SJR

16

SENATOR LOREN LEMAN

Northwest Anchorage

716 W 4th Ave, Suite 520, Anchorage, AK 99501 (907) 258-8189 Session: State Capitol, Juneau, AK 99801 (907) 465-2095

MEMO

TO: Representative Scott Ogan, Co-Chairman
House Resources Committee

FROM: Senator Loren Leman, Sponsor

DATE: March 18, 1997

RE: Scheduling Senate Joint Resolution 16 - Re-authorization and reform of the Endangered Species Act

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Please schedule at your earliest possible convenience, SJR 16, Re-authorization and Reform of the Endangered Species Act, for a hearing in the House Resources Committee.

The ESA was passed by Congress in 1973 and has been amended several times. The basic concept of the ESA is to prevent the extinction of species. It is unfortunate that examples of governmental abuse of power can be found alongside the successes of the ESA. SJR 16 recommends that the re-authorized Act assure partnership with the states and the protection of private property rights.

Attached is a copy of the sponsor statement and the resolution.

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Sponsor Statement
SJR 16

"Relating to Re-authorization and Reform of the Endangered Species Act."

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Senate Joint Resolution 16 supports the efforts of our Congressional delegation, and other states, in reforming the Endangered Species Act (ESA).

The ESA was passed by Congress in 1973 and has been amended several times. The basic premise of the ESA is to prevent the extinction of species.

It is unfortunate that examples of governmental abuse of power can be found alongside the successes of the ESA. SJR 16 recommends that the re-authorized Act assure partnership with the states and protection of private property rights.

SJR 16 requests the re-authorized Act not include: 1) any expansion of federal authority; 2) implementation of the complicated Biodiversity Treaty; or 3) any new biological diversity reserve system.

Alaska has more to lose in this debate than most states because of our resource-based economy. Examples of the ESA invoked to halt economic activity include a lawsuit filed by Greenpeace to shut down the eastern Gulf of Alaska pollock fishery, and proposals by the U.S. Forest Service to list the Alexander Archipelago Wolf and the Queen Charlotte Goshawk as threatened.

NOTICE FROM
WESTERN STATES COALITION
FROM THE OFFICE OF MET JOHNSON

Supreme Court Reverses ESA Case. The Supreme Court ruled today that the Endangered Species Act allows people to sue even if they are challenging government actions that have caused them economic injury. The unanimous decision reversed the 9th Circuit's decision in Bennett vs. Plenart. Justice Scalia noted that the Endangered Species Act's citizen-suit provision does not favor environmentalists alone. The Court also recognized that a biological opinion issued by the Fish and Wildlife Service (FWS) on an action proposed by another Federal agency may be challenged in federal court by parties who would suffer economic injury from the FWS's findings.

The Supreme Court case stems from a lawsuit filed by a rancher and two irrigation districts in Klamath County. In order to preserve the Lost River and short-nosed sucker fish in Klamath Lake, the lake level was ordered to be maintained at an artificially high level. This meant less water for the irrigation districts, and subsequently, for the farmers and ranchers who relied on that water for their livelihoods. Lower courts had ruled that the plaintiffs, the rancher and irrigation districts, had no 'standing' to sue under the Endangered Species Act because they were not suing on behalf of a species. The Supreme Court overturned those decisions with their decision yesterday.

The quote from the unanimous opinion written by Justice Scalia: "The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise. While this no doubt serves to advance the ESA's overall goal of species preservation, we think it readily apparent that another objective (if not indeed the primary one) is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives."

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TWENTIETH LEGISLATURE - FIRST SESSION

SJR 16: relating to reauthorization and reform of the Endangered Species Act

The Alaska Environmental Lobby cannot support the recommended changes to the existing federal Endangered Species Act (ESA) called for in SJR 16. The Endangered Species Act was written not only to prevent species extinction, but also to allow for their recovery. SJR 16 recommends changes to the existing ESA that would severely hamper the recovery of many endangered species in the United States.

- **Abuse of Authority:** it is a sweeping generalization to suggest that the federal agencies have "often misused their authority" under the ESA; what are specific examples of this misuse by Fish and Wildlife Service or National Marine Fisheries Service that have occurred in Alaska?

- **Administrative Reforms:** to state that reforms have either not been implemented or have been wholly inadequate is inaccurate; almost every one of the reforms proposed by the Clinton administration in April, 1995, has been implemented, including policies on the role of state agencies, recreational fisheries, peer review, and recovery plan participation and implementation.

