

# SENSITIVE AREAS: PART ONE – INITIAL CONTACTS

[see Table at end of Part One for contact information]

| Agency   | Resources   | Primary Contact  | Alternate Contact |
|--|---|------------------|-------------------|
| <b>FISH and WILDLIFE and HABITAT RESOURCES</b>         |   |                  |                   |
| Alaska Department of Fish and Game                     | fish, shellfish, birds, terrestrial mammals, marine mammals   | Mark Fink        |                   |
| U.S. Department of the Interior                        | migratory birds, sea otters, polar bears, walrus, endangered species, anadromous fish in freshwater, bald eagles, wetlands            | Pamela Bergmann  | Doug Mutter       |
| U.S. Department of Commerce                            | sea lions, seals, whales, endangered marine species, anadromous fish in marine waters   | Brad Smith       | Matthew Eagleton  |
| U.S. Department of Agriculture                         | national forest lands   | Steve Zemke      | Mike Novy         |
| Alaska Natural Heritage Program                        | rare and endangered plants  | Julie Michaelson | Rob Lipkin        |
| <b>CULTURAL and ARCHAEOLOGICAL SITES</b>               |   |                  |                   |
| Alaska Office of History and Archaeology               | historic sites, archaeological sites, national register sites   | Dave McMahan     | Joan Dale         |
| 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  | Doug Mutter       |
| U.S. Department of Agriculture                         | archaeological/historical sites on national forest lands  | Steve Zemke      | Mike Novy         |
| <b>SHORELINE TYPES</b>                                 |   |                  |                   |
| Scientific Support Coordinator                         | shoreline types, environmental sensitivity index maps   | John Whitney     |                   |
| <b>LAND OWNERSHIP and CLASSIFICATIONS/DESIGNATIONS</b> |   |                  |                   |
| Alaska Department of Natural Resources                 | state lands, state parks and recreation areas, state forests, tidelands   | Sam Means        | Clark Cox         |
| Alaska Department of Fish and Game                     | state game refuges, state critical habitats   | Mark Fink        |                   |

| Agency   | Resources   | Primary Contact                              | Alternate Contact |
|--|---|--|-------------------|
| 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                              | Doug Mutter       |
| U.S. Department of Agriculture                         | national forests, national monuments, wild and scenic rivers, wilderness areas, research natural areas  | Steve Zemke                                  | Mike Novy         |
| U.S. Department of Defense                             | military installations and reservations   | Alaska Command                               |                   |
| Local Governments:<br>–Cordova<br>–Valdez<br>–Whittier | municipal and private lands, and rights-of-way  | Steve Harris<br>Carol Smith<br>Rick Hohnbaum |                   |
| <b>COMMERCIAL HARVEST</b>                              |   |  |                   |
| Alaska Department of Fish and Game                     | fishing permits, seasons  | Mark Fink                                    |                   |
| Alaska Department of Natural Resources                 | tideland leases, logging on private lands   | Sam Means                                    | Clark Cox         |
| Alaska Department of Environmental Conservation        | seafood processing  | Manny Soares                                 | Kimberly Stryker  |
| U.S. Department of Commerce                            | fishing permits, seasons  | Brad Smith                                   | Matthew Eagleton  |
| <b>SUBSISTENCE, PERSONAL, AND SPORT USES</b>           |   |  |                   |
| Alaska Department of Fish and Game                     | subsistence and personal uses statewide and navigable waters, sport hunting and fishing   | Mark Fink                                    |                   |
| U.S. Department of the Interior                        | subsistence uses on Federal lands and reserved waters; subsistence uses of: sea otters, walrus, polar bears, migratory birds  | Pamela Bergmann                              | Doug Mutter       |
| U.S. Department of Commerce                            | subsistence use of: whales, porpoises, seals, sea lions   | Brad Smith                                   | Matthew Eagleton  |
| <b>RECREATION AND TOURISM USES</b>                     |   |  |                   |
| Alaska Department of Natural Resources                 | State parks and recreation areas, anchorages, boat launches, campgrounds, State public lands  | Sam Means                                    | Clark Cox         |

| Agency  | Resources   | Primary Contact                           | Alternate Contact                 |
|---|---|---|-----------------------------------|
| Alaska Department of Fish and Game                              | sport hunting and fishing   | Mark Fink                                 |                                   |
| Alaska Department of Commerce, Community & Economic Development | seasonal events and activities, travel, outdoor activities, local visitor bureaus, tourism industries | Alaska Division of Tourism                |                                   |
| U.S. Department of Agriculture                                  | campgrounds, cabins, recreation areas, trails, within the national forest system                      | Steve Zemke                               | Mike Novy                         |
| U.S. Department of the Interior                                 | recreation uses in park and wildlife refuge system units and Federal public lands                     | Pamela Bergmann                           | Doug Mutter                       |
| <b>WATER INTAKE and USE FACILITIES</b>                          |   |   |                                   |
| Alaska Department of Environmental Conservation                 | public drinking water wells, water treatment and storage, fish processing facilities                  | James Weise                               | Suzan Hill                        |
| Alaska Department of Fish and Game                              | hatcheries, ocean net pens and release sites, aquaculture   | Mark Fink                                 |                                   |
| Alaska Department of Natural Resources                          | tidelands leases, aquaculture sites, private logging camps and log transfer facilities                | Sam Means                                 | Clark Cox                         |
| U.S. Coast Guard  | marinas and docks, mooring buoys  | Marine Safety Office, Valdez              | 17 <sup>th</sup> District, Juneau |
| <b>AREAS OF LOCAL CONCERN</b>                                   |   |   |                                   |
| Cordova   | special use locations   | Steve Harris                              |                                   |
| Valdez  | special use locations   | Carol Smith                               |                                   |
| Whittier  | special use locations   | Rick Hohnbaum                             |                                   |
| Chenega   | special use locations   | See access information in following table |                                   |
| Chistochina   | special use locations   |   |                                   |
| Chitina   | special use locations   |   |                                   |
| Eyak  | special use locations   |   |                                   |
| Gakona  | special use locations   |   |                                   |
| Gulkana   | special use locations   |   |                                   |

