

River

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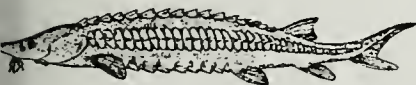
Number 4

New MICRA Website

MICRA is developing a new, more interactive website through cooperation with the U.S. Geological Survey/Biological Resources Division (USGS/BRD) in Columbia, MO. MICRA's website will eventually house our basinwide paddlefish database, as well as other technical information. Come visit us at <http://www.waux.msc.nbs.gov/MICRA>.

Sturgeon Threatened Worldwide

A working group of 33 member states to the Convention on International Trade in Endangered Species (CITES), which includes the European Union, voted unanimously at their June meeting to restrict trade in all varieties of sturgeon -- the primary source of the world's caviar.



"lake sturgeon"

All countries that import or export caviar must take steps to regulate trade by 4/98, with the most severe limits expected to be on Caspian Sea beluga sturgeon. Because of the worldwide threat to sturgeon species, the eggs from paddlefish and

other species (including bowfin) are now being used as a caviar replacement. We noted in the January/February 1997 issue of *River Crossings* that paddlefish caviar is already selling for as much as \$89.95 for a 4 oz. jar on the west coast.

Readers will note that the May/June issue of *River Crossings* reported that MICRA, at their 7th annual meeting in May, called for a moratorium on the export of paddlefish caviar due to potential threats to this country's paddlefish populations.

In Russia, 25 lbs. of sturgeon caviar will net a fishermen a meal plus maybe \$200, after selling the remaining roe to smugglers. Meanwhile, at restaurants

in New York, Paris or London, this same product might fetch as much as \$13,000 -- or double that when it comes from the rare beluga sturgeon.

The top five U.S. caviar markets in 1995 were:

• New York	113,120 lbs.
• Miami	18,922
• San Francisco	8,545
• Washington	6,624
• Los Angeles	6,347
• Other U.S. Cities	27,642
• Total	181,200

Total 1995 Retail Value of this caviar was \$353 million--most of which came from Russia, China and Kazakstan.

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The situation in Russia has gotten so out of hand that during the six week sturgeon spawning season (Spring) along the Volga River delta (700 miles southeast of Moscow) a free-for-all exists in the war between legal fishermen, Russian border guards and police armed with assault rifles, and a small army of poachers.

Downstream in the Caspian Sea, home to 90% of the world's sturgeon, over-fishing, pollution, and oil exploration threaten the species. The Caspian Sea is surrounded by Iran, Turkmenistan and Azerbaijan on the south, and Kazakstan and Russia on the north. Experts say Russia's caviar industry, the largest in the world, may collapse within five years. This industry presents a case study of how the breakup of the Soviet Union and the sudden impoverishment of workers are having some unexpected and undesirable results with international consequences.

"If nothing changes and the planned development of oil goes forward, then in two or three years there won't be enough sturgeon to sustain a fishing industry," said Vladimir Ivanov, director of the Caspian Fisheries Research Institute in Astrakhan, the regional capital. "There won't be enough even for poachers. And extinction is a possibility in 10 years or so."

During the Soviet era, the production of caviar, as of everything else, was a state monopoly, so tightly controlled that statistics on annual output were an official secret. Poaching was rare, quality control strict, and not even the most discriminating gourmet doubted that the taste of Russian caviar was superb.

But even then, Caspian Sea sturgeon were at risk. Beginning in the 1960s, Soviet factories along the Volga River pumped vast amounts of pollutants into its water, oblivious of the consequences for the fish who swam as much as 1,500 miles upriver to lay their eggs. Dams also blocked the sturgeon from reaching spawning grounds they had used since the time of the dinosaurs. By the late 1980s, sturgeon populations were in a nose dive.

With the dissolution of the Soviet Union in 1991, a long-standing agreement between the Soviets and Iran not to over fish the Caspian Sea collapsed. And as poverty and industrial stagnation spread through the Caspian region, many people saw sturgeon as a kind of instant currency. The drastic increase in poaching has cut the official sturgeon catch in the Caspian Sea from 25,000 tons/yr in the mid-1980s to just 3,400 tons last year, and reduced caviar production by more than 80% in the same period, according to government figures.

The result of this chaos is a nearly open field for poachers and smugglers, who move large quantities of home-packed caviar from the Caspian Sea into Western Europe and the U.S. through Turkey and Eastern Europe.

The smuggled caviar and its packaging often look like the real thing, but the

quality is suspect. In Europe, some importers are starting to insist on caviar from Iran, which produces less than Russia but keeps a tighter lid on poachers and smuggling. "It's an easy recipe but you have to be very accurate in the way you do it," said Caroline Raymakers, a researcher with *Traffic*, the trade monitoring arm of the *World Wildlife Fund*.

Traffic and other environmental groups are pressing for tougher international trade rules to protect Caspian Sea sturgeon. Russian fishery officials are urging the presidents of the Caspian nations to sign an accord strictly limiting each country's catch. There is talk of a total ban on sturgeon fishing. But experts worry that even the most draconian measures may fail in the face of the latest threat to sturgeon.

As noted earlier, other fish species

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such as paddlefish and bowfin are now being sought as a replacement for sturgeon caviar. MICRA was formed in 1991 to address U.S. concerns related to paddlefish populations. Some states continue to maintain both commercial and recreational fisheries for the species, while others list it as threatened or endangered in their states. The species is on the "watch list" of the U.S. Fish and Wildlife Service.



"paddlefish"

MICRA began its basinwide population assessment in 1995, and is now in its third year of the study. Until this project is complete, and we have fully assessed the status of this ancient species, a moratorium on the export of paddlefish products seems justified.

Sources: By Line Article by Lee Hockstader, *The Washington Post* 6/9/97; World Wildlife Fund; and National Journal's GREENWIRE, *The Environmental News Daily*, 6/19/97

Sturgeon and Rubber Bands

This Spring Michael A. Eggleton, *Mississippi State University*, received word from a lower Mississippi River commercial fisherman that he had collected sturgeon measuring 20-24 in. long that had "rubber bands" wrapped around their bodies. The rubber bands were cutting into the gills and skin of the fish behind the dorsal fin.

Later in the Spring, Eggleton too collected a shovelnose sturgeon from a floodplain lake upstream of Vicksburg, MS with a rubber band wrapped as described above. Another biologist said he had observed the same thing 10 years ago, also on



"shovelnose sturgeon"

the Mississippi. River. Eggleton speculated that this must be a fairly common occurrence, and sent an inquiry over the Internet asking if anyone else had recorded similar experiences. He wondered if the phenomenon was related to someone's tagging program or if these fish are swimming through rubber bands laying on the river bottom as juveniles.

To Eggleton's surprise, Guy Verreault, Fisheries biologist for the *Ministere environnement et Faune* 506 rue Lafontaine, Riviere-du-Loup, Qc, Canada reported similar findings for Atlantic Sturgeon in the St-Lawrence estuary. Verreault reported that during a late 1980s survey he found 8% of all his catches (n=796) wrapped with rubber bands. He also observed that the phenomenon occurred only on smaller fishes, less than 130 cm. long.

Verreault reported that he immediately initiated an information program for post office staff in Quebec, asking postmen to keep all rubber bands used for mail delivery in their bags rather than throwing them away. Verreault reported that this campaign gave good results as he observed that less than 0.5% (n=1097) of sturgeons caught last year carried rubber bands. Verreault said that he thinks sturgeon are very vulnerable, especially the young, to rubber bands when they're looking for prey on the river bottom. He said it probably causes significant mortality in the species.

Tom Squiers, ME Department of Marine Resources reported further that since 1977 his agency has captured over 1600 adult shortnose sturgeon in the Kennebec River in the State of ME, and found three which had rubber gaskets around their heads. These gaskets were cutting into the flesh and gills as Eggleton described. Squiers also speculated that the sturgeon are swimming into these gaskets as they feed on the bottom.

C. Greg Lutz, Associate Specialist, Aquaculture (affiliation unknown) reported that commercial fishermen targeting freshwater drum in the Atchafalaya Basin indicate that this is indeed a very common condition for shovelnose and pallid sturgeon in the Melville area. These fish (in the Mel-

ville area) are also occasionally found with discarded condoms over their mouths.

Ohio River Mussel Poaching

OH and WV wildlife officials have raised concern about mussel poaching on the Ohio River. Officers say poachers, often outfitted with diving gear and maps of mussel beds, slip across state borders under the cover of darkness in order to illegally take thousands of dollars worth of freshwater mussels in a single night. These mussels are taken back across the border and sold to buyers in states where mussel harvesting is legal.

Eventually the mussels wind up at one of a handful of exporters in TN, AL and IA before being shipped to Japan and other Asian countries for use in the \$3 billion-a-year cultured pearl industry. The shells are processed into pieces the size of a match head, that are inserted into oysters as seeds for the production of cultured pearls.

