

Endangered Species UPDATE

Including a Reprint of the latest USFWS
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School of Natural Resources



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BIRDS AND SEA OTTERS KILLED IN THE EXXON VALDEZ OIL SPILL

by
Calvin J. Lensink

Shortly after midnight on March 24, 1989, the *Exxon Valdez*, loaded with Prudhoe Bay crude, grounded on Bligh Reef in the northeastern corner of Prince William Sound. In the following days, 11 million gallons of oil from the stranded vessel drifted southwest across the sound, engulfing islands in its path. Between March 31 and April 6, an estimated two million gallons of oil exited the southwest corner of the sound and by April 28 had come ashore on islands, headlands and many fjords and bays along the entire length of the Kenai Peninsula, on all of the Barren Islands, northern and western parts of the Kodiak Archipelago, and from Kamishak to Dry bays along the Alaska Peninsula. More than a thousand miles of shoreline had been contaminated to a significant degree.

It was clear from the onset that the spill would result in major loss of marine birds and sea otters (*Ehydra lutris*) which are not only highly vulnerable to contamination by oil, but would be readily obvious to casual observers. Impacts on other fish and wildlife would be largely out of sight, and difficult or impossible to measure.

Prior data and surveys conducted after the spill indicated that more than 15,000 otters (DeGange et al. 1990) and as many as 6 million birds (Sowls et al. 1978, Gould et al. 1982, Piatt et al. 1990) occupied the region during the summer. The initial scenario appeared grim, although, given the wide distribution of sea otters and marine birds along the Alaskan coast, no species would be threatened or endangered (Lensink 1984).

Collection of carcasses from birds and sea otters began

as part of the damage assessment by state and federal agencies and Exxon within a few days of the spill. More than 100 vessels, most chartered by Exxon, were engaged in the capture or collection of birds and sea otters at the peak of the search effort. Morgues for processing and storage of dead sea otters and birds were established at Valdez, Seward, Homer and Kodiak, while rehabilitation facilities were established at Valdez, Seward and Homer. A total of 876 sea otters and 36,115 birds were found dead, while 357 sea otters and 1,897 birds other than bald eagles (*Haliaeetus leucocephalus*) were captured

for rehabilitation. However, 123 sea otters and 751 birds died in captivity and additional, but unknown, numbers died after release.

Between 15- 20% of sea otters and birds found dead were from natural mortality; that of sea otters occurred before the spill (DeGange and Lensink 1990), while that of birds was in late summer and fall after the spill and was of species (gulls and Procellarids) that had been relatively invulnerable to oil earlier in the spill (Piatt et al. 1990). The temporal distribution of recoveries and extent of decomposition of recovered carcasses indicated that nearly all spill-related deaths occurred when oil was in thick liquid oil slicks, with mortality rates declining sharply as oil weathered into mousse or tar balls or washed ashore (Figure 1).

Carcass recovery rates for birds were estimated at 10-30% of those that died, indicating total mortality of 100,000 to 300,000 birds (Piatt et al. 1990). The carcass recovery rate for sea otters could not be determined, but is probably much higher than that for birds. Thus, given the 800-900 animals that died as a result of contamination with oil, it appears improbable that more than 1,500 sea otters died as a result of the spill. Within some parts of Prince William Sound losses were very high, exceeding 50% of populations in many areas. However, northern and eastern parts of the sound were unaffected, and total losses for all areas were less than 10% of the population.

