

Endangered Species UPDATE

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The History and Politics of Turtle Excluder Device Regulations

by
Marydele Donnelly

The drowning of sea turtles in the nets of shrimp fishermen was identified as a significant problem to the conservation of these species in the mid-1970s. The technological solution to this problem, the Turtle Excluder Device (TED) was developed a few years later, yet acceptance of TEDs by the shrimp industry has been problematic at

best, and violent at its worst. The history of TED regulations reveals the past inadequacy of government efforts to provide protection for these endangered species, and the need for stricter enforcement of protection laws and regulations. After years of controversy, the regulations are now in effect, but clearly the issue is not yet resolved. Since the regulations were reinstated in September, they have been challenged by TED

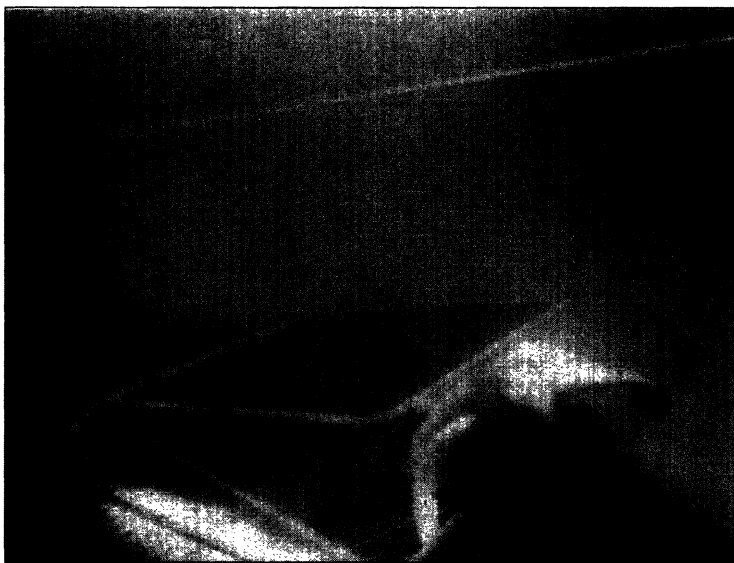
opponents once again, and the challenges are expected to continue.

Background Natural History

The accidental drowning of sea turtles in any fishery is a violation of the Endangered Species Act (ESA). The leatherback, hawksbill, and Kemp's ridley were listed as federally endangered under the Act in 1970; in 1978 the loggerhead, olive ridley and green species were listed as threatened, with some olive ridley and green populations listed as endangered. Yet, according to the National Marine Fisheries Service (NMFS), each year 48,000 sea turtles are captured in U.S. shrimping trawls, and of these roughly 12,000 drown. The majority of these are loggerheads, the most abundant U.S. species, but hundreds of green, hawksbill, leatherback, and the extremely endangered Kemp's

ridley are also killed annually.

Sea turtles are vulnerable to capture in shrimp trawls because they feed on crustaceans and other invertebrates in the shallow coastal waters where shrimp are found. Unlike marine mammals, sea turtles cannot avoid nets by swimming out of their path, but instead continue to swim straight ahead until



sea turtle escaping shrimp trawl through a TED

migrate along the Atlantic coast as far north as New England.

Much of the debate over the need for TEDs has focused on the Kemp's ridley, a species whose entire nesting population has been reduced from more than 42,000 in 1947, to less than 500 females today. While the initial decline of the species was precipitated by the

overexploitation of females and eggs before 1966, for more than a decade their greatest cause of mortality has been drowning in shrimp trawls. An estimated average of 767 individuals are drowned annually in U.S. waters.

The Solution

Unlike many environmental problems, there exists an affordable solution to the problem of sea turtle drownings. The

they tire and are captured. While a number of factors, including water temperature and turtle size, influence how fast sea turtles drown, mortality increases significantly after 60 minutes of capture.