OH enforces a daily take of 15 mussels/person that can be used only for bait. A bill passed by the state House, and pending in the Senate, would outlaw the taking and selling of mussels entirely. Andrew Pierce, a special agent with the U.S. Fish and Wildlife Service in Delaware, OH, said poachers started moving into OH and WV in 1991, looting the waters of the Muskingum River near Marietta and other areas of the Ohio River basin. Since then, the OH Division of Wildlife has assigned two or three full-time officers to mussel law enforcement throughout the summer and fall. They scour seldom-traveled roads, boat launches and motel parking lots for trucks with out-of-town license plates.

"TN, AL, KY and AR have been depleted of commercial shells," Pierce said. "What's left are too small to harvest." An average night's work for a typical Ohio River poacher can net \$1,000, though some haul in \$4,000 worth of shells in one shift. Shells generally sell for \$2-4/lb., but prices have shot up as high as \$13/lb.

A few poachers have been given federal jail terms, but a typical sentence is probation and a \$200 fine.

North America is home to about 300 mussel species -- 20% of which are listed on the federal endangered species list. Mussels can live for decades and grow as large as a foot wide and weigh several pounds. Freshwater mussels are probably the most endangered animals in North America.

About 8,000 tons of mussels are harvested from streams each year, and roughly 6,000 tons are shipped to Japan, Korea and China, said Lonnie Garner, president of *U.S. Shell Co.* in Hollywood, AL.. The others are lost or die en route. In addition to the damage done by poachers, mussels have been impacted by pollution, vanishing habitat and the arrival of foreign zebra mussels that overwhelm the native species. But Garner, while not supporting the poachers, thinks the environmentalists' concerns are overblown.

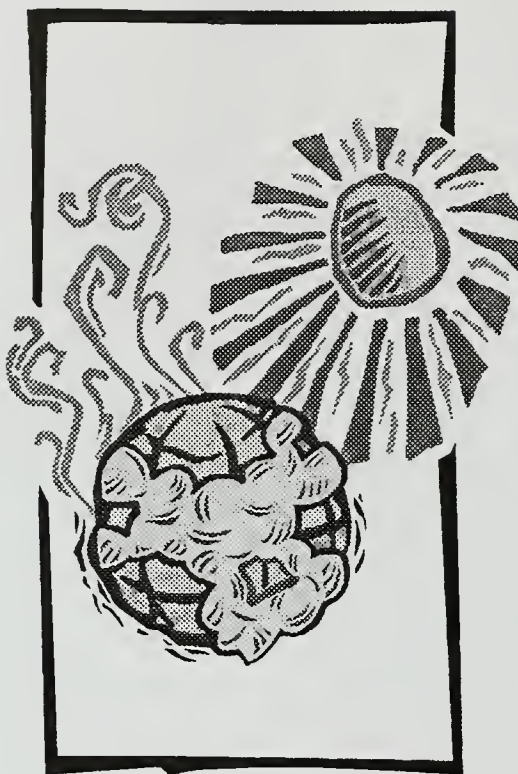
Source: By Line Article by Paul Souhrada, The Associated Press, 05/22/97

Climate Change

"A major political fight is brewing over what to do about the long-term threat of global warming and (it's) side effects that scientists say would hit Louisiana harder than anywhere else" in the U.S. The impacts could include rising seas, coastal erosion, stronger, more numerous hurricanes, and new health threats. Scientists say that about 4,500 square miles of LA's vast coastal marshlands could be submerged under rising seas over the next century. But while these risks loom "in the distant future," the state's industrial base "would take an immediate economic hit" from limits on greenhouse-gas emissions. And because policy decisions "will be based on science that even its advocates admit is sketchy...any decision amounts to a gamble."

Despite this concern, as the U.S. participated in negotiations on a global climate change treaty this summer,

Senators John Breaux (D/LA) and Mary Landrieu (D/LA) signed on to a resolution that would require "parity" between industrialized and developing nations in reducing emissions, "a requirement many observers say would scuttle the treaty." *Sierra Club* lobbyist Dan Becker said Breaux and Landrieu "deserve the scorn and criticism of people in Louisiana who are at risk from rising seas" (John McQuaid, *New Orleans Times-Picayune*, 7/6).



In support of these concerns, a new study on climate change concludes that "humans have almost certainly played a role" in the "slight global temperature increase" observed during the last 100 years. The study, published on 7/2 in the journal *Nature*, estimates that there is "only one chance in 100 that the past century's one-degree warming trend can be explained solely by natural factors such as solar variations and volcanic activity".

The study indicates a statistical relationship in which Northern Hemisphere temperature depends on temperature in the Southern Hemisphere. This pattern, which has strengthened over time, can be explained by the climatic effects of anthropogenic trace gases

and tropospheric sulphate aerosols.

According to study co-author Robert Kaufmann, *Boston University*, "For the first time based on an analysis of historical record...we can see the human fingerprint of activity on the global temperature record." But past analyses have reached similar conclusions, and some researchers criticized the study as repetitive of earlier work (AP/USA Today 6/26).

However, on 6/18/97 more than 2,400 scientists called on President Clinton to endorse "early domestic action to reduce U.S. [greenhouse-gas] emissions via the most cost-effective means". George Woodwell, founder of the *Woods Hole Research Center* in MA and one of the first to sign the statement, said he hoped it would persuade Clinton to lead the U.S. away from its reliance on fossil fuels. Another cosigner, John Holdren of *Harvard University*, suggested a tax on fossil-fuel use and a more favorable attitude toward nuclear power, which emits no greenhouse gases (Wall Street Journal, 6/19).

In response, Gail McDonald, president of the industry-funded *Global Climate Coalition* (GCC), dismissed the scientists' statement as a "public relations gimmick." McDonald noted several scientific sources -- including a report in the 5/16 issue of *Science* -- that are uncertain about the link between industrial emissions and global climate change.

Journalist, Ross Gelbspan (Washington Post 5/25/97) in his book *"The Heat Is On"* points out that a "tiny band" of scientists and "deep-pocketed industry public relations specialists" have manipulated the media to create the perception that scientists are "sharply divided" over climate change. Gelbspan asserts that several global warming critics have risen to prominence through industry sponsorship and by "demand[ing] access to the press ... as a right of journalistic fairness."

Swedish scientist Bert Bolin, a former chair of the *UN's Intergovernmental Panel on Climate Change*, contends that such "greenhouse skeptics" have

helped to create an "increasing polarization of the public debate" in some nations that is not reflected by discussions among scientific experts. Gelbspan suggests that if the fossil-fuel industry were "honestly concerned about getting at the truth of climate change, it would contribute to a blind-trust pool of private research funds" that the federal government could allocate to national research organizations.

President Clinton warned at the UN Earth Summit + 5 conference in New York on 6/26, that "...human activity is dangerously increasing the Earth's temperature, but he rebuffed appeals by European leaders" that he set a specific target for reducing U.S. greenhouse-gas emissions in the near term. Clinton said the scientific evidence of global warming is "clear and compelling," and he "painted a dire picture" of a future in which 9,000 square miles of coastal areas in FL, LA and other states would be flooded by rising sea-levels resulting from global warming (Harris/Warrick, Washington Post 6/26). He said more severe droughts, floods and infectious-disease outbreaks could stem from climate change.

In leading the U.S. "to do our part," Clinton said his "first" task would be to "convince the American people and the Congress that the climate change problem is real and imminent." The president promised to host a White House conference on climate change this fall, at which he hopes to forge a consensus on "realistic and binding limits that will significantly reduce our emissions of greenhouse gases."

He also outlined a short list of new initiatives aimed at preventing global warming:

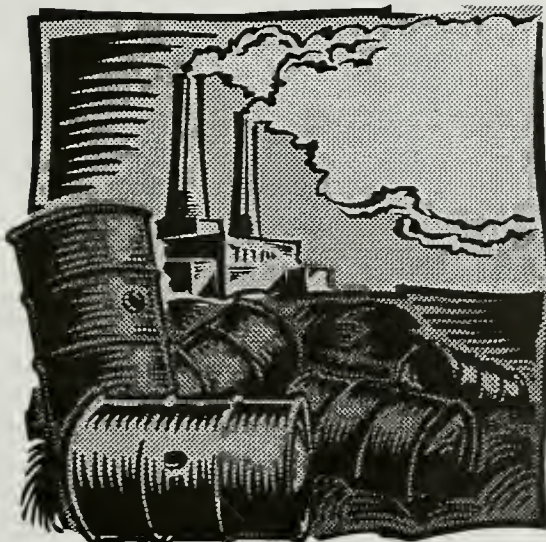
- An Energy Dept. program to install solar-energy panels in 1 million homes across the country by 2010;
- Continued efforts in the national laboratories to develop clean-energy technologies, including autos that are up to three times more fuel efficient than today's models;
- Requiring projects financed by the *Overseas Private Investment Corp.* to adhere to new environmental guidelines; and

- A \$1 billion package of foreign aid to help developing countries obtain clean energy technologies (Federal News Service/ New York Times 6/26).

