FISH AND WILDLIFE HABITAT AND HARVEST

Goals

Maintain and Protect Publicly Owned Habitat Base. Maintain in public ownership and protect habitat for fish and wildlife resource production to supply sufficient numbers or a diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis; or protect a unique or rare assemblage of a single or multiple species of regional, state, or national significance.

Ensure Access to Public Lands and Waters. Ensure access to public lands and waters where appropriate to promote or enhance responsible public use and enjoyment of fish and wildlife resources. Access improvement, where appropriate, should be designed to be consistent with the public objectives for the area under consideration.

Mitigate Habitat Loss. When resource development projects occur, avoid or minimize reduction in the quality and quantify of fish and wildlife habitat.

Provide Economic Opportunities and Employment. Continue to provide for employment opportunities that include fish and wildlife harvest and/or observation of wildlife by protecting fish and wildlife habitat.

Management Guidelines

A. Water Intake Structures. When issuing authorization to remove water from a fish stream, DNR will require installation of practical water intake structures that do not result in entrainment or impingement of fish. The dimension of the structure and appropriate mesh size is based on site-specific water depth and velocity information, which DNR will provide at the time of authorization. This guideline also applies to temporary water removal activities that do not require a DNR authorization.[1]

B. Alteration of the Riverine Hydrologic System. To the extent feasible and prudent, channelization, diversion, or damming that will have a significant adverse impact on anadromous and high-value resident fish streams will be avoided.

C. Mitigation. The following mitigation policy will apply where coastal district mitigation policies are not in effect for state lands.

1. When authorizing the use or development of state lands, the Department of Natural Resources and the Department of Fish and Game will evaluate the requirements of the

[1] Water intake structure information can be obtained from the ADFG, Habitat and Restoration Division, Southcentral Office located in Anchorage or the Kenai River Center located in Soldotna.

activity or development and the benefits or impacts it may have to habitat when determining stipulations or measures needed to protect fish and wildlife or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of this policy.

2. All land use activities should be conducted with appropriate planning and implementation to avoid or minimize adverse effects on fish and wildlife or their habitats.

3. The department will enforce stipulations and measures, and will require the responsible party to remedy any significant damage to fish and wildlife or their habitats that may occur as a direct result of the party's failure to comply with applicable law, regulations, or the conditions of the permit or lease.

4. When determining appropriate stipulations and measures, the department will apply, in order of priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also follow these steps.

a. Avoid anticipated, significant adverse effects on fish and wildlife or their habitats through siting, timing, or other management options (see Table 2.3 for timing guidelines)

b. When significant adverse effects cannot be avoided by design, siting, timing, or other management options, the adverse effect of the use or development will be minimized.

c. If significant loss of fish and wildlife habitat occurs, the loss will be rectified, to the extent feasible and prudent, by repairing, rehabilitating, or restoring the affected area to a functional state.

d. DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps “a” through “c” cannot avoid substantial and irreversible loss of habitat. The Department of Fish and Game will clearly identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. Replacement or enhancement of similar habitats of the affected species in the same region is preferable. DNR will consider only those replacement and enhancement techniques that have either been proven to be, or are likely to be, effective and that will result in a benefit to the species impacted by the development.

Replacement or enhancement will only be required by DNR if it is determined to be in the best interest of the state either through the original Best Interest Finding process (AS 38.05.0335(e)) or through the permit review process. Replacement may include structural solutions such as creating spawning or rearing ponds for salmon, creating wetlands for waterfowl, or non-structural measures such as research or management of the species affected, legislative or administrative

allocation of lands to a long-term level of habitat protection that is sufficiently greater than that which they would have otherwise received, or other management practices to increase habitat productivity.