Sea turtles in U.S. waters are concentrated along the Atlantic seaboard from North Carolina to Texas, and in the Gulf of Mexico. Although sea turtles spend their lives at sea, females must come ashore to lay their eggs. Between 30,000 to 40,000 sea turtle nests are laid each year from North Carolina to the Gulf Coast of Florida, with 95 percent of the nesting occurring in Florida. The Gulf is particularly important for the Kemp's ridley, the world's smallest, rarest, and most endangered sea turtle. This species primarily nests in Mexico and lives within the Gulf, although a portion of the juveniles and subadults may seasonally

photo: CMC

TED is a net insertion that is placed in front of the bag or codend of a shrimp trawl. When large objects, such as sea turtles, large fish, or jellyfish, encounter the TED, they are forced through an opening, either a trap door or a funnel of netting, and out of the net. Developed through eight years of research by NMFS, the TED has been shown to reduce incidental capture of sea turtles by 97 percent. It also has the potential to cut in half the 1.5 billion pounds of finfish "bycatch" that are caught and discarded annually by the Gulf Shrimp Fleet. (According to the Center for Marine Conservation (CMC), for every pound of shrimp landed, an average of ten pounds of finfish are caught and discarded—fish which are commercially and recreationally desired by other Gulf fishermen.) Additionally, TEDs are relatively inexpensive, ranging in price

from \$40 to \$400, depending on size and model.

The History of TED Regulations

In September 1980, in response to a particularly high number of sea turtle carcasses washing ashore on beaches from North Carolina to Texas, conservationists, government officials, and shrimp industry representatives met to discuss the problem of sea turtle drownings in shrimp trawls. At that meeting NMFS unveiled the TED as its solution to the problem and made a commitment to propose regulations for TEDs, while the industry said it would promote the limiting of net tow times to 90 minutes.

Unfortunately, the momentum of that meeting was lost as the administration in Washington changed. Lack of interest by the next administration, coupled with inertia over the change in government, resulted in no further progress. Strandings of turtle carcasses in 1981 were also significantly less than in 1980. During the next year and a half, Milton Kaufman of Monitor International wrote to NMFS several times requesting a draft copy of the environmental impact statement on the effect of shrimp fishing on sea turtles, but NMFS failed to respond. The industry displayed an equal lack of interest during that time. Although TEDs were available from NMFS for use and testing at no cost to fishermen, the majority of the shrimp industry did not participate in the testing and development of TEDs. This was unfortunate because some segments of the industry were familiar with excluders designed to eliminate unwanted "bycatch." In Cameron Parish, Louisiana, for example, a device, now known as the Cameron Excluder, was developed by fishermen years ago to eliminate large jellyfish.

In 1982, Mike Weber, CMC's Vice President for Programs, convened a working group of conservation community and industry representatives to promote the voluntary use of TEDs, an approach which industry representatives assured him was the best tactic. Known as the Industry/Conservation Community Voluntary TED Use Committee, the group was co-chaired by Mike Weber, and Ralph Rayburn of

the Texas Shrimp Association. By late 1983, the committee agreed that 50 percent of the shrimping fleet would be using TEDs by November 1986. However, it eventually became apparent that the industry was not going to participate voluntarily; by mid-1985 less than one percent of the fleet was using TEDs at any one time.

In response to requests by the U.S. Fish and Wildlife Service (FWS), with whom the NMFS shares responsibility for sea turtles, NMFS finally proposed draft regulations to require TEDs in certain waters at certain times. In August 1986, conservationists and industry representatives met to discuss them; conservationists were concerned because the regulations were not complete throughout the Gulf, and industry representatives felt they were too stringent. Consequently, NMFS tabled them.

On August 22, 1986, CMC notified Commerce Secretary Malcolm Baldrige that he was in violation of the ESA, and gave 60 day notice of the Center's intent to sue. The suit was averted, though, when the National Oceanic and Atmospheric Administration (NOAA) requested final negotiations between the conservation community and the industry. Mike Weber assembled a team of conservationists and entered into a series of four meetings with industry, facilitated by a professional mediator, to find ways to eliminate turtle bycatch, while avoiding adverse economic impact to the industry. The negotiations were difficult, and in the end a compromise was struck with neither side getting what it wanted. Conservationists wanted TEDs in all waters at all times, and the industry wanted fewer restrictions.

In March 1987, the regulations were opened to public comment. Thousands of citizens attended the 17 public meetings held in the southeast and wrote comments on the proposed regulations. Under these regulations, to be phased-in starting in July 1987, shrimpers in inshore bays and sounds were to use TEDs, or trawl for less than 90 minutes during all or part of the shrimping season, depending on geographical area; shrimpers in offshore areas, operating boats longer than 25 feet, were required to use TEDs during all or part of the sea-

Endangered Species UPDATE

A forum for information exchange on endangered species issues
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Suzanne Jones.....Editor
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Instructions for Authors:

The Endangered Species UPDATE welcomes articles related to species protection in a wide range of areas including but not limited to: research and management activities for endangered species, theoretical approaches to species conservation, and habitat protection and preserve design. Book reviews, editorial comments, and announcements of current events and publications are also welcome.