Overall loss of birds and animals was many fold larger than recorded for any prior



Biologist with dead cormorant

(John Hyde/AK Dept Fish & Game)

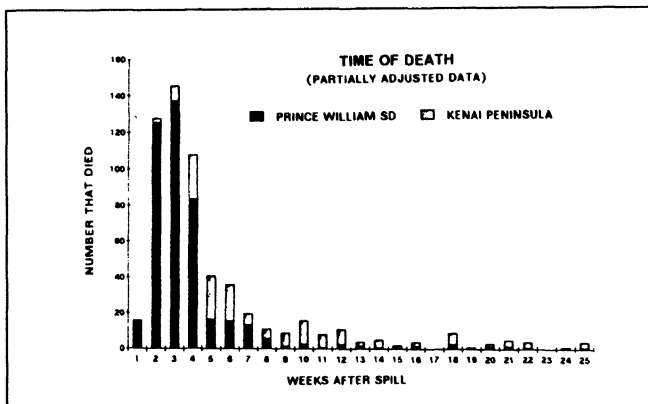


Figure 1. Temporal distribution of sea otter deaths from contact with oil following the Valdez spill. [Note: Carcass recovery dates were partially adjusted to approximate time of death based on extent of decomposition. Where data was not available (for most animals from Kodiak and the Alaska Peninsula), actual recovery dates were used. Thus, many deaths were earlier than illustrated.]

spill. However, mortality would have been even much higher if all birds that summer in the Gulf of Alaska had returned from their wintering areas by the time of the spill. For example, the large and potentially vulnerable populations (>320,000) of tufted and horned puffins (*Lunda cirrhata* and *Fratercula corniculata*) escaped serious losses since they did not return to nesting areas until May, when the threat of oil contamination was much reduced.

Clearly, in terms of individual birds, sea otters and other animals, losses were devastating. The impact on the thousands of persons involved with cleaning beaches, handling the oil-soaked carcasses delivered to morgues, or cleaning the severely stressed but still living animals brought to rehabilitation facilities was also devastating and not likely to be forgotten. However, with a few possible exceptions, the long-term effect of the spill on populations of individual species is likely to be relatively small.

Habitat of sea otters most affected by oil was that used primarily by adult females and pups. Thus, in Prince William Sound and along the Kenai Peninsula more than twice as many adult females as males (2.13:1) were recovered. Nearly 65% of adult females were pregnant or were nursing pups at the time of their death. Hence, mortality was concentrated in the reproductively important segment of the population. In the Kodiak Archipelago and on the Alaska Peninsula, 88% and 46%, re-

spectively, of all recoveries were of neonates. Death of most neonates, however, may result from natural mortality as Monnett (1988) has shown that nearly 40% of pups die before they are six weeks old. Total deaths in all areas was not much different than annual recruitment for the growing population in the northern

Gulf of Alaska which has increased from fewer than 3,500 in 1960 (Lensink 1960) to more than 15,000 (DeGange et al. 1990). Recovery of populations in even severely affected areas should occur within a relatively short time. Bald eagles were among the most severely affected species, although recorded deaths totaled only 146 from an adult population of 4,800. Eagles scavenged extensively on the oiled carcasses of other birds and sea otters. Although the toxic effects of ingested oil may have caused many deaths, subtle effects may be more devastating; surveys conducted by the Fish and Wildlife Service (1989) during the 1989 nesting season indicated that 67% of nests within the contaminated area failed, as compared with 46% in adjacent areas and 29% in areas distant from spill zone. How long such effects on reproduction will continue can only be determined by long-term studies.

Among the seabirds and waterfowl most commonly associated with oil spills, common and thick billed murres (*Uria aalge* and *U. lomvia*) accounted for 73.7% of all deaths. Colonies in the Chiswell Islands (6,000), at Barwell Island (17,600), and Cape Resurrection (4,300) along the Kenai Peninsula, and those in the Barren Islands (129,000) were devastated when the still liquid oil swept through this area in late March and early April (Piatt et al. 1990). Although large numbers of murres were recovered along the Alaska Peninsula, the extensive decomposition of their

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A forum for information exchange on endangered species issues
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Suzanne Jones.....Editor
Dr. Terry Root.....Faculty Advisor

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 Suzanne Jones at the number listed below.