D. State lands acquired through Exxon-Valdez Oil Spill (EVOS) funds. The parcels acquired with EVOS funds have attributes which will restore, replace, enhance, and rehabilitate injured natural resources and the services provided by those natural resources, including important habitat for several species of fish and wildlife for which significant injury resulting from the spill has been documented. Any facilities or other development on the parcels acquired through EVOS funds shall be of limited impact and in keeping with the goals of restoration. There shall be no commercial use of the parcels excepting such limited use as may be consistent with applicable state or federal law and the goals of restoration to pre-spill conditions of any natural resource or services dependent upon that resource that were injured, lost, or destroyed as a result of the EVOS. Management activities on EVOS-acquired parcels must further the restoration objectives of the EVOS Restoration Plan, facilitate appropriate public use of these parcels or convey information necessary for public safety or the protection of natural resources. The warranty deed and conservation easement for a specific parcel contain restrictions on use and should be reviewed prior to authorizing activities on these parcels.

Although the Trustees acquired the surface estate of these parcels, in most cases they did not purchase the subsurface estate. For this reason, nothing in this guideline should be interpreted to diminish the rights of the owner of the subsurface estate.

E. DNR Management Authority in Critical Habitat Areas, Game Refuges, and Sanctuaries. ADFG and DNR have different permitting responsibilities in state legislatively designated wildlife areas. These areas were created to protect and preserve the natural habitat and game (in refuges), wildlife populations (in sanctuaries), or habitat areas especially crucial to the perpetuation of fish and wildlife (in critical habitat areas). Activities likely to affect fish or game or their habitat requires a Special Area Permit from ADFG. In some cases, a proposed use in these legislatively designated areas may also require authorization from DNR. Even uses that are defined as “Generally Allowed” under Title 38 (and do not require DNR authorization) may still require an ADFG Special Area Permit. Obtaining all required permits is the applicant's responsibility.

Many, but not all, state wildlife refuges, critical habitat areas and sanctuaries in the planning area have ADFG management plans. DNR has assisted ADFG with the development of many of these plans. These management plans establish policies that guide land uses in these areas, including many uses over which DNR has management authority under Title 38. Although the Kenai Area Plan applies to lands within these wildlife areas, DNR will use the ADFG management plans as additional guidance in implementing its authorities in these areas. DNR will also implement its authorities in these areas consistent with the statutes that establish these wildlife areas. In order to achieve better permitting efficiencies and public understanding of proposed actions, ADFG and DNR will combine review processes whenever possible in legislatively designated wildlife areas. DNR and DFG should also develop a Memorandum of

Agreement establishing a cooperative management system for ADFG and DNR in these areas. See also the guideline *Coordination with ADFG in Critical Habitat Areas, Game Refuges, and Sanctuaries* in Chapter 4.

Some uses within these wildlife areas require that the land be classified before they can be authorized. For this reason, consistent with legislative intent for these areas, this plan designates and classifies all lands within these wildlife areas "fish and wildlife habitat" with one exception. State lands within the Kenai National Moose Range and Tuxedni Refuge boundaries that were legislatively designated under AS 16.20.030(a)(8) and (13) in 1960 are not designated fish and wildlife habitat based on legislative designation alone.

F. Riparian Zones. Authorizations for use of riparian zones of anadromous and high-value resident fish streams should be tailored to protect these areas from significant adverse effects of management actions on fish and wildlife habitat and water quality. The intent of riparian zones is the protection of fish and wildlife and their habitat. This will be accomplished by maintaining values such as short- and long-term sources of large woody debris and vegetation cover, stream bank stability, channel morphology, water temperatures, stream flows, water quality, adequate nutrient cycling, food sources, clean spawning gravel, cover, feeding areas, and travel corridors. See the *Shorelines, Stream Corridors* and *Wetlands* section in this chapter for more information about stream corridors.

G. Brown Bears.

Background Brown bears represent an important biological resource on Alaska's Kenai Peninsula. Brown bears range throughout the Kenai Peninsula, however, due to geographic barriers, biologists believe that the population may be isolated from other populations in the state. The population numbers were probably at an all-time low in the 1920's due to poisoning and shooting. The present estimates of population size ranges between 200-300 bears and biologists believe that the population is stable. Historical management of the brown bear population focused primarily on annual harvest levels with little attention given to management of habitat. Resource managers are now concerned that the increase in land use activities and resultant impact on wildlife habitat may result in an irreversible decline in brown bear numbers. The cumulative effect of many activities in bear habitat reduces the habitat's effectiveness and increases the potential for illegal hunting and killing of bears in defense of life and property.