| Agency     | Resources             | Primary Contact | Alternate Contact |
|------------|-----------------------|-----------------|-------------------|
| Kluti-Kaah | special use locations |                 |                   |
| Mentasta   | special use locations |                 |                   |
| Nothway    | special use locations |                 |                   |
| Tatitlek   | special use locations |                 |                   |
| Tazlina    | special use locations |                 |                   |

**CONTACT INFORMATION:**

| Agency  | Primary Contact            |  | Alternate Contact |   |
|---|----------------------------|--|-------------------|---|
|   | Name                       | Numbers  | Name              | Numbers   |
| Alaska Department of Fish and Game                                | Mark Fink                  | work: 267-2338<br>fax: 267-2464<br>emer: 337-7933<br>email: <a href="mailto:mark_fink@fishgame.state.ak.us">mark_fink@fishgame.state.ak.us</a> |                   | work:<br>fax:<br>emer:<br>email:  |
| Alaska Department of Natural Resources                            | Sam Means                  | work: 269-8548<br>fax: 269-8913<br>emer: 333-7229<br>email: <a href="mailto:samm@dnr.state.ak.us">samm@dnr.state.ak.us</a>                     | Clark Cox         | work: 269-8565<br>fax: 269-8913<br>emer: 337-1009<br>email: <a href="mailto:clark_cox@dnr.state.ak.us">clark_cox@dnr.state.ak.us</a>      |
| Alaska Department of Environmental Conservation                   | James Weise                | work: 269-7647<br>fax: 269-7655<br>emer:<br>email: <a href="mailto:james_weise@dec.state.ak.us">james_weise@dec.state.ak.us</a>                | Suzan Hill        | work: 269-7521<br>fax: 269-3990<br>emer:<br>email: <a href="mailto:suzan_hill@dec.state.ak.us">suzan_hill@dec.state.ak.us</a>             |
|   | Manny Soares               | work: 269-7640<br>fax: 269-7510<br>emer: 333-5312<br>email: <a href="mailto:many_soares@dec.state.ak.us">many_soares@dec.state.ak.us</a>       | Kimberly Stryker  | work: 269-7583<br>fax: 269-7510<br>emer:<br>email: <a href="mailto:kimberly_stryker@dec.state.ak.us">kimberly_stryker@dec.state.ak.us</a> |
| Alaska Department of Commerce, Community and Economic Development | Alaska Division of Tourism | work: 465-2012<br>fax: 465-3767<br>emer:<br>email: <a href="mailto:GoNorth@dced.state.ak.us">GoNorth@dced.state.ak.us</a>                      |                   | work:<br>fax:<br>emer:<br>email:  |
| Alaska Natural Heritage Program                                   | Julie Michaelson           | work: 257-2782<br>fax: 257-2789<br>emer: 746-0959<br>email: <a href="mailto:anjam1@uaa.alaska.edu">anjam1@uaa.alaska.edu</a>                   | Rob Lipkin        | work: 257-2785<br>fax: 257-2789<br>emer:<br>email: <a href="mailto:anrl@uaa.alaska.edu">anrl@uaa.alaska.edu</a>                           |
| Alaska Office of History and Archaeology                          | Dave McMahan               | work: 269-8723<br>fax: 269-8908<br>emer: 279-0280<br>email: <a href="mailto:Dave_McMahan@dnr.state.ak.us">Dave_McMahan@dnr.state.ak.us</a>     | Joan Dale         | work: 269-8718<br>fax: 269-8908<br>emer: 562-4314<br>email: <a href="mailto:joan_dale@dnr.state.ak.us">joan_dale@dnr.state.ak.us</a>      |

