

**OIL SPILL
CONTINGENCY PLAN FOR
BRAZORIA
NATIONAL WILDLIFE REFUGE**

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OIL SPILL CONTINGENCY PLAN

For Brazoria National Wildlife Refuge

This plan is intended to serve as a step by step guide to emergency oil spill response in the event that such a spill threatens refuge lands and wildlife.

Because it may take several hours before professional oil spill responders and cleanup crews arrive, the emergency efforts of refuge personnel may play a key role in minimizing impacts to refuge lands and wildlife resources. The primary goal in an emergency response is to minimize the impacts on trust resources of the U.S. Fish and Wildlife Service (Service). Appendix A lists the priorities for Service response, as outlined in the Service's Response Plan for Discharges of Oil or Releases of Hazardous Substances (Service Contingency Plan - SCP). For specifics regarding legal authorities and responsibilities, refer to the Service Contingency Plan.

This plan pertains to spills of petroleum products only. Because of the threat to human health involved in responding to hazardous substance spills, it is anticipated that such spills will be handled only by trained personnel. There are few Service personnel who are trained for hazardous spill response. The Service policy states that Service personnel will not enter hazardous waste sites without specific Regional clearance. Additionally, the likelihood of a petroleum spill in the vicinity of the Brazoria National Wildlife Refuge is greater than that for a hazardous substance spill, since most barges carrying hazardous substances have double hulls, as opposed to the single hulls on barges carrying petroleum products.

The following is a numbered, step-by-step response sequence that should be employed in the event that an oil spill is discovered or reported to the refuge. The two most likely spill scenarios are covered in the response sequence. These two scenarios (Appendix B) are:

- A. A spill from a barge or barges in the Gulf Intracoastal Waterway near or adjacent to the refuge.
- B. A spill during loading or unloading in the Chocolate Bayou channel or at the Chocolate Bayou plants.

After completing steps one through eight, proceed to 9A (scenario 1) 9B (scenario 2), or 9C (scenario 3) according to the spill scenario. Actions which should be taken in order to prepare for a spill presented in Appendix C. Available equipment and equipment needs are presented in Appendix D. Colonial bird nesting island, rookeries, and endangered species occurring on the refuge are

listed in Appendix F. Appendix G provides telephone numbers of those who may need to be contacted.

This is a dynamic document and is intended to be updated when appropriate. Although it is recognized that it is impossible to predict, prepare for, or control all potential spill scenarios, it is hoped that this document will help guide personnel reacting to an incident in the critical early stages.

OIL SPILL CONTINGENCY PLAN

**For
Brazoria National Wildlife Refuge**

Priority Response Sequence

1. Cease all non-essential work. If more than one staff member is available, assign one to make telephone contacts 2-6 while other personnel proceed immediately to step 7. If only one staff member is available, begin with the phone calls in the order listed.

2. If they have not already been notified, call:

National Response Center (800) 424-8802 or (202) 267-2675

AND

Texas General Land Office (800) 832-8224

For spills of oil or other petroleum products **OR**

Texas Emergency Response Center (TERC) (512) 463-7727

For hazardous substances.

THEN CALL

Texas Natural Resource Conservation Commission District Office (713)

457-5191

Tell them:

- a. Your name and callback number.
- b. Exact location and nature of the incident.
- c. Extent of personal injuries, fire, and damage.
- d. Wind speed and direction (if possible).
- e. If identifiable, the type of material involved and the extent of the spill.

ONLY trained personnel should ever approach a fire or spill.

3. If they have not already been notified, call the Coast Guard Marine Safety Office in Galveston. If possible, give them the barge or ship name and number of company.

Galveston Marine Safety Office (409) 766-3687

4. If he has not already been notified, call the Refuge Manager

Ron Bisbee Home (409) 849-6276, or Office (409) 849-7771

AND

USFWS Texas Coast Spill Coordinator- Brian Cain

Office (713) 286-8282 Home (713) 480-7418 Mobile (713) 542-1861

5. If Brian Cain has not been reached, contact an Environmental Contaminants Specialist at the Clear Lake Ecological Services Field Office.

Vacant - Office (713) 286-8282

Home

Steve Spencer- Office (713) 286- 8282

Home (713) 996-0106

6. Call the designated pilot and arrange for an overflight survey for the refuge manager immediately or as soon as practical. The designated pilot (helicopter) is PHI at the Brazoria County Airport (409) 849-2485. Arrangements can be made through the Minerals Management Service office in Lake Jackson (Ed Smith 409/299-1041) or directly through PHI. They are OAS approved.