Readers include a broad range of professionals in both scientific and policy fields. Articles should be written in an easily understandable style for a knowledgeable audience. Manuscripts should be 10-12 double spaced typed pages. For further information please contact Rob Blair at the number listed below.

Subscription Information:

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Cover:

Sea turtles being removed from culling deck of shrimp boat
Photo by Mike Weber

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son, depending on the area. Five TED designs were certified for use in 1987, with the approval of new designs based on the requirement that turtles be excluded 97 percent of the time.

Within days of the signing of the agreement, the representative of the Concerned Shrimpers of America (CSA) began a campaign to undermine it. The mood in shrimping ports, especially in the Gulf, began to turn ugly. Shrimpers interested in trying TEDs were threatened, and reports of incredible shrimp losses with TEDs began to circulate. Nonetheless, the regulations were promulgated by NMFS on June 29, 1987. Over the next two years, however, implementation of the regulations was repeatedly delayed by congressional action and legal challenges by the shrimp industry. In response to these federal delays, South Carolina and Florida passed emergency state regulations.

The first delay occurred in the summer of 1987 when congressional appropriations for TED enforcement were delayed for several months. In October, the first regulations went into effect in Cape Canaveral, an area abundant with sea turtles. During the first month of enforcement, NMFS agents worked closely with shrimpers to ensure a smooth transition to TED use. Compliance was good. In the late fall, however, the regulations were challenged by House Representatives from the Gulf region during the reauthorization of the ESA. Congressman Solomon Ortiz (D-27) proposed a two year delay in implementing sea turtle regulations in the Gulf. This amendment was defeated by a vote of almost two to one (270 to 147), although the ESA was not reauthorized by the entire Congress until the following September.

As scheduled, TEDs went into effect in Key West, on January 1, 1988. Some shrimpers grumbled, but compliance was good. In February, though, just days before TEDs were to be required in the Gulf, the State of Louisiana and the CSA challenged the regulations in federal court as arbitrary and capricious. When the court found in the government's favor, the State of Louisiana appealed. During the state's appeal

to the Fifth Circuit Court, however, the state's request for an injunction on the regulations was granted, thereby suspending the regulations throughout the southeast from North Carolina to Texas. On July 11, the Fifth Circuit rejected the state's appeal, but delayed the effective date of the regulations until September 1, 1988.

While these federal regulations were suspended, the State of South Carolina enacted emergency regulations in response to large numbers of strandings. The South Carolina Shrimpers Association challenged these regulations soon afterwards, but the regulations were upheld in state court and state supreme court.

Meanwhile, back on Capitol Hill, Senator Howell Heflin (D-AL) single-handedly prevented the ESA reauthorization bill from coming to the Senate floor for a vote. For political reasons, key Senators were unable to lift the hold. After the July verdict in the Louisiana case, however, Senator Heflin agreed to lift his hold in exchange for delayed implementation of TED regulations until May 1, 1989. This "Heflin Amendment" also required the National Academy of Sciences to undertake a study on the status of sea turtles in U.S. waters, as Heflin questioned whether the Kemp's ridley was endangered, despite the fact that it was listed as a federally endangered species and recognized as the most endangered sea turtle. Senator Heflin's proposal called for completion of the study by April 1, 1989, although the Academy needed \$250,000 and a year to complete it. In the spring of 1989, Heflin and other TED opponents would be the first to suggest that regulations be delayed because the study was not yet finished.

The conservation community was faced with a difficult choice over whether to support the Heflin Amendment. Conservationists generally believed that TED opponents would use the proposed delay as a springboard for another delay the following April. However, the reauthorization of the ESA had been delayed since 1985 over individual species issues in the Senate, and without reauthorization many threatened, endangered, and candidate

species would continue to be adversely affected by lack of sufficient funding. The 1988 reauthorization bill also increased fines for violations, and provided much needed funds for plants. In the end, conservationists did not oppose the amendment, and reauthorization of the ESA was overwhelmingly passed by Congress on September 26, 1988. The bill, as reported by the Merchant Marine and Fisheries Committee, contained an amendment sponsored by its chairman, Walter Jones (D-NC), which delayed inshore requirements (in bays landward of the coastline) of 90 minute tow times or the use of TEDs until May 1, 1990. This compromise was acceptable to the conservation community.

