

SENSITIVE AREAS: INTRODUCTION

This section is intended for use by the On-Scene Coordinators during the initial phase of a spill event to assist in ascertaining the location and presence of spill-sensitive biological and cultural resources, services and users in Southeast Alaska. This information is specific to Southeast Alaska and was compiled by a multi-organization Sensitive Areas Work Group.

No attempt has been made to duplicate information contained in easily accessible existing documents. This section, therefore, must be used in conjunction with the referenced materials and informational contacts identified herein. More detailed and current data should be available from on-scene resource experts when they become engaged in the response. This information is geared toward early response and does not attempt to evaluate injury or damage which may result from a spill, nor does it prioritize resources for later restoration efforts.

Often, the most detailed, up-to-date biological and resource use information will come from people who live and work in the impacted area. People from the local community are often knowledgeable sources for information related to fishing, hunting, non-consumptive outdoor sports, and subsistence use. They may also have a good idea of which spill response techniques (especially exclusion and diversion booming) are practicable under prevailing weather and current conditions.

The Alaska Regional Response Team (ARRT) has developed a series of guidelines (see the Alaska Federal/State Contingency Plan for Response to Oil & Hazardous Substance Discharges/Releases (Unified Plan)) covering the decision processes for: application of dispersants, use of *in situ* burning, protection of wildlife, and protection of cultural resources. The ARRT Scientific Support Coordinator has developed a Shoreline Countermeasures Manual for use in cleanup decision making by shoreline type. A series of Environmental Sensitivity Index (ESI) maps, showing selected sensitive resources and shoreline types for selected areas, have also been produced for much of Southeast Alaska for the ARRT Scientific Support Coordinator. These guidelines and tools are not duplicated here.

This section and the guidelines in the Unified Plan are also intended for use by facility/vessel operators in developing industry oil spill prevention and contingency plans. For an operator's facility or area of operation, industry contingency plans describe: (a) environmentally sensitive areas and areas of public concern; (b) how sensitive areas would be prioritized during a spill event; and (c) response strategies to protect sensitive areas at risk. This information within industry plans should be consistent with the subarea plan.

The definition of sensitive resources and their geographic locations requires use of field observations and data available from published and non-published materials or through additional field work. With the limited time and funds available for Subarea Contingency Plan development (there are ten such plans covering the state of Alaska), not all the detailed information necessary to adequately complete the Sensitive Areas Section was compiled. Identifying relative priorities among resources and resource uses takes considerable coordination and discussion among resource management agencies. Plans are being developed to further conduct information gathering, compilation, prioritization, and presentation to add to the information required in this section for the next update.

The joint Federal-State Subarea Contingency Plan for this subarea is scheduled for regular review and update. Much can be done in these updates to improve the data and its presentation, such as:

- Complete work identified in Part Four, Significant Data Gaps and Information Needs, to adequately address sensitive areas and resources.
- Establish a continuing interagency mechanism to review, update and maintain sensitivity information and priorities.
- Fund staff/materials to compile data and prepare materials for presentation in the Subarea Contingency Plans.
- Subdivide the area into smaller geographic areas and identify more specifically sensitive seasonal biological and other resource locations.
- Expand and further detail sensitive resources and initial response tactics for the most likely spill scenarios.

Suggestions, comments, and more current information are requested. Please contact either:

Doug Mutter
Department of the Interior
Office of Environmental Policy
and Compliance
1689 C Street, Room 119
Anchorage, Alaska 99501
(907) 271-5011
FAX (907) 271-4102

Mark Fink
Alaska Department of Fish and Game
Habitat and Restoration Division
333 Raspberry Road
Anchorage, Alaska 99518
(907) 267-2338
FAX (907) 267-2464

SENSITIVE AREAS: PART ONE - INITIAL CONTACTS

Agency	Resources	Primary Contact		Alternate Contact	
		Name	Numbers	Name	Numbers
FISH and WILDLIFE and HABITAT RESOURCES					
Alaska Department of Fish and Game	fish, shellfish, birds, terrestrial mammals, marine mammals	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Clayton Hawkes	work: 465-4289 fax: 465-4272 emer:
U.S. Department of the Interior	migratory birds, sea otters, polar bears, walrus	Pamela Bergmann	work: 271-5011 fax: 271-4102 emer: 333-0489	Doug Mutter	work: 271-5011 fax: 271-4102 emer: 345-7726
U.S. Department of Commerce	sea lions, seals, whales, endangered species	Steve Zimmerman	work: 586-7235 fax: 586-7131 emer: 586-2591	Brad Smith	work: 271-5006 fax: 271-3030 emer: 248-4211
U.S. Forest Service	endangered plants	Betsy Walatka	work: 586-8723 fax: 586-7555 emer: 586-1832	Dave Gibbons	work: 586-8784 fax: 586-7555 emer: 369-2766
CULTURAL and ARCHAEOLOGICAL SITES					
Alaska Office of History and Archaeology	historic sites, archaeological sites, national register sites	Judy Bittner	work: 269-8715 fax: 269-8707 emer: 274-7165	Robert Shaw	work: 269-8727 fax: 269-8907 emer: 337-5689
U.S. Department of the Interior	archaeological/historical sites in park and wildlife refuge system units, public lands, Native allotments/trust lands; sunken vessels	Pamela Bergmann	work: 271-5011 fax: 271-4102 emer: 333-0489	Doug Mutter	work: 271-5011 fax: 271-4102 emer: 345-7726
U.S. Forest Service	archaeological and cultural sites in national forests	Betsy Walatka	work: 586-7823 fax: 586-7555	Dave Gibbons	work: 586-8784 fax: 586-7555

Agency	Resources	Primary Contact		Alternate Contact	
		Name	Numbers	Name	Numbers
			emer: 586-1832		emer: 369-2766
U.S. Department of Defense	archaeological sites in military reservations		work: fax: emer:		work: fax: emer:
LAND OWNERSHIP and CLASSIFICATIONS/DESIGNATIONS					
Alaska Department of Natural Resources	state lands, state parks and recreation areas, state forests, tidelands	Mike Bennett	work: 269-8548 fax: 269-8913 emer: 345-3486	Kristina O'Connor	work: 269-8815 fax: 563-0415 emer: 349-1908
Alaska Department of Fish and Game	state game refuges, state critical habitats	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Clayton Hawkes	work: 465-4289 fax: 465-4272 emer:
U.S. Department of the Interior	national parks and preserves, national historic sites, national monuments, national wildlife refuges, public lands, national recreation areas, wild and scenic rivers, wilderness areas, Native trust lands	Pamela Bergmann	work: 271-5011 fax: 271-4102 emer: 333-0489	Doug Mutter	work: 271-5011 fax: 271-4102 emer: 345-7726
U.S. Department of Defense	military installations and reservations	Bob Hansen	work: 552-3791 fax: 552-8959 emer:		work: fax: emer:
U.S. Forest Service	national forests, research natural areas, national monuments	Betsy Walatka	work: 586-7823 fax: 586-7555 emer: 586-1832	Dave Gibbons	work: 586-8784 fax: 586-7555 emer: 369-2766
COMMERCIAL HARVEST					
Alaska Department of Fish and Game	fishing	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Clayton Hawkes	work: 465-4289 fax: 465-4272 emer:

Agency	Resources	Primary Contact		Alternate Contact	
		Name	Numbers	Name	Numbers
Alaska Department of Natural Resources	tideland leases, logging on private lands	Mike Bennett	work: 269-8548 fax: 269-8913 emer: 345-3486	Kristina O'Connor	work: 269-8815 fax: 563-0415 emer: 349-1908
Alaska Department of Environmental Conservation	seafood processing	Manny Soares	work: 269-7640 fax: 269-7510 emer: 333-5312	Nancy Napolilli	work: 451-2100 fax: 465-5292 emer:
U.S. Department of Commerce	fishing permits	Steve Zimmerman	work: 586-7235 fax: 586-7131 emer: 586-2591	Brad Smith	work: 271-5006 fax: 271-3030 emer: 248-4211
SUBSISTENCE USES					
Alaska Department of Fish and Game	statewide subsistence uses	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Clayton Hawkes	work: 465-4289 fax: 465-4272 emer:
U.S. Department of the Interior	subsistence uses on Federal lands and all navigable waters; use of sea otters, walrus, polar bears	Pamela Bergmann	work: 271-5011 fax: 271-4102 emer: 333-0489	Doug Mutter	work: 271-5011 fax: 271-4102 emer: 345-7726
U.S. Department of Commerce	subsistence use of whales, porpoises, seals, sea lions	Steve Zimmerman	work: 586-7235 fax: 586-7131 emer: 586-2591	Brad Smith	work: 271-5006 fax: 271-3030 emer: 248-4211
RECREATION AND TOURISM USES					
Alaska Department of Natural Resources	state parks and recreation areas, anchorages, campgrounds	Mike Bennett	work: 269-8548 fax: 269-8913 emer: 345-3486	Kristina O'Connor	work: 269-8815 fax: 563-0415 emer: 349-1908
Alaska Department of Fish and Game	sport hunting and fishing	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Clayton Hawkes	work: 465-4289 fax: 465-4272 emer:

Agency	Resources	Primary Contact		Alternate Contact	
		Name	Numbers	Name	Numbers
U.S. Department of the Interior	recreation uses in park and wildlife refuge system units and public lands	Pamela Bergmann	work: 271-5011 fax: 271-4102 emer: 333-0489	Doug Mutter	work: 271-5011 fax: 271-4102 emer: 345-7726
U.S. Forest Service	for national forests: cruise ships and tour boats, campgrounds, trails, public use cabins	Betsy Walatka	work: 586-7823 fax: 586-7555 emer: 586-1832	Dave Gibbons	work: 586-8784 fax: 586-7555 emer: 369-2766
WATER INTAKE and USE FACILITIES					
Alaska Department of Environmental Conservation	drinking water wells, treatment and storage; fish processing facilities	Deena Henkins	work: 465-5312 fax: 465-5274 emer: 364-2281	Joe Cottingham	work: 465-5325 fax: 465-5274 emer:
Alaska Department of Fish and Game	hatcheries, ocean net pens and release sites, aquaculture	Lana Shea-Flanders	work: 465-4287 fax: 465-4272 emer:	Janet Schempf	work: 465-4289 fax: 465-4272 emer:
Alaska Department of Natural Resources	tidelands leases, aquaculture sites, private logging camps and log transfer facilities	Mike Bennett	work: 269-8548 fax: 269-8913 emer: 345-3486	Kristina O'Connor	work: 269-8815 fax: 563-0415 emer: 349-1908
U. S. Coast Guard	marinas and docks, mooring buoys	Marine Safety Office, Juneau	work: 463-2450 fax: 463-2445 emer: 463-2450		work: fax: emer
U.S. Forest Service	logging camps and log transfer facilities in national forests	Betsy Walatka	work: 586-7823 fax: 586-7555 emer: 586-1832	Dave Gibbons	work: 586-8784 fax: 586-7555 emer: 369-2766

SENSITIVE AREAS: PART TWO - AREAS OF ENVIRONMENTAL CONCERN

1. BACKGROUND/CRITERIA

The following Sensitivity Index was developed by the Southeast Sensitive Areas Work Group, with representatives from State and federal agencies and the private sector. The index identifies priorities for resources by designations of major, moderate, and lesser concern. It also shows the time of year that resources would be most vulnerable. Resources are not listed by priority within each designation. These designations are for consideration in initial spill response activities, they are not applicable to extended clean-up activities. This prioritization scheme must be used in conjunction with spill-specific information (e.g., size and location of spill, type of product, trajectory) to determine the actual protection priorities for that discharge. Where references are available they are noted in the table. Information on cultural resources are not available for public review due to the susceptibility of sites to vandalism. Cultural resource experts should be contacted for site-specific information. Specific guidance to On-Scene Coordinators for protecting cultural resources is contained in Annex M of the Unified Plan. Data gaps in the index are discussed in Part Four, Significant Data Gaps and Information Needs.

This index also includes potential sites which could be used to hold collected oil if none of the resources in the index are present--these sites are Environmental Sensitivity Index (ESI) shoreline types that are among the least susceptible to long-term damage from oil.

The following criteria were developed by the Southeast Sensitive Areas Work Group as a tool to develop the Sensitivity Index (Tables 1-4). These criteria are not listed in a priority order.

CRITERIA FOR RELATIVE PRIORITY RANKINGS

- human economic disruption -- economic/social value; human food source disruption
- mortality -- wildlife, fish, other organisms (how many potentially killed in relation to abundance)
- animal displacement and sensitivity to displacement
- aesthetic degradation
- habitat availability and rarity
- sublethal effects, including sensitivity to physical or toxic effects of oil or hazardous substances and long-term affects to habitat, species, or both
- threatened and endangered species, and/or other legal designation
- persistent concentration of oil or hazardous substances
- reproduction rate or recolonizing potential
- relative importance to ecosystem
- potential for physical contact with spill--pathway of oil or hazardous substances

- resource sensitivity to response countermeasures

2. AREAS OF CONCERN AND RESOURCE SENSITIVITY INDEX

See also the Environmental Sensitivity Index maps produced for the Alaska Regional Response Team Scientific Support Coordinator.

TABLE 1: AREAS OF MAJOR CONCERN

<u>Types of Resources</u>	Ref.	Yr-rd	Spr	Sum	Fall	Wtr	No Data
Sea lion concentrations (200+) (rookery/haul out)	1, 8	X					
Harbor seal concentrations	1, 8	X					unknown
Seabird colonies (>1000 birds; especially murre, murrelets, pigeon guillemots, cormorants, terns, puffins)	2, 8		X	X	X		
Marbled murrelet nearshore feeding concentrations	3		X	X	X		X
Waterfowl /shorebird migratory, molting and winter concentrations (especially 1,000 + scoters, goldeneyes, oystercatchers, grebes, and any number of harlequins, loons, swans)	1, 8		X Apr- May		X late Aug- Sept	X	X
Threatened and endangered species/habitat (legally protected priority)	19	X					
High use commercial wildlife viewing (marine mammals, eagles, bears on coast)	3b			X May- Sept			
Fish processing plant shore-based (when operating)	4	X					
Intensive commercial fishing by season	5, 8		X	X	X	X	X
Cultural/historic - coastal area surveyed and important sites identified	15, 17	X					
Cultural/historic - National Historic Landmark or on/eligible for National Register of Historic Places	15, 17	X					
Recreation land - National Parks, State Parks, National Wildlife Refuges, State Critical Habitat and Game Refuges	4	X					
Waterfront buildings on pilings & marine areas, harbors (health & safety concerns)		X					
Estuaries	8	X					
Salmon hatchery & ocean pens	4		X	X	X		
Large anadromous fish stream (>10,000 peak escapement)	6, 4, 16	X					
High subsistence salmon harvest area (>10% of local households)	8, 7			X	X		

<u>Types of Resources</u>	Ref.	Yr-rd	Spr	Sum	Fall	Wtr	No Data
Eulachon spawning concentrations (including seal, seal lion & eagle feeding concentrations)	1, 8		X				
Commercial set-net fisheries (Yakutat forelands)	5			X			
Marsh/supratidal wet meadows (ESI 10) (bear spring concentrations & hunting, geese winter concentrations, waterfowl & shorebird migration concentrations, deer spring & winter, marine mammals)	8	X					
Sheltered tidal flats (ESI 9), (goat, deer feeding on algae)	8	X					
High subsistence marine invertebrate harvest area (> 10% of local households)	7, 8	X					
Kelp beds	9	X					
Sheltered rocky shores (ESI 8, 8a) (goat, deer feeding - algae)	8	X					
Sea otter concentrations	1, 8, 14	X					

TABLE 2: AREAS OF MODERATE CONCERN

Types of Resources	Ref.	Yr-rd	Spr	Sum	Fall	Wtr	No Data
Cutthroat, Dolly Varden, or steelhead streams & estuaries		X					
Intensive commercial crabbing (crab concentrations)	1, 5, 8	X					
Humpback whale winter concentrations						X	X
Humpback whale summer/fall concentrations				X	X		
Sea otter established populations (low density)	1, 11, 14	X					
Sea lion haul out (<200)							
Seabird colony (100-1000)	1, 2, 18		X	X	X		
Intensive personal use clamming	5	X					
Abalone harvest (commercial)							
Anadromous fish stream (500-10,000 total escapement or 100-500 pink/chum)	4, 6, 16	X					
Moderate commercial wildlife viewing (marine mammals, eagle, bears along coast)	3b		X May- Sept	X May- Sept			
Osprey feeding concentrations (Wrangel Narrows)	8, 11		X	X	X		
Exposed wave-cut bedrock platform (ESI 2; including nearshore juvenile marine fishrearing habitat in kelp and reefs)	8	X					
Exposed tidal flat (ESI 7)	8	X					
Cultural/historic - unsurveyed area, but high probability of sites	17	X					
Cultural/historic - shipwreck in tidal or beach and over 50 years old	18	X					
Recreation land - designated wilderness	4	X					
Non-estuarine sportfish streams			X	X	X		
Marine mammal subsistence use		X					
Cetacean concentrations areas (non-humpback)		X					

TABLE 3: AREAS OF LESSER CONCERN

Types of Resources	Ref.	Yr-rd	Spr	Sum	Fall	Wtr	No Data
Relatively sheltered gravel beach (ESI 6c, 6d)	8	X					
Relatively sheltered sand/gravel beach (ESI 5b)	8	X					
Peregrine nesting cliffs	4		X	X	X		
Waterfowl nearshore molting (concentrations less than 1,000)	11			X	X		X
Houseboats		X					
Log Transfer Facility (dependent on permeability of oil)	11	X					
Log storage	11	X					
Floating (movable) fish processor				X	X		
Private mariculture farm	4	X					
Low use subsistence invertebrates	7	X					
Bald eagle nests	8, 11, 1, 2		X	X	X		
Seabird colonies (<100)	1, 2, 8		X	X	X thru Sept		
Anadromous fish streams (<500 total escapement or <100 pink/chum)	4, 6, 16		X	X	X	X	
Herring winter concentrations	1					X	X
Cultural/historic - unsurveyed area, but low probability of sites	15, 17	X					
Cultural/historic - surveyed area with no important sites	15, 17	X					
Cultural/historic - inland and over 300 feet in elevation	15, 17	X					
Cultural/historic - shipwreck not tidal or beach area and/or less than 50 years old	18	X					
Intensive sport fishing by season	5, 8, 13		X	X	X		
Recreation lands - facilities (cabin, campground, tent platform, public/private dock mooring & boat launch)	4, 11	X					
Recreation lands - undeveloped area				X	X		

TABLE 4: POTENTIAL OIL COLLECTION SITES
(if no other resources listed in the tables above are present)

Types of Resources	Ref.	Yr-rd	Spr	Sum	Fall	Wtr	No Data
Exposed sand beach (ESI 3/4)							
Exposed sand/gravel beach (ESI 5)							
Exposed gravel beach (ESI 6)							
Exposed rocky beach land (ESI 1)							