7. Check wind speed and direction. Call the Houston Area Weather Service Office in League City (713) 337-5192.

8. If possible, designate one person as the media contact. This should be someone who can provide specific, accurate information about the resources at risk. If the spill is large enough to catch the attention of the media, the refuge will be besieged by the press!

A. A spill from a barge or barges in the Gulf Intracoastal Waterway near or adjacent to the refuge.

9A. If boom materials have been acquired previously, proceed by boat with booms to the booming locations nearest the spilled oil. These locations are indicated as letters A-Q on Figure 1, Appendix B. **THE NEAREST BOAT RAMPS ARE DESIGNATED BY THE NUMBERS 1-4 ON FIGURE 1, APPENDIX B.** If refuge personnel do not have access to booms, response personnel should place the booms instead. Descriptions of the boom locations and boat ramps are as follows:

Boom Locations

A. Essex Bayou at the GIWW. While the mouth of the bayou is not on the refuge, oil could flow up the bayou and on to the refuge on a flood tide.

B. Old GIWW at the GIWW. This is one entrance to the Drum Bay-Christmas Bay complex which is a State of Texas coastal Preserve.

C. Entrance to Western Drum Bay off GIWW. The mouth of the entrance is on private land.

D. Entrance to marshes off north side of GIWW about 2 miles NE of Old GIWW-GIWW intersection. Boom anchor points are in place (posts with eye-bolts marked with orange and red reflective tape) on each shoreline.

- E. Small cut into Drum Bay off GIWW. Boom attachment posts (see D) are in place on both shorelines.
- F. Nicks Lake entrance off GIWW. Boom attachment posts (see D) are in place on each shoreline.
- G. Entrance into Drum Bay off GIWW and Opposite Nicks Lake entrance. Boom attachment posts (see D) are in place on each shoreline.
- H. Old canal off GIWW about 2 miles southwest of Bastrop Bayou. Boom attachment posts (see D) are in place on each shoreline.
- I. Old canal off GIWW about 1 mile southwest of Bastrop Bayou. Boom attachment posts (see D) are in place on both shorelines.
- J. Small entrance to Bastrop Bay off GIWW about 1/2 mile southwest of Bastrop Bayou.
- K and L. Bastrop Bayou on each side of the GIWW.
- M. Alligator Lake entrance off GIWW.
- N. Connection from Oyster Lake into Bastrop Bay.
- O. Marsh entrance off GIWW opposite Oyster Lake.
- P. GIWW cut off West Bay.
- Q. Wharton Bayou where it enters West Bay south of Chocolate Bay.

Boat Ramps

1. Public boat ramp at the mouth of Essex Bayou at GIWW.
 2. Bastrop Bayou at County Road 227 bridge.
 3. Bastrop Marina on Bastrop Bayou in Demi-John. Reached from Cnty Rd 227.
 4. Chocolate Bayou at FM2004 bridge
- 10A. Remain in the area and capture oiled birds. Follow oiled wildlife rehabilitation protocol (Appendix H). Contact Texas Parks and Wildlife Game Wardens and ask for their assistance in hazing wildlife away from oiled areas and in transporting personnel and equipment with their boats.

B. A spill during loading or unloading in the Chocolate Bayou channel or at the Chocolate Bayou Plants.

9B. Proceed immediately to locations P and Q on Figure 1, Appendix B and place boom (if available).

10B. Remain in the area to capture oiled birds, etc. (see 10A).

C. Pipeline break in major (14 line) corridor

9C. Place booms at locations W, X, and Y to minimize oiling of the refuge if oil threatens Bastrop or Austin Bayous.

