

APPENDIX E

HABITAT AND HARVEST RATINGS CRITERIA

This appendix defines the criteria used to map the most valuable fish and wildlife habitat in the Yakataga planning area. Please note that some of the land with valuable fish and wildlife habitat has been designated for uses other than habitat. Land use designations take into consideration all resource values.

Highest Value "A" Habitat Areas

Definition: Limited, concentrated use area for fish and wildlife species during a sensitive life history stage where alteration of the habitat and or human disturbance could result in a permanent loss of a population or species' sustained yield.

Criteria:

Anadromous fish spawning areas: All streams and lakes known to be used for spawning by one or more anadromous fish species, as identified in the *Catalog of Waters Important to Anadromous Fish* and updated by DFG Area Management biologists.

Estuaries important for rearing or schooling of anadromous fish: All estuarine areas adjacent to anadromous fish streams that provide important rearing habitat for anadromous fish, as identified by Alaska Department of Fish and Game (DFG) biologists. Throughout the planning area, even though not appearing on the maps, crucial anadromous fish habitat occurs in estuarine waters off the mouths of all anadromous fish streams out to a depth of 40 feet at Mean Lower Low Water.

Adult anadromous trout over-wintering areas: Areas where concentrations of adult anadromous trout or Dolly Varden char have been observed in the winter, as identified in the Alaska Habitat Management Guide (AHMG).

Limited rearing areas for Dungeness crab: Shallow, nearshore areas that provide important habitat for rearing juvenile Dungeness crab in state waters, as identified by DFG biologists.

Limited rearing areas for king crab: Nearshore waters less than 50 fathoms deep that provide the habitat necessary for adult female king crab to molt and breed, and in which larvae are released. Often these areas are within the lower zone of kelp and boulders, where *Alaria* sp., *Costaria* sp., and *Laminaria* sp. are common and provide the cover necessary for protection from predation. Areas were identified by DFG biologists.

Razor clam concentration areas: Intertidal areas known to produce harvestable concentrations of edible clams.

Herring spawning areas: Areas where concentrations of spawning herring have been observed by DFG biologists.

Important resident sport fish spawning and rearing areas beyond anadromous fish habitat: All water bodies known to be important for the spawning or rearing of resident sport fish species and supporting an intensive or unique sport fishery within the planning area, as identified by DFG biologists and survey reports.

Eulachon spawning concentration areas: Areas where concentrations of spawning eulachon have been observed by DFG biologists.

Capelin spawning areas: Areas where concentrations of spawning capelin have been observed by DFG biologists.

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Shrimp rearing areas: Areas where concentrations of either pink, coonstripe or sidestripe shrimp are known to occur in nearshore or inner bay areas with smooth mud, sand or organic debris bottoms in depths less than 70 fathoms. Areas were identified by DFG biologists.

Harvestable concentrations of bivalves: Intertidal habitats known to support harvestable concentrations of cockles and littleneck and softshell clams, usually in sheltered tidal flats with sandy silt, sandy clay, or sandy substrate.

Black bear spring concentration areas: Areas where concentrations of black bears have been observed by DFG biologists during the spring; or high use spring habitats identified from vegetation maps where bears are known to concentrate to seek out critical spring food resources. In general, areas where bears are known to concentrate in spring include south-facing alder slopes, sedge-grass-horsetail wet meadows, bogs and muskeg forests with relatively abundant skunk cabbage, and beaches where carrion collects. No formal spring surveys have been done.

Black bear summer/fall concentration areas: Areas where concentrations of black bears have been observed in the summer/fall by DFG biologists; or specific habitats identified from vegetation and anadromous fish stream maps where bears are known to seek out high-protein, high-caloric, abundant food resources during this season.

High quality brown bear spring habitat areas: Areas where concentrations of brown bears have been observed by DFG biologists during the spring; or high use spring habitats identified from vegetation maps where bears are known to concentrate to seek out critical spring food resources. In general, areas where bears are known to concentrate in spring include south-facing alder slopes, sedge-grass-horsetail wet meadows, bogs and muskeg forests with relatively abundant skunk cabbage, and beaches where carrion collects. No formal spring surveys have been done.