REFERENCE DOCUMENTS FOR TABLES 1-4

1. Alaska Habitat Management Guides Reference Maps - Southeast Region (Alaska Department of Fish and Game Habitat Division, 1986)
2. Fish and Wildlife Service Seabird Catalog 1978 (database in Anchorage: contact Vivian Mendenhall at 786-3517)
3. Fish and Wildlife Service, Juneau, marbled murrelet study 1992
- 3b. Shea 1993. Commercial Wildlife Viewing in Southeast Alaska
4. This plan - Volume II, Annex I
5. Juneau Area Plan - Fish and Wildlife Resources Element (Alaska Department of Natural Resources/Alaska Department of Fish and Game 1993)
Prince of Wales Island Area Plan - Fish and Wildlife Resource Element (Alaska Department of Natural Resources/Alaska Department of Fish and Game 1990)
Yakataga Area Plan - Fish and Wildlife Resource Element (Alaska Department of Natural Resources/Alaska Department of Fish and Game 1993)
6. An Atlas of the Catalog of Waters Important to the Spawning, Rearing on Migration of Anadromous Fish (Alaska Department of Fish and Game 1993)
7. Subsistence Resource Use Patterns in Southeast Alaska (Alaska Department of Fish and Game, Division of Subsistence 1993)
8. Environmental Sensitivity Index Maps for Quads in Southeast Alaska (RRI for NOAA 1993)
9. National Oceanic and Atmospheric Administration Nautical Charts
10. Recreational Fisheries of Southeast Alaska, Including Yakutat: An Assessment (Alaska Department of Fish and Game, Division of Sport Fish, 1984)
11. U.S. Forest Service Alaska Regional Office, Tongass geographic information system data
12. Fish and Wildlife Service Juneau Field Office - bald eagle nest site database
13. Salmon Holes & Halibut Hills, A Sport Fishing Atlas of Southeast Alaska (Alaska Department of Fish and Game 1989)
14. Fish and Wildlife Service marine mammals database (contact Tony DeGange at 271-2344)
15. Contact cultural resources personnel (see Section D. "Agency Contacts/Expertise")
16. Attachment One, Salmon Escapement Tables for Southeast Alaska
17. Alaska Department of Natural Resources, Office of History and Archeology. Alaska Heritage Resources Survey (AHRs)
18. Minerals Management Service report on shipwrecks in Alaska
19. Fish and Wildlife Service, National Marine Fisheries Service, Forest Service

SENSITIVE AREAS: PART THREE - BACKGROUND INFORMATION

The background information contained in this section is a mixture of references to readily available documents, knowledgeable contacts, and data not readily available elsewhere.

LAND MANAGEMENT MAPS

The Alaska Department of Natural Resources, under agreement with the Alaska Department of Environmental Conservation, produced digital base and land management maps for each of the subareas using their ARC-INFO based Geographic Information System. The following land management maps provide an index to the Public Land Record and should not be viewed as legal documents. For selected areas of high sensitivity and/or risk, seasonal sensitive areas maps for the area have also been produced (in coordination with the National Oceanic and Atmospheric Administration's (NOAA) Environmental Sensitivity Index mapping schema). Contact the NOAA Scientific Support Coordinator (271-3593).

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A. LAND MANAGEMENT DESIGNATIONS

1. State

Legislatively designated State Marine Parks are identified in Part Three - D.7, Recreational Sites and Facilities.

The Alaska State Legislature has classified certain areas as being essential to wildlife and fisheries resources. These areas are designated as either a game refuge, critical habitat area or game sanctuary. Management of these essential areas is the joint responsibility of the Department of Fish and Game and Department of Natural Resources. Legislation pertaining to these lands may be found in Alaska Statutes Title 16, Chapter 20. Legal descriptions of area boundaries can be found in Alaska Department of Fish and Game's publication, State of Alaska Game Refuges, Critical Habitat Areas and Game Sanctuaries. See Part Three - D.7, Recreational Sites and Facilities, for State Parks information.

The special areas designated in Southeast include the Yakataga and Mendenhall Wetlands State Game Refuges, the Chilkat River and Dude Creek State Critical Habitat Areas and the Stan Price State Game Sanctuary. The fish, wildlife and public use values of these areas are summarized as follows:

Yakataga State Game Refuge was established in 1976 to protect spring and fall resting and feeding habitat for migrating waterfowl and shorebirds. The refuge is best known for Canada geese, ducks and bald eagles. Over 178 species of birds have been seen in the refuge, with the largest number present in April and May. The area is also used for wildlife viewing, hunting, fishing and boating.

Chilkat River State Critical Habitat Area was established in 1972 to protect the up to 3,500 bald eagles that gather to feed on late-run chum salmon. The greatest eagle concentrations occur during mid to late November. The area also provides winter moose habitat. Wildlife viewing is popular.

Mendenhall Wetlands State Game Refuge was established in 1976 to protect natural habitat and game populations, especially waterfowl.

Dude Creek State Critical Habitat Area was established in 1988 to protect the wet meadow habitat which is a key resting area for lesser sandhill cranes during their spring and fall migrations. Local residents use the area for recreation.

Stan Price State Game Sanctuary was established in 1990 to provide permanent protection for brown bears, other fish and wildlife populations, and the scientific, aesthetic and educational values of the area.

2. Federal

See Part Three - D.7, Recreational Sites and Facilities, for National Parks and National Forests information.

Alaska Maritime National Wildlife Refuge contact: Refuge Manager, Homer, 907/235-6546. The Refuge includes several islands in Southeast:

- Petrel Island
- Forrester Island
- Lowrie Island
- Wolf Rock
- Hazy Islands
- St. Lazaria Islands

2. HABITAT TYPES

Shoreline habitats have been defined and ranked according to Environmental Sensitivity Index (ESI) standards produced by the National Oceanic and Atmospheric Administration (NOAA) in (Environmental Sensitivity Index Guidelines (October 1995)).

1. **Benthic Habitats**

Oil vulnerability is lower in benthic areas than in the intertidal zone since contamination by floating slicks is unlikely. Sensitivity is derived from the species which use the habitat. Benthic habitats have not been traditionally classed by ESI rankings, but are treated more like living resources which vary with season and location. Benthic habitats include: submerged aquatic vegetation beds, large beds of kelp, worm reefs, coral reefs.

2. **Shoreline Habitats**

Habitats (estuarine, large lacustrine and riverine) ranked from least to most sensitive (see the following table) are described below:

ESI #1--Exposed impermeable vertical substrates: exposure to high wave energy or tidal currents on a regular basis, strong wave-reflection patterns common, substrate is impermeable with no potential for subsurface penetration, slope of intertidal zone is 30 degrees or greater, attached organisms are hardy and accustomed to high hydraulic impacts.

ESI #2--Exposed impermeable substrates, non-vertical: exposure to high wave energy or tidal currents on a regular basis, strong wave-reflection patterns regular, substrate is impermeable with no potential for subsurface penetration over most of intertidal zone, slope of intertidal zone is less than 30 degrees, there can be accumulated but mobile sediments at the base of cliff, attached organisms are hardy and accustomed to high hydraulic impacts.

ESI #3--Semi-permeable substrate: substrate is semi-permeable with oil penetration less than 10 cm, sediments are sorted and compacted, slope is less than 5 degrees, sediment and potential for rapid burial mobility is low, surface sediments are subject to to regular reworking by waves, there are relatively low densities of infauna.

ESI #4--Medium permeability substrate: permeable with oil penetration up to 25 cm, slope is from 5 to 15 degrees, rate of sediment mobility is high with accumulation of up to 20 cm of sediments in a single tidal cycle, sediments are soft with low trafficability, low densities of infauna.

ESI #5--Medium to high permeability substrate: substrate of medium to high permeability which allows oil penetration up to 50 cm, spatial variations in distribution of grain sizes with finer ones at high tide line and coarser ones in the storm berm and at toe of beach, 20 percent is gravel, slope between 8 and 15 degrees, sediment mobility is high during storms, sediments are soft with low trafficability, low populations infauna and epifauna except at lowest intertidal levels.

ESI #6--High permeability substrates: substrate is highly permeable with oil penetration up to 100 cm, slope is 10 to 20 degrees, rapid burial and erosion of shallow oil can occur during storms, high annual variability in degree of exposure and frequency of wave mobilization, sediments have lowest trafficability of all beaches, natural replenishment rate is the lowest of all beaches, low populations of infauna and epifauna except at lowest intertidal levels.

ESI #7--Exposed flat permeable substrate: flat (less than 3 degrees) accumulations of sediment, highly permeable substrate dominated by sand, sediments are well saturated so oil penetration is limited, exposure to wave or tidal-current energy is evidenced in ripples or scour marks or sand ridges, width can vary from a few meters to one kilometer, sediments are soft with low trafficability, high infaunal densities.

ESI #8--Sheltered impermeable substrate: sheltered from wave energy and strong tidal currents, substrate of bedrock or rocky rubble, variable in oil permeability, slope greater than 15 degrees with a narrow intertidal zone, high coverage of attached algae and organisms.

ESI #9--Sheltered flat semi-permeable substrate: sheltered from wave energy and strong tidal currents, substrate is flat (less than 3 degrees) and dominated by mud, sediments are water-saturated so permeability is low, width varies from a few meters to one kilometer, sediments are soft with low trafficability, infaunal densities are high.

ESI #10--Vegetated wetlands: marshes and swamps with various types of emergent herbaceous grasses and woody vegetation over the substrate.

3. Upland Habitats

At this time, no uplands or wetlands classifications directly related to sensitivity to oil spills has been identified. A general wetlands classification has been developed by the U.S. Fish and Wildlife Service, National Wetlands Inventory, in Anchorage. Considerable mapping of wetlands has been completed, some of which are available in a Geographic Information System database (see the following

figure).

