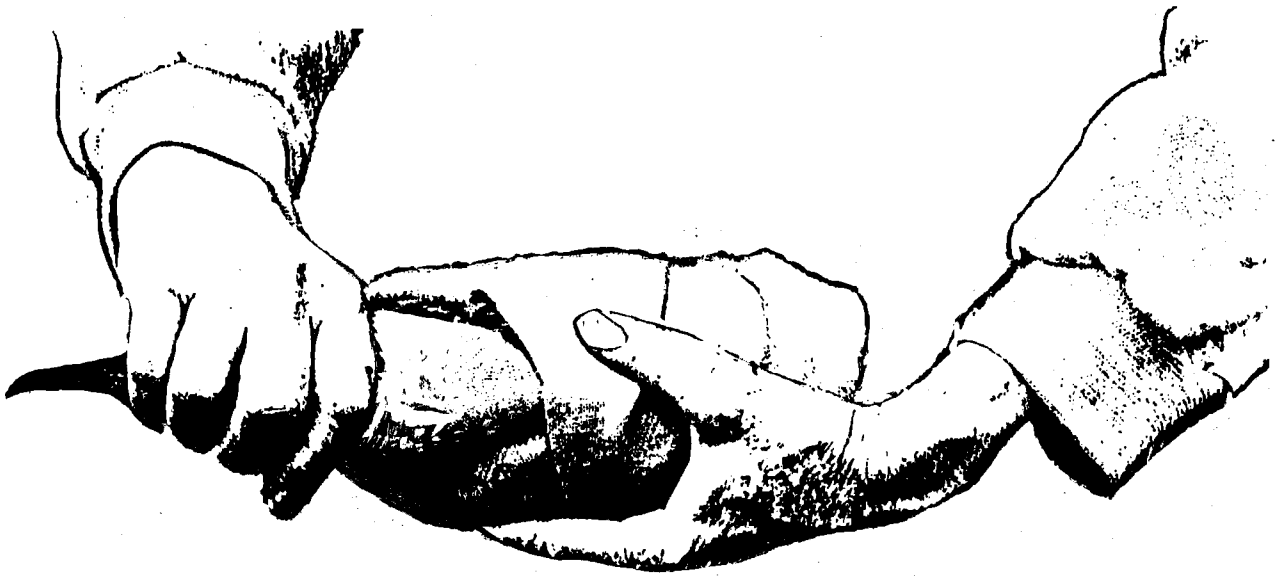
Studies in Oregon Ornithology
No. 5

Oiled Birds: How to Search for and Capture Oiled Birds at Oregon Intertidal Areas

Range D. Bayer



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Studies in Oregon Ornithology

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COVER: An oiled Common Murre that is being lifted **with its feet being supported.** The murre's trunk (but not its legs) is wrapped in a rag, which reduces the murre's body heat loss, immobilizes its wings, and also prevents it from preening and subsequently ingesting more oil. If the rag is large enough or if the bird is wet and oily, the rag will usually not need to be fastened, but if it does, a safety pin is recommended. If the air temperature is above about 70 F, a light-weight or porous rag should be used to reduce the chance of the bird becoming heat-stressed.

Note that one hand is under the murre's legs and firmly supports the murre. The other hand is tightly over the murre's eyes, which calms the murre; this hand also firmly holds the murre's bill, so that the murre is prevented from stabbing the volunteer that is lifting it.

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Abstract

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This is written primarily as a step-by-step guide for the person(s) responsible for organizing searches of oiled birds and/or for training volunteers to handle oiled birds. It also gives details that can be useful to anyone that catches or handles birds, whether oiled or not.

This monograph is based on the author's field experience after an oil spill along the Oregon Coast. But its findings are also applicable elsewhere, if the appropriate governmental agencies are substituted as necessary for the U.S. Fish and Wildlife Service or Oregon Department of Fish and Wildlife.

Perhaps the most significant point made is that **a bird's legs should be fully supported when it is picked up.** If supported, the bird remains calmer, and the bird won't be able to use its feet to scratch a volunteer.

Photographs illustrate the correct way to handle an oiled bird from capture until it is transported in a box.

This publication does NOT include information about rehabilitating oiled birds.

Keywords: Birds, Bird Handling, Oiled Birds, Oil Spill, Oregon.

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Preface

I would not have spent the time writing this and getting it published if there had been a previous publication that handled this subject well. But in spite of the frequency of oil spills, I haven't found one paper that deals with how to organize effective searches for oiled birds. I was also unable to find any papers that discussed the symptoms of hypothermia or heat-stress in wild birds; knowledge of these symptoms would be very helpful while handling or transporting oiled birds.

There are several papers that I have cited that deal with the care and treatment of oiled birds, but I have been appalled to find that they all neglect to mention that a bird's legs should be supported when it is lifted. If supported, the bird won't "kick out" with its feet, the bird will be calmer, and the handler won't be injured by the bird's toe nails. If you were suddenly lifted up and your feet were not supported, you would probably "kick out" with your feet. Thus, it really isn't surprising that a bird may do the same thing when it is lifted, if its legs are unsupported.

Trying to find a "home" for this publication was difficult. It really is too short for the Studies in Oregon Ornithology series, yet it is too long for ornithological journals. Further, its subject matter is not customary in journals. I would much rather have had this published in a national publication, but that seemed doubtful. My difficulty in finding a "home" for this may be the same reason other people that have experience with oiled birds have not published papers dealing with this subject.

In any case, I hope that this will be useful as a guide and that readers will at least learn how to handle birds better.

Range D. Bayer, P.O. Box 1467, Newport, Oregon 97365.
5 May 1988

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Acknowledgments

I greatly appreciate Becky Henry's patience and expertise in providing and handling birds for the photographs accompanying this publication, and also for her suggestions about handling oiled birds.

I am also grateful for constructive comments on earlier drafts of this manuscript by Roy Lowe, Jon Anderson, and Palmer Sekora (U.S. Fish and Wildlife Service biologists) and by Becky Henry.

Although USFWS biologists have commented on this monograph, this does NOT imply either that they or the USFWS endorse procedures in this publication or that the USFWS approves this publication.

Finally, I thank Marilyn Guin and Robert Olson of the Hatfield Marine Science Center for their helpful comments about the title of this monograph.

****

Dedication

This publication is dedicated to

Becky Henry,

who has been a volunteer bird rehabilitator for many years,

and it is also dedicated to the many other volunteers who have freely given their time in an effort to save injured birds.

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A. Introduction

A-1) Purpose of this monograph.

My introduction to rescuing oiled birds came with the wreck of the 350 ft freighter, the "Blue Magpie," at Yaquina Estuary, Oregon on 19 November 1983 (Bayer 1988). Before I knew what I was getting into, I volunteered to coordinate searches for oiled birds.

The purpose of this paper is to share what I learned during and after the Yaquina oil spill, so that the reader may have some idea of how to coordinate and train people to search for oiled birds (i.e., how to be a Search Coordinator). I also give details that can help anyone catching or handling birds.

My emphasis is on searchers coordinating their efforts with governmental biologists and bird rehabilitators. During bird rescue efforts after an oil spill, communication and coordination among government biologists and volunteers are essential and are much more effective than the unorganized efforts of lone individuals.

In Oregon, the appropriate governmental biologists for volunteers to deal with are from the U.S. Fish and Wildlife Service (USFWS) and Oregon Department of Wildlife (ODFW). Throughout the rest of this monograph, I refer only to the USFWS and ODFW, but the reader can substitute the appropriate governmental agencies, as necessary, for his or her own area.

A-2) Shortcomings of this monograph.

The major shortcoming is that it is largely based on my experience with one oil spill. Since the Yaquina oil spill was rather small (i.e., about 60,000 gallons of bunker C oil and 10,000 gallons of diesel fuel with only 365 oiled birds reported, Bayer 1988), some of my recommendations will probably have to be modified for larger oil spills. Further, the Yaquina oil spill occurred in winter when we were worried about birds becoming hypothermic, not heat-stressed. After other oil spills, however, heat-stress may be a significant problem.

I wish I had much more information available about the reaction of oiled birds to the temperatures of their environment. **At the Yaquina oil spill, temperatures did not exceed 55 F, and we had no problem with heat-stress.** Because Naviaux (1972:10) indicates that birds should be kept draft-free at 60-70 F, **temperatures somewhere above 70 F may result in oiled birds that have been wrapped in rags and placed into closed boxes becoming heat-stressed.** Air temperature, per se, is not the only factor involved. Wind-chill can help cool birds before they are caught and wrapped in a rag; but once placed into a box, the environmental temperature of the bird may become significantly warmer.