However, "on the critical question" of greenhouse-gas limits, Clinton aides said the president "had no intention of announcing targets until he was certain they were attainable" (Harris/Warrick, Washington Post 6/26). White House Council on Environmental Quality Chair Katie McGinty said the European proposal for a 15% cut in greenhouse-gas emissions by 2010 would be "impossible" for the U.S. to meet (Investor's Business Daily 6/26).

"Some business leaders said the president took a sensible approach." Gail McDonald, president of the industry-based *GCC* said, "He resisted the temptation to use this highly public event to unveil draconian measures that would be harmful to our economy and harmful to the American people" (Harris/Warrick, Washington Post 6/26). Environmental groups on the other hand criticized Clinton's reluctance to set greenhouse-gas targets.

Unfortunately, the UN's Earth Summit + 5 conference "ground to a quiet close" on 6/27 "in an atmosphere tinged with gloom." Although many countries had been looking to the U.S. for leadership on climate change, world leaders must now look to the climate-change conference in Kyoto, Japan, in 12/97 in hopes of reaching an agreement on greenhouse-gas emissions limits (Crossette, New York Times 6/26). Katie McGinty said



Clinton "is going to engage the American people on the issue in these summer months." Asst. Secretary of State Eileen Claussen said that reaching an agreement in Kyoto may be easier than "getting it ratified by the Senate" (Mark Jaffe, Philadelphia Inquirer, 6/29).

Meanwhile, President Clinton, sided with environmentalists in a dispute that split his own advisers, when he announced on 6/25 his support for EPA's "tough" new air-quality standards for ozone and particulates. The regulations will force dozens of cities to find new ways to cut pollution or face federal sanctions such as the loss of highway funds. "But the administration also sought to soften the blow with provisions that will delay the impact and give local officials flexibility in deciding how to comply" (Warrick/Harris, Washington Post 6/26).

EPA's proposed standards (11/96) lower ozone tolerance from 0.12 ppm averaged over a one-hour period to 0.08 ppm over an eight-hour period (John Fialka, Wall Street Journal 6/26). The agency said its ozone implementation plan will be based on the recent recommendations of the *37-state Ozone Transport Assessment Group*, which called for emissions reductions from coal-fired power plants in the Midwest. As those recommendations take effect, areas that might otherwise be thrown into noncompliance under the new standards will be placed in a new "transitional" category with compliance deadlines extended to 2004 (EPA release, 6/25).

The agency also will allow five years to develop a nationwide network of particulate-monitoring stations, and another three years after that for states to develop implementation plans. It would then take several more years for new controls to take effect (EPA release, 6/25). The White House also approved a trading scheme for pollution permits (Fialka, Wall Street Journal 6/26). About 411 counties nationwide would exceed one or both of the new standards; 134 counties exceed current standards (Gersten-zang/Cone, Los Angeles Times 6/26).

In the end, Congress has the authority to overturn the standards, and industry sources say that more than 250 members of Congress, 27 governors and 1,000 local officials have come out in opposition (Nichols/Hall, USA Today 6/26). However, the president's decision was praised by several Northeast elected officials (Andrew Revkin, New York Times 6/26)

Sources: Greenwire Vol. 7, No. 18; and National Journal's GREENWIRE, The Environmental News Daily, 6/19; 6/26; 6/27; 6/30; 7/3; and 7/10/97

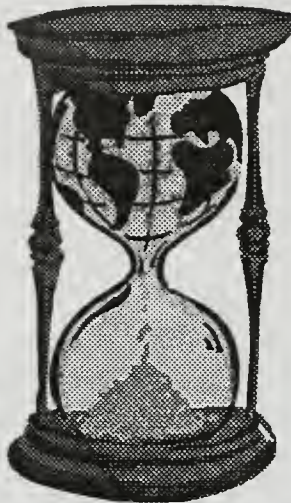
Environmental Concerns Rising

People around the world are "even more likely today than five years ago to say that economic growth should be sacrificed if necessary to ensure the environment is protected," according to a global public-opinion survey released on 6/23. In the survey, Toronto-based *International Environmental Monitor Ltd.* (IEML) and its research partners in 24 countries interviewed more than 26,000 "average citizens"-- "representing more than 60% of the world's population"-- between 1/97 and 3/97.

While research is continuing in the UK, Chile, China and Mexico, the results from 20 countries found that:

- More than eight in 10 people in 19 countries believe that environmental problems will affect their children's health, while majorities in 17 countries believe their own health has been affected;
- Majorities in 13 countries "and pluralities in all but three" believe that environmental protection is a "greater priority" than economic growth;
- Majorities in 14 countries said their national government is doing a "poor or very poor job" of dealing with environmental problems; and
- Majorities in 12 countries and pluralities in all but two said "strong action" should be taken soon to prevent climate change "even if there are major costs."

People in 13 of the countries were asked similar questions in a 1992 *Gallup International Institute* survey. A comparison of attitudes in these countries in 1992 and 1997 reveals that concerns about human health effects of environmental damage have "significantly increased" in 10 countries, while views favoring environmental protection over economic growth has grown in nearly half of the 13 countries. Doug Miller of IEML said, "We were surprised by the sharp rise of public health concerns in both developed and developing countries over a five-year period in which their leaders have moved in the opposite direction on the environment".



The survey shows that New Zealand and Canada rank first and second, respectively, in the list of countries where citizens rank the environment ahead of the economy (Keith McArthur, Toronto Globe and Mail, 6/23).

Source: National Journal's GREENWIRE, The Environmental News Daily 6/5/97

Native Americans And The Environment

Federal agencies enforcing the Endangered Species Act (ESA) will now defer to tribal plans on Indian lands, under an agreement signed in early June. Interior Secretary Bruce Babbitt and Commerce Secretary Bill Daley said the special order was intended to clarify the ESA's application to 95 million acres of tribal lands held in federal trust. The order establishes procedures to provide tribes with technical and scientific support to develop habitat-protection plans and acknowledges that Indian lands "are not federal public lands . . . and are not subject to

federal public land laws." "For too long we have failed to recognize the needs of Indian tribes to be consulted and part of the process from the beginning, and the traditional knowledge they can share about species, habitat and conservation," Babbitt said.

Babbitt oversees the U.S. Fish and Wildlife Service and the Bureau of Indian Affairs, and Daley, the National Marine Fisheries Service. They signed the agreement with four tribal leaders in the Indian Treaty Room at the Old Executive Office Building. The order says the government "shall give deference to tribal conservation and management plans for tribal trust resources that govern activities on Indian lands . . . and address the conservation needs of the listed species."

Meanwhile, environmental lawsuits and regulations pushed by Native Americans are "becoming more common," reports the *NY TIMES*. For example, last year, two tribes on the Fort Belknap Reservation in Hays, MT, sued mining firm *Pegasus Gold Inc.* for alleged water-pollution violations from a gold mine adjacent to the reservation. The suit led to a \$37 million settlement with the Assiniboine and Gros Ventre tribes for damages to reservation water.

Then last month, the tribes sued Pegasus in state court to prevent the firm from creating a new pit until it cleaned up an old one. The tribes claimed that two existing pits have poisoned wells, cut stream flow and may have contaminated groundwater. Pegasus has defended its environmental record and said some of the tribes' claims have been proven "absolutely false."

Such legal actions have been aided, in part, by amendments to the Clean Water and Clean Air acts, which gave tribes the same standing as states to enforce environmental standards. Tribes are also taking a larger role "because of their traditional relationship to nature." For example, in ID, the Nez Perce tribe is working on reviving gray wolf and salmon populations.

Meanwhile, a "rekindled interest" in ancestral customs has led to environmental activism in some tribes. At

Fort Belknap, for example, the destruction of a sacred site helped set off the Pegasus controversy (Jim Robbins, N.Y. TIMES, 2/9).

Source: Greenwire Vol. 6, No. 189, and National Journal's GREENWIRE, The Environmental News Daily, 6/6/97

Environmental Bias in Schools ?

Critics of environmental education say children are being "scared green" by textbooks and a mass media that serve up a steady diet of gloomy, politically slanted messages about the planet's future. "We're creating



doomsday kids," said Michael Sanera, a prominent critic whose new book, *Facts Not Fear: A Parent's Guide to Teaching Children About the Environment*, is being hailed by conservatives. "Children are getting slogans and dogma instead of being taught to think critically."