National Wetland Inventory
ESIC/USGS
Anchorage
786-7011

ESI HABITAT RANKING

ESI NO.	ESTUARINE	LACUSTRINE	RIVERINE (large rivers)
1 A	Exposed rocky cliffs	Exposed rocky cliffs	Exposed rocky banks
1 B	Exposed sea walls	Exposed sea walls	Exposed sea walls
2	Exposed wave-cut platforms	Shelving bedrock shores	Rocky shoals; bedrock ledges
3	Fine- to medium-grained sand beaches	Eroding scarps in unconsolidated sediments	Exposed, eroding banks in unconsolidated sediments
4	Coarse-grained sand beaches	Sand beaches	Sandy bars and gently sloping banks
5	Mixed sand and gravel beaches	Mixed sand and gravel beaches	Mixed sand and gravel bars and gently sloping banks
6 A	Gravel beaches	Gravel beaches	Gravel bars and gently sloping banks
6 B	Riprap	Riprap	Riprap
7	Exposed tidal flats	Exposed flats	Not present
8 A	Sheltered rocky shores	Sheltered scarps in bedrock	Vegetated, steeply sloping bluffs
8 B	Sheltered sea walls	Sheltered sea walls	Sheltered sea walls
9	Sheltered tidal flats	Sheltered vegetated low banks	Vegetated low banks
10 A	Saltwater marshes		
10 B	Freshwater marshes	Freshwater marshes	Freshwater marshes
10 C	Freshwater swamps	Freshwater swamps	Freshwater swamps
10 D	Mangroves		

“Environmental Sensitivity Index Guidelines” (October 1995) NOAA Technical Memorandum NOS ORCA 92

Insert wetlands index map here

C. BIOLOGICAL RESOURCES

1. Fish and Wildlife

The Southeast Alaska Subarea has a great variety and abundance of fish and wildlife, many of which are present on a year-round basis. The natural resources of the region support a sizeable commercial fishing industry, as well as subsistence, hunting, sport fishing, and tourism uses.

Large numbers of waterfowl, seabirds and shorebirds are present during the spring and fall migrations. The Stikine and Mendenhall river deltas and Yakutat and Bering Glacier forelands areas are particularly important staging areas. Many birds also breed in the region during the summer and a large duck population overwinters in sheltered areas. Major seabird breeding colonies are located on St. Lazaria, Forrester and Hazy Islands. Smaller colonies are also present throughout the region. A seabird colony database is maintained by the Fish and Wildlife Service and can be obtained from Vivian Mendenhall, Fish and Wildlife Service, Anchorage (786-3517). Recent surveys have also been completed by the Fish and Wildlife Service for marbled murrelets and wintering birds in Southeast.

A large population of bald eagles nests along the coastal areas during spring and summer and many stay through the winter. Concentrations of bald eagles are commonly found in association with major spawning events by species including salmon, herring and eulachon. The largest concentrations are found near Haines, along the Chilkat River from September through January, and along the lower Stikine River from April through early May.

Harbor seals, Steller sea lions, sea otters, killer whales and porpoises are present throughout the year. Several species of endangered baleen whales, including large numbers of gray and humpback whales, migrate through the area and stop to feed during the spring and summer. Sea lion rookeries are located on Forrester and Hazy Islands and several haulouts are scattered along the outside coast and the protected, inside waters. Harbor seals are particularly abundant in Glacier, Icy and Yakutat Bays.

Dense concentrations of marine organisms are present, including five species of Pacific salmon, herring, crab, shrimp, clams, mussels and a variety of intertidal organisms. Local kelp and eelgrass beds are critical components of the marine ecosystem.

Several species of terrestrial mammals are present. Brown and black bear, moose, Sitka black-tailed deer, wolves, mountain goats, river otter, mink and weasels are common in coastal areas.

The following tables present a seasonal summary of critical life periods for many of the most ecologically and economically important species. Distribution maps can be found in the Alaska Department of Fish and Game Habitat Management Guide maps referenced in Part Five, Key References.

TABLE 5: THREATENED AND ENDANGERED SPECIES

Threatened and endangered species potentially present in the area are:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Occurrence</u>
Sperm whale	<i>Physeter catodon</i>	Occasional migrant
Blue whale	<i>Balaenoptera musculus</i>	Occasional migrant
Fin whale	<i>B. physalus</i>	Occasional migrant
Sei whale	<i>B. borealis</i>	Occasional migrant
Humpback whale	<i>Megaptera novaenaglie</i>	Resident
Northern right whale	<i>Balaena glacialis</i>	Occasional migrant
Steller sea lion	<i>Eumetopias jubatus</i>	Resident
Short-tailed albatross	<i>Diomedea albatrus</i>	Possible migrant
American peregrine falcon	<i>Falco peregrinus anatum</i>	Possible migrant

Species of concern which may be found in the area are:

North American lynx	<i>Felis lynx canadensis</i>
Alexander Archipelago wolf	<i>Canis lupus ligoni</i>
Glacier Bay water shrew	<i>Sorex alaskanus</i>
Harlequin duck	<i>Histrionicus histrionicus</i>
Kittlitz's murrelet	<i>Brachyramphus brevirostris</i>
Marbled murrelet	<i>Brachyramphus marmoratus</i>
Northern goshawk	<i>Accipiter gentilis</i>
Olive-sided flycatcher	<i>Contopus borealis</i>
Spotted frog	<i>Rana pretiosa</i>
Bull trout	<i>Salvelinus confluentus</i>

TABLE 6: STELLER SEA LIONS

Southeast Alaska Steller Sea Lion Rookery & Haulout Locations

<u>Site</u>	<u>Latitude</u>	<u>Longitude</u>
Benjamin Island ²	58°33'5"N	134°54'5"W
Biali Rock ²	56°43'0"N	135°20'5"W
Biorka Island ^{2,3}	56°51'0"N	135°32'0"W
Cape Addington ²	55°26'5"N	133°48'5"W
Cape Bingham	58°05'5"N	136°32'0"W
Cape Cross ²	57°55'5"N	136°33'5"W
Cape Ommaney ²	56°09'5"N	134°39'5"W
Coronation Island ²	55°49'5"N	134°16'0"W
Forrester ¹	54°51'0"N	133°32'0"W <u>to</u>
	54°52'5"N	133°35'5"W
Graves Rock	57°14'5"N	136°45'5"W
Grindle Island	55°26'5"N	132°07'5"W
Hazy1	55°52'0"N	136°34'0"W <u>to</u>
	55°51'5"N	134°51'0"W
Inian Island	58°15'0"N	136°20'0"W
Jacob Rock	56°43'5"N	135°23'5"W
Lull Point ²	57°18'0"N	135°48'5"W
Met Pt. (Lynn Canal)	58°20'0"N	134°54'0"W
Pinta Rocks	57°05'0"N	134°00'0"W
Round Rock	57°16'5"N	135°52'5"W
Sea Lion Island	57°17'0"N	135°52'5"W
St. Lazaria Island	56°59'5"N	135°43'0"W
Stephens Passage	58°08'0"N	134°10'0"W
Sunset Island ²	57°30'5"N	133°35'0"W
Tenakee Cannery Pt.	57°46'4"N	135°04'0"W
The Brothers	57°17'5"N	133°50'0"W
The Sisters	58°10'3"N	133°15'5"W
Timbered Island ²	55°42'0"N	133°48'0"W
Turnaround Island	57°08'0"N	133°59'0"W
White Sisters ¹	57°38'0"N	136°15'5"W
Wolf Rock	55°01'2"N	133°29'2"W
Yasha Island	56°58'0"N	134°33'5"W
Gran Point ²	50°08'2"N	135°14'6"W
Ledge Point ²	58°48'5"N	130°45'5"W

1 Rookery Sites

2 Haulout with more than 200 animals counted

3 Haulout currently located at Kaiuchali Island, Dennis McAllister, Alaska Department of Fish and Game, personal communication, March 1993

Insert critical life period chart 1

Insert critical life period chart 2

Insert critical life chart period 3

Insert critical life period chart 4

Insert critical life period chart 5

2. Vegetation

The following are plant species of concern which may be found in the area:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Occurrence</u>
N/A	<i>Calamagrostis crassiglumis</i>	Swamps/brackish meadows
N/A	<i>Carex lenticularis var. dolia</i>	Above 600 meters altitude

3. Biologically Sensitive Areas

The Alaska Department of Fish and Game initialized a project in 1996 to map some of the most environmentally sensitive areas (MESAs) for wildlife along Alaska's coast. This information is for contingency planning purposes and does not cover the complete coastline on sensitive areas that other organizations may identify.

Maps entitled "Most Environmentally Sensitive Areas along the Coast of Alaska," were published by the Alaska Department of Fish & Game (1997), and are available in hard copy and digital format from:

Mark Fink
Alaska Department of Fish and Game
Habitat and Restoration Division
333 Raspberry Road
Anchorage, Alaska 99518
Phone: (907) 267-2338
FAX: (907) 267-2464

Each of these sensitive areas covers a 1:250,000 scale U.S. Geological Survey quadrangle map. A list of the sensitive areas in the Southeast Subarea and a map referencing their location is provided below.