Biologists from state and federal agencies and universities have monitored brown bears on the Kenai Peninsula for many years. The cumulative effect of human encroachment on brown bear habitat was identified as a potential management issue in the late 1970's. In 1984, impacts to habitat associated with increased levels of recreational and commercial land use resulted in formation of the Interagency Brown Bear Study Team (IBBST). The IBBST is a technical work group comprised of biologists from the USFS, USFWS and the Alaska Department of Fish and Game (ADFG). These biologists work cooperatively to ensure integrated management of brown bears and their habitats on the Kenai Peninsula by providing information and recommendations to land and resource management agencies. To achieve this objective, the IBBST considered mapping essential brown bear habitat and important bear travel corridors. See also Table 2.4

under the *Shorelines, Stream Corridors and Wetlands* section in this chapter for additional guidelines applying to brown bears.

Guideline The Kenai Peninsula Brown Bear Conservation Strategy (KPBBCS) process was underway while the KAP was being developed. The KPBBCS was completed in June 2000, after the KAP was adopted. DNR will initiate a process for modifying the Kenai Area Plan in order to incorporate the Strategy's recommendations for state lands on the Kenai Peninsula. The process for modifying the Kenai Area Plan will be consistent with 11 AAC 55.030(f) (procedures for plan revisions) and AS 38.05.945 (public notice requirements). The intent of the process will be to review, through a public process, whether or not to incorporate these recommendations into the area plan. See also the *Bear Habitat Management Zones* guideline under the *Shorelines and Stream Corridors and Wetlands* section in this chapter.

H. Threatened and Endangered Species.
All land use activities will be conducted consistent with Endangered Species Acts to: 1) avoid jeopardizing the continued existence of threatened or endangered species of animals; 2) provide for their continued use of an area; and 3) to avoid modifying or destroying their habitat. Specific mitigation recommendations should be identified through interagency consultation for any land use activity that potentially affects threatened or endangered species. In Alaska, a number of species are under the jurisdiction of the U.S. National Marine Fisheries Service, the U.S. Fish and Wildlife Service, or the Alaska Department of Fish and Game as threatened or endangered under state and federal Endangered Species Acts. The affected species found in the planning area are:

1. Short-tailed albatross (*Diomedea albatrus*)
2. Eider, spectacled (*Somateria fischeri*)
3. Eider, Stellers (*Polysticta stelleri*)
4. Goose, Aleutian Canada (*Branta canadensis leucopareia*)
5. Humpback whale (*Megaptera novaeangliae*)
6. Right whale (*Eubalaena glacialis*)
7. Blue whale (*Balaenoptera musculus*)

The Ecological Services Anchorage Field Office of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service will be consulted on questions that involve federally listed threatened or endangered species. Consult with the National Marine Fisheries Service before authorizing activities within one mile of sea lion haulouts.

I. Stellers Sea Lion Rookeries and Haulouts. The Stellers sea lion population in western Alaska, including within the planning area, has been declared Endangered. In order to protect sea lions, areas that extend 3,000 feet from haulouts and rookeries are designated buffer zones. These sites are recognized on a unit-by-unit basis in Chapter 3 and are more inclusive than those listed under federal regulation. Prior to authorizing activities within these buffers, DNR will consult with both the National Marine Fisheries Service and ADFG. Decisions to authorize,

deny, or modify proposed activities for uses within these buffers will be based on whether or not they can occur without causing significant adverse impacts to sea lions. Those activities that require authorization and cannot take place without causing significant impacts to animals using the rookeries and haulouts will be denied.[2]

J. Kenai River. For guidelines that apply to the Kenai River drainage, see Region 4 in Chapter 3 under the section *Guidelines for Units located within the Kenai River Drainage***.**

K. Habitats That Warrant A Habitat Designation. The types of habitats listed in Table 2.1 warrant designating a unit Fish and Wildlife Habitat in Chapter 3. Appendix F in Chapter 4 describes the criteria used to make such a designation. When these habitats occur within a unit of state land, the unit is designated Fish and Wildlife Habitat and the type of habitat is noted under the *Land Use Designation Summary* tables at the end of each region in Chapter 3.