The problem, as some TX officials described it, was the "unbalanced" view children in public schools were getting about pollution. As a result, they held a seminar for educators in Houston and invited leading oil and chemical corporations to offer advice on teaching children about the environment. The companies helped pay for the seminar, and some promoted classroom materials they had developed for schools. One brochure, produced by *Exxon*, touted the ad



vantages of gasoline power over electric vehicles.

The Houston conference, co-sponsored by the *Texas Natural Resources Conservation Commission*, infuriated environmental groups, who said they weren't invited. But it also focused attention on a question that got national attention on the 17th observance of Earth Day: *"Who controls the environmental education of the nation's children?"*

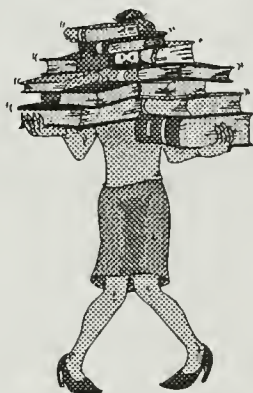
Environmentalists say that both Sanera's book and the Houston seminar are part of a nationwide effort by industries and political conservatives to discredit environmental instruction -- while simultaneously promoting industry-friendly teaching materials and textbooks.

According to a report released on 4/9/97 by the Oakland, CA-based *Center for Commercial-Free Public Education*, environmental education in public schools "is being systematically eliminated and replaced by propaganda supplied by corporate polluters". The report includes a 10-page list "documenting corporate links to the anti-environment, anti-environmental education movement." It "is especially critical" of Michael Sanera's book. Sanera, director of the *Center for Environmental Education Research*, a Tucson, AZ-based think tank, is an affiliate of several conservative foundations funded by oil, mining and the Religious Right. Sanera reportedly played a key role in blocking a 1990 AZ initiative that would have required environmental education in AZ's public schools. The report also links Sanera to the

Heritage Foundation, one of four conservative think tanks that "the report says are funded by corporate polluters such as *Amoco, Shell and Dow Chemical*."

Both sides agree that the criticism has begun to have an effect. For example, some states have abolished mandatory environmental study in public schools, and several other states are considering revising or killing their programs. About 30 states now have environmental education programs, though many individual schools offer little formal instruction, or none at all. Additionally, some environmentalists fear a federally sponsored environmental education program could be threatened when it comes up for reauthorization in Congress later this year. Environmental education encompasses a wide range of teaching activities that include environmental science classes and coverage of ecology topics in social studies or science books.

Schools and teachers who choose to teach about the environment may select from among literally thousands of books and teaching guides, including materials published by textbook companies, environmental groups and major corporations. In terms simplified for children -- or in some cases jazzed up for the MTV generation-- these guides intróduce students to exceedingly complex and controversial topics such as global climate change and wetlands destruction--subjects that confuse and divide many of their parents. Just as with teachers themselves, the quality of the books varies greatly.



Professionals in the field acknowledge that problems exist. Some textbooks contain errors, and some teachers have blurred the line between instruction and advocacy. But the suggestion that children are being traumatiz-

ed or brainwashed is "just plain wrong" said Kevin J. Coyle, president of the Washington, D.C. based *National Environmental Education and Training Foundation (NEETF)*. In 1994, NEETF commissioned what is believed to be the most comprehensive survey of schoolchildren's attitudes about the environment. Of 2,139 students surveyed nationwide, the environment ranked below AIDS, guns and kidnapping as a source of concern. Less than half listed the environment as something they worry about.

Other research suggests that environmental awareness actually improves children's confidence, Coyle says. Children believe environmental problems can be solved, polls show, and that they can play a role in the solution. "Kids actually develop a more hopeful attitude because there they can do things like turning off lights or not wasting water," Coyle said.

Coyle and others believe the backlash against environmental education is politically motivated. Consider, for example, the flap over an alleged outburst of activism at the Canyon View Elementary School in Tucson. In 1994, second-graders sounded off to the local newspaper after a developer destroyed a patch of desert behind their school to make room for a new subdivision. "The desert used to look beautiful, but now they are wrecking it," wrote one 7-year-old. "People are so greedy about money," wrote another. Conservative lawmakers cited the letters as evidence of environmental education gone awry. Sanera, in a newspaper article, has suggested that the young writers were echoing "teachers' ideas about biodiversity or sustainability." The controversy helped spur a rollback of AZ's mandatory environmental education program, which was abolished the same year. Control of funds for environmental education was turned over to loggers' and cattlemen's associations.

But Ron Melnick, the teacher whose pupils wrote the letters, says the critics got it wrong. Melnick said his youngsters reacted viscerally to the

sight of bulldozers toppling centuries-old saguaro cactuses that they had studied during nature walks. The letters, he said, were the children's idea. "I bent over backward to show them the developer's side of things," Melnick said. "It's ironic that the story is being turned around like that." In a recent interview, Sanera stood by his book and its anecdotes and insisted that he strongly supports environmental education -- though in a rigidly scientific format and with no federal involvement.

Daniel Barry, director of the environmental group *Clear*, points out that Sanera's organization is also part of the *Claremont Institute*, which is funded by *Amoco*, *Exxon* and *Philip Morris*. Sanera responded that the environmental criticism amounts to "guilt by association" and that his work is independently produced.

Elsewhere, critics of current education practices have gone so far as in Laytonville, CA where an attempt was made to ban the book "*The Lorax*" by Dr. Seuss as too environmental. In NH legislation has been proposed to require parental consent for teaching of some environmental subjects.

This "backlash" against environmental education "is forcing educators to respond," reports Scott Allen in the *Boston Globe*. Allen cites *North American Association for Environmental Education (NAAEE)* Executive Director Edward McCrea as saying that "both the left and the right" have overstated problems with environmental education to further their causes. The DC-based NAAEE recently adopted guidelines for selecting teaching materials "that stress accuracy and fairness.", and they are working with the USEPA in developing new national standards for teaching about ecological issues.

Bora Simmons, past president of the NAAEE says that schools should not only provide students with accurate, balanced information, but encourage them to use "good citizenship skills" in drawing their own conclusions about complex environmental problems. "Environmental education is not about creating environmental activists," she said. "What we are about is creating good citizens."

Defining the line between the two can be tricky, as many educators are finding out. At Kramer Middle School for Environmental Studies in SE Washington, D.C. -- the nation's only junior-high magnet school with an environmental emphasis -- Principal Nancy Berry has implemented a strict no-advocacy policy that she hopes will keep controversy at bay. "Most of our kids have never heard of the *Sierra Club* -- and they have no reason to," she said, referring to the environmental group. Still, children tend to draw their own conclusions about the world.



For Kramer's Desdemona Harris, 12, something clicked on the day she visited the nearby Anacostia River for a science fair project. Armed with a bucket and a bacteria detection kit, she collected water samples and tested them for the presence of human sewage. The samples were incubated and coded with colors that would show the range of contamination, from mildly tainted purple to putrid yellow. Of six samples, four were yellow. "It tells you that most of our water is dirty," Harris said. "I think we need to clean it up."

Meanwhile, a survey conducted by polling firm *Roper Starch Worldwide*, to be released this fall by the NEETF, indicates that 95% of U.S. adults and 96% of parents think environmental education should be taught in schools (NEETF release, 6/9). A second poll released by NEETF indicates that 27% of U.S. adults have done volunteer work on behalf of the environment in the past year or two. The survey indicated that volunteer involvement in environmental and public-land projects has risen 6% since 1993 (NEETF release, 4/22). The poll's margin of

error was +/- 3%, with 1,003 respondents.

Secular environmentalists "consider the greening of religion as the movement's most significant development in recent history," reports the *Phoenix AZ Republic*. The *National Religious Partnership for the Environment* (NRPE) which was formed in 1993, says it now includes more than 2,000 active congregations.

NRPE-affiliated groups have spent about \$4.5 million on education and activities since 1993, while another \$4.5 million is planned to be spent over the next three years. Among examples of green activism by religious organizations, a group in California known as the "*Redwood Rabbits*" is fighting to preserve ancient redwoods, while the *AZ Ecumenical Council*, representing about 700 congregations, has formed an environmental committee to pursue educational projects.

Sources: The Washington Post, Byline Article by Joby Warrick, 4/22/97; Greenwire Vol. 6, No. 231 and 239; Steve Yozwiak, *Phoenix Arizona Republic*, 4/9/97; and National Journal's GREENWIRE, The Environmental News Daily, 6/18/97.

River Education and Biodiversity are Key to the Future

Contributed Article by
Kelly Wiese, junior
University of Missouri-Columbia
School of Journalism

"Conservation education is an essential part of teaching children today. Through education, people can learn how to conserve different ecosystems, especially the Mississippi River. Education on conservation and other biodiversity issues is available through a variety of sources. For example, visiting and exploring museums, such as the *Mid-America Aquacenter*, *St. Louis Children's Aquarium*, is a wonderful way for children to learn about animals and preserving their environments.