APPENDICES

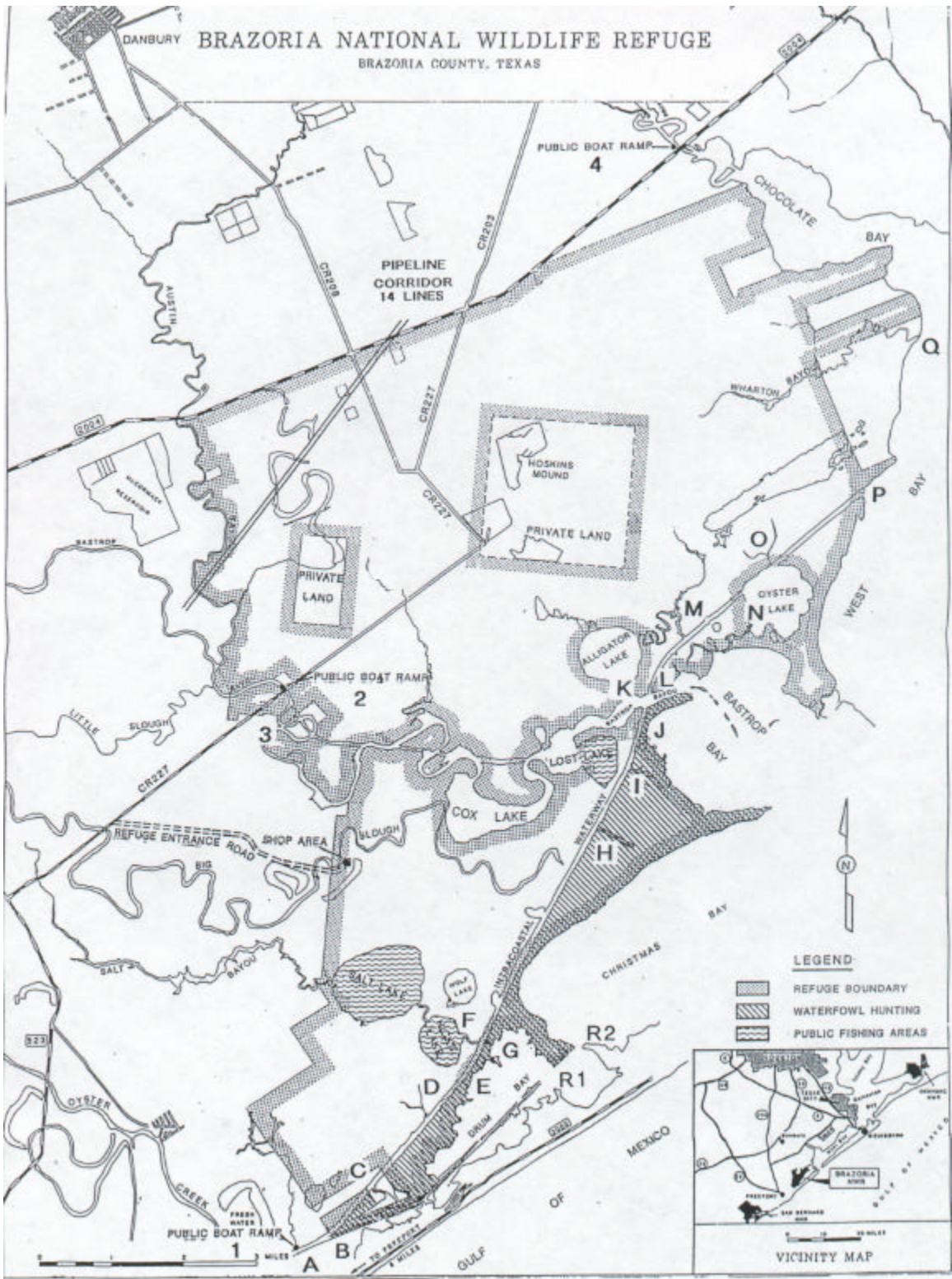
APPENDIX A

Priorities for Service Response

Each of the actions listed below should be provided for during advance planning and be carried out where applicable in the event of a spill. The actions are listed in order of priority should lack of manpower or other limiting factors constrain the level of response to a spill.

1. Protect threatened and endangered species and their habitats, including, where advisable, rescue and rehabilitation of individual animals.
2. Minimize the direct and immediate impacts to fish and wildlife populations (e.g., dispersal of birds or other wildlife) and advise the On Scene Coordinator (OSC) of actions needed to minimize impacts to or prevent destruction of fish and wildlife habitats.
3. Assist State agencies or the OSC with collection of oiled birds and other wildlife and advise/assist groups wishing to rehabilitate oiled wildlife. The Texas Wildlife Rehabilitation Coalition and/or the Tri-State Rehabilitation Center in Delaware will likely be involved. Refer to Appendix H "Oiled Wildlife Rehabilitation Protocol".
4. Provide the media and public with information on Service response activities through the DOI/Regional Environmental Officer and the OSC or through the Public Affairs Office (with clearance from the OSC and DOI/REO).
5. Other activities to minimize indirect impacts to fish and wildlife resources, as warranted. Identify priorities and mark nesting island that could easily be boomed or "hay banded" to keep oil off the beach.