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Cover: Oiled loon on Eleanor Island,
Prince William Sound
Photo by John Hyde, Alaska Department
of Fish and Game

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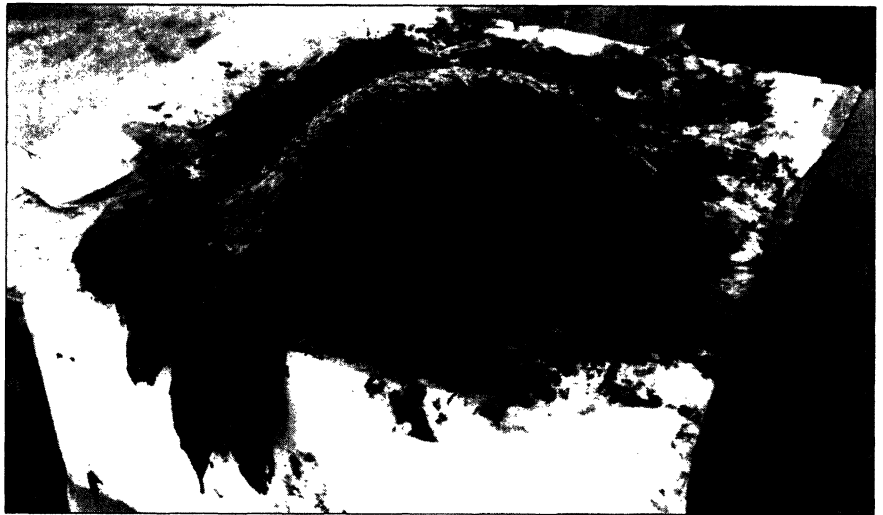
carcasses as well as surveys of colonies there indicated that they had drifted from the Kenai Peninsula and the Barren Islands. Large colonies in Puale Bay (93,000) had been little affected by the weathered oil that reached that area. Recovery of colonies in the Barren Islands and along the Kenai Peninsula will depend on the number of birds remaining at each colony (largely subadults and nonbreeding birds not present at the colony in 1989) and the extent of immigration from other colonies. However, even in the most optimistic scenario, the low reproductive rate of murrelets indicates that complete recovery may require many decades.

Smaller alcids, including primarily pigeon guillemots (*Cepphus columba*), marbled murrelets (*Brachyramphus marmoratus*) and Kittlitz's murrelets (*B. brevirostris*), suffered high mortality when they encountered oil. They accounted for 16.3% of all birds recovered in Prince William Sound, 9.5% along the Kenai Peninsula, and 4.9% in the Barren Islands, but only 1.2% in the Kodiak Archipelago and on the Alaska Peninsula. Both murrelet species winter in Prince William Sound, but their numbers during late winter are much smaller than during summer (Dwyer et al. 1975), thus limiting the effect of the spill on their populations. Because these species are widely distributed throughout Prince William Sound and losses represent a relatively small fraction of total numbers within the region, recovery of populations should be rapid. However, the status of marbled murrelets remains a concern because of the widespread destruction of old-growth forests over much of their range (Int'l Council for Bird Preservation, U.S. Section 1988).

Cormorants, mostly pelagic (*Phalacrocorax pelagicus*) and red-faced (*P. urile*), composed 16% of recoveries in Prince William Sound and 4.3% along the Kenai Peninsula, but only 0.7% in the Kodiak Archipelago despite the fact that populations are larger there. Given their tendency to nest on headlands and small islands, which are most exposed to oiling, the destruction of many small colonies in which they breed may well prolong the time for their recovery.

Other groups of species for which

losses were particularly high in Prince William Sound where they winter include grebes (11.8% of recoveries), loons (8.7%), and sea ducks (24.9%). Mortality was much lower in other regions. Populations of grebes (2 species), waterfowl (22 species), and most loons (4 species) that died in the spill are generally large and widely distributed,



Oiled sea otter at morgue in Valdez

(Calvin Lensink)

so the excess mortality caused by oil did not have a significant effect on their populations. However, the status of the yellowbilled loon (*Gavia adamsii*) is of concern as this rare species nests only in arctic regions of Alaska and western Canada. The impact of losses on this species remains uncertain because of the lack of baseline information on total numbers and specific winter nesting areas in Prince William Sound.