Although I have neither the resources nor the time to determine the best procedures for oil spills anywhere in the world, I freely discuss some methods and supplies that I did NOT use that may be useful under differing conditions. Unfortunately, I do not know if these ideas will work under "field" conditions, but I feel that it is important to give them anyway, so that they are available BEFORE an oil spill. After an oil spill has occurred, people involved with rescuing birds are too busy to think as clearly and rationally as they normally would.

In conclusion, people need to adapt to the conditions that they face. The guidelines in this monograph are just that, guidelines. As such, they give the reader some ideas in conducting search efforts for birds, but this monograph does not have all the answers.

B. Three Parts of an Oiled-bird Rescue Operation

One of the more important things I learned was that there are three essential parts to an organized bird rescue operation after an oil spill. First, volunteers are needed to answer telephone calls from other volunteers and to organize shift rosters for volunteers. Second, a well-stocked Rehabilitation Center with knowledgeable people must be established. Third, there should be a coordinated effort to catch oiled birds and bring them to the Rehabilitation Center.

There have been several papers and pamphlets dealing with the procedures for the rehabilitation of oiled birds (e.g., Naviaux 1972, Berkner et al. 1977, Swennen 1977, Berkner and Hay 1978, Dolensek and Bell 1978), but to my knowledge, I do not know of any papers that deal with either the importance of telephone answerers in coordinating volunteers or the procedures for coordinating the capture of oiled birds.

Although they did not directly deal with oiled birds, the telephone answerers performed a critical task, whose importance should not be underestimated. The rescue effort after the Yaquina oil spill did not become reasonably coordinated until about the third day after the wreck when several members of the Portland Audubon Society came to the local ODFW office and manned the telephone lines. They listed the names, phone numbers, and available times for prospective volunteers to work either in catching or in cleaning oiled birds. The Portland volunteers then assigned the crews needed for different shifts and made sure there were enough people to work each shift. They also told volunteers what to wear or bring (see D-3, p. 14).

The telephone answerers set the pace for the volunteers through the scheduling of shifts. One of the biggest problems for volunteers at the Yaquina oil spill was that they "burned out" because they did not take time off from volunteering. Since oiled birds were washing up for over a week and bird rehabilitation took a month or more for some birds, volunteers who worked in shifts were more likely to keep coming in day after day than those who tried to work all day, every day. Further, the morale of volunteers who worked in shifts was higher. Cheerfulness and high morale will be required after about the fourth day when the freshness and enthusiasm of first volunteering wanes and some treated birds will be dying or will have to be euthanized. Then volunteering starts to just become another routine job.

The rest of this monograph deals only with the capturing and handling of oiled birds.

C. Initial Steps in Organizing Search Teams; Necessary Supplies

Concerned individuals should contact USFWS and ODFW biologists to see what is actually being done. If the USFWS or ODFW do not provide someone to coordinate the search effort, then a volunteer should step forward and with the permission of the USFWS and ODFW become the Search Coordinator. This is the time for action, not "waiting and seeing" and hoping that the oiled birds will disappear.

One of the first steps for the Search Coordinator (whether he or she be a USFWS or ODFW biologist or a volunteer) is to obtain supplies to catch, hold, and transport oiled birds (see list below). USFWS and ODFW biologists need to

be consulted because they may be able to purchase or borrow supplies, and the Search Coordinator should also talk to the Bird Rehabilitation Coordinator because he or she may need or have stockpiles of some of the same supplies. If supplies are not immediately available from the USFWS or ODFW, then it is up to the Search Coordinator to somehow get supplies. Do not expect financial reimbursement for supplies without specific authorization from the USFWS or ODFW.

Requests over local radio stations for donations of supplies can be very effective, **if** the announcements are specific as to what is needed and where supplies are to be brought. The Search Coordinator can also delegate responsibility to volunteers to obtain specific supplies; for example, one volunteer can be placed in charge of collecting 50 cardboard boxes. Delegation of tasks to other volunteers by the Search Coordinator is important in ensuring that the Coordinator does not quickly "burn out."

Supplies needed include:

C-1) Long-handled dip or landing nets that are light enough to be moved quickly.

6 feet or longer salmon landing nets are best, but a shorter dip net is better than no dip net at all. The number of nets needed will depend upon the number of search teams (see D-1, p. 13). If the estimated number of oiled birds per team is approximately 10 or less, then each search team should have at least one long-handled net, but if search teams are apt to find many oiled birds, then they should have more dip nets. If there are not enough nets, then sheets or large towels can also be used to catch birds (C-7, p. 12), but with a sheet it is only possible to catch very weak birds that have a reduced chance of survival.

Other methods of catching birds include using a poultry hook at the end of a long pole to hook a bird's neck or leg (Anonymous 1956:2210) or using a long pole with a loop of heavy fish line at the end that is slipped over the bird's head. I have not tried either of these devices, but I think either would be more prone to injure a bird than using a dip net which incapacitates the whole bird. Further, dip or landing nets are more available along the Oregon Coast than the other two devices, which would have to be made, tested, and modified before they could be used efficiently in catching birds.

C-2) Cardboard boxes with closable tops.

If the box has been opened by cutting the top three edges, then the fourth edge forms a hinge that is adequate to close the top of the box, which will keep birds from escaping (see Figs. 8-10, p. 22-23). 11 x 14 x 10 inch boxes are adequate for most birds except Brown Pelicans and Great Blue Herons. Boxes from liquor stores are ideal because they usually have a top, and they often have dividers that form separate compartments inside the box.

Some ducks such as scoters are rather docile and can be put together, but only 1 cormorant, 1 grebe, or 1 loon should be placed in each compartment because they can injure each other. Thus, a cardboard box with four separate compartments can hold at least four small waterbirds (e.g., Horned Grebes or Ruddy Ducks). For larger waterbirds such as Western Grebes or cormorants, no more than 2-3 birds should be placed in each box.

The number of birds that can be kept in a box depends upon temperature as well as the size of the birds; fewer birds can be put in a box at warm temperatures because the birds may overheat and die, especially if they are held in boxes for a long time (Kerley and Erasmus 1986).

Although Naviaux (1972:9) recommended putting "some" 1.5 to 2 inch holes

along the top margin of the box, at the Yaquina oil spill, I found that boxes with 2-3 birds did not need any holes at temperatures of 55 F or less, as long as the boxes were not stacked on top of each other. Dolensek and Bell (1978:12) recommend increasing air ventilation during "warm" weather, so that the birds won't become overheated. But if it is below about 70 F, avoid putting holes in boxes because a box without holes is darker. Since birds tend to quiet down in darkness, the birds in dark, hole-less boxes will be less mobile and will expend less energy in moving around. Further, there are less air drafts in a box without holes, so the bird won't lose as much body heat, which is particularly important in cool weather.

Birds in boxes should be checked about every 15 minutes to be sure that they are not overheating; symptoms of overheating include panting or gaping. If overheating, fewer birds should be placed in each box, and 1-2 inch holes along the top and/or bottom edge of the box (see Figs. 8-10, p. 22-23) should be cut to increase ventilation. Triangular holes are easier to cut than circular ones.

The number of boxes needed will depend upon the number of search teams (see D-1, p. 13) and the number of oiled birds that each search team is likely to find. Each person in a team can carry two boxes. Although more than two empty boxes can be easily carried out to a search area, it is difficult for a person to carry more than two boxes filled with oiled birds.

C-3) Plastic 8-12 gallon garbage sacks.

If it is raining, the cardboard boxes will fall apart, so each box should be placed inside a plastic sack to keep it dry. Thus, a plastic sack should be large enough to fit around 1-2 cardboard boxes but should not be so large that the sack billows uncontrolledly in winds.

C-4) Rags, diapers, or pieces of sheets that are at least 1 x 2 feet.

After a bird is caught, it should be immediately dried off and wrapped in a rag or diaper to reduce heat loss and so that it won't swallow oil if it preens (see Figs. 5-7, p. 21-22). The feathers of oiled birds lose their ability to insulate a bird (Naviaux 1972:10), so it may become vulnerable to hypothermia, which may be prevented by wrapping the bird in a rag. Since oiled birds are usually wet and oily, their stickiness is usually sufficient to hold the rag in place without a safety pin; tape is more difficult to use than safety pins under wet, cold, and/or sandy "field" conditions.