APPENDIX B
Map for Response Scenarios



APPENDIX C

Preparations Necessary Prior to Spill

1. Locate a pilot with proper certifications for overflight survey. Clarify needs, billing, availability, etc., so no time is lost when a situation arises.
2. Arrange for training and funding for training of personnel.
 - a. Oil Spill Control School
 - b. Oiled Bird Cleaning
3. Insure that all staff who may be capturing oiled birds are listed on State and Federal collecting permits.
4. Select site suitable for use as an oiled bird cleaning and holding station. Implement minor modifications if necessary. Prepare data sheets for keeping records of oiled birds as they are collected. If the Texas Wildlife Rehabilitation Coalition, or an equivalent, contracted organization, is involved, they will direct wildlife rehabilitation efforts and USFWS will provide support. See Appendix H.
5. Measure distances to be covered by fixed-position booms, taking into account sags and angular deflection arrangements. Acquire sufficient boom material. Install on-site storage sheds or obtain trailer for storing/transporting booms and other spill control material.
6. Refuge personnel must develop a boom strategy, locating and positions where booms should be placed for maximum efficiency for all three of the likely scenarios.
7. Carry out drills as required to familiarize staff with equipment, procedures, etc.
8. Establish routine maintenance checks on equipment, radios, motors, fuel supplies, etc.

**APPENDIX D
EQUIPMENT ON COMPLEX**

<u>BOATS W/ TRAILER</u>	<u>Location</u>
91 Panther Airboat - 15"	BRZ
92 Panther Airboat - 15'	SNB
12' Jon Boat 15 Hp	BRZ
16' Jon Boat 35 Hp	SNB
18' Tunnel Boat 70 Hp	SNB
Barge 10' x 16' no trailer	BRZ
 <u>MARSH BUGGYS W/ TRAILER</u>	
1976 Marsh Buggy	SNB
1986 Marsh Buggy, w/fire pumper, 200 gal	BRZ
 <u>4-WHEEL ATV</u>	
ATV, Yamaha, Big Bear 4-wheel	SNB
ATV, Polaris, Trail Boss 4-wheel	BRZ
 <u>HEAVY EQUIPMENT</u>	
JD Backhoe/Loader 3021	BRZ
JD Backhoe/Loader 310D	SNB
W9B Case Loader	SNB
W14 Case Loader	SNB
Ford 3000 Tractor	BRZ
IH 986 Tractor	SNB
IH 384 Tractor	SNB
MF 282 Tractor	SNB
JD 4055 Tractor	BRZ
Case 1550 Dozer	SNB
Case 1150C Dozer, 105 Hp	BRZ
Cat 112 Grader	SNB
Cat 12D Grader	BRZ
Link-belt Excavator, 35' reach, 1.12 yd	SNB
 <u>VEHICLES</u>	
1986 Chevy Van	ANG
1986 Chevy S-10	ANG
1986 Chevy 4x4	SNB
1987 Jeep Cherokee	ANG
1988 Chevy Flatbed 1T	BRZ
1989 Dodge 250 3/4T	SNB
1990 Chevy 4x4, 3/4T	SNB
1992 Chevy Crew cab PU, 3/4 T	BRZ
GSA Chevy 1500 1/2 T	SNB

GSA Chevy 2500 3/4T	SNB
GSA Dodge Ram 250 3/4T	BRZ
1978 GMC Brigadeer, 32000 GVWR, 6x4	SNB
Trailer, lowboy, 5 th wheel, 40T, 42'L	SNB
1972 IH Dump Truck, 21000 GVWR, 4x4	BRZ

PUMPS, FIRE & OTHER

1989 Fire Truck Chev,	SNB
1992 Fire Truck Chev,	BRZ
Both 1T, 4x4, 200 gal tank	
1986 Marsh Buggy, w/fire pumper, 200 gal	BRZ
Trailer, fire, 300 gal, 16 Hp	BRZ
Pump, Crisafulli, 6", PTO drive	BRZ
Pump, Gator, 16",	BRZ
10,000 GPM, PTO drive	