Winter storms proved far more effective than the massive cleanup effort by Exxon (11,000 persons at a cost of \$2 billion); by the spring of 1990, most exposed high-energy beaches were relatively free of oil. However, much oil remains in protected areas. Cleanup crews were back on the beaches in May to continue work through the summer, with state and federal agencies monitoring their progress.

An intensive study of factors leading to the *Exxon Valdez* spill by the Alaska Spill Commission drew eight major conclusions and made 59 specific recommendations for prevention of future spills (Parker 1990). [The Executive Summary is recommended reading.] The report even-handedly distributes blame for the spill on the petroleum industry, and state and federal agencies.

While it is impossible to summarize the report in the space available here, a few selected quotations are pertinent.

"The wreck of the *Exxon Valdez* was not an isolated, freak occurrence, but simply . . . [a] result of policies, habits and practices that for nearly two decades have infused the nation's maritime oil transportation system

with increasing levels of risk."

"Prevention is the only way to protect the oceans and coastlines from oil spills. Once it reaches the water, spilled oil is extremely difficult to contain and collect."

"General Accounting Office data suggest no more than 10-15% of oil lost in a major spill is ever recovered. The Office of Technology Assessment estimates that only 3-4% of the oil spilled from the *Exxon Valdez* was recovered, despite Exxon's summer-long beach cleanup and oil-skimming effort."

"Worldwide figures gathered by ECO show that during the past 20 years, tanker spills of the magnitude of the *Exxon Valdez*—more than ten million gallons—occurred approximately yearly. Spills of up to one million gallons have occurred approximately monthly."

"The notion that safety can be insured in the shipping industry through self regulation has proved false and should be abandoned as a premise for policy. Alert regulatory agencies, subject to continuous public oversight, are needed to enforce laws governing the safe shipment of oil."

Ultimately, the public's demand for cheap, subsidized energy, and the

(Continued on UPDATE page 5)

Book Review

International Trade in Endangered Species: A Guide to CITES

by David S. Favre

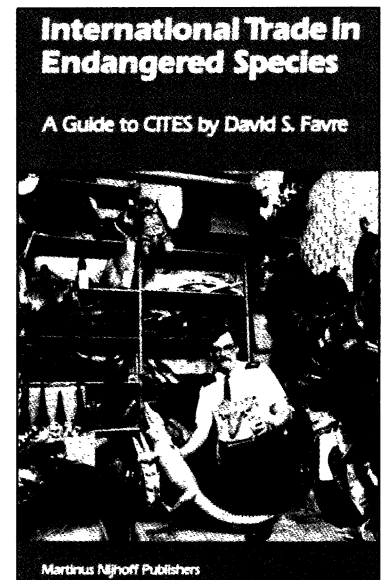
According to law professor, David Favre, one of the most important tangible results of the initial wave of environmentalism in the late 1960s was the adoption of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in 1975. Established in order to control the international trade of species whose survival is or would be threatened by such trade, CITES has the challenge of overseeing an annual worldwide trade of about \$5 billion. During its first decade of implementation, the complexity and comprehensiveness of CITES expanded as numerous resolutions were adopted to expand upon the original treaty text.

Favre's purpose in writing the book is to explain "the legal and bureaucratic environment" in which the treaty operates. Along with the actual text of the treaty and adopted resolutions, he provides a general overview of the thrust of each treaty article and the evo-

lution of the treaty language, and an in-depth discussion and analysis of the numerous issues arising from the treaty text. The end result is a very interesting, albeit rather extensive, look at the intricacies of the treaty. The first half of the book covers the substantive obligations of treaty members (Articles 1-10), while the second half addresses procedures for treaty operation and implementation of international law (Articles 1-17); several appendices contain the treaty text in its entirety, selected resolutions, and lists of participating countries and affected species.

