
Concerns about Rehabilitation of Oiled Wildlife*

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The *Exxon Valdez* oil spill was a precedent-setting event because of the seemingly limitless resources invested in environmental cleanup, rehabilitation of oiled wildlife, and a host of related post-spill activities. Sea otters were the centerpiece of rehabilitation efforts, in large part because of their vulnerability, local abundance, and public appeal. In an earlier commentary I questioned whether this effort was in the best interest of conservation (Estes 1991). Eight years have passed since the *Exxon Valdez* spill, during which time concern over marine oil spills has grown to the point of creating its own culture. Our society's need for cheap energy has made spill prevention an elusive goal, thereby elevating rehabilitation to a position of considerable importance in spill response programs. But just what are the benefits of rehabilitation and what are its likely costs? The developing polarity of views on wildlife rehabilitation makes this a timely issue.

There are several reasons to question the wisdom of rehabilitating oiled wildlife. The majority of marine birds and mammals that came in contact with oil following the *Exxon Valdez* spill went untreated, not so much because facilities were unavailable but because these animals could not be captured or were not found in time. Nearly 1000 sea otter carcasses were recovered, and from this record together with surveys of the living population, the magnitude of acute post-spill mortality was estimated to be in the thousands. Contrast that figure with the 357 living sea otters delivered to rehabilitation facilities and the 197 of those released back to the wild. And these were the fruit of a Herculean effort. I see no reason to believe that numbers would change much if a similar spill were to occur today. This example makes the general point that rehabilitation cannot be counted on to save marine wildlife from oil spills.

A second criticism of the *Exxon Valdez* rehabilitation program concerned the uncertainty over which animals to treat. Some oiled animals were in such poor condition

that there was little hope of saving them. The futility of treating these individuals is not a point of significant controversy, but the question of what to do about less severely affected individuals is debatable. Many of the otters taken to rehabilitation facilities in Prince William Sound showed little or no sign of oil contamination, and thus the question arose as to whether these individuals would have been better off left to their own devices.

A third point of concern must be the low survival rate of rehabilitated animals after their return to the wild. Forty-five of the rehabilitated sea otters were equipped with surgically implanted radio transmitters. Of these, 22 were dead or missing by the following spring, thus indicating that a substantial proportion of the rehabilitated animals did not survive through their first year of life in the wild. In sum, of the thousands of sea otters that came into contact with the spilled oil, rehabilitation brought fewer than 150 through to the post-spill living population. Given the uncertain fate of lightly oiled otters and the low survival of those animals that were rehabilitated, it remains unclear whether rehabilitation did any good for sea otters at all.

A final concern is over the inordinately high cost of rehabilitation. Roughly U.S. \$17 million was spent on the *Exxon Valdez* program for sea otters alone, which is about U.S. \$80,000 per individual released back to the wild. Similar concerns have been listed for the rehabilitation of oiled seabirds (Anderson et al. 1996; Sharp 1996).

These views and criticisms have not gone unchallenged. Proponents of rehabilitation argue that the capture rate of oiled wildlife can be improved significantly. This may be true for small, localized spills. For large spills—those capable of significantly affecting populations—it seems nearly impossible. The areas are simply too large, the animals too elusive, and conditions on the open sea too demanding. If the proponents disagree, then they must provide realistic plans for a workable strategy. It has also been argued that decisions about which animals to treat can be improved. Here I agree. More research and careful thinking, however, will be needed because we are presently no better equipped to make this judgment than we were at the time of the *Exxon Valdez* spill. Proponents argue further that the

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post-release survival of rehabilitated wildlife can be improved. This also seems feasible, although here again more work is needed because there have been few significant developments since the *Exxon Valdez* spill.

Regarding the inordinately high costs of rehabilitating oiled wildlife, the proponents argue both that (1) they can be reduced and (2) they are worth it. I doubt that costs can be reduced substantially. The State of California will soon have invested about \$14 million in the Oil Spill Prevention and Response Program (P. Kelly, California Department of Fish and Game, personal communication), and these costs are sure to grow, inevitably exceeding those associated with the *Exxon Valdez*. Whether or not the costs are worth it is a value judgment.

Another argument made by proponents of rehabilitation is that the California sea otter population is vulnerable to extinction from spilled oil, whereas the populations in and near Prince William Sound were not, and thus rehabilitation might save the threatened California sea otter from extinction. This argument is based on an unlikely scenario. Using computer-simulated oil spills, the Southern Sea Otter Recovery Team has found that an oil spill similar in size to that of the *Exxon Valdez* would have less than 5% chance of reducing the number of California sea otters to levels approaching extinction (Ralls et al. 1996). This analysis demonstrates the low probability of an oil spill reducing the California sea otter population to such a level that rehabilitation would figure into saving it from extinction. Finally, the proponents of rehabilitation rightfully point out that their opponents have been quick to criticize but slow to offer constructive alternatives. As one of the critics, I agree.

These are legitimate points of technical and philosophical debate, but they are not the real issues behind wildlife rehabilitation. We will continue to rehabilitate oiled wildlife, if only because the public is unwilling to stand by and do nothing, regardless of cost, success rate, or population significance. Opponents of rehabilitation must understand this reality. On the other hand, the proponents of rehabilitation strain their scientific credibility by billing these activities as conservation efforts.

The question that wildlife managers and conservation biologists should be asking about rehabilitation is not how many can be saved, but whether efforts to enhance the welfare of individuals are in keeping with efforts to sustain populations, species, and ecosystems. This question cannot be answered through the process of simple

bookkeeping. The problem is that people feel qualitatively different emotions about suffering individuals and suffering populations. Although many people are troubled intellectually by population declines or species extinction, these just don't seem to ring the same emotional chord as seeing an individual in distress. The consequences to human decision making are evident. Witness, for example, the disparate investments made by our society in improving human health versus controlling human population growth, despite the fact that human population growth is perhaps the gravest threat to a sustainable world. My concern about wildlife rehabilitation is that it will drive the much more limited resources available for conservation in a similar direction.

The differing views between those who value the welfare of individuals and those who value the welfare of populations should be a real concern to conservation biology because they are taking people with an ostensibly common goal in different directions. Can these views be reconciled for the common good of nature? I'm not sure, although I believe the populationists have it wrong in trying to convince the individualists to see the errors of their way. The challenge is not so much for individualists to build a program that is compatible with conservation—to date they haven't had to—but for conservationists to somehow build a program that embraces the goals and values of individualists because the majority of our society has such a deep emotional attachment to the welfare of individual animals.

Thus, the answer to the question "why rehabilitate oiled wildlife?" is that we have to, not to enhance populations but to meet a public demand. As much as many populationists may be offended by this argument, it is surely an issue that must be dealt with if we are to build an effective conservation program.

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