GENERATORS

Trailer, Welder/generator, 225A AC, 210A DC	BRZ
Homelite, 1700W, 4Hp gas, 120v, 14.2A	BRZ
McColloch, 2KW, gas, 110v	SNB
Honda 4KW Gas 110-220V	SNB

TRAILERS

Trailer, fuel, 250 gal	SNB
Trailer, shopbuilt "husky", 3500#, 18'x7"	BRZ
Trailer, trash-hauling, 12T, 8'x26'	SNB
Trailer, tilt, 4'x8'	SNB
Trailer, 1/4 T Military, 3'x5'	SNB

EQUIPMENT NEEDS

Booms and associated equipment
Storage trailer for equipment

BRZ = Brazoria National Wildlife Refuge
SNB = San Bernard National Wildlife Refuge
ANG = Brazoria National Wildlife Refuge Complex Headquarters

APPENDIX E

ROOKERIES AND ENDANGERED/TREATENED SPECIES ON THE BRAZORIA NATIONAL WILDLIFE REFUGE

ROOKERIES

There are two rookeries on the refuge according to the Texas Colonial Waterbird Society surveys. They are located in the southeastern corner of Drum Bay and the southwestern corner of Christmas Bay. They are designated as R1 and R2, respectively on Figure 1, Appendix B. The following is a list of species found in the rookeries in 1989 and 1990 and the number of breeding pairs.

R1 DRUM BAY

Species	1989	1990
great blue heron	5	6
little blue heron		1
cattle egret		8
reddish egret	4	1
great egret	138	90
snowy egret	240	300
tri-colored heron	260	40
black-crowned night heron	5	2
white ibis		3
roseate spoonbill	15	10
laughing gull	100	10
gull-billed tern	3	
Forster's tern	460	
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Total nesting pairs	1230	471

R2 ARCADIA REEF

Species	1989	1990
great blue heron		2
tri-colored heron	175	95
laughing gull	10	3
gull-billed tern	3	
Forster's tern	250	10
least tern		10
royal tern		15
<hr/>		
Total nesting pairs	438	135

From: Texas Colonial Waterbird Survey

ENDANGERED/THREATENED SPECIES LOCATED ON THE REGUGE

The species listed actually or potentially occur on the refuge.
These lists should be modified and updated yearly by Refuge personnel to reflect most current status.

Endangered

Hawksbill Sea Turtle
Kemp's Ridley Sea Turtle
Leatherback Sea Turtle
Brown Pelican
Bald eagle
Whooping crane

Threatened

Green Sea Turtle
Loggerhead Sea Turtle
Arctic peregrine falcon
Piping plover

Category C2

Gulf salt marsh snake
Texas diamondback terrapin
Texas horned lizard
Henslow's sparrow
Long-billed curlew
Reddish egret
Southeastern snowy plover
White-face ibis

STATE Threatened

Wood stork
American swallow-tailed kite
White-tailed hawk

APPENDIX F

Secondary Responses

1. Search for, cleanup and tabulate oiled birds. Prepare data sheets on bird numbers and species. See Appendix H.
2. As part of oiled wildlife rehabilitation efforts, considerable volumes of oily, soapy water will be produced. A tank for storage of this effluent will be necessary, along with a regular removal by a vacuum truck to the PRP's designated waste handler.
3. Maintain documentation of staff time and expenditures for equipment during the response since these may be reimbursed from either the responsible party or the spill response fund (311K).

APPENDIX G

Other Important Contacts and Phone Numbers

Brazoria County Sheriff's Office, Chief Deputy Charles Wagner (409) 265-9310

Brazoria County Emergency Management Ofc, Jack McC ann (409) 265-4261
Ext 1201

U.S. Coast Guard Station Freeport, BMC Scott Dunaway (409) 233-3802

Brazosport Industrial CAER, Tim Scott, Bill Gibson, (409) 238-CAER
CAER Members have spill response capabilities that FWS could request in an emergency. It is unwritten but they would most likely respond.