| Agency                              | Primary Contact              |  | Alternate Contact     |  |
|-------------------------------------|------------------------------|--|-----------------------|--|
|                                     | Name                         | Numbers  | Name                  | Numbers  |
| U.S. Department of the Interior     | Pamela Bergmann              | work: 271-5011<br>fax: 271-4102<br>emer: 333-0489<br>email: <a href="mailto:Pamela_bergmann@ios.doi.gov">Pamela_bergmann@ios.doi.gov</a> | Doug Mutter           | work: 271-5011<br>fax: 271-4102<br>emer: 345-7726<br>email: <a href="mailto:douglas_mutter@ios.doi.gov">douglas_mutter@ios.doi.gov</a> |
| U.S. Department of Commerce         | Brad Smith                   | work: 271-5006<br>fax: 271-3030<br>emer: 248-4211<br>email: <a href="mailto:Brad.Smith@noaa.gov">Brad.Smith@noaa.gov</a>                 | Matthew Eagleton      | work: 271-6354<br>fax: 271-3030<br>emer: 338-2822<br>email: <a href="mailto:Matthew.Eagleton@noaa.gov">Matthew.Eagleton@noaa.gov</a>   |
| U.S. Department of Agriculture      | Steve Zemke                  | work: 743-9521<br>fax: 743-9480<br>emer: 622-6170<br>email: <a href="mailto:szemke@fs.fed.us">szemke@fs.fed.us</a>                       | Mike Novy             | work: 743-9517<br>fax: 743-9476<br>emer: 688-5251<br>email: <a href="mailto:mnovy@fs.fed.us">mnovy@fs.fed.us</a>                       |
| U.S. Department of Defense          | Alaska Command               | work: 552-3944<br>fax: 552-4855<br>emer: 552-3000<br>email:  |                       | work:<br>fax:<br>emer:<br>email:   |
| U.S. Coast Guard                    | Marine Safety Office, Valdez | work: 835-4791<br>fax: 835-7207<br>emer:<br>email:   | 17th District, Juneau | work: 463-2065<br>fax: 463-2216<br>emer: 463-2000<br>email:  |
| NOAA Scientific Support Coordinator | John Whitney                 | work: 271-3593<br>fax: 271-3139<br>emer: 440-8109<br>email: <a href="mailto:john.whitney@noaa.gov">john.whitney@noaa.gov</a>             |                       | work:<br>fax:<br>emer:<br>email:   |
| Cordova                             | Steve Harris, Planner        | work: 424-6233<br>fax: 424-6000<br>emer:<br>email: <a href="mailto:planning@cityofcordova.net">planning@cityofcordova.net</a>            |                       | work:<br>fax:<br>emer:<br>email:   |

| Agency          | Primary Contact   |   | Alternate Contact |                                  |
|-----------------|---|---|-------------------|----------------------------------|
|                 | Name  | Numbers   | Name              | Numbers                          |
| Valdez          | Carol Smith,<br>Acting Director of<br>Community and<br>Economic<br>Development  | work: 835-4313<br>fax: 835-2992<br>emer:<br>email: <a href="mailto:csmith@ci.valdez.ak.us">csmith@ci.valdez.ak.us</a>               |                   | work:<br>fax:<br>emer:<br>email: |
| Whittier        | Rick Hohnbaum,<br>City Manager  | work: 472-2327<br>fax: 472-2404<br>emer:<br>email: <a href="mailto:citymanager@ci.whittier.ak.us">citymanager@ci.whittier.ak.us</a> |                   | work:<br>fax:<br>emer:<br>email: |
| Tribal Contacts | For the current tribal contact information, go to B. Resources Section, Part Three Information Directory, Native Organizations and Federally Recognized Tribes. |   |                   |                                  |

*This page intentionally left blank.*

# **SENSITIVE AREAS: PART TWO - AREAS OF ENVIRONMENTAL CONCERN**

## **A. BACKGROUND/CRITERIA**

The following relative priority listing was developed by the Sensitive Areas Work Group, with representatives from state and federal agencies and the private sector. The list identifies priorities for resources by designations of major, moderate, and lesser concern. Resources are not prioritized within each designation. These designations are for consideration in initial spill response activities, they are not applicable to extended cleanup 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.

The following criteria were developed as a tool to establish levels of concern. These criteria are not listed in a priority order.

### **CRITERIA FOR RELATIVE PRIORITY RATING**

- human economic disruption -- economic/social value; human food source disruption
- mortality -- wildlife, fish, other organisms (number 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 re-colonizing potential
- relative importance to ecosystem
- potential for physical contact with spill--pathway of oil or hazardous substances
- resource sensitivity to response countermeasures

**B. AREAS OF MAJOR CONCERN**

Threatened or Endangered and Protected Species Habitat  
    Steller's Eider Wintering Areas  
    Steller Sea Lion Rookeries, Haulouts, and Critical Habitat  
Shoreline Geomorphology - Coastal Habitat Types:  
    Marshes  
    Eelgrass Beds  
    Sheltered Tidal Flats  
    Sheltered Rocky Shores  
Sea Otter Concentration Areas (> 20)  
Harbor Seal Haulout Areas (> 10)  
Large Seabird Colonies (> 5,000)  
Seabird Feeding Concentration Areas  
Pigeon Guillemot Nesting and Immediate Nearshore Feeding Areas  
Waterfowl and Shorebird Spring, Fall, or Winter Concentration Areas  
Eagle Nest Sites  
Anadromous Fish Streams:       > 25,000 pink or chum spawners  
  > 5,000 coho salmon  
  > 1,000 sockeye spawners  
Intertidal Salmon Spawning Areas  
Large Freshwater Fish Systems  
Herring Spawning Area  
Land Management Designations  
    Federal:       Wilderness  
                    Wild and Scenic Rivers  
                    National Natural Landmarks  
    State:        Refuges  
                    Sanctuaries  
                    Critical Habitat Areas  
Cultural Resources/Archaeological Sites:  
    National Historic Landmarks  
    Burial Sites  
    National Register Eligible Village Sites  
    Intertidal Sites  
High Use Subsistence Harvest Areas  
High Use Commercial Areas (including, but not limited to, setnet sites, aquaculture sites,  
hatcheries, etc.)  
High Use Recreational Areas

