” A 50-year old nephew of the Friday Harbor resident also lived in Friday Harbor and said he had “three-sixteenths Indian and was an associate member of the Swinomish Tribe.” The younger man’s 80-year old aunt and Friday Harbor neighbor commented on herself and other Indians she knew:

There isn’t any of them left here on the island except our family. We didn’t get any allotment land in San Juan County. It’s sad. There isn’t any recognition of our ever being a tribe. That’s what I am. I am a San Juan Indian (Shukovsky, 2002).

As mentioned above, a number of island residents identify themselves as belonging to the Mitchell Bay Band or the San Juan Tribe, which are not federally recognized tribes. Many of these individuals maintain membership in federally-recognized tribes such as the Samish or Swinomish.

LEGAL AGREEMENTS

The following are legal agreements between the park and others to help with the management of collections, visitors, and fire.

- 1993 Memorandum of Agreement (MOA) between North Cascades National Park

Service Complex and the park for curatorial assistance and collections management.

- 2003 MOU between the Burke Museum and the park for curatorial collections management.
- Memorandum of Understanding (MOU) between NPS and San Juan County regarding American Camp road vacation.
- 2002 General Agreement between the San Juan County Sheriff’s Office and the park for law enforcement and mutual aid.
- 1994 MOU between the San Juan County Fire District #3 and the park for fire management.
- 1987-2007 Interagency Agreement between Washington State Department of Natural Resources and the park for placement of a dingy dock on state-owned aquatic land.
- MOU between Department of Interior Biological Resources Division and the North Coast and Cascades Network, which includes the park, for conducting research and inventory and monitoring activities.
- Memorandum of Agreement between San Juan County Public Works Department and the park for federal compliance and planning for the Cattle Point Road Environmental Impact Statement.
- Memorandum of Agreement between the National Park Service and Oregon Museum of Science and Industry for OMSI to use land at English Camp for a summer educational programs of mutual benefit to OMSI and the park.

LAND USE DOCUMENTS AND RELATED PLANS

Washington State Documents

Recommended Management Guidelines for San Juan Islands Trust Land

This document was published by the San Juan Islands Trust Land Advisory Committee in May 1985. In 1983, after growing concerns by the San Juan County Commissioners regarding DNR proposals in the county, the Commissioner of Public Lands established a committee to develop a long-range management plan for the Trust Lands in San Juan County. The purpose of the commission was to “provide a forum for discussion of issues and areas of concern regarding the wise and prudent multiple uses of DNR-managed lands.” The committee involved participation with state and local agencies, the general

public, and committee members on “how to integrate DNR trust obligations for environmentally sound land management with educational and recreational opportunities and with the concerns of island and regional residents” (p.x).

The committee’s recommendations were guided by five factors that included sound resource management and protection of public resources, multiple use provisions compatible with basic Trust obligations, and San Juan County plans and policies.

There are two DNR properties adjacent to San Juan Island National Historical Park: Mitchell Hill, which shares its northern border with English Camp; and Cattle Point NRCA, which shares its western border with American Camp. Both of these properties are discussed in the previous “Land Use and Ownership Patterns” subsection.

San Juan County Documents

San Juan County Comprehensive Plan

The *San Juan County Comprehensive Plan* is a set of goals and policies to achieve the vision for the future of San Juan County. It guides the physical, economic and community development of the county for the next twenty years. The Comprehensive Plan was adopted by San Juan County in October 2000 and is periodically updated.

The plan establishes five principal land use classes for the county. Each class permits a different level of activity. These five are Growth Areas (urban lands), Activity Centers (including areas of more intense rural development), Rural Lands, Resource Lands, and Special Districts which include Conservancy and Natural designations). There are districts within each class, which are individual land use categories. These land use classes and districts have been developed based on the needs and expressed desires of the community, existing land use patterns, natural systems and land capability, and coordination with the Shoreline Management Act and the Shoreline Master Program. The Unified Development Code identifies the uses and activities, which are allowed or prohibited within each land use district.

The goals of the Conservancy and Natural designations are to “protect, conserve, and manage existing natural conditions, resources, and valuable historic, scenic, educational, or scientific research areas for the benefit of existing and future generations

without precluding compatible human uses”, and “to preserve indigenous plant and animal species and ecosystems in a natural state for the benefit of existing and future generations..” San Juan Island National Historical Park is zoned under the Conservancy Land district. (For further analysis on land classification around the park, see the “Land Use and Ownership Patterns” section.)

Parks, Recreation, and Preserved Lands Plan for San Juan County, 1999-2004

This plan was prepared by Future Directions, Inc. for San Juan County and adopted by the county in May 1999. The plan provides a six-year direction to San Juan County Parks, Public Works, and the Land Bank “for the identification, development and management of parks, recreation, and reserved lands for 1999-2004” (p.3). The document’s goal was to inventory existing parks, road ends, and preserved lands, analyze demand and need, and develop an action plan.

The San Juan County Land Bank was established by voters in 1990 to identify and preserve the important conservation lands in the county through property acquisition. This program is funded through a one-percent real estate transfer tax paid by purchasers of property in the county. Since January 2003, the Land Bank has acquired a total of 413 acres in fee acquisition (purchase price \$6,135,861) on San Juan Island and other 243 acres in conservation easements (purchase price \$579,659) (Land Bank website). In 2000, in partnership with the DNR, the Land Bank purchased a significant 19-acre day-use hiking area, called the Third Lagoon Preserve, on Mount Finlayson adjacent to American Camp and the Cattle Point Natural Resources Conservation Area.

According to the *Parks, Recreation, and Preserved Lands Plan for San Juan County*, the Public Land Inventory for San Juan County lists 26 parcels of public land managed by San Juan County, Department of Natural Resources, Port of Friday Harbor, Washington State Parks, Town of Friday Harbor, and the National Park Service. The Town of Friday Harbor manages 10 parcels within the town limits (p.25-27).