Areas that are designated Fish and Wildlife Habitat are:
1. Limited areas that serve as a concentrated use area, essential habitat, or movement corridor for important fish and wildlife species during a sensitive life history stage where alteration of the habitat or human disturbance could result in a permanent loss of population and species sustained yield, or
2. Localized traditional harvest areas of limited size where alteration of habitat could permanently limit sustained yield to traditional users.

Following is a list of these types of habitats:

[2] Also note that NMFS has listed under regulation one rookery (Unit 731, Pye Islands) and two haulouts (Units 556C, Nagahut Rocks and 707, Chiswell Islands) that receive additional federal protection because of their size and significance.

Table 2.1
Habitat types that warrant designating units
Fish and Wildlife Habitat

Bird Rookeries: Marine bird nesting colonies over 1,000 birds.

Brown and/or Black Bear Concentration Areas: Areas where concentrations of black and/or brown bears have been observed 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, and beaches where carrion collects. These also include concentrated denning areas and anadromous streams where bears feed.

Brown Bear Movement Corridors: Areas where brown bears are known to travel, such as through constricted areas (created due to topography or development), along anadromous streams where brown bears feed, or to and from important ecocenters.

Core Caribou Calving Areas: Areas where caribou have been observed calving during more than one year.

Eelgrass Beds. Areas depicted on NOAA maps (1994) or identified by ADFG biologists as important for herring spawning success and provide rearing habitat for numerous species of groundfish, including juvenile rockfish, lingcod, greenling and flatfish.

Moose Movement Corridors: Important corridors allowing travel from post-rutting aggregations into wintering areas. These corridors are particularly important in developed areas near communities.

Mountain Goat Habitat: Limited areas that support relatively high densities of goats in a discrete population.

Razor Clam Concentration and Harvest Areas: Areas where concentrations of razor clams have been observed or those areas certified for commercial harvest of razor clams**.**

Stellers Sea Lion Haulout and Rookery Area: Areas where concentrations of Stellers sea lions have been observed hauled out or pupping during more than one year.

Waterfowl and Shorebird Nearshore Migratory Concentration Areas: Limited areas observed by the US Fish and Wildlife Service or ADFG where waterfowl and shorebirds concentrate during spring or fall migrations to rest and feed.

Habitat types that are recognized as important, but for which units have not been designated Fish and Wildlife Habitat, are listed in Table 2.2.

Table 2.2
Areas of secondary importance as fish and wildlife habitat that are recognized but not designated

Anadromous Stream Mouths: See Guideline L. below.

Bald Eagle Known Concentration Areas: Areas where concentrations of bald eagles have been observed feeding or roosting during more than one year.

Duck or Goose Concentration Areas: Areas of limited size where concentrations of one or more species of ducks or geese have been observed molting, nesting, or staging for migration.

Duck or Goose Nesting or Molting Concentration Area: Areas where concentrations of one or more species of molting or nesting ducks or geese have been observed during more than one year.

Harbor Seal Haulouts: Islets, rocks, or other sites where seals are known to haul out for breeding, feeding, molting or pupping for more than one season.

Important Swan Habitat: Areas where relatively high densities of trumpeter swans have been observed molting, nesting or brood rearing, or during spring, fall, or winter migration for more than one year.

Pacific Herring Spawning Area: Areas depicted on NOAA maps (1994) or identified by ADFG biologists.

Sea Otter Spring or Winter Concentration Area: Areas where large concentrations of sea otters have been observed breeding, pupping, resting or molting during more than one spring or winter.

Table 2.3 provides a general reference of the seasonal periods when important fish and wildlife species are most sensitive to disturbance and indicates that authorizations may be restricted or prohibited in order to avoid or minimize significant impacts on these species if they are likely to interfere with a life history stage. ADFG will provide more specific information, if available, upon request.

Table 2.3
Sensitive fish and wildlife life history activities and recommended timing restrictions for the Kenai Area Plan.