If temperatures are more than 70 F, use light-weight, porous rags or burlap to wrap around birds, so that the wrapping material doesn't cause the bird to overheat (see A-2, p. 8).

There should be at least twice as many rags as there are separate compartments in the boxes; the extra rags can be used to dry off wet birds. If it is raining or damp, the rags should be placed inside a box in a plastic bag to keep them dry.

C-5) Cotton swabs or facial tissue.

After a bird is captured, Berkner and Hay (1978:5) and Dolensek and Bell (1978:11) recommend that cotton swabs or facial tissue be used to carefully clean oil from around a bird's eyes, inside a bird's bill, and inside a bird's nostrils. Within the bird's bill and nostrils, the oil should be wiped from the throat towards the bill tip so that oil is not pushed deeper into the bird.

Since facial tissue disintegrates when wet, it would often not be practical for oiled birds along the Oregon Coast.

C-6) Goggles, glasses, or sunglasses.

These can be supplied by each volunteer who is going to handle birds, but extras should be available for those that don't have their own. Naviaux (1972:9), Berkner and Hay (1978), and Dolensek and Bell (1978) recommend the use of eye protection. There have been cases where a bird has poked a careless volunteer in the eye, so volunteers should have their eyes shielded. Volunteers with goggles should, however, be cautious while handling birds and not feel as if they are invincible.

C-7) Sheets or towels.

If there isn't a long-handled net for each search team, then a sheet or large towel (i.e., at least 2 x 3 feet) can be used to throw over and catch very weak oiled birds. Each search team should have at least one sheet.

Sheets can also be cut into rags that can be used to wrap birds or be cut and sewn to form crude "socks" (see C-9, p. 12). If used for rags and temperatures are above about 70 F, the sheets or towels should be light-weight or porous (C-4, p. 11).

C-8) Optional: paper sacks or bags, safety pins, tape, or rubber bands.

These were not used, nor were they necessary, for birds at the Yaquina oil spill. The fewer and the simpler of materials one can use under "field" conditions, the better.

An alternative to wrapping birds in rags is to place birds in paper sacks, so that just their heads stick out (Dolensek and Bell 1978:12). Adhesive tape can then be used to close the sack, so that the bag doesn't slip off. One problem with paper sacks is that they may become wet and fall apart, especially if it is raining or wet, which commonly occurs along the Oregon Coast. Another disadvantage is that a bird dissipates some heat through its legs and feet, so enclosing the bird in a sack makes it more prone to heat-stress at temperatures above 70 F. Finally, tape is often difficult to use under sandy and wet "field" conditions.

Safety pins can be used to fasten rags wrapped around birds, but if rags are large or birds are oily or wet enough, safety pins are not needed (C-4, p. 11).

Tape or rubber bands may also be used to keep a bird's bill closed, so that it can't preen. There are two dangers in closing a bird's bill. First, the bird may become heat-stressed because one way birds keep cool is by breathing or panting through an open bill. Second, the bird may have difficulty breathing. Thus, closing a bird's bill, if used at all, must be done with caution, and the birds need to be periodically checked to see if they are having trouble breathing (i.e., they are gasping or gurgling, Dolensek and Bell 1978) or are heat-stressed.

C-9) Optional: socks.

Although not mentioned by later writers (Berkner and Hay 1978, Dolensek and Bell 1978), Naviaux (1972:9) recommends cutting a small hole in the toe end of a sock and slipping the sock over the bird's head with the bill protruding through the hole. I have not tried this, but it may be a good idea because by covering a bird's eyes, a sock would quiet the bird. One problem with using socks is trying to obtain them; they are more difficult to acquire than rags or sheets. But it may be possible to ask for volunteers to sew sock-facsimiles out of rags or sheets. Another problem that may be very important is that a sock may rub and damage a bird's eyes. Because of the possible damage to a bird's eyes and the fact that there are alternatives in

keeping a bird quiet, using socks is not recommended.

C-10) Optional: 60 cc syringes, #12-16 urethral catheters, and rehydrating solution.

After an oiled bird is captured and the oil has been cleaned from its eyes, bill, and nostrils; Berkner and Hay (1978:5) recommend that it should be given 25 cc of warm rehydrating solution per pound of its body weight. This was not done at the Yaquina oil spill and would not have been practical.

Although immediate treatment would be beneficial, this procedure may not be feasible for people catching birds in inclement weather, if the solution can't be kept warm, if the weight of an oiled bird is unknown, and if these supplies can not be kept sanitary by search teams.

Check with USFWS and ODFW personnel to see if this rehydration procedure is to be used. If so, then each search team needs at least one set of this equipment, and one member of the team should be put in charge of rehydrating birds and keeping his or her hands and these supplies clean. Only people with experience in sticking a tube down a bird's throat without injuring it should rehydrate birds (see I-5, p. 25).

C-11) Optional: gloves.

Although Naviaux (1972:9), Berkner and Hay (1978), and Dolensek and Bell (1978) recommend the use of gloves, I found gloves to be a nuisance, and most bird handlers shown in Dolensek and Bell (1978) are without gloves. When handling a bird after capture, one needs as much "touch" as possible in feeling what the bird is doing (e.g., see Fig. 2, p. 20), which would be impossible through a glove. Further, if a bird is handled correctly (see section I, p. 24), gloves are not necessary to avoid injury to volunteers. But to be on the safe side, have volunteers bring gloves if they have them.

D. Guidelines in Preparing to Search for Birds

The following steps need to be done by the Search Coordinator in conjunction with USFWS and ODFW personnel.

D-1) Decide the region to be searched and the total number of search teams.

On a copy of a well-detailed map of the general area of the spill, use preliminary reports as to where oiled birds have already been found to estimate where more oiled birds may be. Then plan to search beaches at least 1-2 miles away from where the birds are thought to be.

Divide the shorelines to be searched into areas about 2-4 miles long and label each area individually (e.g., A, B, C, etc.). Try to have a beach access on both ends of each area, so that the search team for that area can park a vehicle at each end and only walk their area once. If there is a beach access at only one end, make the length of the area shorter (e.g., 2 miles), so that the volunteers won't spend more than 2 hours first walking the length of their area and then walking back to their vehicle.

A team can cover a much larger area if the beaches are driven. The problem is that the area may not be drivable or that vehicles may not be available. The USFWS or ODFW may provide a vehicle and driver to drive along the beach for the first few days but don't count on having such

vehicles later. If private vehicles are to be driven on the beaches, first consult ODFW and USFWS biologists to obtain legal permission from the appropriate governmental agencies.

As new information about the location of oiled birds is learned, then additional areas may need to be established and searched, if birds are found beyond the previously established areas.

These guidelines for setting up areas worked at the Yaquina oil spill, but areas would have to be smaller at an oil spill that affects more birds. Since oiled birds need to be caught and transported to the Rehabilitation Center in a timely fashion (i.e., within 1.5 hour), this may not be possible if there are lots of oiled birds. Timely transportation is especially important if outdoor temperatures are above about 70 F, when birds may be more prone to overheating in boxes.

D-2) Plan on having a meeting of the search volunteers about 2.5 hours before low tide.

For the sake of the volunteers' safety, searches are ideally around the time of low tide, especially along the open coast if there are heavy seas or if there is a storm.

Searching at low tide is also ideal because oiled birds are more easily caught then. Oiled birds often sit on the beach at the high tide drift line; at low tide, a volunteer can run along the exposed beach and more easily catch a bird before it clumsily waddles to the water and escapes.

Plan to have the volunteers out at their areas about 2 hours before low tide. The search volunteers need to meet about 30-45 minutes before this, so that they can be organized and trained in catching and handling oiled birds. Thus, plan the meeting for search volunteers to be about 2.5 hours before low tide and consult USFWS and ODFW personnel as to the suitability of the time of the search. The meeting place should be out of the weather and at the site where the supplies for catching and holding oiled birds are stored.

D-3) Consult telephone answerers to get enough volunteers to search all areas.