'Another method to learn about con-

servation is through programs and materials that the (MO) Department of Conservation or (MO) Department of Natural Resources offer the public. Lesser-known agencies, including the U.S. Coast Guard and the Army Corps of Engineers, can also provide valuable information. Perhaps the most obvious way to educate people is through curricula in schools of all levels. Through traditional teaching methods, children learn at an early age the significance of conservation and biodiversity to other organisms on this planet. Effective conservation education teaches biodiversity, the interrelationship of all species and their environments.

'Museums provide a one-on-one interactive way for children and adults to learn about conserving plants and animals that live in their backyards as well as how to help conservation efforts in other ecosystems. For example, the *Mid-America Aquacenter* is the only children's aquarium in the world. *St. Louis Children's Aquarium* offers hands-on exhibits and activities for children, displaying animals in their natural environments so people can work to conserve those habitats. In addition, Aquacenter staff are available to answer questions about the Mississippi River, the Amazon River and rainforest, and the connecting oceans. *Mid-America Aquacenter*, like all public aquariums, intensely studies one local natural phenomenon. The Aquacenter's focus is the middle Mississippi River. Showing people an actual habitat is an easy way for them to learn more about their ecosystem.

'Another idea to discover ways to conserve the environment is through materials from the (MO) Department of Conservation and other organizations. These groups specialize in conservation and biodiversity issues, so they have programs and information for people of all ages and education levels. For example, the (MO) Department of Conservation has a "clean streams" program, in which volunteers clean up and test the quality of many waterways that feed into the Mississippi. Seeking materials from less-recognized groups, such as the U.S. Coast Guard and the Army Corps of Engineers, is a way to learn a different perspective on conservation. A third channel to learn by is school curricula. From basic

science courses to upper level conservation classes, students can learn through direct teaching methods about habitats, animal species, biodiversity and conservation.

'A new and growing form of education is the Internet. Through interactive pages and colorful displays, children and adults can absorb information at their own rate and according to their interests. The *Mid-America Aquacenter* is at the cutting edge of this technology as well. The center's web page address is: <http://www.i-base.com/aquacntr>. The web site provides a tour of the Mississippi River, the Amazon rainforest and the oceans. The site also includes a map of the aquarium and information on teacher and classroom activities.

'New studies show that today's fourth-grade students in the United States are very strong in science proficiency, even when compared worldwide. This is the age they learn about conservation issues. Out-of-class experiences, such as museum tours, are further proof that educators should continue effective teaching about environmental conservation and problems."

Another future site to gather information on the environment and interjurisdictional rivers is on the MICRA website being developed at: <http://www.waux.msc.nbs.gov/MICRA>.

LMR Levee Settlement

Eight local and national conservation groups have agreed to settle their legal challenge to a U.S. Army Corps of Engineers (COE) plan to enlarge levees along the Lower Mississippi River, simultaneously protecting more than 11,000 acres of bottomland hardwoods and wetlands from destruction, and allowing important flood control projects to move forward.

The COE had hoped to use the soil under forested wetlands (bottomland hardwoods) adjacent to the river to strengthen and enlarge levees in MS, AR, LA, TN and MO (see figure at the bottom of the next page). But the

conservation groups, represented by the *Sierra Club Legal Defense Fund*, challenged the COE's 20-year-old environmental analysis. The lawsuit demanded that the COE evaluate the environmental impacts of the project before deciding how to proceed, as required by federal law.

"We've already lost 80% of the bottomland hardwood wetlands along the Lower Mississippi River," said Lonnie Bailey, president of the *Mississippi Wildlife Federation*. "The Corps' outdated plan to dig up thousands of acres of the remaining vestiges of those critical wetlands so the Corps could have an easy source of construction material was unacceptable, especially when alternative sources are readily available."

The agreement with the conservation groups will allow the COE to proceed with several levee enhancement projects, while a detailed environmental study is completed. The COE had refused to update the 20-year-old environmental study during more than a year of negotiations which preceded the lawsuit, but quickly moved to settle the matter after the lawsuit was filed. "It's unfortunate that our clients had to sue the Corps to force it to comply with our country's most basic environmental law," said Melissa Samet, attorney for the *Sierra Club Legal Defense Fund*. "We're hopeful that the Corps' decision to abide by the law indicates that such litigation will not be necessary in the future, and that the Corps is taking its environmental mission more seriously."

Under the agreement, the COE will prepare a Supplemental Environmental Impact Statement (SEIS) for future levee raising projects, and less rigorous environmental studies for projects which will be completed in 1997 and 1998. The COE expects to complete the SEIS by 1999.

The legal agreement "recognizes the importance of the levee system to those who depend on it for protection from Mississippi River floodwaters and the need for prudent environmental planning," said Martin Lancaster, the

Assistant Secretary of the Army. "*The Corps does not have to choose between improving flood protection in the Mississippi Valley and protecting its important natural resources. We can do both.*"

The projects include work over the next 35 years to raise sections of the 1,600-mile levee system to prevent overtopping during major floods. Certain sections of the levees are now 6-8 ft. below the level needed to contain such a flood. Mississippi delta conservation groups are not opposed to flood control projects, so long as projects avoid unnecessary environmental impacts and mitigate for the loss of habitat when alternatives are unavailable.

"The Corps' decision to abide by the law will help prevent an entirely avoidable and senseless loss to our nation's wetlands," said Suzi Wilkins, Executive Director of the *Mississippi River Basin Alliance*. "It is vital to the Delta's wildlife and to the health and safety of the people in the Lower Mississippi region that the Corps follow through on its agreement."

Source: Mississippi Monitor, July 1997

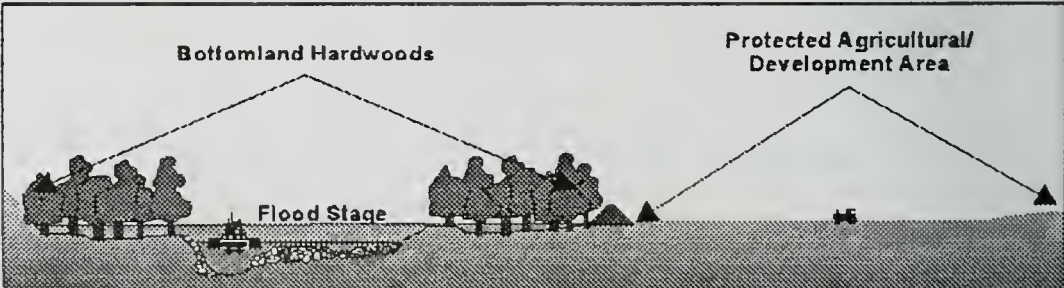
Floods and Farming

A recent *Mississippi State University* (MSU) doctoral dissertation indicates that farm yields sometimes rise with high waters. The Mississippi Delta study challenges the notion that flooding is always bad for farming. Donald Jackson, MSU professor who advised the study's author, said he hopes the work will help temper debate involving

hotly contested flood-control projects. The dissertation reviews 31 years of government-compiled data on tributary flows in the upper Yazoo River basin, and on cotton and soybean yields in 15 northwestern counties. Jackson said the data indicates that spring floods "might not be as serious a thing as people suggest." In her 99-page report, study author Qifeng Ye wrote that during the 30-year period between 1964 and 1994, "no factor associated with flood events adversely influenced production of cotton and soybeans." Under certain conditions, Qifeng wrote, Yields rose with more flooding, probably because soils were replenished and because increased soil moisture tempered the effects of subsequent drought.

The study also examined relationships between floods and fish populations, and found that moderate flood-control efforts might not be as harmful as once thought. Qifeng, who is now living in China, concluded that her study raises questions about large-scale, traditional flood-control efforts. She also wrote: "*Conservation of rivers and their fisheries and agronomic enterprise are not necessarily mutually exclusive.*"

Delta farming interests and officials with the U.S. Army Corps of Engineers (COE) in Vicksburg were eager to review the report. The COE has spent \$110 million on flood-control projects in the upper Yazoo basin and plans to spend about \$200 million more. "There's no doubt that flooding makes an area more productive," said COE spokesman Michael Logue. But, he said, the timing, severity and



The U.S. Army, Corps of Engineers wanted to use material from between the Lower Mississippi River levees to raise levee elevations in order to increase flood protection for developed and agricultural lands. This would have destroyed the last remnants of bottomland hardwoods in the area, significantly impacting the lower Mississippi's remaining fish and wildlife resources.

frequency of floods are critical to farming. This year's high water, like past floods, prompted calls for increased federal spending on flood control in the Delta.

