

## VI. Some Key Habitats of Featured Species

As noted elsewhere in the CWCS, Alaska lacks spatial and quantitative data on many of its species and habitats. What we do know is that habitat diversity in Alaska, as in other places in the Arctic, can be locally very high, including over short distances. What might look to the untrained eye like broad expanses of similar terrain can contain numerous microclimates and microhabitats exploited by species with quite different life requirements (CAFF 2002).

Because the planning team did not specify a standard format or classification for habitats, the scale at which experts identified habitats of concern varied. Some experts in our process identified specific geographic locations of the state, and sometimes even particular plant associations that need conservation action to benefit CWCS species. Others were able to address location, attributes and condition of key habitats for featured species in only very general terms.

For these and other reasons, teasing out what “key habitats” should be included in the Strategy was difficult. Based on a review of the conservation action plans and other material in Appendix 4, the planning team ultimately identified seven general habitat types in Alaska: forests, tundra, freshwater aquatic, wetlands, marine aquatic and coastline, sea ice, and karst caves. Table 34 lists these types and the standard subtypes for which experts identified concrete information regarding species’ habitat requirements.

**Table 34. Key Habitats of Featured Species**

<b>Forests</b>	<b>Marine and Coastline</b>
Boreal	Intertidal
Coastal Temperate Rain forest	Rocky Intertidal
<b>Tundra</b>	Mudflats and Beaches
Alpine	Eelgrass Beds
Arctic	Marine waters
Maritime	Nearshore
<b>Freshwater aquatic</b>	Shelf
Glacial systems	Oceanic
Lakes and Ponds	Benthic
Rivers and Streams	Coastal Islands and Sea Cliffs
Non-glacial systems	<b>Sea Ice</b>
Lakes and Ponds	Fast
Rivers and Streams	Pack
Riparian Zones	<b>Karst Caves</b>
<b>Wetlands</b>	Entrance Zone
Grass	Twilight Zone
Sedge	Deep Cave Zone
Bog	
Salt marsh	

The seven habitat types are complex in form and function, and in the unique and diverse biota that they support. Appendix 5 describes each habitat type and subtype; associated species; the habitat’s ecological importance, status and threats; pertinent laws and regulations; and recommendations for conservation.

In addition to describing key habitats, participating CWCS species and habitat experts identified challenges that Alaska’s fish and wildlife managers face in conserving these habitats. The following table highlights some of the primary concerns they raised.

**Table 35. Synopsis of Fish and Wildlife Habitat-Related Concerns**

<p><b>Forests</b></p> <ul style="list-style-type: none"> <li>• Decreased soil moisture and increased wildfire activity due to warming climate</li> <li>• Insect infestation</li> <li>• Fragmentation and loss</li> </ul>	<p><b>Marine Aquatic and Coastline</b></p> <ul style="list-style-type: none"> <li>• Coastline development</li> <li>• Dredging of shoreline habitat</li> <li>• Oil spills</li> <li>• Tourism pressure</li> <li>• Invasive species</li> <li>• Bycatch of coral and sponge</li> <li>• Deepwater disposal of dredge spoils</li> <li>• Tour ship increases; gray water disposal, solid waste management</li> </ul>
<p><b>Tundra</b></p> <ul style="list-style-type: none"> <li>• Rapid and widespread vegetation changes due to warming climate</li> <li>• Habitat alteration due to ATV use</li> <li>• Increased natural resource exploration and extraction activities</li> </ul>	<p><b>Sea Ice</b></p> <ul style="list-style-type: none"> <li>• Decreased quality, quantity and spatial occurrence due to warming climate</li> <li>• Increased marine transportation and associated probability of oil spills</li> </ul>
<p><b>Freshwater Aquatic</b></p> <ul style="list-style-type: none"> <li>• Increased temperatures and altered flow regimes due to warming climate</li> <li>• Decreased instream flow and connectivity of waterways</li> <li>• Nonpoint source pollution; stormwater runoff</li> <li>• Streambank erosion from illegal fords and inadequate crossing sites</li> <li>• Invasive species</li> </ul>	<p><b>Karst Caves</b></p> <ul style="list-style-type: none"> <li>• Silviculture practices that decrease the landscape integrity</li> <li>• Tourism pressure</li> </ul>
<p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>• Desiccation, inundation, and vegetation changes due to warming climate</li> <li>• Nonpoint source pollution</li> <li>• Dredge and fill activities</li> <li>• Habitat alteration due to ATV use</li> </ul>	

The Strategy identifies Alaska’s marine, coastal, and Arctic tundra areas as being at particular risk of adverse impacts to wildlife, and various national and international initiatives have noted the importance of these habitats for subsistence purposes, their high overall biodiversity, and value to migratory species. As an example, the Arctic coastal tundra/North Slope and “Bering to Baja” coast are identified as key North American “regions of ecological significance” in *The Strategic Plan for North*

*American Cooperation in the Conservation of Biodiversity* (see [http://www.cec.org/pubs\\_docs/documents/index.cfm?varlan=english&ID=1088](http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1088)).

This plan was produced in 2003 by the North American Commission for Environmental Cooperation (CEC) to promote conservation of migratory and transboundary species, and other species identified by the parties (Canada, United States, and Mexico). Similar to Alaska's CWCS, the CEC strategy highlights needs for integrated monitoring and assessment, improved data and information sharing, and enhanced networking and collaboration.

In the CWCS, Alaska has purposely taken a very broad and general approach to classifying and describing habitats, in part to allow for flexibility in future statewide and North Pacific habitat classification efforts. Scientists and conservation planners have identified the lack of a comprehensive habitat classification system for Alaska as a data gap in the state's efforts to better manage its natural resources. With adequate funding, a subsequent iteration of the Strategy may demonstrate results from a scientifically rigorous review of Alaska's habitats.

Meanwhile, Alaska continues to implement programs that target protection and restoration of high priority habitats. An example is ADF&G's Habitat Conservation and Protection Program (HCPP), which works with private landowners, local, state, and federal government agencies, and nongovernmental organizations (NGOs), such as Ducks Unlimited, to develop approaches that help protect key fish and wildlife habitats, including habitats for at-risk species. This nonregulatory program emphasizes development of voluntary conservation easements and fee title acquisitions as a way to achieve long-term habitat and species population goals. HCPP is funded completely with federal dollars and private nonfederal (NGO) match. Federal grant sources include the National Coastal Wetlands Conservation Act and the USFWS Landowner Incentive Program.

Alaska also needs to continue addressing other habitat and land use issues that can affect production and management of fish and wildlife resources. These include the many issues shown in Table 35 and overall effects of a growing human population, such as the expansion and infilling of urbanized areas; invasive plants, such as Japanese knotweed in Southeast Alaska and European bird cherry in Anchorage (O'Harra 2005); and wildlife deaths from wind turbines, roadways, and improper trash management.

### **Literature Cited**

CAFF. 2002. Arctic flora and fauna: recommendations for conservation; a booklet based on CAFF. 2001. Arctic flora and fauna: status and conservation. Helsinki: Edita. 272 p.

O'Harra, D. "Plant specialists send out mayday over tree's spread." Anchorage Daily News 24 May 2005: A1.