- **Listing requirements:** to call for stricter *scientific and quantitative* criteria for listing is simply a way of saying only empirical data can be used for judging a species' status. This position ignores the fact that modeling to estimate wildlife populations is an accepted scientific method, i.e. qualitative criteria is as valid as quantitative in many situations.

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- **Distinct Population Segments:** to eliminate this concept from the definition of "species" ignores the reality that geographically or genetically isolated populations exist that can require protection to ensure survival despite the existence of healthy populations in distant locales. This concept is important to Alaskans dependent on salmon to ensure the continued health of genetically distinct runs.

- **Cost of Recovery Implementation:** to ensure species recovery, a scientifically based recovery plan must be completed; to politicize these plans and limit them to the least costly may be advantageous for short-term monetary gain and political popularity, but may very likely fail to protect the species in the long term.

'Until Alaskans are provided specific examples of how the ESA is unduly burdensome for us to support, the Alaska Environmental Lobby cannot support the changes called for in this resolution. Short-term convenience and economic gain cannot compensate for the ultimate negative impacts on all our plant and animal species if the ESA is weakened.

Susan Schrader, Executive Director
March 5, 1997

NATIONAL WILDLIFE FEDERATION®

Why Should We Save Species?

Congress passed the Endangered Species Act in 1973 because it recognized that animal and plant species "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people," and that we have an obligation to protect them. Outlined below are just a few of the benefits that can be quantified; others are priceless. Our careless and needless extermination of species, however, is robbing us and future generations of this rich legacy.

Medicinal

55% of the top 150 most prescribed drugs are either modeled on or synthesized from natural compounds derived from species. Not only do these species save lives, they contribute to a booming pharmaceutical industry worth over $79 billion annually. Incredibly, 95% of known plant species have yet to be screened for their medicinal values.

- The Pacific yew, a slow-growing tree found in the ancient forests of the Pacific Northwest was historically considered a "trash" tree that was burned after clearcutting. Recently, a substance in its bark – taxol – was identified as one of the most promising treatments for ovarian and breast cancer.

- More than 3 million Americans suffering from heart disease would find their lives cut short without digitalis, a drug derived from the purple foxglove plant.

Agricultural

Of the estimated 80,000 edible plants in the world, we depend upon only 20 species – such as wheat and corn – to provide 90% of the world's food. Wild relatives of these common crops provide an essential genetic reservoir from which new, stronger pest and disease-resistant strains are continually developed. Wild species also provide us with the means to develop new crops that can grow in marginal areas – such as areas that have poor soils or are drought stricken – to help solve the world hunger problem.

- In the 1970s, genetic material from a wild corn species in Mexico was used to stop a leaf fungus that had previously wiped out 15% of the U.S. corn crop.

Commercial

Some wild species are harvested commercially, thus contributing directly to local and regional economies.

- Commercial and recreational salmon fishing provides 60,000 jobs and $1 billion annually in personal income for the Pacific Northwest. It is also the center of the region's Native American culture. As salmon populations decline due to habitat degradation from dams, clearcutting, and overgrazing along streams, the fishing industry and its associated way of life are in trouble.

- Freshwater mussels -- which are harvested, cut into beads and used to stimulate pearl construction in oysters -- form the basis of a thriving industry that supports approximately 10,000 U.S. jobs and contributes over $700 million to the U.S. economy annually. Unfortunately, 43% of the freshwater mussel species in North America are currently endangered or extinct.

Ecological

Species also make up the fabric of healthy ecosystems such as coastal estuaries, prairie grasslands, and ancient forests, upon which we depend to purify our air, clean our water, and supply us with food. When species become endangered, it is an indicator that the health of these vital ecosystems is beginning to unravel. The U.S. Fish and Wildlife Service estimates that losing one plant species can trigger the loss of up to 30 other insect, plant and higher animal species.

- The northern spotted owl, listed as threatened in 1990, is an indicator of the declining health of our Nation's ancient forests in the Pacific Northwest - home to over 100 other old-growth dependent species which are at risk due to decades of unsustainable forest management practices.

- Pollution off the coast of Florida is killing the coral reefs along the Florida Keys, which serve as habitat for hundreds of species of fish. Catches of commercial fish species have begun to decline, and the multi-million dollar tourism industry that depends on the quality of the environment is threatened.

Aesthetic/Recreational

Species and their ecosystems form the basis of our multibillion dollar, job-intensive tourism industry and supply essential recreational, spiritual and quality-of-life values as well.

- Each year over 108 million people in the United States participate in wildlife-related recreation including hunting, fishing, observing, feeding, or photographing wildlife.

- Over $59 billion is spent each year by people in the United States on travel, lodging, equipment, and food, to go fishing, hunting and engage in non-consumptive wildlife recreation.