In the Master Plan of Strategies by Year—1999, the NPS is listed as participating with the county in developing a comprehensive trail survey that would assist with local prioritization of resources, as new trails are desired by the community (p.79).

Plan for Parks, Recreation and Preserved Lands for San Juan County, 2005-2010; Section II: County Parks, Land Bank, and Public Works Overview

This plan is an update of the 1999-2004 *Plan for Parks, Recreation and Preserved Lands for San Juan County*.

The purpose of the plan is to provide direction to three county departments for parks, recreation and preserved lands. These departments are Parks, Public Works, and the Land Bank.

In 2004 since the last plan was written, the Land Bank joined with the San Juan Preservation Trust to develop a strategic plan to guide both land conservation organizations in establishing conservation priorities through the San Juan Islands. The Land Bank owns more than a dozen properties on San Juan Island and has conservation easements on many more. (In 2005, the Land Bank and DNR purchased a 70-acre parcel on the northern boundary of American Camp.)

The plan addresses community involvement in determining the existing resources of the county and how these resources are managed. A media campaign was developed to encourage public participation and public meetings were held. In addition, a survey was mailed to residents to randomly selected households within the county. The results of this survey revealed a community desire and need to improve existing parks (65 percent of respondents); that trails and bikeways should be an integral part of transportation planning for the county (82 percent) and that trails and bikeways should be a critical consideration in public land acquisition projects (71 percent). In addition, for land acquisition priorities, 87 percent assigned a moderate to high priority to land purchase for watershed conservation, preserving scenic views and habitat protection. The greatest desire was for beach and tideland access with or without parking availability (p.61-62).

In the “Master of Strategies” section, the National Park Service is listed as assisting the county in the following categories:

- developing trails and bikeway plans for Orcas, Lopez, and San Juan islands, identifying and prioritizing specific projects and resources
- maintain, improve, and expand trail systems on public lands
- preserve cultural and historic resources existing in county parks
- and maintain public ownership of Washington State DNR Trust Lands in the county through interagency cooperating and implementation

of multi-agency transfer package developed in 2003.

San Juan County Nonmotorized Transportation Plan

This plan is an element of the *San Juan County Transportation Plan* and was published in December 2004. The plan’s purpose is to implement state and county directives that address nonmotorized transportation requirements, including alternative transportation, while addressing and incorporating public needs.

The San Juan Islands are beautiful and enticing environments. It is presently difficult for visitors and residents to access popular destination and parts of the islands without a vehicle. Many of the roads are challenging for biking and there are few walking corridors for public use. County staff and advocacy groups have worked together to develop specific goals projects which are represented in the plan.

The following policy and goals were developed as part of the plan that included input from the bicycle-pedestrian advisory groups from the three major islands:

- Promote the development of a safe and convenient non motorized transportation system in San Juan County that serves the needs of residents and visitors alike.
- Provide safe, integrated pedestrian and bicycle linkages between ferry terminals, village centers, parks, schools and major island destinations.
- Coordinate nonmotorized transportation planning with other county departments, agencies and organized island groups that may be part of a unified solution.
- Provide, as a minimum funding level, no less than 2 percent of the annual construction program budget for the construction of nonmotorized transportation projects.

While specific projects and goals were listed in the plan, the following general countywide needs should be addressed:

- Placement of bicycle staging areas and informational materials at each of the ferry terminals.
- Provision of linkages between ferry terminals and activity centers.
- Development of wider shoulders on main corridors, roads leading to schools or touring routes.

- Consideration of a broad range of safety-related issues including crossing improvements, pathways that link island destinations and school walk route improvements.

The remainder of the plan addresses design guidelines, to help mitigate visual impact of new facilities; increased maintenance needs; and county management and coordination to administer the plan.

San Juan County Open Space and Conservation Plan

The Open Space and Conservation Plan was prepared for the Board of County Commissioners by the San Juan County Planning Department and the Open Space and Conservation Committee in May 1991. The plan began as a grassroots effort to protect open space.

In 1990, San Juan County with help from the San Juan Preservation Trust initiated an open space and conservation planning process. The Board of County Commissioners appointed an Open Space and Conservation Committee to develop a plan to identify and protect open spaces, vistas, and view corridors that substantially contributed to the rural quality of the landscape. In addition, the committee was to address important natural resources whether they contributed to the visual quality or not. The plan addressed methods used in identification, any degrading factors, and effectiveness of existing conservation tools and presented recommendations for actions to conserve open space resources.

The analyses show which open space resources are significant to the community and how sensitive those resources are to adverse change. In the San Juan District, San Juan Island was divided into 27 units (areas) based on topography, vegetation, and cultural patterns. Each unit was analyzed using the nine following criteria: pastoral landscapes, water/mountain view landscapes, prominent geographic features, rural development pattern, diversity, landscape contrast, uniqueness, visual accessibility, and contributing to existing resource conservation areas. Each criterion for each unit was ranked. The units were then scored and ranged from highest to lowest. American Camp scored the highest and English Camp fifth highest. The score weighting reflects the general importance of the resource to the community.

San Juan County Shoreline Master Program

The Shoreline Master Program was originally adopted in 1976 in accordance with the Washington State Shoreline Management Act of 1971. The plan applies to all shorelines in the county except federal land, to the area 200 feet landward from the ordinary high water mark and to tidal waters. It is the intent of this program to manage the use and development of the shorelines giving preference to water-dependent and water related uses and to encourage development and use in harmony with natural conditions.

In response to the public's demand for greater marine habitat protection, a shoreline designation termed Marine Habitat Management Area Environment was added to the Shoreline Master Program. This area is designed to preserve and restore critical marine habitat areas and may be applied as an overlay to other shoreline environment designations.