Fire Departments Freeport Fire Department (409) 233-2651
Lake Jackson Fire Department (409) 297-1101
Demi-John Volunteer Fire Department (409) 233-____
Danbury Volunteer Fire Department (409) 922-____

Adjacent Land Owners

Texas Game Wardens 24-Hr Houston (713) 649-0708 -- 24-Hr Austin
(512) 389-4848

Emergency Medical Service Lake Jackson Ambulance Service 297-4411
Lifeline Ambulance Service, Clute 265-0063

FWS Law Enforcement

Tom Healy, Victoria Ofc (512) 575-8608 Mobile (512) 550-2108 Home
(512) 572-0419

Joe Ramos, Houston Ofc (713) 229-2559/60 Home (713) 537-6180

Emergency (U.S. Customs) 1-800-800-0294

Bill Reynolds, Houston Ofc (713) 229-2559 Home (713) 376-7544

Refuge Personnel and Phone Numbers	Work	Home
Ron Bisbee	(409) 849-7771	(409) 849-6276
Rich Antonette	(409) 849-7771	(409) 297-1507
Jack Crabtree	(409) 849-7771	(409) 265-9743
Al Jones	(409) 964-3639	(409) 297-8737
Barbara Locke	(409) 849-7771	(409) 849-1720
Bob O'Leary	(409) 964-3639	(409) 548-5640
Willie Zgarba	(409) 849-5692	

Ben New	(409) 964-3639	(409) 964-3372
Claude Maynard	(409) 849-7771	(409) 849-6734
Mike Lange	(409) 849-7771	(409) 297-8167
Tom Schneider	(409) 849-7771	(409) 233-8090
Charles Ratjen	(409) 849-7771	(409) 798-9247
Rick Speer	(409) 849-7771	(409) 299-6777
Greg McClellan	(409) 849-7771	(409) 299-6750
Collene Lewis	(409) 849-7771	(409) 265-6810

APPENDIX H

Oiled Wildlife Rehabilitation Strategy

As birds begin to feel the effects of oil contamination and exposure, they will move into shallower water or on shore where they will hide in available cover. Human activity on shore will inhibit birds from emerging or drive them back into the water. Since birds will tend to come ashore at night when there is minimal disturbance, capture efforts will be most efficient in the early morning and during low tide when more shoreline is exposed. Rescuers should place themselves between the birds and the water's edge to prevent the birds from reentering the water. The birds can be herded toward other individuals possessing nets of various types, while the more debilitated birds can be picked up by hand.

Competent handling can be a crucial factor in the outcome of rehabilitation efforts since physical injury or damage to plumage can occur. Birds will attempt to defend themselves with beaks, wings, and/or claws. Birds should be held at waist level or below and protective eyewear should be worn by handlers and those near them. Most birds can be held by the wings by one hand where the wings meet the body. The other hand can then be used to cover the eyes or control the head. For heavy birds the other hand can be used to support the body. For ducks and other birds where it is not important to control the head, both hands can be wrapped around the body holding the wings against the sides. Large birds such as pelicans can be held under one arm while the other hand holds the beak closed and holds the head. Delicate small birds can be cupped gently in one hand. Raptors should be controlled by holding the birds' upper legs together well above the joint with one hand. Control can be gained over raptors and other aggressive birds by dropping a towel or sheet over them and reaching under the towel to grasp the beak and head. This often works better after grasping the head on the outside of the towel or sheet first. Remember that necks are delicate and should not be handled roughly and that gloves and safety glasses should be worn while handling large or aggressive birds.

When a bird cannot be captured with minimal pursuit, it should be left for later capture. When they are captured they should be transported as rapidly as possible to a rehabilitation center in cardboard boxes or pet carriers. Burlap bags or pillowcases are not recommended because they abrade eyes and feathers and do not protect against cold and rain. When birds cannot be transported to a treatment center within 1-2 hours, treatment procedures should begin at the capture site. The mouth and nostrils should be cleared of oil with cloth or cotton swabs. Excess oil and water should be removed by wiping with cloth rags in the direction of feather growth. If possible, oral fluids should be given by **experienced personnel** by intubation. Irritated eyes can be soothed by the application of artificial tears without allowing the applicator to touch the eye. Preening and further ingestion of oil can be prevented by pinning a cloth or

diaper around the body except in hot weather when the bird should only be wiped as clean as possible. Do not tape a bird's bill closed since it would interfere with regurgitation and thermoregulation. Each bird should be placed in an individual cardboard box large enough for the bird to stand in. The birds should be kept from temperature extremes, should be tube fed every 2-3 hours, and should be kept in a quiet area until they can be transported to a rehabilitation center. Birds should be permitted to improve in condition before the ordeal of cleaning takes place.

For more detailed information, see the document titled "Fish and Wildlife Handbook. Rescue and Rehabilitation of Oiled Birds." Fish and Wildlife Service Leaflet 13.2.8. U.S. Department of the Interior. 1991.