Brown bear summer/fall concentration areas: Areas where concentrations of brown bears have been observed in the summer/fall by DFG biologists; or specific habitats identified from vegetation and anadromous fish stream maps where bears are known to seek out high-protein, high-caloric, abundant food resources during this season.

Moose winter concentration areas: Areas where concentrations of moose have been observed during winters of average or deep snow depth, as identified by DFG surveys.

High quality mountain goat winter habitat: Limited areas surrounding steep, forested slopes, generally over 50°, that support relatively high densities of goats in a discrete population during the months in which snow cover limits the movements of goats and their access to forage, as identified by DFG biologists from aerial and ground surveys.

The mountain goat winter **mapped habitat** in the Fish and Wildlife Resources Atlas of the Yakataga Area Plan consists of areas within ¼ mile of escape terrain (slopes generally over 50 degrees). Where steep slopes or cliffs are extensive or spaced at intervals less than one mile apart, goat habitat extends throughout the cliff area. Sources include the DNR 1:630,360 vegetation map produced from the Yakataga Forest Inventory data (1985), USGS 1:63,360 topographical maps for identifying cliffs, DFG goat survey data, goat habitat models for Southeast Alaska, and DFG professional opinion based on best available information. DNR conducted four aerial surveys of goats between Icy Bay and Cape Yakataga in early August in 1977, 1984, 1989, and 1993. Goats were counted in the Suckling Hills in 1980, 1986, and 1993. DFG also conducted ground surveys in 1989. The 1993 survey information was not available for inclusion in the Yakataga Area plan atlas. DFG will update these goat habitat maps as new and better information becomes available.

Waterfowl and shorebird nearshore migratory concentration areas: Limited areas observed by U.S. Fish and Wildlife Service (USFWS) or DFG biologists where waterfowl and shorebirds concentrate during spring or fall migrations to rest and feed (AHMG).

Duck or geese nesting or molting concentration areas. Areas of limited size where ducks or geese are known to concentrate for molting or nesting. (Data incomplete, have some goose molting).

Bald eagle nest trees, 330-foot radius around all nests, and observed concentration areas for feeding. Known bald eagle nest trees and concentrated feeding areas as identified by USFWS.

Swan nesting, molting, and migratory staging areas. Areas identified by USFWS biologists where swans are known to concentrate for nesting, molting, or migratory staging. (Data incomplete, no formal studies have been made except for nesting areas.)

Sea lion haulout areas and a 1-mile radius around them. Areas where sea lions are known to haul out for breeding, feeding, or resting for more than one season.

Seal haulouts for 25 or more seals. Islets, rocks, or other sites where seals are known to haul out for breeding, feeding, or resting for more than one season.

Sea otter feeding concentration areas. Discrete areas of limited size where sea otters are known to concentrate because of an abundance of food.

Moderate Value "B" Habitat Areas

Definition: Limited areas that contain productive components of ecosystems where alteration of the habitat and or human disturbance would reduce the yield of fish and wildlife populations either indirectly or cumulatively.

Criteria:

Lagoons, eelgrass beds, kelp beds and extensive shallow, estuarine habitat (other than the more limited estuaries mapped as "A" habitat for rearing crab or anadromous fish): Lower intertidal and shallow subtidal areas in very protected estuarine areas where substantial beds of eelgrass or kelp have been identified from aerial photographs taken at an extreme low tide, and by field reconnaissance.

Herring over-wintering areas: Areas where concentrations of herring have been observed during the winter by DFG biologists or knowledgeable local residents.

Herring schooling concentrations: Areas in which dense schools of herring have been observed by DFG biologists near shore during the spring spawning period.

Highest quality marten habitat: Old-growth forests with at least 20,000 board feet per acre (bf/ac) in a riparian zone, less than 500 ft from the coastline, or upland site below 800 feet elevation, and in areas with less than 0.3 miles of road per square mile of land, based on the marten winter habitat model for southeast Alaska (Flynn et al. draft 1991). This category was mapped from DNR's vegetation maps and topographic maps for the Yakataga Area Plan. DFG mapped marten habitat only west of Icy Bay, although marten also occupy similar habitats at Yakataga.