Source: By Article by Bruce Reid, Clarion-Ledger

Western Governors Address Flooding Issues

At their June meeting, the Western Governors' Association (WGA) resolved the following:

"The WGA strongly supports the goal of reducing flood vulnerability through effective floodplain management and flood mitigation planning and urges the adoption of consistent and cost-effective federal policies that promote mitigation and enhance the disaster recovery process. State flood disaster recovery policy must also be examined to ensure compatibility and cost-effectiveness. As federal policy is developed to reduce flood recovery costs, states must be proactively involved in the development of new federal policy to assure that costs are not simply shifted to state and local government, but that the policies empower states and locals to more effectively and efficiently respond to, and devise ways to reduce future flood damages.

"The governors believe that many of the recommendations contained in the report of the Interagency Floodplain Management Review Committee -- if implemented -- would improve floodplain management and flood mitigation and response [one such method -- setback levees -- is shown at the bottom of this page]. While the WGA supports "sharing the responsibility" as outlined in the report, not all of the recommendations are appropriate in the West and implementation should consider regional differences and needs.

"The governors directed WGA staff to establish a task force of the states to work with the appropriate federal agencies to:

- develop a vision of how to reduce flood damages in the West;
- review the Interagency Floodplain Management Review Committee Report, and advise the governors on recommendations that have been adopted as well as those that should be adopted, taking into consideration their appropriateness for the West;
- provide recommendations to the Governors on flood control and floodplain management activities that are unique to Western states;
- review and comment on the policy guidance provided by the Office of Management and Budget and the Council of Environmental Quality, dated February 18, 1997, addressing "Floodplain Management and Procedures For Evaluation and Review of Levee and Associated Restoration Projects" as well as the policy guidance from the Federal Emergency Management Agency, dated September 11, 1996, describing the "Policy for Rehabilitation Assistance for Levees and Other Flood Control Works;" and;
- provide strategies for local governments for regulating activities in flood plain areas.

"The WGA staff shall complete the task force report with appropriate supporting resolutions for consideration at the 1997 WGA Winter Meeting. A copy of this resolution is to be sent to The President of the United States, to the Director of the Office of Management and Budget, to the Chair of the Council on Environmental Quality, and the respective congressional delegations of all member states of the WGA."

WI Dam Removal/Overhaul

Interior Secretary Bruce Babbitt has endorsed an agreement between the

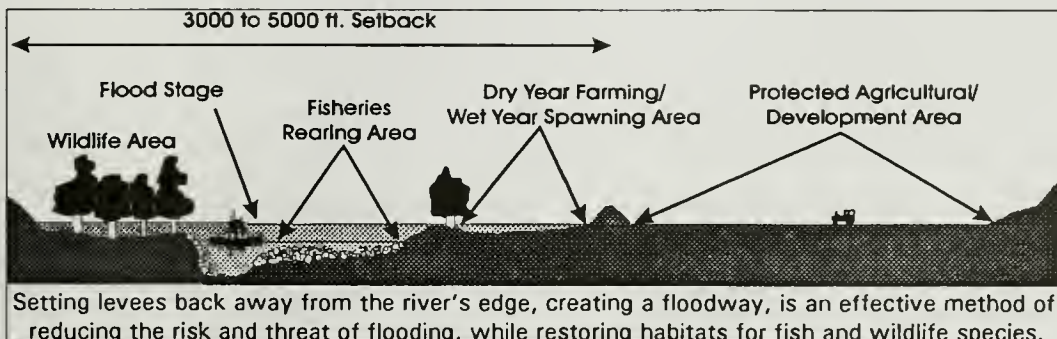
Wisconsin Electric Power Company, state and federal officials, and conservation groups, to improve three watersheds, replenish 160 river miles, and protect more than 22,000 acres of pristine lands in the Menominee River Basin of WI and MI.



"smallmouth bass"

The 40-year, landmark settlement represents the first time in American history that a utility, public officials and environmentalists have negotiated a cooperative agreement prior to the start of the relicensing process. Wisconsin Electric, serving thousands of customers, will continue profitable, low-cost energy production. Also, by improving the watershed for brook trout, lake sturgeon, smallmouth bass and walleye, as well as for hunting and rafting throughout the area, the agreement will boost and broaden the diverse, renewable recreation-driven economy.

"This is a watershed agreement in both meanings of the term" said Babbitt. "By looking at the entire natural Menominee basin, as well as all current and future needs of the stakeholders who live in it, we proved it was possible to save time, millions of dollars, and above all the fish and wildlife we care for as stewards of God's creation. As others approach the complex and contentious process of operating and relicensing dams, this stands as a model for the nation."





- Angie Tornes, Environmental Protection Specialist, *National Park Service*, (414) 297-3605;
- Jim Schramm, Executive Director, *Michigan Hydro Relicensing Coalition*, (616) 869-5487; and
- Sara Johnson, Executive Director, *River Alliance of Wisconsin*, (608) 257-2424

Source: Dept. Of the Interior Press Release, 6/16/97

Specifically, the *Wilderness Shores Settlement Agreement*:

- Removes the Sturgeon Hydro Dam in MI and the Pine Hydro and Woods Creek Dams in WI to restore free flowing river habitat;
- Stabilizes flow down 70 miles of Menominee River from the Sturgeon Falls Dam to Green Bay;
- Increases minimum flows in Paint and Michigamme rivers for fish and recreation;
- Provides for run-of-river at Way Dam, Hemlock Falls Dam, and the Lower Paint Diversion Dam;
- Provides run-of-river at all dams during the spring spawning period for fish;
- Installs fish barriers at all hydro project intakes to reduce fish loss from turbine mortality;
- Establishes a \$3.4 million fish protection fund;
- Provides fish passage upstream of several hydro projects when and where appropriate;
- Protects 22,000 acres of pristine and riparian project land from development;
- Conserves federal and state-listed species like the endangered gray wolf and threatened bald eagle; and
- Develops a Canoe Trail with wilderness camp sites along the Menominee River, with signs to describe Voyager historical and cultural heritage in the area.

Points of Contact for partners to the Agreement include:

- Rita Hayen, Project Engineer, *Wisconsin Electric Power Company*, (414) 221-2413;
- Jim Fossum, Biologist, *U. S. Fish and Wildlife Service*, (414) 465-7440;
- Tom Thuemler, Fishery Biologist, *Wisconsin DNR*, (715) 582-5008;
- Gary Whelan, Fishery Biologist, *Michigan DNR*, (517) 373-1280;

Nation's First Riparian Forest Buffer Goal

The Chesapeake Bay basin jurisdictions of MD, VA, PA, and the District of Columbia; U.S. EPA Administrator Carol Browner, and the *Chesapeake Bay Commission* are planning to protect existing riparian forests and specifically to reforest 2,010 miles of bay tributaries over the next 13 years—the first goal of its kind in the nation.

"By setting this goal, we help improve water quality in the Chesapeake Bay, provide for accountability in government, and give the public an objective to work toward—2,010 by 2010," commented VA Governor George Allen, speaking on behalf of the *Chesapeake Executive Council* (CEC).

According to Al Todd, U.S. Forest Service liaison to the Chesapeake Bay Program Office, increasing the riparian forest buffer "may prevent half a million pounds of excess nitrogen from entering the Bay each year," and will directly improve the habitats of cold water and anadromous fish. The 2,010 miles of enhanced habitat will provide woody debris for shelter and an abundance of leafy material—the primary building block of the freshwater food web. "It will also help build a corridor of bird habitat," Todd explained.

The benefits of forested riparian buffers—streambank stabilization, habitat improvement, sediment and pollution filtering—are widely recognized and many watersheds have made riparian protection a priority. However, *this initiative bears watch-*

ambitious goal, but also because it cuts across jurisdictional boundaries. The regional agreement commits each jurisdiction to develop a riparian buffer implementation plan by 6/98. Each plan will spell out strategies to conserve existing riparian forest corridors, measures to coordinate state programs, and techniques for outreach and education. Each one will also specify exactly how many miles of forested buffer it will restore and how it will meet its goals. In addition to state and private lands, approximately 1.7 million acres of federal lands in the Chesapeake Bay will be included in the riparian buffer plans.

A 31-member *Riparian Forest Buffer Panel* created by the CEC in 1994 and composed of government officials, environmental activists, farmers, developers, foresters, and scientists recommended that the 2010 goal be met by increasing private sector involvement through incentives like tax reliefs and tree planting credits, and by supporting research, monitoring, technology transfer, and education. The panel suggested taking advantage of existing incentives including cost-share programs, grants, and conservation easements. The panel would also like to see the states try different approaches, perhaps the creation of an income tax credit for landowners who establish buffers on their property.

Todd says that it costs on average between \$400-\$1,000/acre to install a riparian buffer, and though each state will fund its plan differently; a number of federal and state conser-



vation incentives such as the Forest Stewardship Program can help offset the costs.