All National Park Service plans need to meet federal requirements under the Coastal Zone Management Act. This general management plan will be reviewed by the Federal Consistency Coordinator for the Washington State Department of Ecology. The plan must meet the Washington State Coastal Zone Program to the maximum extent possible.

San Juan County Unified Development Code

This code is the tool for implementing the goals and policies of the *San Juan County Comprehensive Plan* in conformance with Washington State's Growth Management Act, Shoreline Management Act, Subdivisions Code, and State Environmental Policy Act. Development regulations and land use regulations are contained within this document. Zoning adjacent to the park is discussed in detail in the "Land Use and Ownership Patterns" section.

San Juan Island Trails Plan

The San Juan Island Trails Committee finalized this plan in September 2006. The intent of this plan is to foster the coordination of trail groups, both public and private, in the creation of a network non-motorized trail system. It is envisioned that this trail system would connect users to important destinations and key resources on the San Juan Island. The target user groups are walkers, bicyclists, and equestrians.

A number of new conceptual trails were developed during the planning process and listed as either Priority I or Priority II depending upon factors such as

expense of developing the trail, timing, and logistics. The following trails link to either English Camp or American Camp at San Juan Island National Historical Park. The following trail descriptions are excerpted directly from the *San Juan Island Trails Plan* (p. 24-26):

Proposed Priority I Trails

“Friday Harbor—American Camp Link

Identified as the top priority by respondents to the Committee’s 2005 Trails Survey, this proposed trail route would use National Park Service land, the public right-of-way along Cattle Point Road, and the new Terminal Trail at the airport to connect Friday Harbor with American Camp. If owners of private property along the route agree to participate, the trail may, in places, cross private land as well. This trail, approximately 7 miles long, is envisioned to be used mainly by walkers. Newly widened shoulders along most of Cattle Point Road provide a safer roadway for bicyclists to travel between Friday Harbor and American Camp.”

“Roche Harbor—Roche Harbor Highlands—English Camp Link

This proposed walking trail would connect Roche Harbor Resort and English Camp, via Roche Harbor Highlands. It could use National Park Service land, Roche Harbor Village property, and property owned by Saltchuk Resources, as well as the public right-of-way along Roche Harbor and West Valley roads. Much of the 5-mile trail already exists.”

“A Cross-Island Trail

Utilizing publicly owned land and willing landowners, this trail would connect the Roche Harbor-Mitchell Hill-English Camp area with Egg Lake Road through the center of the Island. This may be a component of the Friday Harbor-Roche Harbor Link. Being cross-country in nature, it might possibly accommodate walkers, horses, and mountain bikes. The creation of this trail would require significant cooperation of private landowners.”

Proposed Priority II Trails

“English Camp—American Camp Link

During the 19th century, while soldiers of England and the U.S. were concurrently stationed on San Juan Island, and before most of our current public roads existed, there was a roadway that connected the two camps. Commonly referred to today as the historic military road, or the Old military road, only remnants of this roadway exist, as well as sections that are now contiguous with modern roadways, both public and private. There has been much interest as well

as controversy on the Island about the Old military road over the last twenty or more years. The San Juan County Department of Public Works conducted an extensive trail feasibility study of it in 1990. Much of the road travels across what is now private property, and the possibility of reviving or restoring it has been greeted with great interest on the part of some and great resistance by others. The allure of recreating an historic trail across this lovely countryside is very compelling, but the potential for controversy and rancor discourages the Committee from pursuing this very aggressively as we would rather create trails (and supporters) in more feasible ways and locations.”

Historic Old Military Road, Trail Feasibility Study, Final Report

This study was produced by San Juan County in November 1990. The purpose of the study was to assess the feasibility of restoring the historic military road, constructed between 1860 and 1875 by the British Royal Marine Engineers, as a trail link between American and English camps. The military road eventually fell into disuse possibly due to population shifts on the island. Using historic surveys the route can be traced accurately.

The study team produced three trail design options defined by the type and intensity of use: pedestrian, bicycle, and equestrian. Three major alignments of the trail were developed and evaluated; these were defined as the Historic Route, Cady Mountain Historic Route, and Existing Road Route. A new alternative was developed after public involvement and labeled Alternate Route. The report also included a preliminary estimate of construction costs.

Though the route of the trail varied slightly, in all alternatives the two primary trailheads were located at English Camp and American Camp. The document states that the county would work cooperatively with the National Park Service.

Approximately 100 people attended two public meetings. Most people commenting on the plan agreed that a trail would alleviate safety hazards that are present when using the existing roads. Though the Historic Route maintains the historic integrity of the military road, it would have the most impact on private lands. Of the property owners that attended the meetings, all of them said that if the trail crossed their property, that they would not support it. However, most of them said that they would support a trail if it did not affect private property.

Most of the participants agreed that the Existing Road Route, which predominately used the right-of-way along the existing road system, would be preferred. Most of the public supported a minimum use unpaved trail that would be for hiking purposes only, the underlying reason being that this type of trail would most be used by local residents and not by island visitors.

The public felt that the trail does not have to follow the historic route but that the location of the historic route should be noted on a map or in a display at American and English camps. It could also be commemorated at locations where the trail crossed the historic route.

Westcott-Garrison Bay Marine Habitat Management Area Plan

This document is a marine habitat management plan and watershed plan for the Westcott and Garrison bays, published in July 2001 by the San Juan County Planning Department. One of several critical marine habitat areas on San Juan Island, the Westcott-Garrison marine complex was selected by the Board of County Commissioners as the first critical marine habitat area to be considered under the new Marine Habitat Management Area Environment in the county's Shoreline Master Program. The purpose of the report is to establish and present San Juan County's goals, policies and programs for the stewardship of the marine environment of Westcott and Garrison bays. The role of the plan serves to coordinate various county department actions into a comprehensive program to protect the marine resources. It provides background information about resources, the regulatory context, and potential development.