**Location Map for Oil Spill Contingency Planning
Most Environmentally Sensitive Areas for the Southeast Subarea**

Oil Spill Contingency Planning
Most Environmentally Sensitive Areas ("Biological Hotspots")
along the Coast of the Southeast Subarea

58. Situk
 - salmon concentrations
 - eulachon spawning
 - waterfowl and shorebird spring and fall staging
 - seabird colony (>3,300 birds)
 - harbor seal haulouts (>100 animals)
 - brown bear feeding concentrations

59. Dry Bay
 - salmon concentrations
 - eulachon spawning
 - waterfowl and shorebird spring and fall staging
 - seabird colonies (>1,600 birds)
 - harbor seal haulouts (>100 animals)
 - brown bear feeding concentrations

60. Chilkat River Flats
 - salmon concentrations
 - eulachon spawning
 - waterfowl and shorebird spring and fall staging
 - bald eagle feeding concentrations

61. Mendenhall Wetlands
 - salmon concentrations
 - eulachon spawning
 - waterfowl and shorebird spring and fall staging and winter concentrations
 - seabird colonies (>100 birds)
 - Mendenhall Wetlands State Game Refuge

62. St. Lazaria Island
 - seabird colony (>404,000 birds)
 - Alaska Maritime National Wildlife Refuge

63. Stikine River Flats
 - salmon concentrations
 - eulachon spawning
 - waterfowl and shorebird spring and fall staging
 - harbor seal haulouts (>100 animals)
 - brown/black bear feeding concentrations

64. Mouth of Pack Creek (Seymour Canal)
 - salmon concentrations
 - brown bear feeding concentrations
 - Stan Price State Wildlife Sanctuary

65. Burroughs Bay (east of Bradford Canal)
 - salmon concentrations
 - eulachon spawning
 - herring wintering concentrations
 - waterfowl and shorebird spring and fall staging
 - harbor seal haulouts
 - black/brown bear feeding concentrations

66. Hazy Islands (west of Coronation Island)
 - seabird colonies (3,600 birds)
 - sea lion haulout and rookery (808 pups)
 - Alaska Maritime National Wildlife Refuge

67. Coronation Island
 - seabird colonies (>1,300 birds)
 - sea lion haulout
 - sea otter concentrations

68. Forrester Island
 - seabird colonies (>1 million birds)
 - sea lion haulout and rookery (3,261 pups)
 - Alaska Maritime National Wildlife Refuge

¹ Area heavily weighted by highly significant commercial and/or subsistence fisheries.

4. HUMAN USE RESOURCES

1. Fish Hatcheries and Associated Ocean Net Pens

There are currently nineteen operating hatcheries in the Southeast Alaska Subarea. The species raised include trout and all five species of Pacific salmon. Hatcheries and their associated ocean net pen release sites are shown in the following tables and figures.

The hatchery activities most vulnerable to spill damage include fry rearing and release at the hatcheries or associated ocean net pen sites, terminal harvests and egg takes. However, since the timing of these activities varies by hatchery and species, it is difficult to generalize about what activity occurs, and when, although spring and summer tend to be the most critical times. Hatchery managers should be contacted for specific information. Contact numbers are listed in the following table.

TABLE 7: FISH HATCHERIES

<u>Operator, Hatchery, City, Phone</u>	<u>Species</u>
Southern Southeast Regional Aquaculture Association:	
Whitman Lake Hatchery Ketchikan 225-2635	chum, coho, chinook and sockeye
Beaver Falls Hatchery Ketchikan 225-9605	sockeye and coho
Neets Bay Hatchery Ketchikan 247-8790	chum, coho and chinook
Alaska Aquaculture, Inc.:	
Burnett Inlet Hatchery (not operational) Wrangell 874-2250	pink, chum, coho and chinook
American Aquaculture Corp. :	
Bell Island Hatchery (not operational) Ketchikan 214-363-2070	chinook, coho, and steelhead trout
Ketchikan Tribal Hatchery Corp.:	
Deer Mountain Hatchery Ketchikan 225-6760	chinook, steelhead, coho, & rainbow trout
Prince of Wales Hatchery Association:	
Klawock River Hatchery Craig 755-2231	coho, sockeye and steelhead
Northern Southeast Regional Aquaculture Association:	
Hidden Falls Hatchery Sitka 788-3215	chum, coho and chinook
Medvejie Creek Hatchery Sitka 747-5863	chum, coho, pink and chinook
Port Camden Hatchery Kuiu Island 747-6850	Chum
Haines Hatchery Haines 766-3110	Chum and sockeye
Sheldon Jackson College Aquaculture Program:	
Sheldon Jackson Hatchery Sitka 747-5209	pink, chum, coho, chinook and steelhead
Douglas Island Pink and Chum, Inc.:	
Snettisham Hatchery Douglas 586-3838, dial 11 at the tone	sockeye

Gastineau Channel Hatchery
Juneau 463-5113 pink, chum, coho
and chinook

Kowee Creek Hatchery
Juneau 463-5113 steelhead trout

Sheep Creek Hatchery
Juneau 586-3663 pink, chum and
coho

Kake Nonprofit Fisheries Corp.:

Gunnuk Creek Hatchery
Kake 789-2964 pink, chum and
coho

Burro Creek Farms:

Burro Creek Hatchery
Skagway 983-2355 pink, chum,
coho, and chinook

Armstrong-Keta, Inc.:

Port Armstrong Hatchery
Sitka 568-2228 pink, chum, coho
and chinook

Alaska Department of Fish and Game:

Crystal Lake Hatchery
Petersburg 772-4772 chinook, coho and
steelhead

National Marine Fisheries Service and Alaska Department of Fish and Game:

Little Port Walter Research Station
Sitka Marine Radio WRY8219 chinook and
steelhead (pen-reared)

FISH HATCHERY MAP

Insert ocean net pen map #1 of 3

Insert ocean net pen map #2 of 3

Insert ocean net pen map #3 of 3

2. Aquaculture Sites

Several aquatic farms are currently operating in Southeast. Many of the farms are concentrated between Ketchikan and Petersburg. Most are growing oysters, although there is also interest in blue mussels, scallops and kelp. The number of farms may increase in the near future. The locations of currently permitted farms is indicated on the following map.

Aquatic farms are vulnerable to spill damage on a year-round basis since the organisms are continuously submerged in the water column or are being held intertidally. The timing of the harvest varies. For more information contact:

Bob Piorkowski
Aquaculture Coordinator
Alaska Department of Fish and Game
Juneau
465-6150

Don McKay
Alaska Department of Fish and Game
Anchorage
267-2279

Mike Ostasz
Alaska Department of Environmental Conservation
Anchorage
269-7638

Janetta Pritchard
Alaska Department of Natural Resources
Anchorage
269-8546

Insert aquafarm permit holders chart here

Insert aquafarm permit map part 1 of 2

Insert aquafarm permit map part 2 of 2

3. Cultural Resources

The Southeast Subarea contains a multitude of known and unidentified archaeological and historic sites. Oil spills and hazardous substance releases may result in direct and/or indirect impacts to those cultural resources. On-Scene Coordinators (OSC) are responsible for ensuring that response actions take the protection of cultural resources into account and that the statutory requirements for protecting cultural resources are met. **Annex M of the Unified Plan** outlines OSC responsibilities for protecting cultural resources and provides an expedited process for compliance with Section 106 of the National Historic Preservation Act during the emergency phase of a response.

4. Subsistence and Personal Use Harvests

Subsistence-related uses of natural resources play an important role in the economy and culture of many communities in Southeast Alaska. A subsistence economy may be defined as follows:

...an economy in which the customary and traditional uses of fish, wildlife and plant resources contribute substantially to the social, cultural and economic welfare of families in the form of food, clothing, transportation and handicrafts. Sharing of resources, kinship-based production, small scale technology and the dissemination of information about subsistence across generational lines are additional characteristics.

Prior to 1990, the State of Alaska made all decisions regarding the management of subsistence resources and harvest rights. In 1990, however, federal agencies became responsible for managing subsistence resources on federal lands and in federal waters. As a consequence, the number of agencies involved in managing subsistence resources and uses has increased. Regulations regarding subsistence harvest can be expected to undergo substantial modification in the near future. Therefore, in the event of a spill, more extensive coordination will be required in order to address subsistence resources.

The information in this section covers traditional subsistence harvest areas for many of the rural communities in the region (see Attachment Two). The following charts showing seasonal rounds of activity, are included for several of these communities in order to illustrate the species harvested and the times of year when harvesting occurs. This information can be used during a spill event in order to determine the communities threatened or impacted by the discharge, and the specific food sources at risk of contamination.

For more information, call the Alaska Department of Fish and Game Division of Subsistence (465-2629) and local community contact numbers listed below.

<u>Organization</u>	<u>Phone</u>	<u>Fax</u>
Central Council of Tlingit-Haida Indian Tribes of Alaska	586-1432	586-8970
Sealaska Corporation	586-1512	586-9214
Cape Fox Corp. (Ketchikan)	225-5163	225-3137
Ketchikan Indian Corp.	225-5158	225-0429
Organized Village of Saxman	247-2502	274-2502
Goldbelt Inc. (Juneau)	790-4990	790-4999
Douglas Indian Assoc.	364-2916	364-2917
Haida Corp. (Hydaburg)	285-3721	285-3944
Hydaburg Cooperative Assoc.	285-3666	285-3667
Huna Totem Corp. (Juneau)	789-1773	789-1896
Kake Tribal Corp. (Kake)	785-3221	
Organized Village of Kake	785-6471	785-4902
Kavilco, Inc. (Seattle)	542-2214	
Klawock Heenya Corp. (Klawock)	755-2270	755-2966
Klawock Cooperative Assoc.	755-2265	755-8800
Kootznoowoo, Inc. (Angoon)	788-3553	788-3892
Angoon Community Assoc.	788-3411	788-3412
Klukwan, Inc. (Juneau)	789-7361	789-3980
Chilkat Indian Village (Klukwan)	767-5505	767-5518
Aukuquan Traditional Council	790-2550	790-2550
Shaan Seet, Inc. (Craig)	826-3251	826-3980
Craig Community Assoc.	826-3996	826-3997
Shee Atika, Inc. (Sitka)	747-3534	747-5727
Sitka Tribe of Alaska	747-3207	747-4915
Skagway Village (Skagway)	983-2885	
Yak-Tat Kwaan, Inc. (Yakutat)	784-3335	784-3622
Chilkoot Indian Association (Haines)	766-2323	766-2345
Hoonah Indian Assoc. (Hoonah)	945-3545	945-3449
Petersburg Indian Assoc. (Petersburg)	772-3636	772-3637
Wrangell Cooperative Assoc. (Wrangell)	874-3482	874-2982

TABLE 9: SOUTHEAST PERSONAL USE HARVEST

Personal use harvests in Southeast Alaska may potentially* occur as follows:

Shrimp fishery	all year
Dungeness crab fishery	all year
Brown king crab fishery	all year
Red & blue king crab fishery	all year (west of Cape Spencer) July 1-March 31 (east of Cape Spencer)
Tanner crab fishery	all year
Clam fishery	all year
Abalone fishery	all year
Herring fishery	all year
Bottomfish fishery	all year
Halibut fishery	February 1-December 31
Smelt fishery	all year
Salmon fishery	all year (in most waters)

***NOTE:** All personal use fisheries occur under sport fishing regulations and may be opened or closed by emergency order, if Alaska Department of Fish and Game ascertains that conditions warrant such actions. Also, harvest regulations and seasons can change from year to year. The dates given above indicate periods when fisheries are commonly, but not always, open.