Highest quality land otter habitat: Old-growth forests with at least 8000 bf/ac below 800 feet elevation either within a riparian zone or within 500 feet of the coastline, based on the otter habitat model for Southeast Alaska (Suring et al. 1988). This category was mapped from DNR's vegetation maps and topographic maps for the area west of Icy Bay only. The maps do not show areas where otters or their tracks have been observed by DFG biologists in the Yakutat area, although they occur there.

Highest quality wolf habitat: Areas known to be optimal wolf habitat based on reported sightings and a documented abundance of the most important prey species (deer, beaver, moose, breeding and molting waterfowl, and spawning salmon).

Canada geese and trumpeter swan wintering areas. Areas where concentrations of Canada geese or trumpeter swans have been observed during winter.

A one-mile radius around seabird breeding colonies. Data from the Alaska Habitat Management Guide (AHMG).

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Beaver concentration areas: Areas in which there is a relatively dense population of beavers based on DFG biologists' observations of lodges, food caches, bank burrows or dams.

Potential high-quality beaver habitat: Vegetation types identified from USFWS' wetlands maps known to be high-quality beaver habitat based on habitat research results from similar habitats. The following USFWS wetland types were mapped:

PEM1A PUS/EM1A PAB3/EM1H PEM1/AB3H PFO5/EM1F PEM1F PSS1/EM1C PEM1/SS1F PEM1/SS1C
PEM1C PEM1/USC PSS1H PSS1F PSS1/UBH PSS1C PSS1R PSS1A PSS1/USA PSS1S L2AB3H L2EM2H
R3USA R4SBC R4SBA PUBH PUB/AB3H PAB3H PAB3/UBH PUB/EM1H PEM1H PEM1/UBH PUB/SS1H
PUS/SS1C PSS1/USC PSS1/EM1A PFO1/SS1A PSS1/FO1A PFO1/SS1C PSS1/FO4A PFO4/SS1A PFO4/SS1C

High Value Harvest Areas "HV"

Definition: Either 1) areas of intense harvest compared with the rest of the planning area where the level of harvest has or is projected to reach the harvestable surplus for the resource, or 2) discrete fish and wildlife harvest areas historically important to a community for the harvest of a species where alteration of habitat could permanently limit sustained yield to traditional users.

Criteria:

Intensive community harvest areas: Important community fish and wildlife harvest areas of limited size where the level of harvest, when combined with sport and commercial harvests has, or is projected to reach, the harvestable surplus for the resource.

Intensive sport fishing areas: Areas intensively used for sport fishing where the level of effort or harvest for a particular species is at the sustained yield compared to the overall planning area regardless of land ownership.

Intensive commercial fishing areas by gear type: Areas along the coast where commercial trollers, gillnetters, or purse seiners concentrate on a regular basis to harvest salmon to sell.

Intensive commercial crab harvest areas by species: Areas along the coast where commercial crabbers concentrate on a regular basis to harvest crab to sell.

Intensive hunting areas by species: Areas where the level of hunter days or harvest for moose, goat, brown bear, black bear, deer, waterfowl, or upland game birds is at sustained yield indicating that the area is important for the public's use and enjoyment of one or more wildlife species.

Intensively used areas for watching fish and wildlife: Areas where a relatively large number of people go to watch, photograph, film, study, or draw fish and wildlife species. Results from the DFG 1989 survey of businesses involved with nonconsumptive users of wildlife was the primary source of information for use by visitors. This information is included in the *Recreation and Tourism Resource Report*.

Commercial guide regular use areas: Specific fish and wildlife use areas known to be important to the commercial guiding and outfitting industry. DFG information on the use areas is the primary source of information.

Potentially important wildlife viewing areas: Areas that have abundant wildlife resources, that would allow the public to safely enjoy the wildlife resource, and that have the potential to become a tourist attraction. This information is mapped with the Recreation uses.

Important access for human use of fish and wildlife: Access points and routes that are important for the public's access to fish and wildlife resources as identified in *Southeast Region: Selective Historical Access to Fish and Wildlife* (DFG 1991). Categories include: roads, ATV trails, general trails, freshwater boat routes, boat landings/launch areas, airstrips, float plane traditional landing areas, bush wheel plane traditional landing areas, remote cabins and camps used for the harvest of fish and wildlife, and guide camps or lodges. This information is included on the Access map.