Under the "Management Plan Strategies" section, an interpretive display is proposed for English Camp. The plan proposes to work with the NPS to "provide an interpretive display at English Camp to inform the public about the marine resources of Westcott and Garrison bays, human impacts, and sustainable boating, nature visitation and watershed management practices" (p.17). In addition, a trail and interpretive center is proposed for the Mitchell Hill Trust Land. Under the Conservation Action Strategies, the plan seeks to "encourage the transfer of the Mitchell Hill DNR school trust land into a public conservation land status" (p.19).

There are plans to establish a Marine Habitat Management Area stewardship committee. As a

land manager within the watershed, NPS has an opportunity to participate.

Westcott-Garrison Bay Watershed Assessment Report

This assessment was prepared by San Juan County Planning Department, San Juan County, Washington, in January 1999. It describes the physical environment, land uses within the watershed, resources and water quality, and the potential impacts to these resources.

San Juan Island National Historical Park is mentioned as being located in the center of the watershed. A description of the recreational use, facilities, and infrastructure of the park are discussed in the report (p.27). The document also mentions the initiation of the park's general management plan.

San Juan County Watershed Management Action Plan

This watershed management plan was approved by the Board of County Commissioners in 2000 and was developed by the Watershed Management Committee, a citizens' advisory committee to meet the requirements of the Puget Sound Water Quality Management Plan. This plan identifies important water quality resources and uses, identifies pollution sources and management issues, and presents over 100 strategies to prevent water quality degradation in the county and Puget Sound from non-point pollution.

Town of Friday Harbor Documents

Town of Friday Harbor 2002 Comprehensive Plan

The comprehensive plan was adopted in September 2002 by the Town of Friday Harbor. It was developed in accordance with the Growth Management Act and represents the community's plan for guiding growth and development for the next 20 years. The Land Use Element establishes policies to guide growth and development. There are eight land use categories: Single Family Residential, Multi-Family Residential, Professional Service Commercial, Commercial, Shoreline Public Accommodation, Industrial, Public Service, and Utility.

The headquarters for San Juan Island National Historical Park are located within the part of town zoned Commercial. The goals and policies for downtown Friday Harbor are intended to promote the downtown's role as the commercial, civic and cultural center of the county. The town's vision is to

preserve the small town character and offer “a full range of personalized commercial and public services in an attractive and convenient pedestrian-oriented environment” (p.10). American and English camps are outside the town and within San Juan County jurisdiction.

Other Related Plans

San Juan Islands Community Opinion Survey

This document was prepared for The Friends of the San Juans and The San Juan Islands Economic Development Council by The Madrona Group in March 1990. This study was conducted to assess community attitudes on issues, focusing on quality of life, and to determine the community’s future goals. Questions that were analyzed included growth, the physical, social, and cultural environment, the economy, jobs, transportation and housing. A total of 1,060 questionnaires were sent to residents and 72 percent responded.

In general, the survey confirmed the importance of the environment to local residents. Protection of the natural environment was the highest priority for future goals for residents. Most were concerned about growth and “wanted population growth to slow or stop”. In addition, residents wanted restrictions placed on growth and development. Open space preservation was a top priority, as well as improving the ferry system. In the written comments supplied, the most frequently mentioned issue was about growth and its effects on the lifestyle and environment (Executive Summary, p.i-iii).

Related National Park Service Plans

National Park Service Ocean Park Stewardship 2005-2008 Action Plan

The 2001 National Park System Advisory Board Report, “Rethinking the National Parks for the 21st Century,” raised concerns about “dramatic declines in the health of marine ecosystems” and called for the NPS to focus more attention on stewardship and protection of ocean resources in the national park system. Responding to these concerns, NPS recently developed a strategy to increase its emphasis on marine resource management and conservation. The Ocean Park Stewardship Action Plan identifies critical issues and ways to address these concerns cooperatively with federal, state, and private partners. The action plan seeks to:

- Establish a seamless network of ocean parks,

sanctuaries, refuges, and reserves

- Discover, map, and protect ocean parks
- Engage visitors in ocean park stewardship
- Increase NPS technical capacity for ocean exploration and stewardship

Accomplishing these goals requires that the NPS address complex issues and shared authorities that extend across park boundaries. The NPS recognizes that real conservation and science-based management result from collaboration between federal agencies, states, citizens, local communities, and academia, all working to protect a shared ocean heritage. The National Park Service has begun to strengthen its science-based foundation for managing marine resources, working with the U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), states, universities, and other partners.

The critical keys to improved ocean conservation in the national park system are partnerships with other ocean-concerned agencies and communities to facilitate cooperation, collaboration, and communication. Connecting people to ocean parks may be one of the most important tasks ahead to build awareness and support with park stakeholders and the public.

The *Ocean Park Stewardship Action Plan* essentially offers a call to action for the NPS to continue fulfilling its leadership role as an ocean conservation agency and to actively collaborate with other agencies such as NOAA to promote management activities in four general categories listed in the action plan. San Juan Island National Historical Park is one of the networks of ocean parks and will be actively participating as this initiative develops. Establishing detailed mechanisms, such as cooperative agreements, will be crucial to the success of these interagency programs. At San Juan Island National Historical Park, the existing framework of the Northwest Straits Commission and the Marine Resources Committee already provide a base upon which such agreements can be built.

Assessment of Coastal Water Resources and Watershed Conditions at San Juan Island National Historical Park

This technical report was prepared by Dr. Terrie Klinger, Dr. David Fluharty, Kirsten Evans and Carrie Byron, School of Marine Affairs, University of Washington for the NPS Water Resources Division in Fort Collins, Colorado. The assessment provides a summary of the status of freshwater and marine

aquatic resources at San Juan Island National Historical Park. The report examines existing information pertaining to water quality, the condition of aquatic habitats and their biota, sources of point and non-point pollution in the region, and threats to the park's aquatic resources.

