

RRT III FACT SHEET

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OILED BIRD REHABILITATION

Rehabilitation of oiled wildlife is a complex, crisis-oriented undertaking requiring an experienced staff with medical, technical and crisis-management skills. Historically, efforts to rescue and treat wildlife affected by oil have met with limited success. The image of an oil-soaked bird struggling to shore elicits a tremendous emotional response in people. This atmosphere of public concern often results in well-intentioned people attempting to do a complex job for which they lack training and experience.

Rehabilitation of oiled wildlife focuses primarily on the adverse physiological effects of oil on individual birds. These effects can be counteracted, at times successfully, through the cooperative efforts of veterinarians, biologists and rehabilitators with oil spill response experience. The primary objective of wildlife rehabilitation is to care for injured animals and release them to their natural environment. Rehabilitation of wildlife fills two purposes during an oil spill response: 1) philosophically it provides a humane response to wild animals harmed through man's activities; and 2) biologically, it attempts to treat and return animals to healthy breeding populations.

The Effects of Oil on Birds

Environmental effects are perhaps the broadest category of the effects of oil on wildlife. Environmental effects include immediate contamination of the food source; reduction in the breeding animals and plants that provide future food sources; contamination of nesting habitat; and reduction in reproductive success through contamination and reduced hatchability of eggs or temporary inhibition of ovarian function.

The external effects of oil are the most noticeable and most immediately debilitating. Birds that are most often affected by oil spills include those that remain on the water, such as ducks, loons, and grebes; and those that feed on the water, such as gulls, terns and herons. Oil can contaminate the entire bird or only parts of the bird, depending on the amount of oil in the water and bird's natural behavior in the water. Oil, by disrupting the interlocking structure of feathers, destroys the waterproofing and insulating properties of plumage. The oiled bird may suffer from chilling, may be unable to fly, or may be unable to remain afloat in the water.

The internal effects of oil on birds while not as noticeable as the external effects are equally life threatening. Ingestion of oil by birds attempting to clean feathers through preening can result in ulceration and hemorrhaging within the lining of the gastrointestinal tract. This damage prevents the animals digestive system from utilizing food or water, causing the animal to become progressively weaker over time. Pneumonia is not uncommon in oiled birds, and can occur when birds attempting to clean their feathers through preening aspirate droplets of oil. Severe and fatal kidney damage can also occur; both as a direct effect of the toxins in the oil and as a result of the severe dehydration often encountered in oiled birds. As the oiled bird becomes more debilitated,

its immune system is compromised, and the bird becomes susceptible to secondary bacterial and fungal infections which are potentially life threatening.

Treatment of Oiled Birds

Like any crisis situation, wildlife response after oil spills requires organization and efficiency. Wildlife response must follow a systematic series of procedures in order to be successful. This process generally follows five phases of bird rehabilitation.

First, the bird must be stabilized. Heavily oiled birds are not permitted free access to water and food because their oiled bodies frequently contaminate their food and drinking water. Nutrients are provided subsequent to the initial rehydration via supplementation of the oral solution, and tube feeding is repeated every 4-8 hours until the birds are given free access to food and water after cleaning. Birds are kept quiet, away from people and other stresses. Generally, the animal is not washed until it is alert, responsive, and restored to normal fluid balance and body temperature.

Second, the oil is removed from the feathers. A bird's ability to fly and to remain waterproof is dependent on the interlocking structure of the feather. Oil contamination disrupts the intricate, complex interlocking network of the feather. To restore the waterproofing and insulating properties, oil must be removed from the feathers without damaging the delicate feather structure. Approximately 80-100 gallons of heated water over a 20-minute period is needed to wash one duck. The water must be at least 102 degrees F to lift the oil; but water over 105 degrees F can harm a bird. It has been found through experience and in a series of

reproducible, quantifiable tests of cleaning agent efficacy, that Dawn dishwashing detergent has produced the best results for removing oil from feathers. While modifications are made to the species being cleaned, basic techniques remain the same. Soapy water is agitated through the feathers by hand, systematically addressing every portion of the bird's body. Feathers are stroked in the direction of feather growth, to force contact of the detergent solution with all surfaces of the feathers. The eyes are flushed frequently with a sterile saline solution to prevent damage from the soap and oil.

Third, the cleaning agent is removed from the feathers. The bird is not acceptably rinsed until beads of water roll freely from the feathers, and the down feathers begin to fluff up and actually appear dry. This is the one sign of a successfully cleaned bird and is recognized as the end point in every bird cleaning effort. The failure to rinse a bird adequately is probably the most common cause of unsuccessful rehabilitation efforts. One vital consideration for rehabilitation of diving birds is the hardness of the rinse and swimming water. Water that is too hard will seriously impede waterproofing. The mineral salts in hard water infiltrate the microscopic feather structure and prevent the proper realignment of the feathers.

Fourth, the feather structure is restored. Cleaned birds, if warm and not stressed, will usually begin to preen and will dry in a short period of time. Birds are given access to water where they can swim and preen. Food is now provided. Birds will be able to remain in the water for extended periods without getting wet.

Fifth, acclimate and release. A bird that is deemed healthy is slowly exposed to prevalent weather conditions. A rehabilitated bird should be waterproof, well hydrated, of average weight

and behaving normally. Birds are examined for signs of diseases or debilitation. Birds are banded with USFWS bands and released in appropriate, oil-free habitats.

Conclusion

When an oil spill occurs, concerned people want to play a role in the rescue of contaminated wildlife. There is a need for citizen involvement in the rehabilitation effort. Large numbers of people are needed to help set up a facility, acquire supplies, answer telephones and assist with animal care. It is important to remember that rehabilitation of oiled wildlife is a complex, technically difficult task. Just as the Coast Guard does not permit inexperienced individuals, no matter how intense their desire to help, to deploy containment boom or operate oil slimming vessels during a spill, so the management of a wildlife response should be the arena of wildlife professionals. Rapid response, experienced personnel, teamwork and adherence to proven protocols are the keys to rehabilitating oiled wildlife.