International Trade in Endangered Species is useful in providing a reference to specific articles of the treaty, as well as a comprehensive treatment of CITES as an entire body of law. While those desiring only a brief overview of CITES will have to do some heavy sifting through the text, this work should prove invaluable to those interested in

international and environmental law or conservation of species affected by international trade.



International Trade in Endangered Species is available for \$129 from Kluwer Academic Publishers, Order Dept, PO Box 358, Accord Station, Hingham, MA 02018.

International Wildlife Trade: Whose Business Is it?

by Sarah Fitzgerald

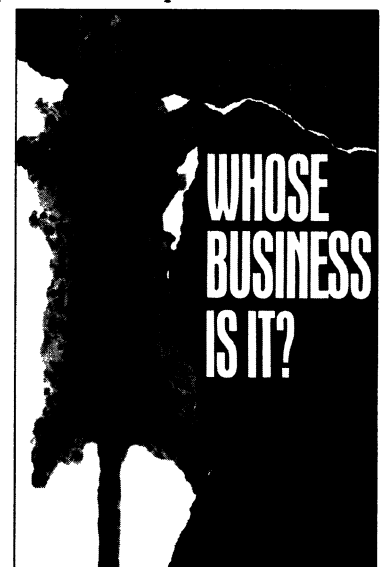
Providing a nontechnical complement to *International Trade in Endangered Species*, *International Wildlife Trade* offers a general overview of key issues concerning the international wildlife trade, and a species-by-species discussion of trade controls, impacts, and concerns. The basic tenet of the book is that international trading, which is often environmentally destructive, could bring sustainable and environmentally-sound benefits to developing countries if properly managed.

The book begins with a cursory discussion of the extent of wildlife trading and its negative impacts, the need to preserve species, and the rise of the international wildlife movement. Chapter Two briefly describes CITES, focusing on the major treaty violations discussed at the 1987 conference of treaty parties. The rest of the book is devoted to selected plant and animal groups considered to be of greatest concern to conservationists (e.g. elephants,

big cats, tropical timber, etc.). For each group, Fitzgerald discusses existing trade controls, extent of illegal and legal commerce, impacts of trade on particular species, and what can be done to improve the situation. Appendices include a thorough overview of how CITES works, a listing of CITES parties and species, and suggested readings. Numerous photographs and figures enhance the readability of the work.

The book's attempt to summarize such a large and complex subject may leave advanced readers hungry for more information. However, the book's broad scope and nontechnical style make it an excellent introduction to the subject. Consequently, *International Wildlife Trade* will be particularly useful to educators and students, as well as law enforcers, traders, and other individuals concerned with the general subject of international wildlife trade and the well-known species who are affected by it. Given the pivotal role

that consumers play in the wildlife trade, this book is an important tool in educating the public about the consequences of their purchases.



International Wildlife Trade is available for \$25 (\$2 postage) from World Wildlife Fund, PO Box 4866, Hamden Post Office, Baltimore, MD 21211; (301) 338-6951.

Reviews by Suzanne Jones, UPDATE Editor

fact that most oil spills are out of sight and out of mind, are the root cause of oil spills. Does anyone remember the "Khark-5"? It was the tanker that spilled 30 million gallons of oil off the coast of Morocco while Exxon was trying to clean up the mess in Prince William Sound.

A dollar tax on every gallon of oil might do much to alleviate our balance of payments, provide impetus for finding alternative sources of energy, and incidentally reduce the number of oil spills. But politicians read our lips.

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NEWS UPDATE

Federal Oil Spill Legislation

by Suzanne Jones, Editor

In light of the environmental devastation caused by the ExxonValdez spill and other oil spills, what is being done by Congress to prevent similar disasters in the future?