Recent Events

The events of the summer of 1989 will long be remembered. After years of delay, TED regulations were to be implemented in May. However, on April 28, the new Secretary of Commerce, Robert Mosbacher, announced that warnings, and not citations, would be given in the Gulf for the first 60 days. Only undefined flagrant violators would be cited. While the Secretary's use of prosecutorial discretion was difficult to legally contest, his actions were severely criticized. Among the Secretary's harshest critics were congressional Representatives and Senators of both parties who felt that Congress' decision had been overturned. The conservation community and public also expressed concern for the undermining of the ESA and the continued drowning of turtles. NMFS biologists called for the use of TEDs.

Meanwhile, as the federal regulations were being battered, Florida passed stringent emergency regulations which required TEDs in all state waters at all times. The Florida Marine Fisheries Commission had already passed similar legislation in northeast state waters earlier in the year, in response to an unprecedented number of Kemp's ridley strandings during the white shrimp season. The emergency regulations were upheld in the state court during the summer; the proposed permanent rule is now under attack.

(Continued on UPDATE page 4)

During May and June, the Coast Guard boarded and inspected numerous shrimp boats in the Gulf and Atlantic; few boats had TEDs in the earlier weeks, although as July approached more TEDs were observed in use. On July 1, the Coast Guard began citing shrimpers who did not have TEDs. Stories began to circulate in the press about shrimpers having difficulty fishing because their TEDs were clogged with grass. Although this season's concentration of sea grass was very abundant, most grasses were gone by July 1st. While some shrimpers called CMC to say that problem areas could be avoided, there were other reports of problems in areas where grasses were nonexistent, and some fleet captains allegedly sent crews to seek grass.

On July 7, the Coast Guard announced that it was suspending enforcement of TED regulations as a result of grass problems. After a meeting with Gulf Congressmen on July 10, including Louisiana Congressman Billy Tauzin (D-3), chairman of the Coast Guard and Navigation subcommittee and an avowed opponent of TEDs, Secretary Mosbacher announced that TED enforcement would be suspended while NMFS investigated the grass problem. Of the 400 Gulf sites sampled, grasses were found in only a dozen. Consequently, on Friday, July 22, the Department of Commerce announced that TED regulations would be reinstated.

That weekend, hundreds of shrimp trawlers in Texas and Louisiana blocked ship traffic in several Gulf ports. In the first successful blockade of U.S. harbors since the War of 1812, private and commercial traffic came to a standstill in many shipping lanes along the Texas Gulf Coast. An attempted ramming was made of a Coast Guard vessel by shrimping boats, and a monkey wrench was thrown through a Coast Guard window. There were government reports of drunken and rowdy behavior, threats of violence, and burning of TEDs in protest. The shipping disruption cost many businesses thousands of dollars.

On Monday, July 24, after another meeting with Gulf Congressmen, Secretary Mosbacher announced that he was lifting the TED requirements to

diffuse the volatile situation in the Gulf. Conservationists were stunned, considering Mosbacher to have given into "mob rule." The following day the National Wildlife Federation filed for a temporary restraining order on the Secretary's actions in the District Court. This request was combined with their request for a preliminary injunction, and an expedited schedule for the hearing was set for August 3rd. The Federation argued that the Secretary's actions were arbitrary and capricious, and that TEDs were the only way to protect sea turtles from drowning in shrimp nets. They cited documents in which the government's scientists and the Kemp's Ridley Recovery Team concluded that shrimping without TEDs placed the existence of the Kemp's ridley in jeopardy. In response, the government argued that Secretary Mosbacher was justified in acting to diffuse the volatility of the situation.

The court did not find merit in the government's argument, stating that the government "had no basis under the law to suspend sea turtle protection," or ignore its own regulations. The court gave the government until August 7th to devise an alternate, effective plan to protect turtles or to reinstate the TED regulations. On August 7, the Department of Commerce announced that it was instituting a program of 105 minute tow times until September 8th. This regime was proposed as the new rule and was opened to public comment.