Fort Vancouver National Historic Site General Management Plan

The *Fort Vancouver National Historic Site General Management Plan* was produced by the NPS in October 2003. Fort Vancouver National Historic Site was established to preserve the site of the original Hudson's Bay Company stockade and surrounding historic features of the area. Fort Vancouver served as the headquarters, principal supply depot for the Columbia Department, and initial administrative center of the Puget Sound Agricultural Company.

Both San Juan Island National Historical Park and Fort Vancouver National Historic Site share the same period of history and Hudson's Bay Company themes. Both were shaped by the on-going competition between Britain and the United States over control of the region. The Hudson's Bay Company archaeological artifacts for San Juan Island National Historical Park are currently stored at Fort Vancouver National Historic Site.

EXISTING PARK DEVELOPMENT AND PROGRAMS

San Juan Island National Historical Park totals 1,752 acres. It is comprised of two units: English Camp totaling 529 acres on the northwest section of the island, and American Camp totaling 1,223 acres on the southern tip of the island. The park headquarters are located in a leased building in the town of Friday Harbor on the east side of the island.

Roads and Parking

Paved Roads

San Juan Island National Historical Park has a total of ten roads. Approximately four and one-half miles of these roads are paved road surfaces inside the park boundary. At American Camp, a 1,400 linear foot paved road leads from the main entrance road to the visitor center, ending in an 8,000 square foot parking lot. The NPS maintains a mile and one-half stretch of road along Cattle Point Road from the park's entrance

to the intersection at Pickett's Lane. San Juan County maintains one and one-half miles of the Cattle Point Road from Pickett's Lane to the eastern boundary. In addition, the county maintains the half-mile long Pickett's Lane, extending from its intersection with Cattle Point Road to South Beach. The NPS maintains the 16,000 square foot parking area at South Beach. (Refer to Figure 4 and Figure 5 for road locations).

At English Camp, the county maintains one and one-half miles of paved county road along West Valley Road within the park. West Valley Road is the main road connecting Roche Harbor with the west side of the island. The park also maintains a 9,068 square foot parking lot at the maintenance shop.

Gravel Roads

There are approximately four miles of gravel road surfaces in the park. At Cattle Point Road, a 600 linear foot road leads to the Fourth of July Beach picnic area. This road splits off to the north as an 800 linear foot spur to a horse trailer parking. The road beginning from the parking area at South Beach paralleling the beach, known as Salmon Banks Road, is 1,520 feet long. It has two spurs, each 120 feet long, leading to the beach. The redoubt road from Pickett's Lane to the redoubt is 4,100 feet long and ends in a parking area 14,250 square feet in size. The parking lot capacity is about 15 vehicles. The service road, which runs through the woods on the north side of Mount Finlayson, is one and a half miles long, but only foot traffic, park, and emergency vehicles are allowed on it.

The entrance to English Camp is a gravel road 1,790 linear feet with a 21,165 square foot parking area at the end. The service road from the maintenance facility to the back of the parade ground is 2,670 feet long and serves the VIP sites, the OMSI summer camp, the Crook house, the backside of the parade ground and the English Camp well house.

Signs

There are 78 park signs that are used for interpretation, safety, and direction throughout the park on roads, trails, buildings, and boundaries.

Trails

There are approximately nine miles of dirt and gravel trails in the park. At American Camp, five miles are available and mapped for general hiking. English Camp has four miles of trails.

Buildings and Facilities

The park has nine major structures managed by the National Park Service.

Headquarters

In 2004, the park's administrative offices were relocated from Spring Street to a new leased space by the General Services Administration on Mullis Street in the Town of Friday Harbor. There is approximately 1,400 square feet total of office space. The administrative offices are used by five permanent employees.

American Camp

Visitor Center

The park's primary and year-round visitor center is located at American Camp. The visitor center is 1,400 square feet and consists of a double-wide trailer constructed in 1979 to serve as a temporary visitor center. The interior of the building is divided into three sections: an 800 square foot public interpretive area, a 350 square foot office, and a 250 square foot office. Three employees work in the offices year-round with as many as six employees in the summer. Two accessible restrooms are connected to the building by a deck and are 40 square feet each.

Fire Cache

The fire cache was acquired with a 4.2-acre tract of land in 1968. It consists of a wood framed building with plywood siding and an asphalt shingle roof that is used for equipment storage, natural resource supplies and tools, and fire fighting equipment. It is approximately 900 square feet in size and is located off the American Camp entrance road adjacent to the VIP hook ups.

Historic Structures

Of the original 28 buildings constructed by the American military, only two remain onsite, the officers' quarters and the laundress' quarters.

Officers' Quarters HS 11—the officers' quarters were built around 1860. It is a one-story duplex building with 1,221 square feet of living space and 540 square feet of covered porch. The construction style is typical of most buildings at both camps. There is no internal wall framing. The walls are composed of vertical planks covered by horizontal external siding. This style is known as plank or box construction. As with all camp buildings, it has a cedar shake roof. It is not open to the public.

Laundress' quarters HS 6—the laundress' quarters was built in 1860 and is 351 square feet. It is a one-story box construction building with board and batten siding (not typical) and a cedar shake roof. It is not open to the public.

English Camp

Maintenance Facility

The maintenance facility was built in 1990 and contains a shop and office building 3800 square feet in size. Adjacent is an 800 square foot metal shed with a 200 gallon (approximate) above-ground storage tank for storing diesel and gasoline.



Laundress' quarters at American Camp. NPS Photo.

Historic Structures

Of the original thirty primary buildings constructed by the Royal Marines only four remain. Another historic building, the Crook house, was built after the encampment period.