2-4 people/area are adequate if the number of oiled birds is estimated to be less than 10 birds/area. The volunteers should be contacted as to what time to meet, where they should meet, and what to wear. They should be told to wear old clothes and rubber boots, that there is a good chance that they will get oil on their clothes, and that they may NOT be able to wash the oil out. The volunteers should also be told to bring some form of eye protection (glasses, sunglasses, or goggles) and gloves to minimize the chance of injury. If they will need a sack lunch, they should be told that also.

D-4) Make sure there are adequate supplies to capture birds.

If there are not enough supplies, consult USFWS and ODFW personnel for advice or acquire supplies as best you can. Remember, authorization must be obtained from USFWS and ODFW personnel to receive reimbursement for the purchase of any supplies.

D-5) Consult the Bird Rehabilitation Coordinator.

Check to see how the Coordinator wants birds delivered and tell him or her when you expect your search teams to bring in oiled birds. Communication with the Bird Rehabilitation Coordinator is important so that he or she can be prepared for the arrival of oiled birds and so that procedures of the search teams can be changed, if necessary, to improve the chance of the birds'

survival.

D-6) Prepare report forms for search team leaders.
Consult with USFWS and ODFW personnel to see if the form in Appendix I (p. 28) is adequate; they are responsible for this kind of information in their reports. The example form in Appendix I can be quickly typed up and/or reproduced by photocopying for use by the search team leaders.

The Search Coordinator should make a copy of each completed form to keep for his or her own records and to give the original form to USFWS or ODFW personnel. A copy insures that if one copy is lost that there is a backup.

E. Search Frequency

There is not a hard and fast rule for how many organized searches there should be each day. If there are lots of oiled birds (e.g., over 100) found during a full-scale organized search, then it would be worthwhile to have more than one organized search per day. However, there may be disagreement on search frequency because some people may feel that if there is a chance of even one oiled bird being found and possibly saved that there should be an organized search for it. On the other hand, it is difficult to get a full crew of volunteers to do a full-scale search if each search team is finding less than 1-2 birds/search.

At the Yaquina oil spill, we searched each area once a day around the time of low tide (see D-2, p. 14) during the first five days, and then discontinued organized full-scale searches because less than 10 live oiled birds were found in all areas we searched. Some volunteers thought that we should have more searches each day, and they wanted to go out on their own to catch oiled birds. After they were trained to be a search team leader and also taught how to catch and handle oiled birds (see sections G [p. 16], H [p. 17], and I [p. 24]), they were free to go wherever they wished and told to report any large concentrations of oiled birds to the Search Coordinator or USFWS or ODFW personnel. This flexibility between organized, full-scale searches and trained individuals working in association with the Search Coordinator and USFWS and ODFW biologists seemed to best satisfy everyone.

Make it clear that a searcher can only legally transport wild birds if the searcher has special permits or is coordinated with the official search effort.

If there are lots of oiled birds, it may not be possible to search for oiled birds only around the time of low tide if there is only one low tide during daylight. Searches in darkness are just too dangerous to be considered, so additional full-scale searches may have to be conducted near high tide. But there must NOT be any searches along the open coast or at the mouths of estuaries within 2 hours of the time of a high tide predicted to be +7.0 feet or more above Mean Lower Low Water (especially before or during storms) because there is simply too great a chance for volunteers to be swept away by "sneaker" waves. **If searches are done at high tide, it is critical that volunteers be thoroughly warned several times about dangerous "sneaker" waves that are unpredictable.**

In any case, search frequency and the timing of searches is not a decision to be made by the Search Coordinator, alone. USFWS and ODFW biologists should be consulted about what they think is a sustainable and reasonable frequency of full-scale, organized searches.

F. Initial Strategy for Meetings of Search Teams

Meetings of volunteers can be chaotic, unless the Search Coordinator takes charge. Volunteers are usually eager to go out and catch oiled birds and may not see the point of a meeting or instructions. Further, newspaper and perhaps TV reporters are working to make stories, and they have a tendency to get in the way or hinder the process of getting the volunteers ready to search for oiled birds. Therefore, if you are a volunteer, tactfully tell reporters to go elsewhere and question the USFWS or ODFW biologists but not to question you. If you are a professional biologist, then firmly ask the reporters to kindly wait to ask their questions until after the volunteers have been trained and have left. Remember, the top priority should be getting the volunteers out to search for oiled birds, not to make a reporter's story.

Explain to everyone that team leaders will be chosen, the leaders will receive some instructions, and then everyone will be taught how to catch and handle oiled birds. State that after the meeting and after each team has its necessary supplies, everyone will be free to leave.

G. Instruction of Search Team Leaders

Team leaders are necessary, so that one person is responsible for directing a team. If no one is designated as a leader, then team members will be less coordinated and less enthusiastic. Further, team leaders are needed to record the information required to plan for future searches.

G-1) Pick search team leaders for each area.
Pick leaders on the basis of leadership potential, enthusiasm, familiarity with his or her area, and experience in catching or handling birds. Asking for volunteers is a good way to select leaders.

G-2) Meet with team leaders, give each a data report, and explain how to fill out the data report (see D-6, p. 15; Appendix I, p. 28).
Tell the leaders to bring their report back to a specific place, so that future searches can be planned for locations where there are oiled birds.

G-3) Make sure each team leader knows exactly which area to cover.
If possible, give each leader a map. Recommend that if a team is going to have a car or other vehicle at each end of the area, that the team walk the area with the wind at their back. If the team's vehicle or vehicles is going to be parked only at one end of the area, recommend that the team first walk their area into the wind, so that the wind will be behind them when they return to their vehicle(s) with the birds in boxes. There is a big difference in walking with or against the wind, and it is best to conserve the energies of the volunteers, so that they will go on future searches.

G-4) Emphasize that the safety of the volunteers is the number one priority and that each team leader is responsible for maintaining safety in his or her own team.

We did not have any searchers seriously injured during the Yaquina oil spill, but there were some volunteers who exulted in taking dangerous, unwarranted risks such as wading chest deep in water where a wave could have overwhelmed them and swept them away. **Recklessness must not be allowed.**

G-5) Tell team leaders to leave marine mammals alone.

If they see a sick or dead marine mammal, they should call the ODFW or the Oregon State Police with the location of the animal. The telephone number(s) for the leader to call should be placed on his or her report form (see Appendix I, p. 28).

G-6) Tell leaders that it is important to put dead birds into a garbage bag and bring them back.

After the dead birds are brought back, they can be counted and examined for possible cause of death and also for bird bands. If the dead birds are left on the beach, they either will not be counted or they may be counted more than once. The number of dead birds is important for the record keeping of the USFWS and ODFW.

G-7) Tell leaders where to take oiled birds and where to return their team's supplies.

If the supplies are not brought back, then more time and energy will have to be spent in acquiring even more supplies.

G-8) Tell leaders that they may have to decide to send birds back to the Rehabilitation Center before their team has finished doing their area.

See section I-8 (p. 26) for details on when to make this decision.

H. Training Volunteers to Capture Birds

After the team leaders have had their duties explained, then they and the other volunteers can be instructed in the capturing and handling of oiled birds.

First, though, form the volunteers into teams with each leader. Ask volunteers to choose which team leader they want to go with. If given a choice, a volunteer is more likely to select a team with which he or she feels comfortable. If volunteers are comfortable with their team, they are more apt to pay attention to the training during the rest of the meeting.

Make sure that there is at least one person within each team that has a vehicle that he or she is willing to use to transport the team and oiled birds. Make it clear that the vehicle may get dirty and oily; point out that stores carry solvents that will probably remove oil from vehicles, especially while the oil is relatively fresh.

Steps in instructing the capturing of birds:

H-1) Make a point that the safety of volunteers is the number one priority.

People should not get so caught up in the excitement of catching birds that they risk their own or somebody else's safety. This is especially

important for volunteers that may be swept away by "sneaker" waves along the open coast or for volunteers that may be hurt in a fall or may tumble into the water while walking along slick rocks. Emphasize that no one along the open coast should wade after a bird; the risk can be too great. Within an estuary, volunteers can do some wading if they are away from waves, but they are not to wade in over their knees because they may fall into a deep hole.

Since lawsuits are rampant, the Search Coordinator should protect himself or herself by being sure that safety is made an important issue. Make it clear that each volunteer is responsible for his or her own safety. Tell them that they are being trained sufficiently to handle birds without serious injury, but it is up to each volunteer to be cautious. Suggest that each may wish to wear gloves (if they have them) and that each should protect his or her eyes by wearing glasses, goggles, or sunglasses. Tell volunteers who handle birds to wash their hands and any cuts with warm water and soap before picking their nose or eating. Also suggest that volunteers determine if their tetanus shot is current, and if not, to get a booster (Berkner and Hay 1978:2).