For example, the Conservation Reserve Program, administered by the USDA Natural Resources Conservation Service, can provide agricultural landowners with some easement payments and cost-share programs, and in MD, which plans to plant 600 miles of forest buffer by the year 2010, the Buffer Incentive Program already pays landowners \$300 per acre to install buffers on streambanks in addition to providing cost-share assistance. In PA, the idea of a nonprofit tree trust fund is on the table. As momentum builds, a unique combination of direct incentive programs, volunteerism, state program funding, and new ideas are likely to surface in each state.

Other public agencies and private groups such as the *Alliance for the Chesapeake Bay*, the *Chesapeake Bay Foundation*, and *Trout-Unlimited* have outreach and restoration projects that dovetail with the reforestation goal and lend muscle to the ambitious target. As is often the case, local efforts may forge ahead of larger federal programs. The *Elizabeth River Project* in Eastern VA, for example, has already begun to install buffer zones to help restore native riverine habitat and contribute to the 2,010-mile goal.

"We're seeing a groundswell of community and volunteer involvement" says Todd, who also notes that "building a new riparian stewardship ethic is something else we hope to accomplish."

Contact: Al Todd, U. S. Forest Service Liaison to the Chesapeake Bay Program Office, or Ann Lackey, Riparian Initiative Fellow, Chesapeake Research Consortium, Chesapeake Bay Program Office, 410 Severn Avenue, Suite 109, Annapolis, MD 21403, (800) 968-7229.

Source: Nonpoint Source News-Notes, April/May 1997, ISSUE #48

Grazing Update

A new U.S. Natural Resources Conservation Service (NCRS) project is evaluating ranching practices designed to stop overgrazing associated with large pastures and open-water wetlands.

NE rancher Ron Pinney, one of five participants in the *Whole Farm and Ranch Program*, fenced off lakes, streams and wetlands to prevent water pollution on his 4,200-acre ranch near Ainsworth. Pinney also replaced his windmills with a photovoltaic system, which relies on solar radiation to generate electric power more efficiently -- and year-round -- for the ranch's water system.

Gene Mack, of the U.S. Fish and Wildlife Service, said the project is the first in the state to try a holistic approach to conservation. In addition to protecting the ranch's water resources, the changes benefit Pinney by extending operations year round and using grass more efficiently.



Traditional" ranching and farming practices in the West "are increasingly being challenged on environmental grounds, often by waves of newcomers," reports the *Washington Post*. "Urban expatriates who telecommute by modem tend to view cattle-trampled streams, timber clearcuts and mining scars as threats to salmon, wildlife and aesthetics rather than essential threads in the West's economic fabric." In particular, cattle -- "once almost universally viewed as a revered symbol of western expansion and settlement" -- are now often viewed as detrimental to the environment.

The article centers on clean-streams activist Patrick Shipsey of John Day,

OR, who in 10/96 shot eight of his neighbor's cattle that he said had repeatedly trespassed on his stream front property. The slaughter "contributed significantly to [the] overwhelming defeat" of a ballot measure that called for a ban on livestock within 100 ft. of streams that don't meet water quality standards.

"Inject[ing] a new argument into the grazing wars in the West," an OR environmentalist is asserting that cattle grazing contributes to "catastrophic forest fires." In the 5/97 issue of *Conservation Biology*, ecologist Joy Belsky of the *Oregon Natural Desert Association* counters the widely held belief that the "forest health problem" results from years of suppressing forest fires. Belsky argues that forests were "sick" long before officials began fighting fires.

Instead, Belsky argues that cattle and sheep grazing over the last century has eliminated the grasses that once carried helpful, "low-intensity fires" throughout the forests. The loss of grasses also makes it possible for more fire-prone seedlings to sprout.

However, while Tom Quigley, science team leader for the feds' *Columbia Basin Ecosystem Management project*, agrees that grazing has had an impact, he believes fire suppression and selective logging are the leading forest-health problems, not modern grazing practices.

Sources: Omaha World-Herald 4/16/97, By Line articles by Tom Kenworthy, Washington Post, 3/26/97 and Jeff Barnard, AP/Salt Lake Desert News, 5/12; and Greenwire Vol. 6, No. 220, 238 and Vol. 7, No. 9

Hog Waste Update

Large-scale livestock facilities, especially those specializing in swine, have moved into the midwest at a rapid pace. Critics object to the ammonia and hydrogen-sulfide gas produced by hog manure as it decomposes in waste lagoons, and they say groundwater is threatened by the practice of mixing manure

with water and spraying it on fields as fertilizer. Large fish kills have resulted from waste-contaminated runoff near large-scale hog farms in IA, MO and NC.

In IL the Pollution Control Board helped write a new law regulating hog wastes, but the IL Dept. of Agriculture — which normally promotes the agricultural industry — will enforce it. Backers of the law say it struck a good balance between the environment and industry concerns, and might even be too tough on small farmers. But critics have formed a group called *IL Citizens for Responsible Practices* to study the issue and recommend changes to legislators this fall.



A recent *University of Iowa* study showed a pattern of health ailments in residents living within two miles of one particular large-scale swine operation. In late May IA Gov. Terry Branstad (R) signed a law that will toughen penalties for livestock producers who repeatedly violate environmental laws. State legislators said more sweeping hog-lot measures will be debated next year.

Murphy Family Farms, the world's largest hog producer, recently applied for a permit to open its first operation in KS. The proposal sparked debate over whether the KS Dept. of Health and Environment "has the staff and the willingness" to monitor large-scale hog farms and protect water supplies from hog wastes.

Meanwhile in VA, "In one of the largest cases brought under the federal Clean Water Act," a federal judge has found Smithfield Foods Inc. liable for dumping illegal levels of hog waste into VA's Pagan River from 1991 to 1996. U.S. District Judge Rebecca Beach Smith in Norfolk, VA, ruled on 6/2 that the pork producer can be fined up to \$133 million for more than 160 reporting violations and as many as 5,330

pollution violations under federal law. Smith dismissed the company's argument that VA, not the US EPA, "is the proper policer of pollution in the state." Smith also criticized VA's environmental laws "as virtually toothless," remarking that the state can impose civil fines only with the polluter's approval.

The US EPA sued Smithfield in 12/96, arguing the state was "not doing the job" despite repeated violations by Smithfield. EPA Mid-Atlantic Regional Administrator W. Michael McCabe called the decision "a complete, unqualified victory." But Smithfield attorney Anthony Troy said the firm "in all likelihood" will appeal the ruling.

Meanwhile, some Westerners believe resistance from Midwestern communities is pushing large hog operations into CO, WY and UT, where state regulations are comparatively "lax." CO, for example, does not require hog farms to have permits, says Melissa Elliot of the *Rocky Mountain Farmers Union*. Mary Weber, who operates a small livestock operation in Wheatland, WY, says small Western towns "are so eager" for the financial benefits of hosting large hog facilities that they do not explore the long-term consequences.

Sources: Greenwire Vol. 7, No. 18; and National Journal's GREENWIRE, The Environmental News Daily, 6/3, 6/10, 7/8, and 7/15/97

ESA Update

As part of a court settlement with environmental groups, the Interior Department released a formal version of its "no surprises" policy in late May. Under that policy, landowners that meet "certain conditions" of habitat-conservation plans are exempted from more rigid prohibitions under the Endangered Species Act (ESA) for activities such as logging, mining and grazing.

Eight environmental groups had sued to block the policy in 11/96, saying it did not provide enough protections for species, especially if their status changes due to natural disasters or

further habitat loss.

Meanwhile, more than 70% of those responding to a recent poll, support amending the ESA, up from 42% in a 1995 survey. According to the survey sponsored by the *American Forest & Paper Association* (AF&PA) and conducted by the GOP polling firm, *Market Strategies Inc.*, respondents cited high costs and under performance as the major reasons for modifying the ESA. More than 80% of respondents said the key to improving the act lies in making it more inclusive by increasing participation by scientists, private landowners and state and local governments. Eighty-five percent want the ESA amended to provide incentives for landowners to protect species on their property, while 77% said state governments should have a larger role in the identification and protection of species. The poll surveyed 600 adults from May 15-18; the margin of error is +/- 4.2%.

In Congress Sen. Craig Thomas (R/WY) on 6/4 said he anticipates an attempt to reform the ESA by year's end, but he doesn't think the reform will "go as far perhaps as some would like." In an interview, Thomas predicted a bill that would give property owners incentives to protect endangered species.

Meanwhile, Senator Dirk Kempthorne (R/ID) has introduced legislation that would provide tax breaks for property owners who voluntarily protect wildlife. Kempthorne's plan calls for three types of tax breaks:

- larger charitable deductions for property owners who donate land for conservation purposes to government or private groups;
- deferral of estate taxes on property where owners have agreed to set aside land for at least 15 years to preserve endangered species habitat; and
- a lower capital gains tax on property sold to government or private bodies for conservation purposes.



Kempthorne was joined by Sens.