These are just a few examples of what we may lose each time a species becomes extinct. Our national heritage of biological diversity is an invaluable and irreplaceable resource. Our quality of life and that of future generations depends upon our wise stewardship of this inheritance. Support endangered species by supporting a strong Endangered Species Act.

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NATIONAL WILDLIFE FEDERATION

NATURE'S PHARMACY
HUMAN HEALTH DEPENDS ON THE RICH DIVERSITY OF LIFE

Nature does nothing uselessly.
– Aristotle, Politics, Book I, Chapter 2

Human subtlety . . . will never devise an invention more beautiful, more simple, or more direct than does nature, because in her inventions nothing is lacking, and nothing is superfluous.
– Leonardo da Vinci, The Notebooks [1508-1518], Vol I, Chapter 3

55% of the 150 most prescribed drugs are either modeled on or synthesized from natural compounds from different species of plants and animals. Not only do these species save lives, they also account for an annual $40 billion pharmaceutical market worldwide. However, this vast, mostly untapped reservoir of natural medicinal substances is gravely threatened.

Human development accelerates the loss of species by as much as 1,000 times the natural extinction rate. Sixty-eight percent of the 250,000 species of the world's flowering plants are found in the world's tropical rain forests, which are being destroyed at an estimated worldwide annual rate of 41.7 million acres. Unfortunately, less than ten percent of known plant species have been screened for their medicinal values, and only one percent have been intensively investigated. Only a fraction of the estimated millions of species of invertebrate animal life have been classified, and most have not been studied. Sometimes the loss occurs so rapidly that even when medicinal values are discovered it is too late to save the species. Calanolide A, proved to be 100% effective in stopping the replication of HIV-1, a precursor to AIDS. The compound was derived from the leaves and twigs of a tree in the Malaysian rainforest. However, once the value of the tree had been discovered, the researchers returned to find that the original tree had been cut down and scientists have been unable to find another. Of course, not every plant or animal contains a miracle cure, but the truth is when a species becomes extinct, we simply don't know what we are losing.

Here are just a few of the medical benefits we've obtained from animal and plant species:

- More than three million Americans suffering from heart disease would find their lives cut short without digitalis, a drug derived from the purple foxglove plant.

- The rosy periwinkle, a wildflower from Madagascar whose habitat is being destroyed rapidly, supplies alkaloids contributing to the drugs vincristine and vinblastine, critical components in the treatment of childhood leukemia and Hodgkin's disease. These drugs, when used in conjunction with other cancer therapies, help children with acute lymphocytic leukemia achieve a 99 percent rate of remission, while sufferers of Hodgkin's disease achieve a remission rate of 80 percent (compared to *19 percent* before the discovery of these compounds).

- The ancient horseshoe crab has a blood clotting system which produces proteins used to detect gram negative sepsis, a potentially life-threatening bacteria affecting over 10,000 people each year. These proteins are used by the food industry to test for bacteria in canned food, by the medical community for clinical testing of gram negative sepsis in humans, and by the pharmaceutical industry to test if products are free of toxins released from bacteria. The horseshoe crab is endangered in Japan due to coastal development and pollution, and wetland destruction and water pollution are threatening its populations in the U.S.

- Coral of the *porites* and *goniopora* species are now used in bone grafts to produce newly-mended bone that is as strong or stronger than the original. Because the porous structure of these corals is virtually identical to that of human bone, they are uniquely compatible with the human skeleton and the body does not reject them or cause the inflammation or infection which commonly occurs from human bone grafts. A study from 1989 to 1991 of 19 patients with fractures repaired by coral bone grafts, showed that all healed solidly, including those in the major weight-bearing bones of the leg.

- The bark of the Pacific yew tree, found in the ancient forests of the Pacific Northwest, is the source of taxol, a promising new drug used to treat ovarian and breast cancer. It is the only drug discovered in the last 15 years that is an active agent against a variety of cancers.

Some possible future contributions:

- The National Cancer Institute is now studying four plant compounds that provide effective protection against the replication of the HIV-1 and HIV-2 virus, the precursors to AIDS, in laboratory tests. One compound, Calanolide A, is derived from the leaves of the Calophyllum lanigerum tree, a compound which has proven effective in destroying the HIV virus without killing healthy cells. The original tree which yielded the sample was destroyed by clearcutting. Luckily, scientist have found related species from which costatolide is derived. Costatolide has also shown significant anti-HIV activity in laboratory testing. Other related compounds are currently being tested. Michellamine B, a compound from the leaves of a tropical vine in the rainforest of Cameroon, is active against both the HIV-1 and HIV-2 viruses. Conocurvone, a compound from a bush in Western Australian, and prostatin, a compound from a Western Samoan tree are also active against HIV.