Emphasize caution without instilling fear. There is no reason for volunteers to be injured, if they are reasonably careful.

H-2) Advise each team to have a "catcher" and "spotters."

The "catcher" should be someone who can run fast and that can also quickly maneuver a dip net. The "catcher" takes a dip net and walks along the water edge.

"Spotters" walk along the high tide line searching for birds. "Spotters" also carry the boxes and other supplies and should not get ahead of the "catcher" because they may disturb birds before the "catcher" has a chance to net them.

Unfortunately, many birds that are clearly oiled and that appear ill may still be able to escape "catchers." Do not pursue these uncatchable birds because such an effort will unduly stress them. In particular, oiled gulls can often still fly.

H-3) The "catcher" should run along the edge of the water (not directly towards the bird) and catch the bird before it escapes into the water.

An effort should be made to scoop the bird into the middle of the dip net, without hitting the bird with the net frame. Try to reduce stressing an oiled bird by not yelling or screaming while approaching it, and also move towards a bird as smoothly as possible without jerky, unpredictable movements.

H-4) If no dip net is available, the "catcher" should use a sheet or a coat.

The sheet should be thrown over the bird as it heads down the beach towards the water. Unfortunately, if it is windy, a sheet is hard to throw accurately. As with using a dip net, do not yell while trying to catch a bird.

H-5) Make it clear that NO bird (and especially loons, grebes, cormorants, or pelicans) should be caught with bare hands.

Birds can stab and seriously hurt volunteers. If no net or sheet is available, a coat or shirt can be thrown over a bird. Anything that covers a bird will quiet it down, will immobilize it, and will make further handling of the bird much safer and less stressful for the bird as well as

for the volunteer.

Also, do not try to catch birds with gloved hands because gloves only incompletely protect the hands and do not protect the arms.

H-6) Catching birds from boats is probably not feasible in intertidal areas.

Berkner and Hay (1978) and Dolensek and Bell (1978) mention using boats, even row boats! Evidently, they have never tried to use boats in water as rough as occurs along the Oregon Coast!

Along the open coast in Oregon, a boat would be very dangerous for volunteers and should never be used. In protected waters of an estuary, boats would not be very safe for catching oiled birds during storms or during days with large tide changes when currents can be exceedingly strong. Further, in an estuary, an oiled bird already in the water would have to be very weak before it wouldn't dive and escape an approaching boat. At high tide, most oiled birds on the beach, unless very weak, would probably still be able to escape before the boat got close enough so that a volunteer could catch it.

If safe enough to use, a boat can be used in an estuary at low tide to approach birds that are up along the high tide line. The boat should be headed quickly towards the beach with a "catcher" (who has a long-handled dip net) in the bow ready to go after a bird.

Besides safety, the problem with using boats is that they greatly increase logistical and organizational problems. Acquisition of boats, operators, and gas as well as determination of safe launching points all become additional factors to deal with. Try to find someone that can take charge of boat searches, if they are feasible and will be safe.

H-7) Make it clear that if volunteers do not find any oiled birds that their efforts are still important.

Tell them that we need to be sure that we are covering all areas where there may possibly be oiled birds, so some areas may be included that do not have any oiled birds at all. Knowing where birds are or are not present is essential in planning future searches.

Steps in Handling a Bird from Capture to Transporting it in a Box.

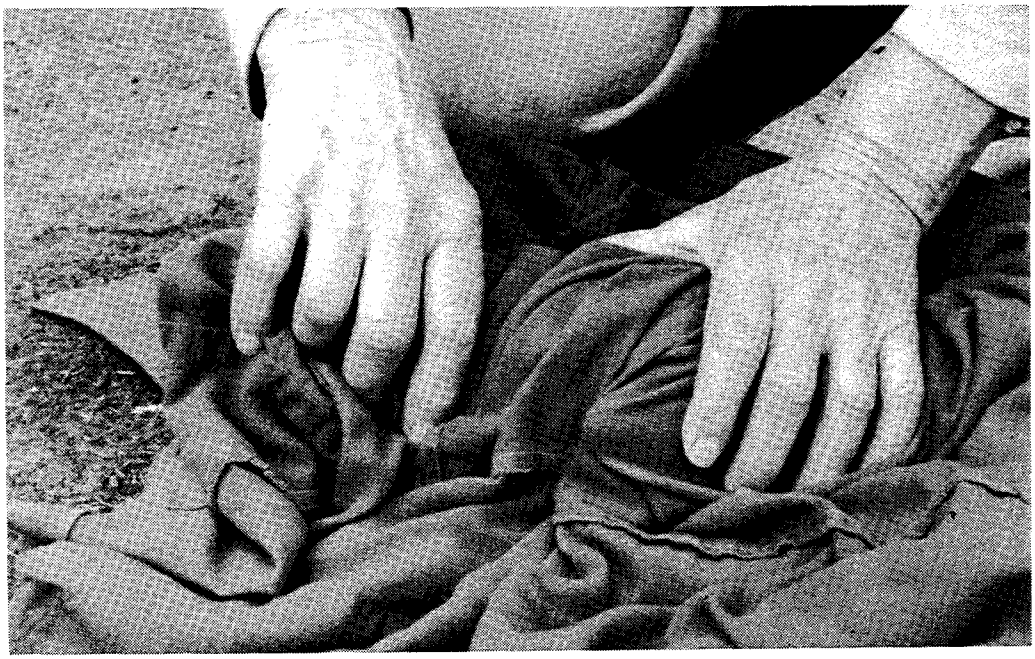


Figure 1. After immobilizing a bird by catching it in a dip net or by throwing a sheet (or in this case a shirt) over it, place your hand over the net/sheet/shirt and hold the bird's head and bill with one hand. Always immobilize a bird with a net, sheet, shirt, or coat before touching the bird. (See I-1 and I-2, p. 24.)

Figure 2. With one hand holding the bird's head on the outside of the net/sheet/shirt, slip the other hand first under the net/sheet/shirt and then over the bird's head (see I-2, p. 24).

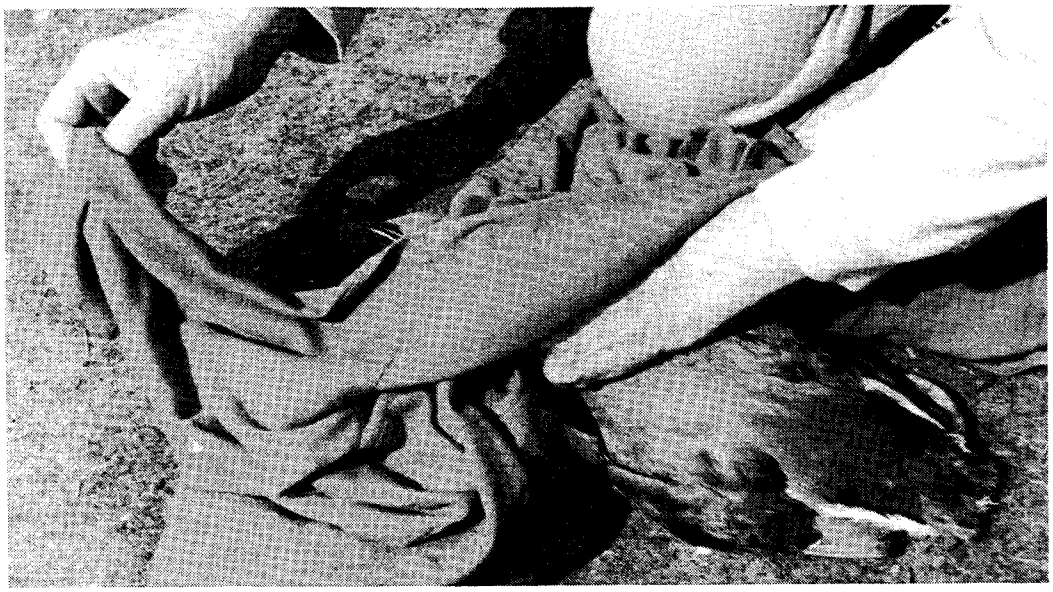


Figure 3. Keep the bird on the ground and while firmly holding its head and covering the bird's eyes with one hand, use the other hand to remove the net/sheet/shirt (see I-3, p. 24).