**C. AREAS OF MODERATE CONCERN**

Species of Concern Habitat (Possible Threatened or Endangered)  
Shoreline Geomorphology - Coastal Habitat Types:  
    Gravel Beaches  
    Mixed Sand & Gravel Beaches  
    Exposed Tidal Flats  
    Coarse Grained Sand Beaches

Sea Otter General Distribution Areas(< 20)  
 Harbor Seal Haulouts (5-10)  
 Seabird Colonies (1,000 - 5,000)  
 Waterfowl and Shorebird Nesting or Molting Concentration Areas  
 Anadromous Fish Streams:     500 - 25,000 pink or chum spawners  
   1,000 - 5,000 coho spawners  
   50 - 1,000 sockeye spawners  
 Moderately Sized Freshwater Fish Systems  
 Clam Beds  
 Bear Spring Concentration Areas  
 Sitka Deer Coastal Feeding Concentration Areas  
 Caribou Migration Routes  
 Other Subsistence Harvest Areas  
 Other Commercial Harvest Areas  
 Other Recreational Use Areas  
 Land Management Designations  
     Federal:     National Parks  
                     National Wildlife Refuges  
                     Research Natural Areas  
     State:       State Parks  
 Cultural Resources/Archaeological Sites  
     National Register Eligible Sites (Other Than Village Sites)  
     Sites Adjacent To Shorelines

**D.     AREAS OF LESSER CONCERN**

Coastal Geomorphology - Coastal Habitat Types:  
     Fine-grained Sand Beaches  
     Exposed Wave-cut Platforms  
     Exposed Rocky Shores  
 Harbor Seal Haulouts (< 5)  
 Seabird Colonies (< 1,000)  
 Raptor Feeding Areas  
 Waterfowl and Shorebird General Distribution Areas  
 Bear Fall Concentration Areas  
 Anadromous Fish Streams:     < 1,000 coho spawners  
   < 500 pink or chum spawners  
   < 50 sockeye spawners  
 General Freshwater Fish Habitat  
 Land Management Designations  
     Federal:     Public Lands  
                     National Forests  
                     National Preserves  
     State:       General Public Lands

**NOTE: king salmon occur in relatively small numbers in association with sockeye salmon, therefore, prioritization is based on the number of sockeye spawners**

*This page intentionally left blank.*

## SENSITIVE AREAS: PART THREE - RESOURCE SENSITIVITY

The following sensitivity tables were developed by the Sensitive Areas Work Group, with representatives from state and federal agencies and the private sector. Key references that are readily available are identified for each table and listed at the end of the tables. Time periods and/or conditions when resources are of varying levels of concern (most, medium, least) with respect to oil spill impacts are noted in the following tables.

### SHORELINE GEOMORPHOLOGY

(references: 4,7)

| CATEGORY                     | LEAST   | MEDIUM  | MOST  |
|------------------------------|---|---|---|
| COASTAL HABITAT TYPES        | Fine-Grained Sand Beaches<br>Exposed Wave-cut Platforms<br>Exposed Rocky Shores   | Gravel Beaches<br>Mixed Sand & Gravel Beaches<br>Exposed Tidal Flats<br>Coarse Grained Sand Beaches<br>Rip Rap Structures         | Marshes<br>Eelgrass Beds<br>Sheltered Tidal Flats<br>Sheltered Rocky Shores   |
| LAKE AND RIVER HABITAT TYPES | Exposed rocky cliffs & banks<br>Bedrock shores & ledges, rocky shoals<br>Eroding scarps/banks in unconsolidated sediment<br>Exposed man-made Structures | Sand beaches & bars<br>Mixed sand & gravel beaches/bars<br>Gravel beaches/bars<br>Gently sloping banks<br>Exposed flats<br>Riprap | Sheltered scarps in bedrock<br>Vegetated steep sloping bluffs<br>Sheltered man-made structures<br>Vegetated low Banks<br>Sheltered sand & mud & muddy substrates<br>Marshes |
| UPLAND HABITAT TYPES         | To Be Developed   | To Be Developed   | To Be Developed   |

**THREATENED OR ENDANGERED SPECIES**

(references: 8,9,10,11)

| CATEGORY           | LEAST | MEDIUM   | MOST   |
|--------------------|-------|--|--|
| ENDANGERED SPECIES |       |  | <b>Whales:</b> Fin, Blue, Humpback, Sei, Northern right, Sperm<br><b>Birds:</b> Short-tailed albatross |
| THREATENED SPECIES |       |  | <b>Pinipeds:</b> Steller sea lion<br><b>Birds:</b> Steller's eider                                     |
| POTENTIAL SPECIES  |       | <b>Birds:</b> Harlequin duck, Kittlitz's murrelet, Marbled murrelet, Northern goshawk, Olive-sided flycatcher, American peregrine falcon<br><b>Mammals:</b> North American lynx, Montague tundra mole, Harbor seal<br><b>Plants:</b> <i>Draba yukonensis</i> |  |
| PROTECTED SPECIES  |       |  | Bald eagles, Golden eagles, All marine mammals and migratory birds                                     |

**SEA OTTERS**

(references: 1,4,12)

| CATEGORY       | LEAST       | MEDIUM | MOST        |
|----------------|-------------|--------|-------------|
| ABUNDANCE      |             | < 20   | > 20        |
| SUSCEPTIBILITY |             |        | year around |
| HUMAN HARVEST  | year around |        |             |