Blockhouse HS 1—the blockhouse is a two-story log structure measuring 250 square feet on each level. It was built in 1860 and was made primarily of interlocking stacked logs, what many people would refer to as “log-cabin” style. The upper level is set diagonally across the lower room. The lower floor is open for viewing from May to September.

Barracks Building HS 2—the barracks is a one-story rectangular building. It consists of two rooms and is 1600 square feet. It was built in 1860, using plank construction. Open from May until September, it serves as the English Camp public contact station and is staffed primarily by park volunteers.

The Commissary HS 3—the commissary building is a one-story, one room, gabled structure measuring 800 square feet built in 1860. It is not open to the public and is used primarily for storage of reproduction tools and tents for living history programs.

Hospital HS 18—the hospital is a one-story, rectangular building with a gable roof measuring 480 square feet. Built in 1860, it has three rooms. It is not open to the public.

Crook House—the Crook house is situated on a slope above the historic military structures. It was built between 1887 and 1903. The two-story, wood-frame

structure (1587 square feet) has a second story covered porch on the west side. An additional one-story wing was added onto the east side in the 1960s (397 square feet), making the total square footage 1984. Though not from 1853 to 1871, the period the park commemorates, it is of local historical significance as an example of an early San Juan Island farmhouse. It is now inhabited by a maternal colony of bats. No one is allowed inside the house due to possible histoplasmosis infection. It was determined eligible for the National Register of Historic Places in 1984.

Dingy Dock—the Dingy Dock, located on Garrison Bay, was donated by a Canadian organization in 1984. It was completed and dedicated in 1986 and is used by many boaters. The dock has four sections measuring 6 feet wide by 20 feet long and two sections measuring 8 feet side by 16 feet long for a total length of 112 feet. The park staff maintains it.

Formal Garden—the restored formal garden, a key visitor site and of historical significance, is approximately 2,000 square feet, round in design and sectioned into 12 pie-shaped areas by 16 inch tall box hedges. The water source is a hand dug well next to the Young Hill trail.

English Camp Cemetery—the English Camp cemetery is located on the slope of Young Hill above English Camp. It is a small plot surrounded by a white picket fence. Headstones in fair condition mark seven graves. A Royal Canadian Navy marker designating the site was installed in 1964.

Vault Toilets

There are four vault toilet comfort stations located in the park. One is located at American Camp at South Beach and another at Fourth of July picnic area. At English Camp, there is one at the visitor parking lot and another sited at the north end of the English Camp parade ground.



Commissary at English Camp. NPS Photo.

Utilities

Electricity to the park is supplied to the park units by Orcas Power and Light Cooperative. Century Tel provides telephone service.

At American Camp, water is supplied by one well. The system consists of a drilled well, submersible pump, continuous chlorination and a contained air hydropneumatic tank. This system serves two Volunteer-in the-Park (VIP) trailer pads, restrooms at the visitor center, and a drinking fountain. Most of the system components were replaced in 2006, including the pump, the chlorinator, the pumphouse, the tanks, and the water lines. The well itself was cleaned, but not replaced.

At English Camp, the public system is served by a low yield drilled well, hypochlorinator, a submersible pump that pumps chlorinated water to an above ground polyethylene chlorine contact tank. A high service pump takes the water from the contact tank to hydropneumatic storage for distribution. This system serves two VIP trailer pads, a summer youth camp and a drinking fountain. A second well and submersible pump serves the maintenance shop. The well water in the shop is not chlorinated, so it is not potable. Drinking water is delivered by a service company and kept in a cooler in the shop office.



ASSET BUSINESS PLAN FOR SAN JUAN ISLAND NATIONAL HISTORICAL PARK

Asset Business Plans are recent NPS planning efforts to implement improved facility management systems in the NPS. The purpose of these plans is to provide insight about the facility asset portfolios of each park in the NPS inventory. Data supporting the plans has been taken directly from the NPS Facility Management Software System (FMSS), as well as other supporting business tools and systems managed and supported by NPS.

The collection and dissemination of this type and level of asset management information is unprecedented for a public organization with an asset portfolio comprising the size and scope of NPS. The asset business plans represent a sound, businesslike approach to making smarter decisions about how to best utilize resources. They meet the requirements of Executive Order 13327—Federal Real Property Asset Management, as well as Department of the Interior guidance to create site specific asset business plans.

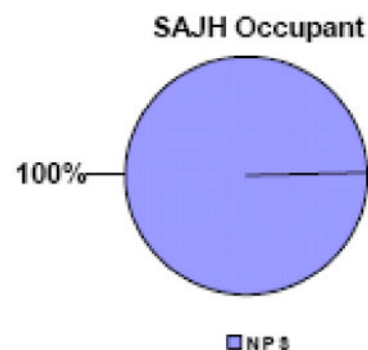
Park Asset Management Plans provide a 10 to 15 year asset management strategy for park units. More importantly, this NPS approach also helps park units and the NPS manage the gap between what should be spent on facilities using a life cycle-total cost of ownership approach, and what is actually being spent. The plans address facility management and asset issues, but also address the natural and cultural resources that are mission critical for the NPS.

These plans contain important information such as who occupies NPS assets, how important each asset is in supporting the park purpose, operations and maintenance funds spent at each park, and key information about current replacement values, quantities, condition based on the facility condition index (FCI), and amount of deferred maintenance. The plans also provide contextual information about the relative condition of each asset in comparison to how important the assets are in supporting the purpose of the park. Finally, the plans discuss predictive, future system replacement needs (component renewal), out-year project development, and planned disposition of unneeded park assets.

These plans are intended to help planners and park managers better understand asset portfolios in order to make more informed decisions about how to best maintain and sustain large asset inventories. Specifically, the use of this information will help managers make informed investment and resource utilization decisions about the future direction of the park's asset portfolio.