The Federation's appeal that 105 minute tow times until September 8th would jeopardize the Kemp's ridley and should be overturned was denied by the court. During the next few weeks, the tow regime was a dismal failure. Even had shrimpers complied with the law, one hour and forty-five minute tow times would have resulted in substantial turtle mortality. As it was, shrimpers did not comply. The set schedules for nets being in and out of the water were ignored. The Coast Guard observed hundreds of boats violating the time tables, but were only able to board and cite a small portion of the violators.

During the comment period, the public overwhelmingly supported the

use of TEDs. Of more than 3,500 comments received, only 185 opposed TEDs. On September 5, Dr. John Knauss, the new NOAA administrator, reinstated the TED regulations, stating that "the only way to insure protection of these vanishing species is through the use of TEDs." The shrimpers, though, were given until October 15th to install the devices. The same day that Dr. Knauss announced the reinstatement, shrimpers again blocked shipping lanes with two small blockades in Louisiana. The protest ended when word was relayed through Representative Tauzin that President Bush had agreed to review the regulations, giving the appearance that the Administration was again appeasing lawbreakers. After careful review, the Administration declined to intervene. Thus, the regulations stand.

Analysis

Given the opportunity, TEDs can work. Over the years they have been accepted with little resistance along the Atlantic coast. Recent reports from the Gulf note that some Texas fishermen are pleased with the cleaner catches and longer tow times. The Commerce Department has conducted over 24,000 hours of TED testing under a variety of conditions and found shrimp loss to average less than five percent. Studies have also shown TEDs to reduce unwanted bycatch of other species by up to 80 percent, which aside from preventing unnecessary killing, also saves sorting time and conserves fuel by decreasing weight and drag of nets.

Then why is the shrimping industry so opposed to TEDs? Shrimpers have historically claimed that TEDs are cumbersome and dangerous to use, reduce shrimp catches, and get clogged with sea grass and bottom debris. Yet, these claims have largely been refuted through extensive government research. Perhaps more important, is the resentment of government interference. Jacqueline Taylor, the wife of a commercial shrimper and a representative of CSA, maintains that "shrimpers, many of them fiercely independent men, would stop fishing rather than use the government-ordered devices." While this may be understandable, their

industry associations have done shrimpers a significant disservice in organizing resistance to gear which has the potential to save fuel and sorting time, while also improving the appearance of the catch. Voluntary adoption of TEDs was tried for many years, at the advice of the industry, before the sea turtle crisis demanded mandatory regulations. The question becomes whether the personal interests of a minority of citizens should be allowed to jeopardize the existence of another species unnecessarily, and be allowed to override the laws of the country which U.S. citizens have mandated their government to institute.

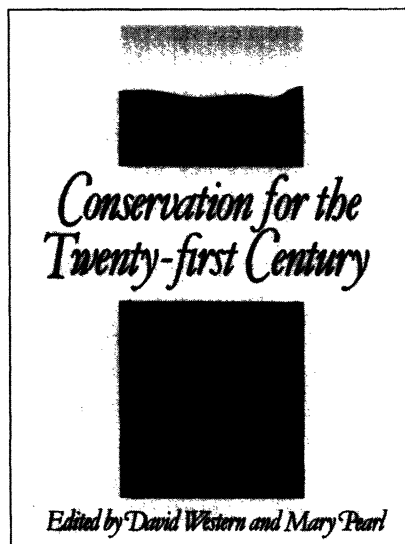
Although the TED regulations are finally in place and supposedly being enforced, the Secretary's final reinstatement of the regulations was long overdue. Suspension of regulations for nearly an entire shrimping season has further jeopardized several turtle species, including the extremely rare Kemp's ridley. The suspension also set a dangerous precedent in allowing shrimpers, by blockading harbors and breaking the law, to temporarily reverse federal policy. By waffling on the enforcement of regulations, the government has sent a message to industry that the requirements of the ESA are negotiable. And sea turtle protection is still not guaranteed; on October 5, Congressmen Ortiz and Tauzin unsuccessfully attempted to delay the TED regulations once again, by proposing an amendment to suspend TED enforcement until more studies are done by the Department of Commerce.

As it now stands, the current level of compliance with and enforcement of the TED regulations is unclear, and the data are insufficient to draw any conclusions. Although hopeful, environmentalists remain on guard as long as the shrimping industry continues to challenge sea turtle regulations, and the government remains reluctant to enforce them.

Marydele Donnelly is director of the Sea Turtle Rescue Fund at the Center for Marine Conservation, 1725 DeSales Street, NW, Washington, DC 20036.