Species	Sensitive Period
Anadromous Fish/Estuarine Environment	
Juvenile salmonids	March 15 - Sept 30
Bald Eagle	
Nests within 330 feet	March 1 - Aug 31
Black and Brown Bear	
Grazing on tidal flats	May 1 - June 15
Concentrated salmon feeding areas	July 10 - Sept 30
Core Caribou Calving Areas	May 5 - June 8
Ducks and Geese	
Nesting and molting	April 15 - Oct 15
Winter concentrations (marine)	Oct 1 - May 1
Spring concentrations (intertidal, freshwater)	March 20 - May 15
Fall concentrations (intertidal, freshwater)	Aug 15 - Oct 31
Mountain Goat Winter Habitat	Nov 1 - May 31
Pacific Herring Spawning	April 1 - June 30
Rock Sandpipers	
overwintering	Nov 1 - May 15
Sea Otter Haul-Out	Nov 1 - May 31
Seabird Colonies	April 15 - Oct 15
Seal Haul-Outs	
Pupping	May 15 - June 30
Molting	Sept 1 - Sept 15
Sea-Lion Haul-Out or Rookery	
Winter use	Sept 1 - Mar 31
Year-round Use	Year-round use
Pupping	May 15 - Oct 31
Shorebirds	
Nesting, feeding, and migration	April 15 - Oct 15
Trumpeter Swans	
Nesting, brooding-rearing, molting	April 15 - Sept 15
Spring concentrations	March 30 - April 15
Fall concentrations	Sept 15 - Oct 31

L. Estuaries, Lagoons, and Anadromous Stream Mouths
Through the interagency review process, DNR shall provide ADFG with the opportunity to review and comment on all applications for authorizations for activities in estuaries, lagoons, and anadromous stream mouths. ADFG will review these proposed activities to determine potential effects on fish and wildlife resources and human uses and, if appropriate, provide recommendations to mitigate impacts. DNR will rely on ADFG to identify the estuaries through the review process if they are different from what is shown on the Fish and Game Profile Atlases. All anadromous stream mouths are shown with symbol on the final plan maps to inform plan users of the location of this type of habitat.

Application of the Guideline:

Activities subject to ADFG review include, but are not limited to the following:

- activities that block fish passage;
- activities that entail dredging, filling, significant compaction of the vegetation and sediment, or blasting;
- activities that alter flow patterns;
- and activities that otherwise create impacts that would significantly reduce the productivity and value of important fish and wildlife habitat.

M. Bald Eagles
Activities that potentially affect bald or golden eagles will be consistent with the state and federal Endangered Species Acts and the Eagle Protection Act of 1940 as amended. Consult with the U.S. Fish and Wildlife Service for locations of eagle nest, roost, and perch trees in order to avoid disturbance.

Resource Allocation Summary

A. Acreages. Approximately 3 million acres are designated or co-designated Fish and Wildlife Habitat and Harvest. Of this total, 1 million acres are uplands and 2 million acres are tidelands and submerged lands. Of the total acreage designated Fish and Wildlife Habitat and Harvest, 840,000 acres are in legislatively designated wildlife areas managed by ADFG.

B. Tideland designations. Many near-shore tidelands and submerged lands were designated Fish and Wildlife Habitat. Habitats in these areas support Stellers sea lions, bird rookeries, waterfowl, shorebirds, and other wildlife. Tidelands and submerged lands around islands with seabird colonies in the Alaska Maritime Natural Wildlife Refuge are also proposed for a Wildlife Habitat designation to ensure consistent protection for which these islands were designated. Most tidelands and submerged lands adjacent to National Parks received this same designation (often along with a Public Recreation and Tourism co-designation). Many freshwater areas were also designated Habitat including many of the larger lakes and rivers that support anadromous fish. All tideland areas that are jointly managed by ADFG and DNR also received this designation.

C. Upland designations. Upland units designated Fish and Wildlife Habitat include those that support moose migration corridors, important brown bear habitat, caribou calving areas, and areas adjacent to anadromous and high value resident fish streams. The plan also designates all lands in existing and proposed State Game Refuges, Critical Habitat Areas, and Sanctuaries as Fish and Wildlife Habitat. Many existing and proposed units of the State Park System also received this as a designation or co-designation.