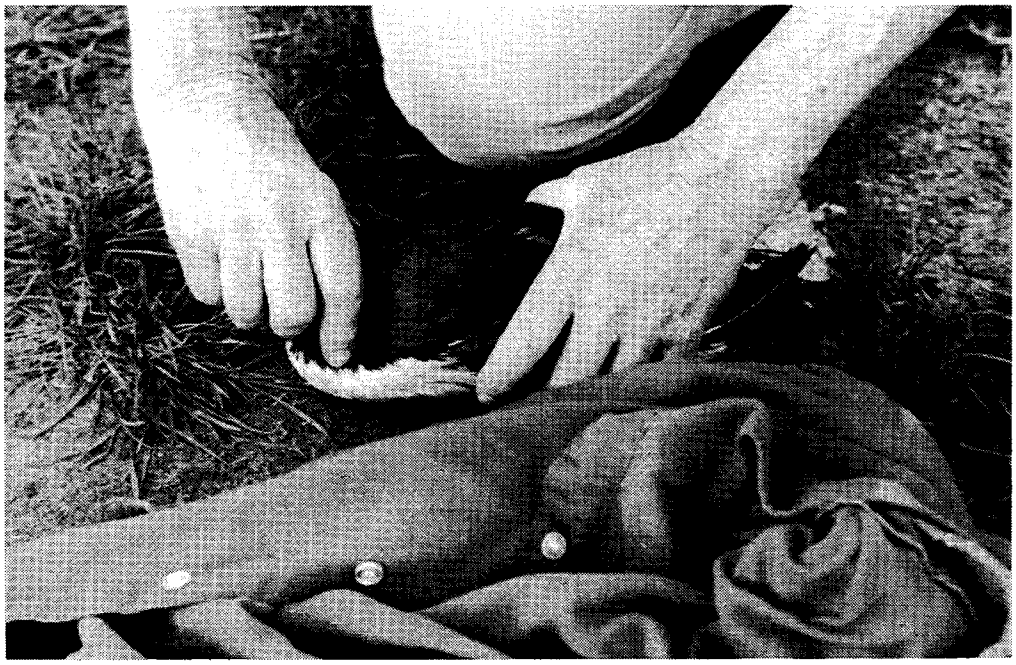


Figure 4. After the net/sheet/shirt is removed, leave one hand around the bird's eyes and bill, while holding the bird's wings together with the other hand (I-3, p. 24). Keep the bird on the ground.

While one person holds the bird, another dries it with a rag and tries to remove oil from its legs, wings, and trunk.

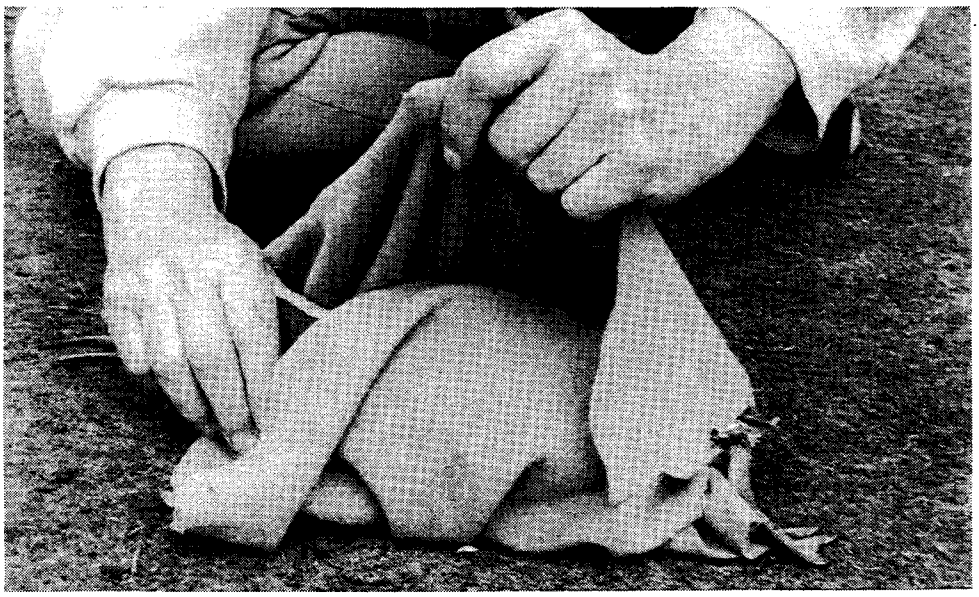


Figure 5. Wrap a rag around the bird's body, but NOT its legs (I-3, p. 24). If it is above about 70 F, be sure to use a light-weight rag to reduce the chance of the bird overheating (C-4, p. 11).

If the bird is hard to hold, a second person must help.

After the bird is wrapped in a rag, clean oil from the bird's bill or around its eyes with a cotton swab or facial tissue (not shown, see I-4, p. 25).

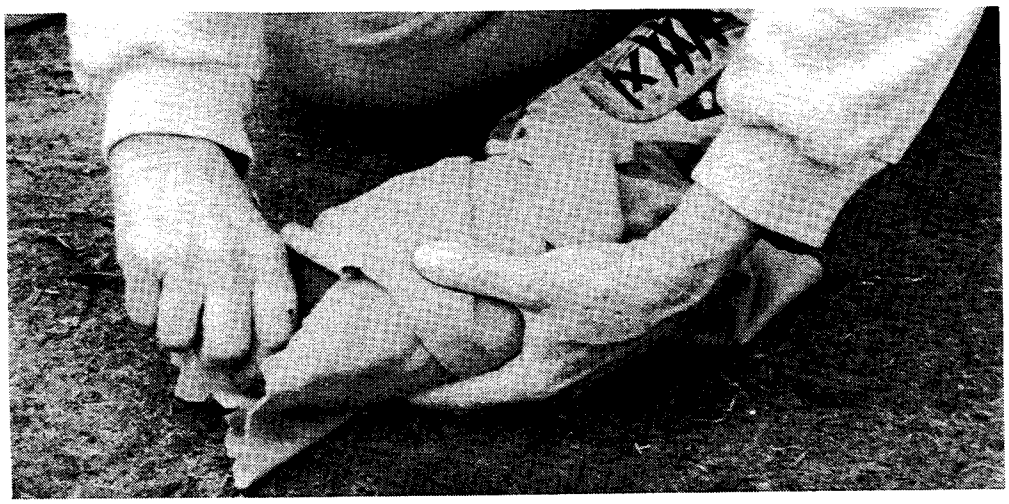


Figure 6. With one hand closely over the bird's eyes and simultaneously holding its bill and head, slide the other hand under the bird's legs, while the bird is still on the ground (see I-6, p. 25).

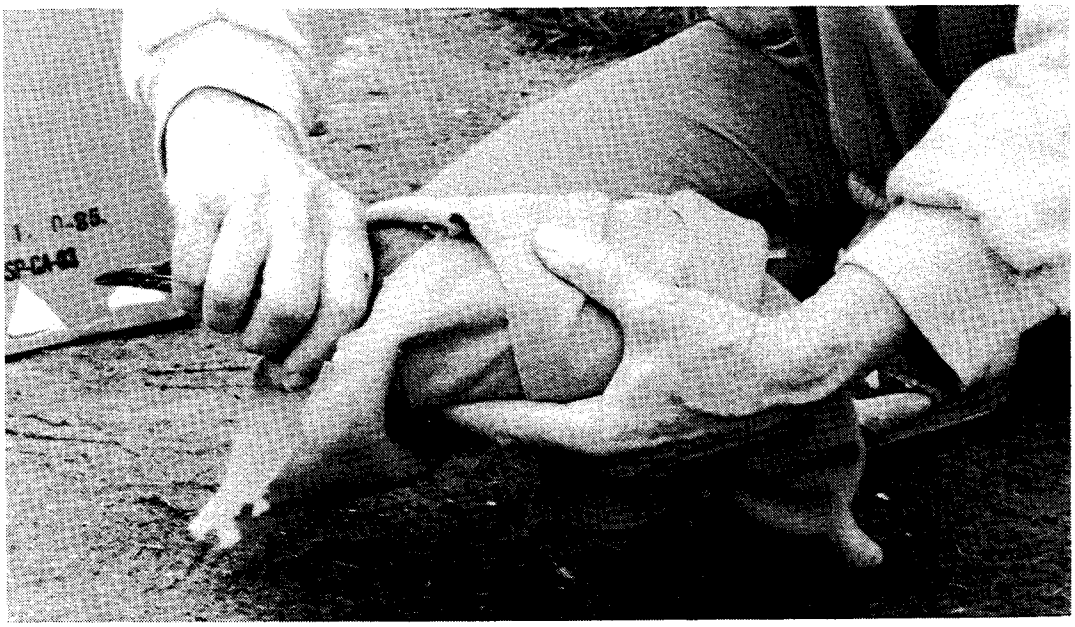


Figure 7. Using the hand under the bird's body and legs, lift it up (see I-6, p. 25). If a rag is not wrapped around the bird, press the thumb of this hand against the bird's wing and hold the bird against your leg as you lift it, so that the other wing is pressed against your leg. By restraining the bird's wings, it can't start flapping them, which it will generally try to do as it is lifted.