Congress has been struggling since 1975 to enact national oil spill liability standards and create a multimillion-dollar fund to pay for cleanups. Frustrated environmentalists often maintained that it would take a catastrophic oil spill to finally break through the legislative stalemate. "Incredible outrage" and "widespread fury" from constituents over the Valdez disaster—the largest spill in U.S. history—gave oil spill legislation efforts a great boost and led to passage of oil spill bills (HR 1465 and S 686) in both congressional houses last fall (CQ, 11/11/89). Yet, over a year later, Congress has yet to sign into law legislation to prevent such future disasters. Nonetheless, proponents are still optimistic that legislation will finally be passed this session.

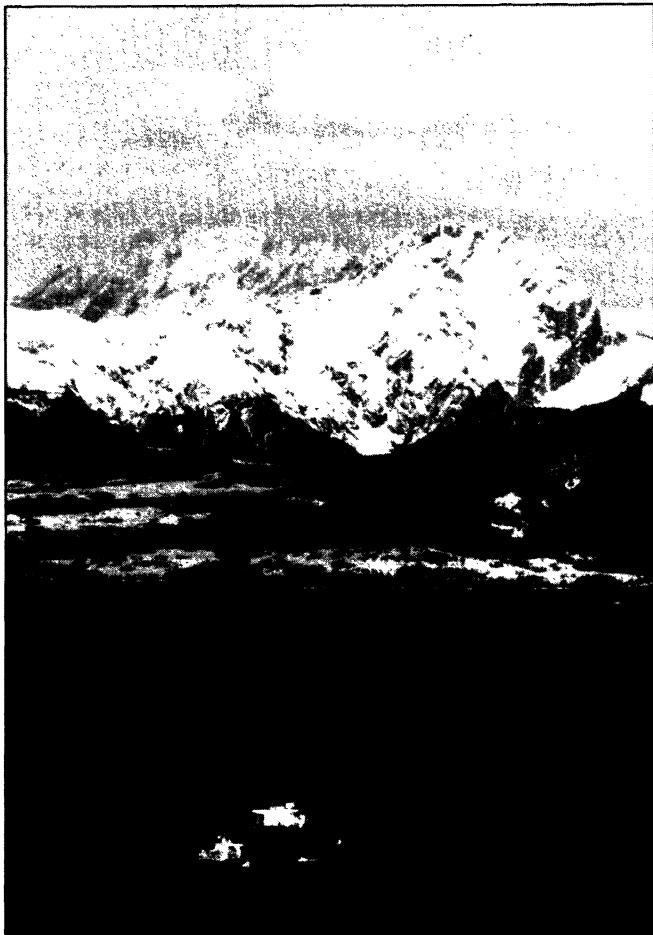
A primary sticking point between the two houses, which has stymied legislative action for the past 15 years, is the issue of "state pre-emption"—whether federal law should override state statutes containing stricter liability standards. The House has consistently supported federal measures that limit the liability of non-negligent spillers and provide a single federal liability standard to replace the myriad of various state liability statutes. In contrast, the Senate, led this past year by Senate Majority Leader George Mitchell (D-Maine) has insisted that state laws—such as Maine's tough no-limit liability statute—are necessary and should not be pre-empted by federal law (CQ, 5/20/89). (Nineteen states currently have oil spill liability and compensation laws which set no limits on spiller liability (CQ, 11/11/89).) However, the House finally reversed its historic position in November to accept the Senate's posi-

tion that stricter state laws not be overridden by federal law.

Another major issue is who should pay to clean up oil spills. Failure to agree on comprehensive legislation in the past has resulted in a current patchwork of at least 28 separate state and federal oil spill laws and funds (CQ, 5/27/89). However, the two bills recently passed in both houses contain similar proposals for the establishment of a federal system of limited liability on tankers, barges, off-shore platforms, and other oil facilities. To environmentalists' dismay, in a last minute reversal the House adopted measures similar to the Senate to cap liability unless the spiller was found guilty of "gross negligence, willful misconduct, or failure to obey applicable federal regulations"—difficult charges to uphold in court. Cleanup and compensation costs beyond those paid by spillers would be drawn from a \$1 billion fund created by taxing domestic and imported oil.