For more information contact the Alaska Department of Fish and Game contacts listed in Part One - Initial Contacts.

TABLE 10: YAKUTAT PERSONAL USE HARVEST

Personal use harvests in the Yakutat region may potentially* occur as follows:

Shrimp fishery	all year
Dungeness crab fishery	all year
King crab fishery	all year
Tanner crab fishery	all year
Clam fishery	all year
Herring fishery	all year
Bottomfish fishery	all year
Halibut fishery	February 1-December 31
Smelt fishery	all year
Salmon set gill net fishery	July 1-September 30

***NOTE:** All personal use fisheries occur under sport fishing regulations and may be opened or closed by emergency order, if the Alaska Department of Fish and Game ascertains that conditions warrant such actions. Also, harvest regulations and seasons can change from year to year. The dates given above indicate periods when fisheries are commonly, but not always, open.

For more information contact the Alaska Department of Fish and Game contacts listed in Part One - Initial Contacts.

5. Commercial Fishing

The following tables provide seasonal information on the major commercial fisheries in the Southeast Alaska and Yakutat areas. It must be remembered, however, that all fishing seasons are subject to emergency openings and closures. In reality, most seasons are only open for a portion of the seasons specified in the regulations. Also, fishing regulations and seasons can change from year to year. Specific information on which species are currently being harvested may be obtained from the Alaska Department of Fish and Game's Division of Commercial Fisheries office in Juneau. The Division may be contacted by calling 907/465-4250.

Maps of key commercial fishing areas are available in the previously referenced publications:

Alaska Department of Fish and Game. 1986. Alaska Habitat Management Guide Reference Maps, Southeast Region, Vols. 1 and 2.

Research Planning Institute, Inc. 1993. Sensitivity of Coastal Environments and Wildlife to Spilled oil: Southeast Alaska. Vol. I and II.

Research Planning Institute, Inc. 1993. Geographic Information System database provided to NOAA's Seattle and Anchorage HAZMAT offices, which show species targeted in each mapped fishing area.

Salmon are the most important commercial species in Southeast, with pink salmon comprising the majority of the catch. Other profitable fisheries target herring, sablefish, Tanner, Dungeness and brown king crab, shrimp and sea cucumbers.

Insert commercial fishing table one

Insert commercial fishing table two

6. Sport Fishing and Hunting

Brown and black bears concentrate in coastal marshes from April to mid-June to feed on the newly emergent sedges and grasses. They are commonly hunted in these coastal areas during the spring hunting season, from mid-March to end of May. A high proportion of the bear hunts are by guided hunters from other countries and the lower 48 states who pay an average of \$10,000 to hunt in a pristine environment where bears are abundant. Oiled beaches could interfere with these guided hunts through general fouling of the coastline and possible impacts to bears from ingestion of oiled vegetation. Popular bear hunting areas also indicate areas with potential safety issues during response to an oil spill.

Sport fishing in marine waters occurs year-round for king salmon, Dolly Varden, halibut and rockfish, and shellfish. However, fishing pressure is greatest from May to October due to calmer waters, warmer weather conditions, and more abundant sport fish in nearshore waters. The most intensively fished areas are delineated in several documents listed in Part Five, Key References.

7. Recreational Sites and Facilities

National Forests

Recreational sites and facilities found throughout southeast Alaska on the Tongass National Forest have been mapped on the forest's Geographic Information System (GIS). Areas of the Tongass are also mapped to their degree of recreational use. Cabins and camping areas are mapped by symbols. For information, contact:

Ketchikan Area Forest Supervisor, Ketchikan, 907/225-3101
Chatham Area Forest Supervisor, Sitka, 907/747-6671
Stikine Area Forest Supervisor, Petersburg, 907/772-3841

National Parks

Glacier Bay National Park and Preserve contact: Superintendent, Gustavus, 907/697-2230. High use recreation areas are noted below.

Upper West and East Arms of Glacier Bay. Most popular destination for all park visitors, including cruise, tour, charter and private motorboats and kayaks.

Lover Glacier Bay, including Bartlett Cove and Berg Bay. Popular area for sportfishing and boating, due to its proximity to park headquarters at Bartlett Cove.

Beadslee Islands. Second most popular destination for sea kayaks. Also popular for small motorboats.

Hugh Miller/Scidmore/Charpentier Inlets and Adams Inlet. Popular destination for small boats, including kayaks.

Marble Islands. Most popular tour and charter boat stop for watching seabirds.

Tour boat camper drop-off points. The park designates three points where the day tour boat drops-off kayakers and campers up-bay. The sites are normally

rotated after two years to allow site impacts to heal. the oil spill coordinator could get the current sites from the park.

Dundas Bay. Most popular destination for small boats and kayaks outside Glacier Bay proper.

Dry Bay/Alsek River/East Alsek River. Most use of Dry Bay is related to commercial fishing - a set gillnet fishery in the East and Alsek rivers and along the beach either side of the mouth of both rivers. A large number (1,000+) of rafters also float the Alsek River, which is tidally influenced for at least 5 miles from the mouth.

Wrangell-St. Elias National Park and Preserve contact: Superintendent, Glennallen, 907/822-5235.

Sitka National Historic Park contact: Superintendent, Sitka, 907/747-6281.

Klondike Gold Rush National Historic Park contact: Superintendent, Skagway, 907/983-2921.

State Parks

State park lands that are adjacent to marine waters and that could be affected by an oil spill are provided in the following list and maps.

Point Bridget State Park, 2,800 acres, T37S R63E, Lat 58 40' Long 135 57'. This is a road accessible Park in the Juneau area that receives moderate to high use. Most of this use is along the edge of the coast and an extensive intertidal meadow. A Public Use Cabin was just built at the edge of an intertidal slough so the use will be increasing.

Totem Bight State Historical Park, 11 acres, T74S R90E CRM. This is an historical park in Ketchikan that is focused around a native clan house and totem poles. There are two beach access points here but there is not much activity on the beaches other than the occasional field trip. Very high use.

Refuge Cove State Recreational Site, 13 acres, T75S R90E CRM. This is a picnic area in Ketchikan that has one of the few road accessible sandy beaches. High use.

Settlers Cove State Recreational Site, 38 acres, T73S R90E CRM. This is a campground with two picnic areas and a salmon stream. The associated sandy beach has the highest beach use in the Ketchikan area. Very high use.

Portage Cove State Recreational Site, 7 acres, T30S R59E CRM. This is a small coastal picnic area in Haines. Picnic sites are all on the uplands. High use.

Old Sitka State Historical Site, 51 acres, T55S R63E CRM. This is a coastal picnic area in Sitka that has a salmon stream flowing through it. There are also some large sand and gravel tidal flats associated with the site that are used in conjunction with the upland facilities. High use.

Halibut Point State Recreational Site, 22 acres, T55S R63E CRM. This is a coastal picnic area in Sitka that has a salmon stream flowing through it. There are also some large sand and gravel tidal flats associated with the site that are used in conjunction with the upland facilities. High use.

Chilkat State Park, 6,045 acres, T31S R59E, T32S R60E. This park is a major part of the Chilkat Peninsula that has a boat launch and campground. There are several small coves, islands and sandy beaches along the shoreline. There is also a coastal trail that follows the shore south to the tip of the peninsula. Most of the use is for fishing, hunting, crabbing and hiking. High use.

The following Marine Parks all have good anchorages, protected waters, and good landing beaches. All of the Marine Parks are to be included as a series of anchorages that stretch the full length of the Panhandle and connect with a similar system in British Columbia.

Dall Bay State Marine Park, 585 acres, T77S R91E, LAT LONG . This park is a sheltered cove south of Ketchikan that is used primarily for diving and intertidal activities associated with beach camping. Moderate use.

Thom's Place State Marine Park, 1,198 acres, T65,66S R86E CRM. This park is a sheltered cove south of Wrangell that has an excellent fishing stream and tidal flats associated with it. Moderate to high use.

Beecher Pass State Marine Park, 660 acres, T61S R79E. This is a series of small islands and coves south of Wrangell. There is a lot of good fishing and hunting in the area which is used extensively by the local population. Moderate use.

Joe Mace Island State Marine Park, 62 acres, T64S R75E CRM. This is a small island near the community of Point Baker. Mostly used as an anchorage and recreation site for the community. Moderate use.

Security Bay State Marine Park, 500 acres, T58S R70E CRM. This park is part of a larger protected bay east of Kake. The park itself has several small islands and protected coves that are good fishing and hunting. Low use.