Book Review

Conservation For The Twenty-first Century



This book is the edited proceedings of the 1986 Conservation 2100 Conference, organized by the New York Zoological Society at the Rockefeller University in New York. International experts from fields as diverse as environmental law, genetics, national television broadcasting, and the World Bank, were brought together with an array of conservation biologists and practitioners to focus on how conservation can be achieved in the twenty-first century.

The book is arranged into three major sections, along with an introduction which speculates on the nature of "Tomorrow's World" and a concluding "Agenda for the Future." The first section examines biological perspectives on conservation, the second deals with implementing conservation, and the third addresses some of the social realities which affect the achievement of conservation.

Discussion covers many of the classic issues such as whether we should apply high-tech management to protected areas in order to preserve the maximum array of species, or pursue a less interventionist approach which permits ecosystems their stochastic processes, including both extinction and speciation. In-situ versus ex-situ conservation is debated, together with

Edited by David Western
and Mary Pearl

ecosystem restoration and how to achieve conservation in human-dominated landscapes. Green's argument that "The greatest challenge to conservationists in the next century in cultural landscapes is going to be to define precisely what their objectives are..." is clearly applicable to conservation as a whole.

The question of what we are trying to achieve by conservation underlies much of the third section where the basis for valuing nature is discussed, together with some of the difficulties involved in implementing conservation in the "real world." Again the authors are divided. Some argue for political and economic approaches to conservation, while others favor defining conservation as a social movement whose importance transcends mundane ethics and values. Only Vittachi, in one of the few "third world" perspectives, seems willing to engage the reality of both approaches in his statement that "Without the willing engagement of the people, sustained social change is a Sisyphean futility."

My two minor criticisms of this book are firstly its emphasis on western "developed" world perspectives, and secondly the failure of the conclusion to integrate the three sections on biology, implementation, and social reality into the necessary whole. However, the material is there for readers to undertake their own synthesis, and it is this possibility that makes *Conservation For The Twenty-first Century* such a valuable book. Furthermore, as Western himself points out, there are numerous questions but few answers. In all, this is a stimulating and provocative book, and is essential reading for anyone involved in conservation.

Conservation For The Twenty-first Century is available from Oxford University Press, 200 Madison Avenue, New York, NY 10016. Hardcover \$36.95.

Book review by John Hough, Ph.D.

Translocation as a Strategy for Preserving Endangered Species

by Judy Tasse

Transport and release of animals into wildlands, or "translocation," is a common management tool for introducing, reintroducing, or bolstering game populations. Yet despite the promise that it holds for non-game conservation, translocations are rarely performed for endangered species. Critics cite two reasons for this lack: financial cost and low success rate. In my opinion, the former reason is unfounded, while the latter shows a need for more research on increasing translocation success.

Some conservationists question whether we may be spending too much money on individual "high profile" species, such as the California condor, when money might be better spent on habitat protection to save more than one species. Yet, large sums of money are often made available precisely *because* the species is a popular one. Furthermore, support that goes towards such species does spin off to others.

The golden lion tamarin reintroduction is a case in point. This Brazilian monkey was nearly driven to extinction when its rainforest habitat was decreased by 98 percent. As part of the reintroduction program, land owners in Brazil are offered tax breaks in exchange for setting aside patches of forest as protected reserves. Thus, the reintroduction of captive-bred monkeys has not only increased prospects for the tamarin's survival, but also for all other species on protected lands, including three other rare monkey species.

Most translocations, however, fail initially. Translocation success increases as the number of releases, and the number of animals released, increases. Thus, a common protocol for translocation consists of multiple releases until eventually some individuals survive and the population "takes." However, for many endangered species, a steady supply of propagules is not available, and so this procedure is

not possible.

The "reintroduce-ability" of a particular species is based, in part, on its life history strategy. Characteristics such as carnivory, small litter size, delayed sexual maturity, or low population density make translocation difficult—thereby closing the door on many endangered species. Yet, if we are serious about utilizing translocation for conservation, we need to focus on how to increase the chance of a successful reintroduction, rather than merely assigning a low "reintroduce-ability" status to a particular species.

A "successful" translocation is often defined as the ability to sustain a viable population. But failure can occur at many places along the way to sustainability. Necessarily then, there must be stages of success, that can be identified on a temporal scale. Five such stages are: 1) obtainment of a suitable founder population, 2) establishment of founders as residents in the release area, 3) reproduction of founders, 4) annual recruitment, and 5) sustainability of a viable population.