Agreement on these two key issues left few major differences between the two bills. House and Senate committee members went into conference on April 25 to iron out remaining differences.

Debate still remains, however, over the issue of whether to require double hulls/bottoms to prevent spills when ships run aground. [According to the Office of Technology Assessment, double bottoms and hulls offer a significant degree of protection in the event of groundings and collisions; a Coast Guard study maintains that the size of the spill could have been reduced by 25-60% if the Exxon Valdez had a double bottom (Amicus Journal, 1990).] The House bill requires that all tankers and barges in U.S. waters have double hulls by 15 years; in the interim, the largest tankers would be required to have double bottoms (a component of double hulls) within 7 years. In contrast the Senate version only requires double hulls on new tankers, and gives the



Exxon Valdez in Prince William Sound (J. Hyde/AK Dept of Fish & Game)

Secretary of Transportation the power of discretionary implementation. Another oil spill off the coast of California on February 7 by the *American Trader* — which ruptured its single hull with its own anchor — reemphasized the importance of this issue and is given credit for swaying the hardline stance of several key Congress members (CQ, 33/90). Although it is likely that the final agreement will include double hull requirements in some form, the yet-to-be-determined timeline and details of implementation will largely shape the effectiveness of this provision.

A more recent controversy arising within the conference concerns a provision in the House bill to implement an international oil spill pact with 43 other nations. This pact would set liability limits for oil spills and establish an international fund to pay for limited damages. The Senate, who has refused to ratify this international agreement since it was first proposed back in the 1960s, remains adamant that the liability limits are too low and would effectively preempt stiffer state and federal laws. This

complex issue is by no means clear cut—even the environmentalist organizations are divided in their views.

Both of the bills in conference contain further provisions to prevent spills and facilitate cleanup and compensation efforts. These include measures to:

- compensate natural resources damages by requiring payment for restoring or replacing damaged resources, plus the cost of lost use during replacement;
- “require” (rather than “permit,” as is now the case)

the President to ensure that spills are promptly and effectively cleaned up;

- require local oil spill contingency plans in areas where spills are likely or would be especially damaging;
- set up at least seven regional oil-spill strike teams;
- establish a series of requirements for mariner licensing, vessel manning, vessel operation, etc.; and
- allow spill victims to seek compensation directly from the federal fund.

Twelve of the major national environmental organizations praised Congressional members in a February press release for their efforts thus far (i.e. for passing bills which protect state laws, require improved clean-up efforts, and establish a \$1 billion compensation fund), but expressed concern that major issues are still unresolved (Audubon, 2/20/90). In particular, they urged Congress to support the following provisions:

- 1) assure that damages to natural resources are broadly defined, and that destroyed resources will be fully replaced;

- 2) provide for immediate and effective protection, rescue, and, most important, continuing rehabilitation of wildlife and wildlife habitat harmed in a spill;
- 3) require double hulls and bottoms as proposed in the House bill;
- 4) establish a ten-year Presidential Task Force to undertake an audit of the Alaskan oil-delivery system, including the Trans-Alaska Pipeline, Prudhoe Bay oilfields, and the tanker fleet in Prince William Sound (in response to reports that critical sections of the the Trans-Alaska Pipeline are being corroded);
- 5) require the owner of the oil being shipped to assume equal responsibility with the tanker owner for payments when liability limits are exceeded (Unlike the Valdez, in many cases the tanker and oil are separately owned, and current bills do not put sufficient responsibility on the oil's owner.) (Audubon 2/20/90).