Taku Harbor State Marine Park, 700 acres, T41S R70E. This park is the major portion of a protected harbor that has a public floating dock and large tide flats. High use.

Oliver Inlet State Marine Park, 560 acres, T43S R68E. This park is mainly a portage site from Stephens Passage to Seymour Canal. There is a public use cabin here. One side of the portage is a long inlet that is only accessible at high tide, and on the other side is an extensive (1 mile) tidal flats. High use.

Funter Bay State Marine Park, 162 acres, T42S R64E CRM. This park is part of a large protected bay and series of islands west of Juneau that has excellent fishing and hunting. High use.

Shelter Island State Marine Park, 3,560 acres, T39S R64E. This park is part of an island that includes two sandy coves. One has a picnic area on it and the other is undeveloped. Both beaches are heavily used by fishermen and hunters. High use.

St. James Bay State Marine Park, 10,220 acres, T375 R62E CRM. This is a large bay with several islands, coves salmon streams, and an extensive area of tideflats. The bay supports a large population of shrimp and crab that are harvested commercially. There is also an associated harbor with only a narrow passage for entry. This harbor is the site of a large hatchery release of salmon. High use.

Sullivan Island State Marine Park, 2,163 acres, T34S R61E. This park is on the southern tip of Sullivan Island which has two important anchorages and several sandy beaches. Low use.

Chilkat Islands State Marine Park, 6,560 acres, T32S R60E. T33S R61E, This is a series of islands off the tip of the Chilkat Peninsula. Low use.

Magoun Islands State Marine Park, 1135 acres, T54S R62E CRM. This park is a group of tightly knit islands with many small coves and beaches west of Sitka. There is also one large lagoon that is only accessible by boat at high tides. This area is primarily used for fishing, clamming, and hunting. Moderate use.

Big Bear/Baby Bear State Marine Park, 1023 acres, T51S R61E CRM. This park is a series of protected islands and bays in Peril Straits north of Sitka. Good fishing and hunting. Moderate use.

Gindall Island State Marine Park, 484 acres, T47S R87E CRM. This park is an isolated island west of Ketchikan that has a public use cabin on it. The area is mainly used for diving fishing, and other intertidal activities. The southern tip of the island is an established sealion haulout. Moderate use.

Local Parks

This document does not include most city or borough parks at this time. Three city park/recreation areas that were former federal surplus properties are: Shoemaker Bay Recreational Area (City of Sitka), Totem Square (City of Sitka), and Seaplane Ramp/Turnaround Site (City of Wrangell).

8. Commercial Tourism

A mail survey of commercial wildlife tour operators in Southeast Alaska in 1989 documented the level and types of wildlife viewing areas important to tourism in coastal areas. There were at least 120 businesses offering wildlife viewing in the region in 1989. The following map shows the level of use throughout the region.

Insert wildlife viewing map #1 of 5 here

Insert wildlife viewing map #2 of 5 here

Insert wildlife viewing map #3 of 5 here

Insert wildlife viewing map #4 of 5 here

Insert wildlife viewing map #5 of 5 here

9. Marinas and Ports

(See Resources Section)

10. Fish Processing

The following list identifies fish processors, canneries, and shellfish processors operating in Southeast Alaska and provides the general location in which they operate and how to contact them. The list excludes fishing vessels and shellfish harvesters.

Craig:

Eat Me Seafood; 826-3936
Vixen Seafood & Smokehouse; 826-3896
Norquest Seafoods, Inc.; 826-3334
E.C. Phillips & Son; 225-3121

Excursion Inlet:

Excursion Inlet Plant/Wards Cove Packing Co.
586-4244

Gustavus:

Icy Passage Fish; 697-2264
Point Adolphus Seafoods; 697-2246
The Salmon River Smokehouse; 697-2330

Haines:

Alyeska Products; 766-2593
Bell's Seafood; 766-2950
Dejon Delights; 766-2505
Halsingland Hotel; 766-2000
Chilkoot Salmon and Seafood; 766-2040
Rainbow Glacier Seafoods, Inc.; 766-3521

Hoonah:

Buy n Pack Seafoods; 945-3388
Hoonah Cold Storage; 945-3264

Hyder:

Alaskan Premier Seafoods; 604-636-9001

Juneau:

Alaska Food Group; 790-2722
Alaska Glacier Seafood; 780-4866
Alaska Seafood Co.; 780-5111
Carrs Quality Center; 790-5500
Jerry's Meats & Seafoods; 789-0173
Super Bear Market; 789-0173
Horst's Alaska Seafood, Inc.; 790-4300
Jon K Seafood, Inc.; 780-6893
Northern Keta; 586-6095

Juneau (cont.):

Taku Smokeries; 463-4617
Juneau A & P; 225-1279
Douglas Island Pink and Chum, Inc.; 463-5114
The Shellfish Market; 586-3501

Kake:

Kake Fisheries; 785-3311

Ketchikan:

Pac-Alaska; 247-7225
Reward Seafood, Inc.; 247-0101
Sea World Fisheries; 225-8631
Totem Take Out; 225-5070
Alaska General Processors; 225-2906
Norquest Seafoods, Inc.; 225-6664
Ketchikan Cold Storage; 225-6664
Neets Bay Hatchery; 247-8790
E.C. Philips & Son; 225-3121
Trident Seafoods Corp.; 225-4191
Wards Cove Packing Co. 225-5030
Crystal Bay Co.; 225-1307
Sunny Cove Mariculture, Inc.; 225-2463
Tenass Pass Shellfish; 463-3600
Alaska General Processors; 255-2906

Klawock:

Lily Pad Garden; 755-2543
Wildfish Smokery; 755-2247

Metlakatla:

Annette Island Packing Co.; 206-282-0988

Pelican:

Kake Tribal Corp.; 785-3211
Elfin Cove Oysters; 239-2224

Petersburg:

Deckhand Seafoods; 772-4294
Northern Lights Smokeries; 772-3801
Norquest Seafoods, Inc.; 772-3333
Tonka Seafoods, Inc.; 772-3662
Petersburg Fisheries, Inc.; 772-4294
Ocean Beauty Seafoods, Inc.; 772-4242
Coastal Cold Storage; 772-4177
Emily Island Oysters, Inc.; 772-4697

Sitka:

Alaska Bounty Seafoods & Smokery; 966-2927
Fresh Fish Company, Inc.; 747-5565
Pristine Seafood Co.; 747-8857
Sheldon Jackson College; 747-5220
T & L Specialty Meats & Seafood; 747-3995
Norquest Seafoods, Inc.; 206-281-7022
Medvejie Hatchery; 747-6850
Hidden Falls Hatchery; 747-7575
Seafood Producers Cold Storage, Inc.; 747-5811
Sitka Sound Seafoods, Inc.; 747-6662

Wrangell:

Breakwater Seafoods; 874-3542
Coastal Cold Storage; 772-4171
J.R. Fish Company, Inc.; 874-2399
Sea Level Seafoods, Inc.; 874-2274
G & G Alaska Smokery; 874-3950
Wrangell Fisheries, Inc.; 874-3346
Mosman Joe Oysters; 345-2273

Yakutat:

Raven's Table Smokery; 784-3497
Yakutat Smoked Fish/Sitka Sound Seafoods;
747-5220
Yakutat Facility/Sitka Sound Seafoods, Inc.
747-6662
Dry Bay/Sitka Sound Seafoods, Inc.
747-6662
YKI Fisheries; 784-3335

11. Logging Facilities

All logging facilities on the Tongass National Forest are mapped on the U.S. Forest Service's Geographic Information System (GIS). See the following map.

The following organizations can be contacted with requests for specific information on location and timing of logging activities. Although the primary function of these organizations is not to provide such information, the individual members will be quite knowledgeable about environmental conditions and will often be willing to share information.

Alaska Forest Association
Ketchikan
225-6114

Insert log transfer sites map here

12. Water Intake and Use

The following list of water intake/use permits was generated from a database maintained by the Alaska Department of Environmental Conservation. The list shows “type A” water users which are those systems serving 25 or more persons using the system for 6 or more months of the year. Additional information can be obtained from the Alaska Department of Environmental Conservation at 465-5350.

Name of System _____ _____ _____

Available on request

E. WIND, ICE AND CURRENT CONDITIONS

The following information gives an overview of wind, tide and current conditions in Southeast Alaska. Much of the available data is general in nature and should be supplemented by area-specific updates and information from local residents. Included in this section are data on tidal ranges and maps of net surface currents. In addition, if the user obtains a current edition of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) tide current tables for the Pacific Coast of North America, it will be possible to predict the times of ebb and flood tides for several points within Southeast.

1. Alaska Current

As indicated in the following figure, the Alaska Current circulates in a counter-clockwise gyre in the Gulf of Alaska. Accordingly, spills in outer coast areas can generally be expected to travel along the coast in a northwesterly direction. However, tidal currents, winds and fresh water runoff can exert significant effects on net surface currents in many areas. Net surface currents in the Lynn Canal/Chatham Strait region are indicated in the following figure. Sitka Sound nets surface currents are indicated in the following figure.

2. Tidal Currents

Although tidally induced currents are factors in determining net surface currents, tidal currents are not usually important in long distance transport since they are oscillatory in nature. As mentioned above, wind and freshwater runoff are additional variables which must be taken into account when estimating spill trajectories. In some cases, tidal currents will be counteracted by these variables and will not be the deciding factor in spill transport. In addition, tidal currents can be difficult to predict in some areas due to flood tide entering the region's many north-to-south straits and passages from both ends. This has been documented to occur in Chatham Strait.