Figure 8. Move the bird over the open box. The hand under the bird's legs supports all the bird's weight. Note that the box is from a liquor store; their boxes are ideal because they have a "hinged" closable lid and usually have removable compartments that can separate birds (C-2, p. 10).

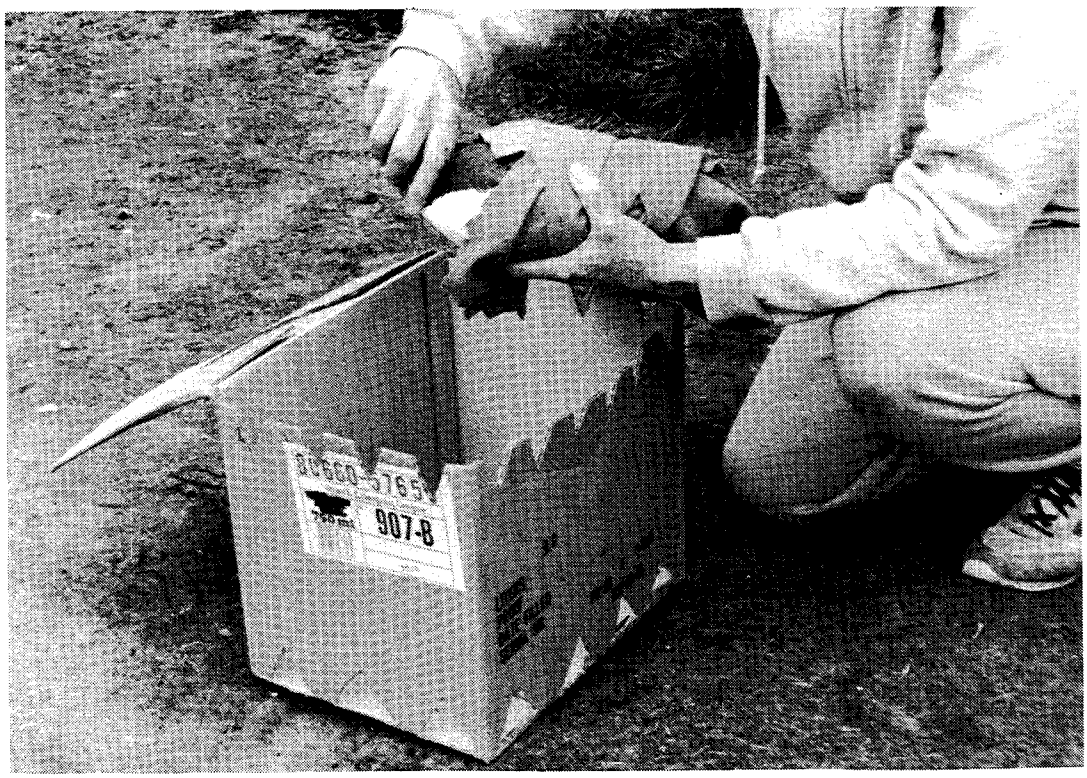
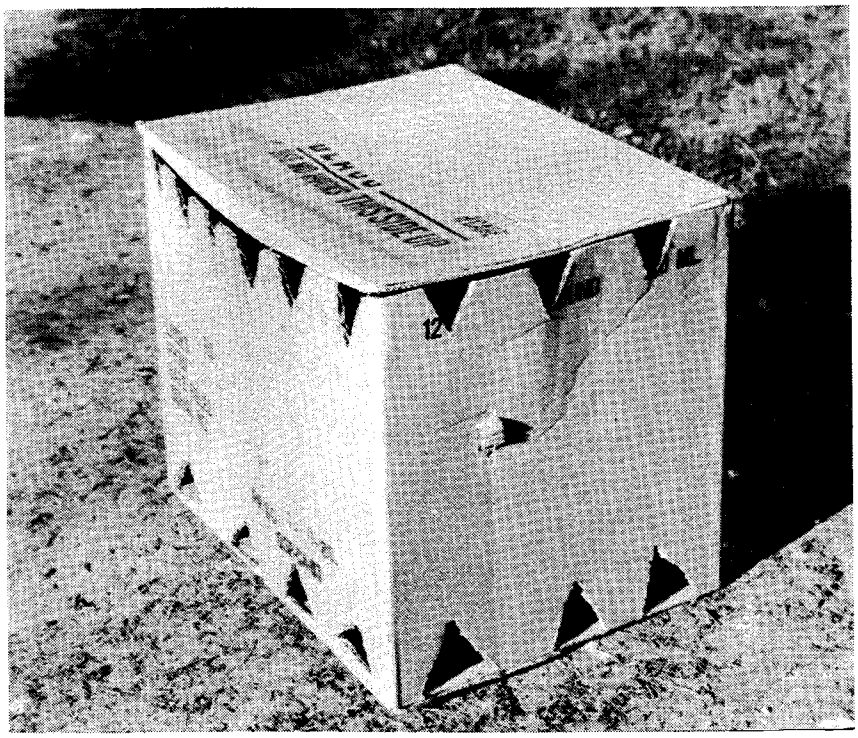


Figure 9. Lay the bird on the bottom of the box, keep holding the bird's head with one hand, gently remove the other hand from under its legs, and use that hand to start closing the box (I-6, p. 25). When the box is nearly closed, quickly remove the hand from the bird's head and finish closing the box.

Figure 10. The closed cardboard box with triangular holes cut along the top and bottom edges for ventilation above about 70 F (C-2, p. 10; see also A-2, p. 8). Triangular holes are easier to cut than circular holes. If below 70 F, the holes are probably NOT necessary; the holes should be avoided because they can allow drafts that may create hypothermic problems for oiled, wet birds (C-2, p. 10). Another reason for NOT cutting holes in boxes if it is below 70 F is that the holes allow light into the box; birds will be calmer and less stressed in a dark box (C-2, p. 10). About every 15 minutes, carefully and slowly open the box lid just enough to see if birds are becoming stressed (I-7, p. 25; also see A-2, p. 8).



I. Training Volunteers to Handle Birds

Make it clear from the onset that stress (shock) can kill birds (Naviaux 1972:24), so that it is important how the volunteers catch and handle oiled birds. The general rules of reducing stress are to catch and handle birds as gently and quietly as possible, to dry and cover birds to reduce body heat loss if air temperatures are less than about 70 F, and to monitor the birds to be sure that they don't overheat.

Rather than just talking about how to handle a bird, **demonstrate with a duck or goose decoy.** Throw a sheet over the decoy or "catch" the decoy in a dip net and show the proper way of holding its bill, covering its eyes, untangling the bird, supporting its feet as it is picked up, and putting it into a box (see immediately following sections and Figs. 1-9 [p. 20-23]).

Points to emphasize are:

I-1) The bird must be immobilized (Fig. 1, p. 20).

Emphasize that a bird should be caught with a dip net or a sheet, coat, or shirt. The volunteer should never try to grab an unrestrained bird because it may stab the volunteer.

To minimize stress to a bird after it is caught, talk in soft voices and handle the bird as gently as possible in deliberate, smooth (not jerky) movements. Although I have never tried it, gently scratching the back of a bird's head may relax it, since Fisher (1971:21) successfully did this to Laysan Albatrosses.

Emphasize that a volunteer should handle a bird like a baby, not like something indestructible.

I-2) Once the bird is in a dip net or under a sheet, keep the bird on the ground.