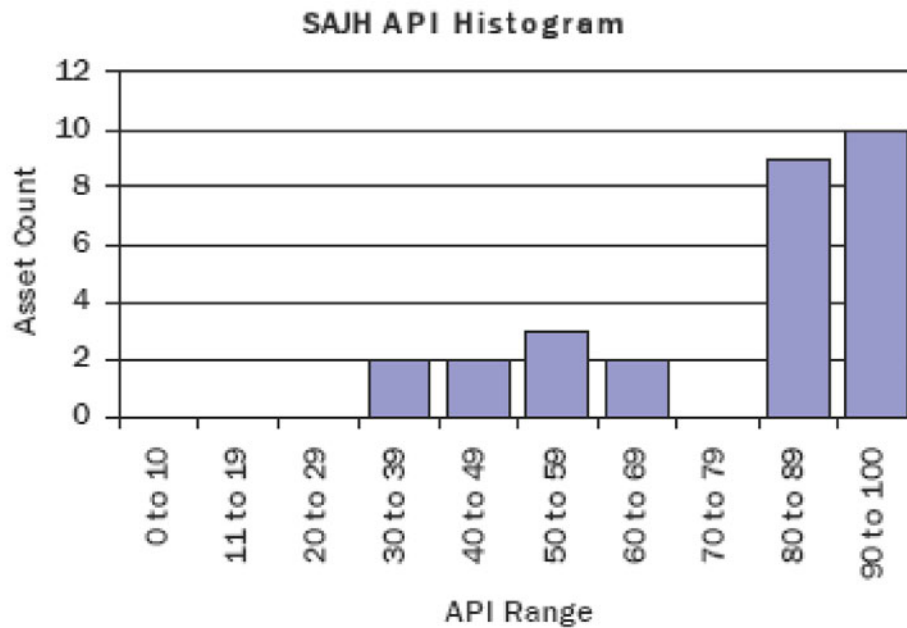
Strategic Asset Planning

The *Asset Business Plan* (ABP) has been developed to help parks better understand and manage their assets. Using the data on 'industry standard assets' (includes roads, trails, campgrounds, buildings, housing, water systems, and waste water systems) from the Facility Management Software System (FMSS), the ABP is a sub-section of the larger Park Asset Management Plan (PAMP). The ABP allows park managers to review their inventories, conduct analyses, and document requirements for operating and sustaining their portfolio of assets. This process supports budget formulation and is the first step in determining which resources are required to bring the portfolio up to acceptable condition and properly sustain it over time.



Asset Prioritization

Asset prioritization, using the Asset Priority Index (API), is a key element to improving the management of a large portfolio of assets. Understanding the relative importance of assets enables leadership to make critical budgetary and programmatic decisions, using resources efficiently. The NPS API ranks assets on a low to high scale ranging from 0 to 100. The API scores (banded in units of 10) and a summary of the inventory is shown below.

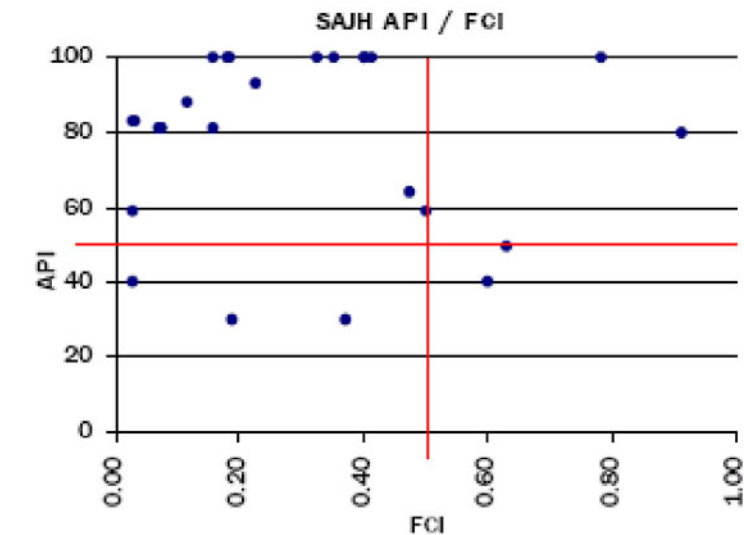
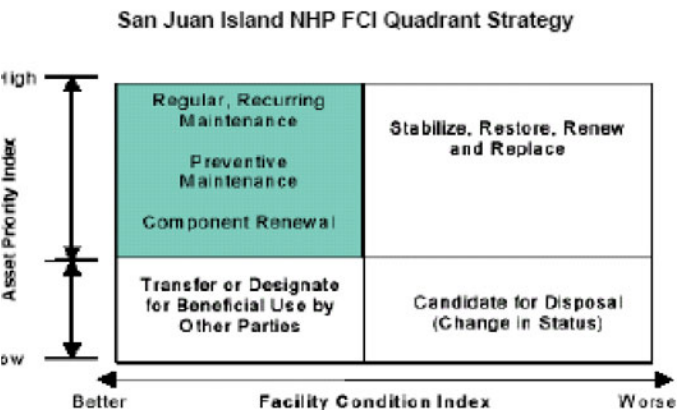


San Juan Island NHP Asset Summary

Asset Code	Asset Count	Total Quantity	Total DM (000)	Total CRV (000)	Average FCI
1100 - Roads	5	4	\$140	\$702	0.20
1300 - Parking Area	6	61,948	\$36	\$437	0.08
2100 - Trails	2	47,770	\$33	\$1,131	0.03
3100 - Maintained Landsc	2	13	\$211	\$1,266	0.17
4100 - Building	19	14,099	\$1,067	\$3,965	0.27
5100 - Water System	3	800	\$155	\$408	0.38
6300 - Marina / Waterfront	1	27	\$17	\$78	0.22
Total	38		\$1,660	\$7,986	0.21