**Sea Otter Critical Life Periods**

|                   | J | F | M | A | M | J | J | A | S | O | N | D |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Present nearshore |   |   |   |   |   |   |   |   |   |   |   |   |
| Pupping           |   |   |   |   |   |   |   |   |   |   |   |   |

**HARBOR SEALS**  
(references: 1,4,9,11)

| <b>CATEGORY</b>            | <b>LEAST</b>    | <b>MEDIUM</b>    | <b>MOST</b>    |
|----------------------------|-----------------|------------------|----------------|
| ABUNDANCE<br>(ON HAULOUTS) | < 5             | 5 - 10           | > 10           |
| SUSCEPTIBILITY             |                 | year around      |                |
| HUMAN HARVEST              | June 1 – Aug 31 | Sept 1 - Sept 30 | Oct 1 - May 31 |

**Harbor Seal Critical Life Periods**

|             | J | F | M | A | M | J | J | A | S | O | N | D |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Pupping     |   |   |   |   |   |   |   |   |   |   |   |   |
| Molting     |   |   |   |   |   |   |   |   |   |   |   |   |
| On Haulouts |   |   |   |   |   |   |   |   |   |   |   |   |

**STELLER SEA LIONS**  
(references: 1,4,9,11)

| <b>CATEGORY</b>            | <b>LEAST</b>    | <b>MEDIUM</b>    | <b>MOST</b>       |
|----------------------------|-----------------|------------------|-------------------|
| ABUNDANCE<br>(ON HAULOUTS) | < 15            | 15 - 30          | > 30              |
| SUSCEPTIBILITY             |                 | year around      |                   |
| HUMAN HARVEST              | June 1 – Aug 31 | April 1 - May 31 | Sept 1 - March 31 |

**Stellar Sea Lion Critical Life Periods**

|              | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Pupping      |   |   |   |   |   |   |   |   |   |   |   |   |
| Molting      |   |   |   |   |   |   |   |   |   |   |   |   |
| On Rookeries |   |   |   |   |   |   |   |   |   |   |   |   |
| On Haulouts  |   |   |   |   |   |   |   |   |   |   |   |   |

**WHALES and PORPOISES**

(Killer and Humpback Whales, Dall and Harbor Porpoise)

(references: 9)

| CATEGORY       | LEAST           | MEDIUM          | MOST            |
|----------------|-----------------|-----------------|-----------------|
| ABUNDANCE      | < 10            | 10 - 50         | > 50            |
| SUSCEPTIBILITY | Oct 1 - May 1   | Aug 1 - Sept 30 | May 1 - July 31 |
| HUMAN HARVEST  | Sept 1 - June 1 |                 |                 |

**Whales and Porpoises Critical Life Periods**

|                   | J | F | M | A | M | J | J | A | S | O | N | D |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Present nearshore |   |   |   |   |   |   |   |   |   |   |   |   |
| Calving           |   |   |   | ? |   |   |   | ? |   |   |   |   |

**BEARS**

(references: 1,11)

| CATEGORY                      | LEAST                             | MEDIUM                             | MOST              |
|-------------------------------|-----------------------------------|------------------------------------|-------------------|
| SUSCEPTIBILITY <sup>1,2</sup> | Nov 1 - April 30                  | May 1 - June 30<br>Sept 1 - Oct 31 | July 1 - Aug 30   |
| COMMERCIAL VALUE              | Nov 1 - May 31<br>July 1 - Aug 31 | June 1 - June 30                   | Sept 1 - Oct 31   |
| HUMAN HARVEST                 | Nov 1 - April 15                  |                                    | April 15 - Oct 31 |

1. Bear densities and susceptibility to oil impacts increases through spring as more individuals emerge from dens and move to coastal areas.
2. Bear densities and susceptibility to oil impacts decreases through the summer depending upon the availability of fish in lower reaches of streams.

**Bear Critical Life Periods**

|                              | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Denning                      |   |   |   |   |   |   |   |   |   |   |   |   |
| Feeding in coastal areas     |   |   |   |   |   |   |   |   |   |   |   |   |
| Feeding along salmon streams |   |   |   |   |   |   |   |   |   |   |   |   |

**SITKA BLACK-TAILED DEER**

(references: 1,11)

| CATEGORY       | LEAST           | MEDIUM | MOST              |
|----------------|-----------------|--------|-------------------|
| SUSCEPTIBILITY | May 1 - Nov 15  |        | Nov 15 - April 30 |
| HUMAN HARVEST  | Jan 1 - July 31 |        | Aug 1 - Dec 31    |

**Sitka Black-Tailed Deer Critical Life Periods**

|                      | J | F | M | A | M | J | J | A | S | O | N | D |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Fawning Period       |   |   |   |   |   |   |   |   |   |   |   |   |
| Foraging along coast |   |   |   |   |   |   |   |   |   |   |   |   |

**CARIBOU**

(references: 1,11)

| CATEGORY       | LEAST                                | MEDIUM | MOST                               |
|----------------|--------------------------------------|--------|------------------------------------|
| ABUNDANCE      | Nov 1 - Feb 28<br>June 1 - July 31   |        | Mar 1 - May 31<br>Aug 1 - Oct 31   |
| SUSCEPTIBILITY | Nov 1 - Feb 28<br>June 1 - July 31   |        | Mar 1 - May 31<br>Aug 1 - Oct 31   |
| HUMAN HARVEST  | April 1 - Aug 10<br>Sept 20 - Dec 31 |        | Jan 1 - Mar 31<br>Aug 10 - Sept 20 |