The difficulty of attaining success in this step-wise fashion is that steps two through five feed back to determine step one. That is, establishment, reproduction, and population viability depend in part upon the characteristics of the founder population. Yet, knowledge of what constitutes a suitable founder population is currently unknown, as it depends on the successes of all that follow it.

To determine the requirements for suitable founder stock, we need to test variables in which success or failure is visible. Current research on maintaining genetic integrity and demographic stability are important for long-term success (step five), and short-term success (steps three and four). Yet little research emphasis is placed on understanding the elements of initial success (step two), despite the fact that translo-

cation commonly results in a reduction of the released population due to individuals moving from the release area. When individuals become isolated so that they cannot find mates, the entire translocation effort is doomed regardless of the genetic or demographic properties of the founder population. Thus, consideration of the behavioral ecology of the species in terms of dispersal tendency, home range acquisition, and site fidelity is critical to performing a successful translocation.

Variables determining the tendency to remain in an area after translocation may be similar to those determining dispersal patterns, such as reproductive stage of adults, ontogenetic stage of juveniles, density, sex ratio, habitat complexity, season, relatedness of translocated individuals, and residency status of founders in their former habitat. Tests of dispersal hypotheses may be conducted with non-endangered counterparts of endangered species. Animal movement simulation models that predict dispersal distances for particular organisms in natural situations may be applied, with modification, to movements of translocated populations. Application of artificial intelligence models, which stress behavioral ecology by simulating individuals within a population, may prove more useful than population-level equations which may lose resolution and sensitivity with small or patchy populations.

If we can increase the chance of translocation success, then endangered species will have little to lose and much to gain from translocation. Research on identifying initial success factors in translocation may be the key to making it a viable option.

Judy Tasse is a Ph.D. student in Resource Ecology in the School of Natural Resources at the University of Michigan in Ann Arbor.

Letter from the Editor

Dear Subscribers and Supporters:

November 1989

To begin with, let me introduce myself. I am Suzanne Jones, a second year Master's student in Resource Policy at the School of Natural Resources, University of Michigan, and the new editor of the *UPDATE*. Rob Blair, the former editor, has completed his Master's degree in Resource Ecology at the School of Natural Resources, and has moved to the University of Michigan Biological Station in Pellston, MI, to work on the Science in Environmental Education North Project. We wish him well.

Secondly, I am sorry to bring you the unfortunate news that the subscription rates for the *Endangered Species UPDATE* are being increased as of December 1, 1989. As you are probably aware, the *UPDATE* is not a money-making publication, and has been subsidized by the School of Natural Resources since its inception in 1983. As printing costs and postage rates continue to increase, the amount of subsidy has risen to several thousand dollars a year. The School of Natural Resources can no longer afford to supply this amount of support. Thus, *UPDATE* revenues must now cover all printing costs or the School will no longer be able to publish the *UPDATE* for you.

Although I have looked into a variety of money-making strategies, it is clear that subscription rates must increase. However, in an effort to buffer the effect on those who cannot afford it, there will be a student and senior citizen rate of \$18 per year, which is only a \$3 increase. For all others the new rate is \$23 per year, an increase of \$8. Additionally, \$5 for postage will be required of all subscriptions out of the U.S. The amount of increase was calculated such that subscription rates will not need to be increased again for about five years. If this increase poses an extreme hardship for anyone, please contact me and we can negotiate—I feel it is very important that everyone involved in species protection has access to the latest news in the field. Also, remember that all money paid for the *UPDATE* is tax deductible.

As editor I am pursuing many different strategies for raising money, including increasing the number of subscribers through advertising, and soliciting development grants, as well as increasing subscription rates. Any ideas, donations, or marketing strategies would be greatly welcomed in this endeavor. If you know of any organization, library, consulting agency, or friend that might benefit from the *UPDATE*, please pass on the word.

Keep in mind that without the *UPDATE*, the public will no longer have access to the *Endangered Species Technical Bulletin* produced monthly by the U.S. Fish and Wildlife Service. It is crucial that we work together to ensure that this line of communication be kept open and accessible to all of those working in the field.

Thank you for your support, and your efforts in the field of conservation.

Sincerely,



Suzanne Jones
Editor

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