3. Winds

In many cases, spill trajectory is determined primarily by winds, especially when currents are weak. Winds are typically from the south and southeast, with an average velocity of 5 to 35 knots. Taku winds, which typically occur in the winter, are generally from the north or the east and are much stronger, with an average velocity of 30 to 70 knots, gusting to 100 knots. Taku wind conditions generally last from 3 days to 3 weeks.

4. Spill Trajectory

The trajectory of a spill is the result of the interaction of these several forces. This interaction is often complex and difficult to predict. NOAA is capable of generating sophisticated spill trajectories and has had considerable experience in this area. Requests for this service should be directed to:

John Whitney
Scientific Support Coordinator
National Oceanic and Atmospheric Administration
Ocean Assessments Division
510 L Street, #100
Anchorage, AK 99501

working hours: 907/271-3593 or after hours (pager): 907/275-3134

5. Ice

Ice originating in Glacier Bay can create year-round navigational hazards in the Icy Strait/Cross Sound area. Considerable ice can also be present in Icy and Yakutat Bays. Ice originating in Endicott Arm and Tracey Arm may create similar problems in Holkan Bay and adjacent portions of Stevens Passage, while ice originating in LeConte Bay is carried northerly past Horn Cliff in Frederick Sound.

6. Data Sources

Hood and Zimmerman (eds). 1986. Gulf of Alaska: Physical Environment and Biological Resource. (Gulf of Alaska net surface currents)

LaBelle, J.C. and J.L. Wise. 1983. Alaska Marine Ice Atlas.

National Climatic Data Center (NDC) and Arctic Environmental Information and Data Center (AEIDC). 1988. Climatic Atlas, Volume I: Gulf of Alaska. (wind roses, tidal range data and map)

U.S. Department of Commerce (NOAA). 1989. Tide Current Tables 1990: Pacific Coast of North America and Asia. (tidal current data and information)

Insert current map 1

Insert current map 2

Insert current map 3

SENSITIVE AREAS: PART FOUR - SIGNIFICANT DATA GAPS AND INFORMATION NEEDS

Below is a list of information and data that will be useful for contingency planning purposes but is not yet available.

- (a) Unpublished Alaska Department of Fish and Game and Fish and Wildlife Service field data on species distribution and abundance by Environmental Sensitivity Index (ESI) types in Southeast.
- (b) Personal-use-harvest clam beds data in the Ketchikan area from the Alaska Department of Fish and Game.
- (c) Alaska Department of Fish and Game intensive commercial fishing areas by species for Port Alexander and Dixon Entrance quadrangle maps.
- (d) Peregrine nesting cliff locations from the Fish and Wildlife Service.
- (e) Humpback whale winter and summer/fall concentration data from the National Marine Fisheries Service.
- (f) Orca whale seasonal concentration data from the National Marine Fisheries Service.
- (g) Updated Fish and Wildlife Service sea otter maps based on the 1993 summer field season.
- (h) An updated map showing areas with completed cultural resources surveys.
- (i) A map of unsurveyed areas of high probability for cultural resources.
- (j) Updated data on seal and sea lion haulouts from the National Marine Fisheries Service.
- (k) Data from the 1993 field survey of Harbor Seals.

SENSITIVE AREAS: PART FIVE - KEY REFERENCES

The following documents and Geographic Information System (GIS) databases will provide information on critical fish and wildlife concentrations. The information contained in these documents is not, for the most part, duplicated in this regional plan. The Alaska Department of Fish and Game regional office in Douglas, and the office in Anchorage, has a copy of the all of the documents listed. Additional copies of the first two documents may be obtained, for a fee, from:

Anchorage Reprographics Center, Inc.
302 Fireweed Lane
Anchorage, AK
272-5571 (phone) 277-5779 (FAX)

Documents:

Alaska Department of Fish and Game. 1993. An Atlas to the Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes, Southeast Region (updated annually).

Alaska Department of Fish and Game. 1993. Sport Fishing Guide: Northern Southeast Alaska and Yakutat.

Alaska Department of Fish and Game. 1993. State of Alaska Refuges, Critical Habitat Areas, and Sanctuaries.

Alaska Department of Fish and Game. 1992. Ketchikan Area Sport Fishing Guide.

Alaska Department of Fish and Game. 1991. Southeast Region: Selective Historical Access To Fish and Wildlife.

Alaska Department of Fish and Game. 1991. Sport Fishing Guide: Prince of Wales Island Area.

Alaska Department of Fish and Game. 1989. Salmon Holes and Halibut Hills, A Sportfishing Atlas of Southeast Alaska.

Alaska Department of Fish and Game. 1988. Community Profile Series, Volume 1 and 2, Tongass Resource Use Cooperative Study.

Alaska Department of Fish and Game. 1986. Alaska Habitat Management Guide Reference Maps, Southeast Region, Vols. 1 and 2.

Alaska Department of Fish and Game. 1984. Recreational Fisheries of Southeast Alaska, Including Yakutat: An Assessment.

Alaska Department of Fish and Game. 1984. Fish and Wildlife Element - Southeast Tidelands Area Plan for Southwest Prince of Wales Island.

Alaska Department of Natural Resources. 1993. Juneau Area Plan.

Alaska Department of Natural Resources and Alaska Department of Fish and Game. 1993. Juneau Area Plan Elements - Fish and Wildlife.

Alaska Department of Natural Resources and Alaska Department of Fish and Game. 1993. Yakataga Area

Plan Elements - Fish and Wildlife, Recreation, Infrastructure, Access (in prep).

Alaska Department of Natural Resources and Alaska Department of Fish and Game. 1990. Prince of Wales Island Area Plan Elements - Fish and Wildlife, Subsurface Resources and Settlement.

Alaska Department of Natural Resources. 1988. Prince of Wales Area Plan.

Alaska Department of Natural Resources. 1988. Etolin Island Mariculture Pilot Project.

Burbank, D.C. and L.B. Flagg. 1979. Fish, Wildlife, and Habitat Resources and the Potential Impacts of Oil Transportation: Southeast Alaska (Icy Strait/Chatham Strait/Lynn Canal). Alaska Department of Fish and Game.

Michel, J. and J. Dahlin. 1993. Guidelines for Developing Digital Environmental Sensitivity Index Atlases and Databases. National Oceanic and Atmospheric Administration.

Michel, J. and S. Christopherson and F. Whipple. 1994. Mechanical Protection Guidelines. National Oceanic and Atmospheric Administration and U.S. Coast Guard.

Research Planning Institute, Inc. 1993. Sensitivity of Coastal Environments and Wildlife to Spilled oil: Southeast Alaska. Vol. I and II.

Sundberg, K.A. 1981. Marine Biology and Circulation Investigations in Sitka Sound, Alaska. Alaska Department of Fish and Game.

Tornfelt, E.E. and M. Burwell. 1992. Shipwrecks of the Alaskan Shelf and Shore. Minerals Management Service, OCS Report MMS-92-0002.

U.S. Department of Commerce (NOAA). **Current Year's Edition.** Tidal Current Tables: Pacific Coast of North America and Asia.

Geographic Information System (GIS) Databases:

National Oceanic and Atmospheric Administration's Environmental Sensitivity Index (ESI) maps have been produced on a GIS and are available through NOAA or the U.S. Forest Service's GIS in Juneau. Maps covering the region at 1:250,000 scale include biological and human use elements. Part of the region is covered at 1:63,360 scale for shoreline geomorphology. Contact John Whitney at NOAA in Anchorage.

U.S. Forest Service's Tongass National Forest: Alaska Department of Fish and Game, U.S. Forest Service and Fish and Wildlife Service information on seasonal concentrations of sea lion, harbor seal, sea otter, osprey, trumpeter swan, Vancouver Canada goose, waterfowl and shorebirds, seabirds, recreation and infrastructure (1:63,360 scale in ARC-INFO from Juneau).

Alaska Department of Fish and Game's TRUCS subsistence data in percentage of households using polygon by each of 30 communities by salmon, other finfish, marine invertebrates, marine mammals, deer (1:250,000 scale in ARC-INFO from Douglas).

Alaska Department of Natural Resources' Yakataga Area Plan - bears, moose, goat, recreation, commercial fishing, subsistence fishing and gathering, infrastructure, and marine access sites (1:250,000 scale in ARC-INFO from Anchorage).

Fish and Wildlife Service's bald eagle nest sites (1:63,360 scale from Juneau).

Fish and Wildlife Service's seabird colonies (Vivian Mendenhall, Fish and Wildlife Service Alaska Regional Office, Migratory Birds)

SENSITIVE AREAS: ATTACHMENT ONE

ALASKA DEPARTMENT OF FISH AND GAME

Salmon Escapement Tables for Southeast Alaska

The following tables provide data from 1970 through 1992 on the peak adult salmon escapement counts for anadromous streams throughout Southeast Alaska (Alaska Department of Fish and Game, Division of Commercial Fisheries, 1993). The tables indicate the peak adult salmon count on one day during the "peak" of the annual run for each species in the stream, sorted within each statistical area by the three categories of concern:

Major concern: >10,000 total peak count (sum all species); OR > 500 pink peak count; OR > 200 chum peak count

Moderate concern: 500 - 10,000 total peak count

Lesser concern: < 500 total peak count

Species for which there was no count data but that were observed in the stream are just listed.

The following maps show the 1980 statistical area boundaries that relate to the first two portions of the stream numbers used in the escapement data tables. In some areas the stream number is different than that in An Atlas to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fish because the statistical areas have changed.

These tables are intended to be used only for the initial response to an oil spill. Once the area Alaska Department of Fish and Game biologists have become involved in the response, they will use the tables but may set different priorities for stream protection due to factors such as run timing and percentage of run spawning in intertidal zone.

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SENSITIVE AREAS: ATTACHMENT TWO

ALASKA DEPARTMENT OF FISH AND GAME

Subsistence Uses in Southeast Alaska

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