**Caribou Critical Life Periods**

|                          | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Migrations               |   |   |   |   |   |   |   |   |   |   |   |   |
| Calving                  |   |   |   |   |   |   |   |   |   |   |   |   |
| Wintering Concentrations |   |   |   |   |   |   |   |   |   |   |   |   |

**WATERFOWL AND SHOREBIRDS**

(references: 1,4,11,14)

| <b>CATEGORY</b>   | <b>LEAST</b>                | <b>MEDIUM</b>                       | <b>MOST</b>                          |
|-------------------|-----------------------------|-------------------------------------|--------------------------------------|
| ABUNDANCE         | < 100                       | 100 - 1,000                         | > 1,000                              |
| SUSCEPTIBILITY    | Nov 1 - Jan 31 <sup>5</sup> | Feb 1 - April 14<br>May 16 - Aug 14 | April 15 - May 15<br>Aug 15 - Oct 31 |
| SPECIES DIVERSITY | 1 - 3                       | 4 - 6                               | > 6                                  |
| HUMAN HARVEST     | June 1 - Aug 31             | Dec 1 - Dec 31                      | Jan 1 - May 31<br>Sept 1 - Nov 30    |

5. In unique locations (e.g., Valdez Duck Flats) where waterfowl concentrate during the winter, their susceptibility would be high.

**Waterfowl and Shorebirds Critical Life Periods**

|                       | J | F | M | A | M | J | J | A | S | O | N | D |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Spring Migration      |   |   |   | ■ | ■ |   |   |   |   |   |   |   |
| Nesting/Rearing       |   |   |   | ■ | ■ | ■ | ■ |   |   |   |   |   |
| Fall Migration        |   |   |   |   |   |   |   | ■ | ■ | ■ | ■ |   |
| Winter Concentrations | ■ | ■ | ■ | ■ |   |   |   | ■ | ■ | ■ | ■ | ■ |

**SEABIRDS**

(references: 1,2,4,8)

| <b>CATEGORY</b>            | <b>LEAST</b>      | <b>MEDIUM</b>    | <b>MOST</b>       |
|----------------------------|-------------------|------------------|-------------------|
| ABUNDANCE                  | < 1000            | 1000 - 5000      | > 5000            |
| SUSCEPTIBILITY             | Nov 1 - Jan 31    | Feb 1 - March 31 | April 1 - Oct 31  |
| SPECIES DIVERSITY          | 1 - 3             | 4 - 6            | > 6               |
| HUMAN HARVEST <sup>7</sup> | June 1 - April 19 |                  | April 20 - May 31 |

7. Seabird eggs utilized by Native communities.

**Seabirds Critical Life Periods**

|                       | J | F | M | A | M | J | J | A | S | O | N | D |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| On Colonies           |   |   |   |   | ■ | ■ | ■ | ■ |   |   |   |   |
| Feeding near colonies |   |   | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |   |

**RAPTORS (generally eagles)**

(references: 1,4,6,8)

| <b>CATEGORY</b>             | <b>LEAST</b>             | <b>MEDIUM</b>               | <b>MOST</b>           |
|-----------------------------|--------------------------|-----------------------------|-----------------------|
| ABUNDANCE                   | < 1 nest/3 coastal miles | 1 nest/1 to 3 coastal miles | > 1 nest/coastal mile |
| SUSCEPTIBILITY <sup>8</sup> |                          |                             | year around           |

8. Although large numbers of raptors move south during the winter; many are still present within Prince William Sound throughout the year. As a result, the susceptibility of these birds should be considered high year around.

**Raptors (generally eagles) Critical Life Periods**

|                    | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Nesting/Rearing    |   |   |   |   |   |   |   |   |   |   |   |   |
| Present near coast |   |   |   |   |   |   |   |   |   |   |   |   |

**HERRING (including capelin/hooligan)**

(references: 1,4)

| <b>CATEGORY</b>                | <b>LEAST</b>   | <b>MEDIUM</b>      | <b>MOST</b>       |
|--------------------------------|----------------|--------------------|-------------------|
| ABUNDANCE<br>(Biomass in Tons) | < 500          | 500 - 5,000        | > 5,000           |
| SUSCEPTIBILITY                 | Oct 1 - Feb 28 | March 1 - March 31 | April 1 - Sept 30 |
| HUMAN HARVEST                  | Jan 1 - Feb 28 | June 1 - Dec 31    | March 1 - May 31  |

**Herring Critical Life Periods**

|                   | J | F | M | A | M | J | J | A | S | O | N | D |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Spawning          |   |   |   |   |   |   |   |   |   |   |   |   |
| Present nearshore |   |   |   |   |   |   |   |   |   |   |   |   |