Facility Condition Index

The Facility Condition Index (FCI) is a simple measurement of a facility’s relative condition at a particular point in time. The FCI uses a numeric rating system to rank assets. Dividing the collective value of all deficiencies (deferred maintenance) by the Current Replacement Value (CRV) equals the FCI. The calculated FCI is



SAJH - High Priority Assets with High DM

Asset	Description	DM (000)	CRV (000)	FCI	API
45941	BLDG Crook House	\$276	\$352	0.78	100
81050	UTIL SAJH Radio System	\$98	\$107	0.91	80

recorded within FMSS to document an asset’s relative condition. The weighted Facility Condition Index (FCI) by asset type is shown along with a summary of the inventory. It should be noted that figures for deferred maintenance on park trails, maintained landscapes, and maintained archeological sites are known to be incomplete at this date.

The vertical bar along the graph’s left side represents the API point value. A lower API indicates the asset’s contribution is less significant in relation to accomplishing the purpose of the park. Conversely, a high API indicates that the asset contributes significantly to the purpose of the park. The horizontal bar represents the FCI. A lower FCI indicates the asset is in better condition; a higher FCI point value indicates the asset is in worse condition. Using the API and FCI together, park managers can begin to identify their highest priority assets that are in the worst condition by plotting the API and FCI. San Juan Island National Historical Park’s API/ FCI chart is shown on the right. The top ten high-priority assets with a high level of deferred maintenance are shown in the following table.

Operations and Maintenance (OM)

O&M includes work activities performed to meet daily park operational needs, as well as recurring and preventive maintenance activities. There are two critical steps in the O&M development process: 1) establishing requirements at the constructed asset level using O&M models or historical park records and 2) comparing the requirements to existing O&M actuals so that O&M priorities can be set and executed. The table below includes the park's O&M estimated actuals (FRPP Actuals), the modeled O&M requirements, and the variance between those totals.

Component Renewal, also known as recapitalization, is the planned replacement of a component or system that will reach the end of its useful life based on condition and lifecycle analysis within the facility's lifetime. Using lifecycle data (the year of last replacement, estimated design life, year to be replaced, and replacement cost), parks can predict and proactively plan for the replacement of components within their portfolios. Examples of component renewal include roof systems, utility components, pavement, and other major equipment. Understanding the component renewal requirements is a critical aspect of documenting and accounting for the total cost of ownership. A complete and accurate system inventory in FMSS, including lifecycle data fields, is key to this process. San Juan Island National Historical Park's component renewal profile for the next ten years is shown. Because this program is relatively new and certain definitions and procedures are still being implemented, this data is not considered complete for all park assets, particularly trails and maintained landscapes.

SAJH O&M Summary

Asset Code	FRPP Actuals			Modeled Requirements		
	Operations	Maintenance	Total	Operations	Maintenance	Total
1100 - Roads	\$16,796	\$11,445	\$28,241	\$49,748	\$39,034	\$88,782
2100 - Trails	\$13,443	\$9,042	\$22,485	\$61,192	\$87,636	\$148,829
4100 - Building	\$42,037	\$25,206	\$67,244	\$58,667	\$17,496	\$76,163
5100 - Water System	\$5,648	\$2,526	\$8,174	\$3,456	\$913	\$4,368
<i>Total</i>	\$77,923	\$48,220	\$126,144	\$173,062	\$145,079	\$318,142



Project Development

All NPS projects are recorded in the Project Management Information System (PMIS). The list below represents the park's top ten projects by priority. The list of projects can be expected to grow as more complete information is incorporated about trails, maintained archeological sites, and maintained landscapes.

Rank	SAJH Project Title and Funding Year	Request Amount
1	Replace Fire Cache-2009	\$299,750.00
2	Pave English Camp Entrance Road-2006	\$260,035.00
3	Develop Group Camping Site at English Camp for OMSI Summer Camps-2008	\$108,560.00
4	Use EarthCorps to Involve Public with Land Stewardship – PLC-2012	\$24,000.00
5	Use EarthCorps to Involve Public with Land Stewardship – PLC-2013	\$24,000.00
6	Use Wash Conserv Corps to Restore American Camp Prairie for Public Benefits-2013	\$22,000.00
7	PLC Use WCC to Restore American Camp Prairie Landscape for Public Benefits-2012	\$20,000.00
8	Ccm - Replace Deteriorated Elements of American Camp Laundress' quarters-2008	\$54,300.00
10	Ccm - Replace Deteriorated Elements of English Camp Barracks-2009	\$61,900.00
11	Conduct Phased Removal of Exotic European Rabbits from American Camp Prairie-2008	\$30,000.00
11	Conduct Phased Removal of Exotic European Rabbits from American Camp Prairie-2009	\$30,000.00
13	Ccm - Replace Deteriorated Elements of Historic English Camp Hospital Building-2008	\$36,300.00
14	R/R - Replace Non-potable Water System at English Camp-2010	\$48,008.00
15	Rcm - Gravel English Camp Service Road-2008	\$38,000.00
16	Ccm - Stabilize Cultural Landscape Features at American Camp-2010	\$33,000.00
17	Rcm - Reroute Sections of American Camp Prairie Trails-2008	\$12,100.00
18	Ccm - Stabilize English Camp and Sandwith Homestead Cultural Landscapes-2009	\$32,000.00
18	Ccm - Stabilize English Camp and Sandwith Homestead Cultural Landscapes-2011	\$33,000.00
19	Rcm - Reroute Steep Section of Finlayson Trail-2008	\$15,640.00
20	PLC Use EarthCorps to Involve Public with Land Stewardship - 2010	\$22,000.00

Asset Disposition

There are no assets at the park under consideration for disposal, based on API, FCI, and expertise at the park.