In addition to recommending measures to prevent and mitigate the damage of oil spills, the environmental community is urging Congress and the Bush Administration to look at the bigger picture beyond the symptoms of oil spills, and address the ultimate cause of the problem—the need for a national energy policy based on conservation and alternative energy. As Audubon's General Counsel Hope Babcock pointed out, “Despite the best intentions and even the best legislation, as long as we are addicted to oil and refuse to develop an energy strategy that weans us from our daily fix, there will continue to be oil spills” (Audubon 2/20/90). Hopefully, the recent fervor over the *Valdez* spill can be channeled into finally passing effective federal oil spill legislation, and lead to the development of an environmentally sound national energy policy.

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- “No Safe Harbor.” *The Amicus Journal* 12(2):2, Spring 1990.

Bulletin Board

International Wildlife Trade Publications

The following publications, intended primarily for professional audiences, are available from the World Wildlife Fund's TRAFFIC program (PO Box 4866, Hamden Post Office, Baltimore, MD 21211; (303) 338-6998):

- *Conservation and Commerce of Cacti and Other Succulents*. D. Fuller and S. Fitzgerald, eds. 1987. 276 pp. \$15.
- *Crocodilian Skin Trade in South America*. Federico Medem, W. Lamar, and L. Hardie, eds. 1985. 49 pp. \$7.50.
- *Cycads: Status, Trade, Exploitation, and Protection, 1977-82*. S. Gilbert. 1984. 72 pp. \$8.50.
- *Evaluation of the Psittacine Importation Process in the United States*. A. Dixon. 1985. 26 pp. \$5.50.
- *Latin American Wildlife Trade Laws (2nd Ed)*. K. Fuller, B. Swift, A. Jorgenson, and A. Brautigam. 1985. 392 pp. \$22.50.
- *Recent U.S. Imports of Certain Products from the African Elephant*. J. Thomsen. 1987. 24 pp. \$5.
- *The International Primate Trade, Volume 1—Legislation, Trade, and Captive Breeding*. D. Mack, and R. Mittermeier, eds. 1985. 185 pp. \$15.
- *The Japanese Psittacine Trade,*

1981- 82. E. Roet and T. Milliken. 1985. 119 pp. \$12.50.

In addition, the WWF has available for \$45 a *Wildlife Trade Education Kit* (1987) for the high school level which includes: an educator's guide; an 80-picture slide show; a full-color poster; and fact sheets on the trade of live parrots, primates, rhino products, and elephant ivory.

Computer Bulletin Board on Biological Conservation

The timely communication between conservation agencies, field workers, and innumerable other individuals and institutions involved in worldwide conservation efforts is seen as a major encumbrance to the rapid response to crisis situations. The National Zoo's Conservation and Research Center has established a bulletin board that will feature data files with "hot" news items, conference and workshop listings, grants and fellowships, position vacancies, current bibliographies, and other topics—all related to the general field of biological conservation. Up-to-date information for the bulletin board will be generated by a permanent electronic conference based in the international computer network BITNET. Conservation messages, queries, and remarks of

any participant will be electronically routed to every other participant, who then can respond individually or to the whole conference.

CONSLINK can be reached, free of charge, through electronic mail from international academic and commercial computer networks that have a link to BITNET. You may subscribe through BITNET by messaging `LISTSERV@SIVM.BITNET` with the command: `SUSCRIBE CONSLINK Your Name`. If you are on BITNET, you can send the interactive command: `TELL LISTSERV AT SIVM SUSCRIBE CONSLINK Your Name`. For further information, contact Michael Stuewe (preferably through electronic mail) at the Conservation and Research Center, National Zoological Park, Smithsonian Institution, Front Royal, VA 22630 USA; `NZPEM001@SIVM.BITNET`.

Bulletin board information is provided in part by Jane Villa-Lobos, Smithsonian Institution.

UPDATE Publication Schedule:

Irregularity of our distribution is unavoidable because the *UPDATE* follows the publication schedule of the *Endangered Species Technical Bulletin*. However, efforts are currently being made to bring the *UPDATE* and *ESTB* up to date and synchronous with one another.

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