**SALMON (including hatchery fish)**

(references: 1,3,11)

| <b>CATEGORY</b>          | <b>LEAST</b>  | <b>MEDIUM</b>   | <b>MOST</b>   |
|--------------------------|---|---|---|
| <b>ABUNDANCE</b>         | < 500 spawners<br>(pink & chum)<br>< 50 spawners<br>(sockeye)<br>< 1,000 spawners<br>(coho) | 500 - 25,000<br>(pink & chum)<br>50 - 1,000 (sockeye)<br>1,000 - 5,000 (coho) | > 25,000 (pink & chum)<br>> 1,000 (sockeye)<br>> 5,000 (coho) |
| <b>SUSCEPTIBILITY</b>    | Dec 1 - Jan 31  | Feb 1 - April 30<br>Nov 1 - Nov 30  | May 1 - Oct 31  |
| <b>SPECIES DIVERSITY</b> | 2 or less   | 2 - 4   | 4 and greater   |
| <b>HUMAN HARVEST</b>     |   | Oct 10 - May 15   | May 15 - Oct 10   |

**Salmon (including hatchery fish) Critical Life Periods**

|                          | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults nearshore         |   |   |   |   |   |   |   |   |   |   |   |   |
| Spawning in streams      |   |   |   |   |   |   |   |   |   |   |   |   |
| Spawning intertidally    |   |   |   |   |   |   |   |   |   |   |   |   |
| Eggs/young development   |   |   |   |   |   |   |   |   |   |   |   |   |
| Smolt outmigration       |   |   |   |   |   |   |   |   |   |   |   |   |
| Adults return - interior |   |   |   |   |   |   |   |   |   |   |   |   |

**FRESHWATER FISH SPECIES**

(references: 1,11)

**GRAYLING**

| <b>CATEGORY</b>       | <b>LEAST</b>     | <b>MEDIUM</b>   | <b>MOST</b>       |
|-----------------------|------------------|-----------------|-------------------|
| <b>ABUNDANCE</b>      | <50,000          | 50,000-100,000  | >100,000          |
| <b>SUSCEPTIBILITY</b> | Nov 1 - March 31 | June 1 - Oct 31 | April 1 - May 31  |
| <b>HUMAN HARVEST</b>  | Nov 1 - March 31 | Oct 1 - Oct 31  | April 1 - Sept 30 |

**Grayling Critical Life Periods**

|                        | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults Near Shore      |   |   |   |   |   |   |   |   |   |   |   |   |
| Spawning in Streams    |   |   |   |   |   |   |   |   |   |   |   |   |
| Eggs/young Development |   |   |   |   |   |   |   |   |   |   |   |   |

DOLLY VARDEN

| CATEGORY       | LEAST          | MEDIUM                            | MOST                                |
|----------------|----------------|-----------------------------------|-------------------------------------|
| ABUNDANCE      | <20            | 20 – 50                           | >50                                 |
| SUSCEPTIBILITY | Dec 1 - Feb 28 | June 1 - Aug 31                   | March 1 - May 31<br>Sept 1 - Nov 30 |
| HUMAN HARVEST  | Jan 1 - Feb 28 | June 1 - Aug 31<br>Nov 1 - Dec 31 | March 1 - May 31<br>Sept 1 - Oct 31 |

Dolly Varden Critical Life Periods

|                        | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults Near Shore      |   |   |   | ■ | ■ | ■ |   | ■ | ■ | ■ |   |   |
| Spawning in Streams    |   |   |   |   |   |   |   | ■ | ■ | ■ |   |   |
| Eggs/young Development | ■ | ■ | ■ |   |   |   |   |   |   |   | ■ | ■ |

CUTTHROAT TROUT

| CATEGORY       | LEAST          | MEDIUM                            | MOST                                |
|----------------|----------------|-----------------------------------|-------------------------------------|
| ABUNDANCE      | <20            | 20 - 50                           | >50                                 |
| SUSCEPTIBILITY | Dec 1 - Feb 28 | June 1 - Aug 31                   | March 1 - May 31<br>Sept 1 - Nov 30 |
| HUMAN HARVEST  | Jan 1 - Feb 28 | June 1 - Aug 31<br>Nov 1 - Dec 31 | March 1 - May 30<br>Sept 1 - Oct 31 |

Cutthroat Trout Critical Life Periods

|                        | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults Near Shore      |   |   |   | ■ | ■ | ■ |   | ■ | ■ | ■ |   |   |
| Spawning in Streams    |   |   | ■ | ■ | ■ |   |   |   |   |   |   |   |
| Eggs/young Development |   |   |   |   | ■ | ■ | ■ |   |   |   |   |   |

RAINBOW TROUT

| CATEGORY       | LEAST           | MEDIUM         | MOST             |
|----------------|-----------------|----------------|------------------|
| ABUNDANCE      | < 500           | 500 - 2,000    | > 2,000          |
| SUSCEPTIBILITY | Oct 16 - Nov 30 | Dec 1 - Feb 28 | March 1 - Oct 15 |
| HUMAN HARVEST  | Oct 16 - Nov 30 | Dec 1 - Feb 28 | March 1 - Oct 15 |

Rainbow Trout Critical Life Periods

|                        | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults Near Shore      |   |   |   | ■ | ■ |   |   | ■ | ■ | ■ |   |   |
| Spawning in Streams    |   |   | ■ | ■ | ■ |   |   |   |   |   |   |   |
| Eggs/young Development |   |   |   | ■ | ■ | ■ | ■ |   |   |   |   |   |