- A compound from soil bacteria called SP-PG (sulfated polysaccharide peptidoglycan) has proven to be exceptionally effective against Karposi's Sarcoma, a skin cancer found commonly among people suffering from AIDS.

- The endangered desert pupfish, one of the tiniest vertebrates on Earth, is helping medical researchers learn more about the nature of kidney diseases in humans. Due to its exceptional capacity to handle salinity, the pupfish can endure some of the most extreme temperatures and saline water environments known to exist.

- The Houston toad, which is on the brink of extinction due to habitat loss, produces alkaloids that may prevent heart attacks and/or act as an anesthetic more powerful than morphine.

- The evening primrose, an entire group of plants consisting of 100 species worldwide including 60 in the U.S. (four of which are endangered), are a major source of gamma-linolenic acid (Vitamin F). Deficiency of this key nutrient may cause eczema, arterial disorders, arthritis, and multiple sclerosis. Oil from the evening primrose's seeds could play a vital role in helping to avoid those afflictions as well as schizophrenia, impotence, and alcoholic hangovers.

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NOTES AND SOURCES

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NATURE'S SUPERMARKET

OUR FOOD SUPPLY DEPENDS ON THE RICH DIVERSITY OF LIFE

The agricultural value of wild plant species is potentially limitless. Undiscovered species are valuable for cross-breeding with domesticated relatives to develop increased crop disease resistance and crop yields, naturally occurring pesticides, enhanced nutritional quality, and other natural resources. As the world's ecosystems continue to be destroyed, we cannot count the number of wild species with potential agricultural benefits that are lost.

Some examples of agricultural contributions:

- In the 1970s, genetic material from several wild corn species originating in Mexico were used to stop a corn blight which had previously wiped out 15% of the U.S. corn crop.[1]

- *Oryza nivara*, discovered in 1966, is the only one of 6,273 species of rice with the genes necessary to resist the grassy stunt virus, which devastated rice paddies throughout India and southeast Asia in the 1970s. A resistant hybrid created from the cross-breeding of *Oryza nivara* with the prevailing cultivated species is now grown in 110,000 square kilometers of Asian rice fields.[2]

- Genes resistant to coffee rust were found in several wild varieties of coffee growing in Ethiopia. These genes were bred into the South and Central American coffee crops just in time to prevent their destruction by coffee rust, a disease which previously devastated the coffee crops in Sri Lanka. Since Brazilian and most other South and Central American coffee plantations are descended from a single species originating in east Africa, they were especially vulnerable to this disease, which appeared in Brazil in 1970, spread quickly to Central America, and threatened to disrupt coffee-based economies. Unfortunately, over 80 percent of the African forest habitat which nurtures these wild varieties of coffee tree has been destroyed and the balance is severely threatened.[3]

- The wild maize species, *Zea diploperennis*, is the only maize possessing perennial growth and is resistant to almost all known corn diseases. Genes from this wild plant could boost corn production worldwide by the billions of dollars through year-round production. It was estimated to be only a week away from extinction when discovered by a Mexican college student.[4]

Working for the Nature of Tomorrow.
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(3/94)

- The winged bean of New Guinea is a veritable one-species supermarket. The entire plant is palatable: it has spinach-like leaves, its young pods are usable as green beans and have more protein than potatoes, its mature beans are like soybean and can be cooked or ground into flower or liquified into a coffee-like caffeine-free beverage. The plant grows at a phenomenal rate, reaching four meters in a few weeks. It also contains nitrogen-fixing nodules in its roots, so it needs little fertilizer and raises soil fertility for other crops.[5]

- Two West African plants, katemfe and the serendipity berry, produce substances 1,600 and 3,000 times sweeter respectively than sucrose.[6]

- Two species of potatoes, *Solanum demissum* and *Solanum acaule*, produce sticky substances which trap predatory insects, which could reduce or negate the need for pesticides. *Solanum demissum* is a wild Mexican plant yielding genes resistant to bacterial wilt, two viruses, two races of nematodes, and the Colorado potato beetle. *Solanum acaule* grows in Peru and Bolivia and can withstand frost and temperatures as low as -8 degrees C.[7]

- An endangered member of the mint family, *Andra frutescens*, is the source of a new compound shown to be powerfully repellent to insects.[8]

- African soapberries might save millions of dollars by helping to control the spread of the accidentally-introduced zebra mussel, an exotic species which is threatening the survival of native mussel species and clogging water-intake pipes in many American lakes.[9]

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