D. Legislatively Designated Wildlife Areas and Administratively Designated Park Areas. The plan proposes 2,000 acres of additions to existing state wildlife areas (See Chapter 4, Table 4.6). These include parcels adjacent to the Susitna Flats State Game Refuge, Redoubt Bay Critical Habitat Area, and Trading bay State Game Refuge. In addition, two small parcels are proposed for ILMA to ADFG (See Chapter 4, Table 4.8).

Proposed additions to the State Park System will also benefit habitat and harvest. All parcels recommended for addition to the Kenai River Special Management Area by the 1997 *Kenai River Comprehensive Management Plan* are also recommended for addition by this plan. Another, smaller, system of units along a significant river system would be composed of the many units along the Kasilof River. The plan also proposes park designations for small parcels along Deep Creek, Ninilchik River, and Anchor River.

E. Fish Habitat and Sport Fishing. To protect fish habitat and harvest opportunities, corridors along several fish-bearing streams currently in state ownership are proposed for retention in state ownership. The intent is to manage these areas to provide opportunities for fishing, camping, hiking, and other compatible recreation activities. For lands along important streams, the plan includes guidelines that address public access, vegetation protection, and bank disturbances. In addition, six important anadromous fish streams are subject to leasehold location under the plan and are proposed to the legislature for closure to new mineral entry. These stream systems include the Russian River, Kasilof River, Ninilchik River, Stariski Creek, Deep Creek and Anchor River. The lower Russian River is also closed to new mineral entry.

One of the intents of the plan, accomplished through land allocation and management guidelines is to protect the remaining public land near road-accessible fish streams and remote rivers that receive heavy public use. Access to state waters is provided for. State lands adjacent to most lakes and some rivers will be retained in state ownership. Where lands are sold, public access to public waters will be protected through retention of access areas and easements.

F. Commercial fishing. The same habitat protection measures that benefit fish for sport harvest also benefit commercial fish harvest. The plan recognizes areas with Shore Fisheries Leases and areas that provide anchorages used by the fishing fleet. The plan also recognizes areas where the development of fishing processing plants and enhancement facilities are compatible. Such sites can provide for hatcheries, fish processors, and harbor facilities.

G. Hunting. Moose and bear are prevalent throughout the planning area and hunting opportunities are protected through retention of public land. Deep Creek and the Anchor, Ninilchik, and Fox River areas have been identified as important moose harvest and overwintering areas and many of the units along these drainages are recommended for retention.

H. Brown Bears. Brown bear feeding areas, denning areas and migration corridors are recognized in the plan and in many cases are designated Wildlife Habitat. On the Kenai Peninsula, the long-term viability of the brown bear population is a concern. The harvest of brown bears has recently exceeded the number estimated to maintain a sustained yield and the fall bear season was closed by emergency order in 1995, 1996, 1997, 1998, and 1999. Defense of life and property kills have also been increasing in recent years. At the time the KAP was adopted, there was not adequate information to identify all the key habitat areas on the peninsula. For this reason, this plan includes guidelines and designations for only areas of known brown bear habitat. The Kenai Peninsula Brown Bear Conservation Strategy (adopted after KAP was adopted completed) includes recommendations for addressing the problems. DNR has agreed to initiate a process for modifying the Kenai Area Plan in order to incorporate the Strategy's recommendations for state lands on the Kenai Peninsula.

I. Threatened and Endangered Species

A guideline has been included in this Chapter to ensure that authorized uses comply with the Endangered Species Act. In addition, Stellers sea lion haulout and rookery sites have been specifically identified and designated Fish and Wildlife Habitat. Activities that have a significant impact on sea lions cannot be authorized within 3,000 feet seaward of these sites. Most of the uplands adjacent to these sites are not in state ownership.

J. Other Fish and Wildlife Uses

Opportunities for other uses of fish and wildlife -- including photography, viewing and other non-consumptive uses -- will also be protected in large part through retention of large and small blocks of land in strategic locations, as mentioned above.