**LAKE TROUT**

| <b>CATEGORY</b> | <b>LEAST</b>                     | <b>MEDIUM</b>                       | <b>MOST</b>                          |
|-----------------|----------------------------------|-------------------------------------|--------------------------------------|
| ABUNDANCE       | < 3,000                          | 3,000 - 6,000                       | > 6,000                              |
| SUSCEPTIBILITY  | May 1 - May 31<br>Nov 1 - Nov 30 | Dec 1 - April 30<br>June 1 - Aug 31 | Sept 1 - Oct 31                      |
| HUMAN HARVEST   | Oct 1 - Nov 30                   | Dec 1 - May 31<br>July 1 - Aug 31   | June 1 - June 30<br>Sept 1 - Sept 30 |

**Lake Trout Critical Life Periods**

|                        | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Adults Near Shore      |   |   |   |   | ■ | ■ |   |   | ■ | ■ | ■ |   |
| Spawning in Streams    |   |   |   |   |   |   |   |   | ■ | ■ | ■ |   |
| Eggs/young Development | ■ | ■ | ■ |   |   |   |   |   | ■ | ■ | ■ | ■ |

**CLAMS and OTHER MARINE INVERTEBRATES (CHITONS)**

(references: 1)

| <b>CATEGORY</b> | <b>LEAST</b> | <b>MEDIUM</b>   | <b>MOST</b>     |
|-----------------|--------------|-----------------|-----------------|
| SUSCEPTIBILITY  |              |                 | year around     |
| HUMAN HARVEST   |              | June 1 - Aug 31 | Sept 1 - May 31 |

**Clams and Other Marine Invertebrates (Chitons) Critical Life Periods**

|                   | J | F | M | A | M | J | J | A | S | O | N | D |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Spawning          |   |   |   |   |   |   | ■ | ■ | ■ |   |   |   |
| Planktonic Larvae |   |   |   |   |   |   | ■ | ■ | ■ | ■ | ■ | ■ |

**LAND MANAGEMENT DESIGNATIONS**

(references: 8,10,11,13,14,15)

| <b>CATEGORY</b> | <b>LEAST</b>                                 | <b>MEDIUM</b>                      | <b>MOST</b>  |
|-----------------|--|------------------------------------|--|
| FEDERAL LANDS   | Public Lands<br>National Forest<br>Preserves | National Parks<br>Wildlife Refuges | Wild & Scenic Rivers<br>Green Island Research<br>Natural Area<br>Copper River Delta<br>National Natural<br>Landmarks<br>Wilderness Areas |
| STATE LANDS     | Public Lands <sup>1</sup>                    | State Parks                        | Critical Habitats<br>Refuges   |

<sup>1</sup> Includes submerged lands out to 3 miles, and historic bays and inlets

**CULTURAL RESOURCES/ARCHAEOLOGICAL SITES**

(references: 13,14)

| <b>CATEGORY</b>                                  | <b>LEAST</b>  | <b>MEDIUM</b>   | <b>MOST</b>   |
|--|---|---|---|
| <b>CULTURAL AND<br/>ARCHAEOLOGICAL<br/>SITES</b> | Cultural Resources<br>that do not meet<br>National Register<br>criteria | National Register eligible<br>sites (excluding villages<br>sites)<br>Sites adjacent to shorelines | National Historical<br>Landmarks<br>Burial sites<br>National Register eligible<br>village sites<br>Intertidal sites |

## REFERENCES FOR TABLES

1. Alaska Habitat Management Guides Reference maps - Southcentral Region (Alaska Department of Fish and Game, Habitat Division, 1986)
2. U.S. Fish and Wildlife Service Seabird Catalog
3. An Atlas of the Catalog of Waters Important to the Spawning, Rearing and Migration of Anadromous Fish Southcentral Region (Alaska Department of Fish and Game, updated annually)
4. Environmental Sensitivity Index (ESI) Maps for Prince William Sound Alaska (RPI for NOAA)
5. National Oceanic and Atmospheric Administration Nautical Charts
6. U.S. Fish and Wildlife Service bald eagle nest site database
7. Alaska Regional Profiles - Southcentral Region (University of Alaska, Arctic Environmental Information and Data Center, 1974)
8. U.S. Fish and Wildlife Service (Catherine Berg, Teresa Woods-endangered species)
9. National Marine Fisheries Service (Brad Smith)
10. U.S. Forest Service (Ken Holbrook)
11. Alaska Department of Fish and Game (Mark Fink)
12. U.S. Fish and Wildlife Service marine mammals database
13. Alaska Department of Natural Resources (Sam Means)
14. National Park Service (Bud Rice)
15. State of Alaska Refuges, Critical Habitat Areas, and Sanctuaries (Alaska Department of Fish and Game, Habitat Division, 1991).
16. Nancy Lethcoe, Personal Communications, 1994
17. Tomrdle, L. and R.A. Miraglia. 1993. Use of Fish and Wildlife in Valdez, Prince William Sound, Alaska. Technical Paper, Division of Subsistence, Alaska Department of Fish and Game.
18. Wolfe, R.J. and C. Mishler. 1993. The Subsistence Harvest of Harbor Seal and Sea Lion by Alaska Natives in 1992. Technical Paper No. 229, Division of Subsistence, ADF&G.
19. Seitz, J., L. Tomrdle, and J.A. Fall. 1992. The Use of Fish and Wildlife in the Upper Kenai Peninsula communities of Hope, Whittier, and Cooper Landing. Technical Paper No. 219. Division of Subsistence, Alaska Department of Fish and Game.