One person should see where the bird's head is and use a hand to hold the bird's bill and head (Fig. 1, p. 20). This will immobilize the bird's bill. Cover (without touching and damaging) the bird's eyes with part of the hand so that it will be calmer. Remember that covers are put on bird cages to quiet a bird down; this also works for wild birds.

Now the person's other hand should be put under the net or sheet to directly hold the bird's bill and head (Fig. 2, p. 20).

I-3) While holding the bird's head and bill with one hand, free the bird from the net or sheet with the other hand (Figs. 3-4, p. 20-21).

If the bird is wet, use some rags to try to dry off the bird and to wipe oil from a bird's legs. If the bird is hard to restrain, one person will have to hold it, while a second person dries the bird. Then wrap a rag or piece of sheet around the bird's body, but not around the bird's legs (Fig. 5, p. 21). Since a bird will probably be more comfortable and calmer if it can stand and since a bird also regulates its temperature with its legs and feet, it is important that its legs are not wrapped.

Emphasize that wrapping a bird in a rag is important in stopping undue heat loss to the bird, in restraining a bird's wings, and in preventing a bird from ingesting oil as it tries to preen itself (Fig. 5, p. 21). Above about 70 F (see A-2, p. 8), try using a light-weight or porous rag to wrap the bird, so that the rag won't cause the bird to overheat.

I-4) Swab oil from the bird.

This procedure requires one person to hold the bird and another to clean it. Demonstrate with a live bird from the Rehabilitation Center. First, use a cotton swab or facial tissue to clean oil from around the bird's eyes without touching the eye itself (Dolensek and Bell 1978:11). Then open its beak and swab oil from as deeply out of the throat as possible without choking the bird. Finally, clean oil from the bird's nostrils by wiping the oil TOWARDS the bill tip. If it is raining or wet, facial tissue is not practical to use instead of cotton swabs (C-5, p. 11).

I-5) Optional: give the bird rehydration solution.

Before the meeting, discuss with USFWS and ODFW personnel and staff from the Rehabilitation Center whether or not volunteers in search teams should do this because it isn't very feasible along the Oregon Coast (C-10, p. 13). If search team members are to rehydrate birds, consult Berkner and Hay (1978:5) and **be sure to demonstrate this procedure with a live bird from the Rehabilitation Center.** If possible, it would be best to have rehabilitation volunteers demonstrate this because they would be experienced in sticking a tube down a bird's throat and rehydrating it.

I-6) When it is time to put a bird in a cardboard box, place one hand around the bird's head, put the other hand firmly under the bird's feet, and pick up the bird and place it gently in a box (Figs. 6-9, p. 21-23).

The bird's wings are already immobilized by the rag around its body, so I am surprised that Naviaux (1972), Berkner and Hay (1978), and Dolensek and Bell (1978) do not instruct volunteers to support a bird's feet (see Figs. 6-8, p. 21-22). If a bird's feet are not supported when it is picked up, a bird will often kick out one or both of its feet and injure a volunteer. I learned this the hard way by handling Great Blue Herons, who scratched my arms until I learned to support their feet; a heron becomes rather docile if its feet are supported when it is picked up. Since a bird that is kicking is also exerting a lot of energy and is also getting unduly excited, it is important to minimize a bird's stress by supporting its feet when it is picked up.

After the bird is picked up with its feet supported, place the bird's feet down on the bottom of the box (Fig. 9, p. 23). Move the hand that was under the bird's feet out and have it ready to close the box lid immediately after the other hand releases the bird's head (Fig. 9, p. 23). If the bird is too active, place a rag loosely over the bird's head to quiet it down.

I-7) Make a point to have only one grebe, loon, or cormorant per box or compartment because otherwise they may hurt each other.

Some of the ducks are rather docile, and 2-3 can be kept together. But do not crowd birds too closely together, especially if temperatures are above about 70 F because they may then overheat (see C-2, p. 10).

Birds in boxes should be checked about every 15 minutes to be sure that they are not stressed. If birds are panting or showing other signs of heat stress, then fewer birds should be put in the box, birds should be wrapped in rags that are light-weight or porous, and/or holes should be cut along the top and bottom edges of the box (Figs. 8-10, p. 22-23) to increase ventilation. Monitoring of a bird's condition is important because it can die from overheating (see also A-2, p. 8).

I-8) How to determine when to transport oiled birds.

The team leader must decide on when to send birds back to the Rehabilitation Center.

If there are less than about 10 oiled birds that have been captured by a team and if it is estimated that they will arrive at the Rehabilitation Center within about an hour, then the whole area can be searched before the team leaves, and all captured birds can be taken back to the Rehabilitation Center together.

But if there are more oiled birds (e.g., 10 have already been captured by a team and there are many more to catch) and if it is feasible, then the birds need to be transported back to the Rehabilitation Center before the team completes its entire search of an area. In this case, part of the search team will have to carry birds in boxes back to a vehicle where one team member can drive them to the Rehabilitation Center. The team leader needs to be sure that the driver knows where to meet the search team when the driver returns, so that additional birds can also be sent back for rehabilitation.

I-9) Ending the meeting of volunteers.

Tell the volunteers to be careful and to handle birds gently. Take the volunteers to the supply area and be sure each team has enough supplies before they go out. Reiterate that the report forms need to be brought back, even if no oiled birds are found, so that future searches can be efficiently planned.

J. Guidelines for Ongoing Searches

Searching for birds will continue for five days or more after an oil spill, so it is important that planning is made for continuing searches until oiled birds are rarely found. After the first two days of searches, the "thrill" will be gone for some of the volunteers, or some will burn out.

Steps required of the Search Coordinator include:

J-1) Be sure adequate supplies are maintained.

J-2) Consult USFWS and ODFW personnel and the Bird Rehabilitation Coordinator to see if everything is going reasonably smoothly or if there could be some improvements.

J-3) Keep in contact with the telephone answerers to be sure that there are enough volunteers to continue searches of all areas.

J-4) Be sure to keep a copy of all data report forms (see D-6, p. 15; Appendix I, p. 28) **together** (e.g., three-hole-punch and put in a notebook) **in a safe place.**

If the Search Coordinator has a copy of the report form and the USFWS or ODFW also has a copy, then at least one record of each search should survive the rigors of paper shuffling and the chaos that occurs during an oil spill.

K. Special Considerations

A few points that volunteers should be informed of include:

K-1) Volunteers should chip in where they can.
If something could be done better and nobody is doing it, a volunteer should step forward and do it with the permission of USFWS and ODFW personnel.

K-2) Let the USFWS and ODFW biologists deal with reporters.
Volunteers should remember that the goal is to save birds, not to grab the "spotlight" and be "stars" for a day.

K-3) Above all else, volunteers should try to keep a sense of humor and a reservoir of good will, in spite of the sometimes trying circumstances and the inevitable death of some birds.
Fortunately, volunteers are usually enthusiastic, especially in the first few days. If the searches are reasonably well-organized, it is generally easy to keep morale up. But there will be times when people's patience will be tested, especially since there is often at least one person who has a capacity for irritating others.

K-4) Volunteers are responsible for their own safety.
Lawsuits are rampant today, so make it clear to each volunteer that they have been warned to wear eye protection and that gloves have been suggested. Make it clear that they have been trained in handling birds and in avoiding danger while catching birds (e.g., "sneaker" waves). Tell them to be careful and to wash their hands with soap and water after handling birds. Also suggest that volunteers check to make sure their tetanus shot is current, and if not, to get a booster (Berkner and Hay 1978:2).

K-5) Volunteers should be told that to wash oil off their skin, they can first use a mild oil solvent such as mineral oil.
Mineral oil is in some baby lotions and some hair oils. Then regular hand soap can be used to wash away the mineral oil.

Appendix I. Data form for each search team leader to use in recording oiled birds. This form or one similar to it can be photocopied and used by all search team leaders (see D-6, p. 15).

Date:_____ Area Name:_____
Starting Time of Search:_____ Ending time of Search:_____
Team Leader Name:_____ Leader's Telephone no.:_____
Telephone No. for Leader to Call about a Beached or Oiled Marine Mammal: _____

Bird Species	No. Caught Live	No. Escaped	No. Dead	Remarks (e.g., presence of oil on beach)

****

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Oiled Innocence

Without planning and preparation
BEFORE an oil spill,
and without organization and communication
AFTER one;
the time, effort, and enthusiasm
of good-natured volunteers
to rescue oiled birds
may be squandered
and lost....

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