John Chafee (R/RI), Max Baucus (D/MT) and Harry Reid (D/NV) in mid-June in asking Senate Finance Committee Chair William Roth (R/DE), and ranking member Patrick Moynihan (D/NY) to include the measures in the Senate tax-cut bill. Mike Senatore of the *Defenders of Wildlife* said the proposals are "great for species and good for private property owners as well." Property-rights advocates lent their qualified support, as David Almasi of *Defenders of Property Rights* said the package was "a step in the right direction," but that it was "no substitute for paying people just compensation for taking their property".

Kempthorne is also working on a more comprehensive bill to reform the ESA. Interest groups on both sides say Kempthorne's (R/ID) bill "stands a better chance of passage than any offered since the act expired in 1992." Kempthorne is expected to introduce the bill by 8/97, perhaps earlier. In a move that "helped break the impasse" in negotiations with the Clinton administration, Kempthorne this year dropped a provision that would have compensated landowners whose property value is reduced by environmental restrictions. Instead, Kempthorne plans to offer the provision -- which House Resources Committee Chair Don Young (R/AK) favors -- in a separate bill.

Environmental and industry groups have received copies of Kempthorne's draft ESA legislation circulated in 1/97, but have been "kept out" of negotiations on the bill. Kempthorne has been joined in closed-door talks with Sens. John Chafee (R/RI), Max Baucus (D/MT) and Harry Reid (D/NV), and several Clinton administration officials, including Interior Secretary Bruce Babbitt and White House Council on Environmental Quality Chair Katie McGinty. Some participants insist that secrecy is necessary to "lower the level of rhetoric on such a polarized issue." Senators not involved in the talks are expected to defer to their colleagues when a bill is introduced. Baucus said, "If we reach agreement, the four of us, I think

there will be overwhelming support."

Several environmental groups said that "they would withhold judgment" but that they are prepared to reject the bill if it looks too much like Kempthorne's original draft. But some said the bill would be a "vast improvement" over legislation Kempthorne introduced in the 104th Congress. Industry groups have supported Kempthorne's bill, "saying it creates an acceptable middle ground"

Sources: Greenwire Vol. 7, No. 20; National Journal's GREENWIRE, The Environmental News Daily, 6/6, 6/16, 6/17, and 6/26/97; AF&PA News Release 6/16; and St. Louis Post-Dispatch, 6/6/97

Toxic Wastes/Fertilizers

"Toxic" wastes containing heavy metals, chemicals and radioactive substances are being recycled as fertilizer and spread over farmland across the nation, according to a two-day feature (7/3-4/97) by Duff Wilson in the *Seattle Times*. For example, in Moxee City, WA, an unidentified byproduct from two OR steel mills is poured from rail cars into silos at *Bay Zinc Co.* under a federal hazardous-waste storage permit. The powder is then emptied from the silos for use as fertilizer according to the *AP/San Francisco Chronicle/ Examiner* online (7/6/97).



Bay Zinc President Dick Camp said, "When it goes into our silo, it's a hazardous waste. When it comes out of the silo, it's no longer regulated. The exact same material. Don't ask me

why. That's the wisdom of the EPA" (Knight-Ridder/Baltimore Sun, 7/6).

Until recently, the WA Dept. of Agriculture monitored fertilizers only to see if they contained advertised levels of beneficial substances. But now the state is testing a cross-section of fertilizer products to see if they threaten crops, livestock or people.

Ali Kashani, who oversees fertilizer regulation in WA, said there is no law anywhere in the U.S. that regulates concentrations of heavy metals in substances destined to be used as fertilizers. Federal and state governments "encourage the recycling," which saves money for industry and space in hazwaste landfills (*AP/San Francisco Chronicle/Examiner* online, 7/6).

Source: National Journal's GREENWIRE, The Environmental News Daily, 7/7/97

Miscellaneous River Issues

Alabama Lake Pollution - Half of Alabama's lakes have the highest levels of nutrient pollution ever recorded, according to recent tests. State environmental officials say that nearly all AL lakes have areas where contact with water is unsafe (*USA Today*, 7/8). Source: National Journal's GREENWIRE, The Environmental News Daily, 7/10/97

Barge Dumping - A federal judge, on 7/2, threw out some of the convictions that the federal government had obtained against employees of a barge and towing company accused of illegal dumping in the Ohio and Mississippi rivers. M/G Transport Services Inc. and its employees were convicted in 1995 for dumping bilge slops, burned wastes and industrial garbage from towboats between 1971 and 1992. U.S. District Judge Herman Weber left intact two of the convictions against the company and J. Harschel Thomasse, who retired as a company VP in 1992. Those convictions were for conspiracy to violate the Clean Water Act and failure to report a spill to

the Coast Guard. But Weber agreed with defense arguments that the evidence did not support guilty verdicts on charges of dumping pollutants without a permit. The ruling cleared the company, Thomasee and two towboat captains on the latter charges. Weber's ruling was a "setback" to the Justice Dept., which spent two years investigating the case. The department is considering whether to appeal, according to DOJ spokesperson Bill Brooks (John Nolan, AP/Cleveland Plain Dealer, 7/5). Source: National Journal's GREENWIRE, The Environmental News Daily, 7/9/97

Double-Hulled Vessels - The first double-hull petroleum vessel built in the U.S. under the 1990 Oil Pollution Act will be launched this fall, ushering in "a new era in ship technology and environmental safety." The technology incorporated into the 45,000-ton *American Progress* was developed after the 1989 "nightmare" of the Exxon Valdez. The *American Progress* is "a ship



wrapped inside a ship" that puts a "void space between the cargo and the sea," according to Ray Johnson, a Naval architect with *Mobil Corp.*, which owns the ship. The double hull also eliminates oily ballast water because the protective space, not the hull itself, is filled with seawater for return trips. The technology is "critical," but expensive. A Maritime Policy and Management report states that the benefits of such a design are only 20% of their cost. The *American Progress* will transport gasoline from TX to Tampa and Fort Lauderdale for *Mobil*, which wanted "added insur-

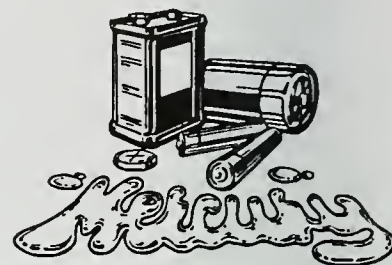
ance" against spills along FL's "environmentally sensitive coastline" (Kurt Loft, Tampa Tribune, 7/14). Development of similar technology for barges has been of interest on the Upper Mississippi for a number of years. This interest and its accompanying legislative efforts have been spear-headed by the *Izaak Walton League of America* and former Congressman Steve Gunderson (R/WI). Source: National Journal's GREENWIRE The Environmental News Daily, 7/17/97

Lake Pontchartrain Algae Blooms - LA health officials have warned that polluted Mississippi River water released into Lake Pontchartrain this spring has caused an algae bloom that can make people sick. The lake has been "plagued" by the blue-green, toxin-producing algae since late May, after the Army Corps of Engineers opened the Bonnet Carre Spillway to divert Mississippi River floodwaters. During a 31-day period, more than three trillion gallons of river water flowed into the lake, increasing nutrient loads of nitrogen and phosphorus and causing the algae bloom. The toxin hepatotoxin produced by the algae can cause severe gastrointestinal problems when ingested, according to state health officer Louis Trachtman. The recent health concerns "added to the dire consequences predicted by environmental groups" when the spillway was opened in 4/97 (Chris Gray, New Orleans Times-Picayune, 6/24).

While lake users overall "don't seem too concerned" about the bloom, fishers and shrimpers are worried that the algae may lead to oxygen depletion and cause fish kills (Monje/Liberto, New Orleans Times-Picayune, 6/25). Source: National Journal's GREENWIRE, The Environmental News Daily, 7/1/97

LA Mercury Testing - A coalition of environmentalists on 6/10 urged LA Gov. Mike Foster (R) to be "more aggressive in protecting people from mercury contamination in fish." The group, which includes the *LA Wildlife*

Federation, the *Sierra Club* and the *LA Audubon Council*, asked Foster to accelerate fish sampling under the oversight of a task force and state coordinator and to improve public notification methods. State Dept. of Environmental Quality records show that bass in 27 large water bodies -- including "some of the state's most popular fishing spots" -- have mercury contamination concentrations



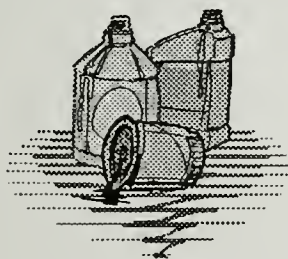
greater than 0.5 ppm, the level at which the state acts to protect human health. Yet fish in "most waterways" remain untested for mercury, records indicate. Even when officials do find high mercury levels in fish, "it takes months, sometimes more than a year from the time initial samples are taken until the public is informed." *Audubon Council's* Barry Kohl said the state needs to create a strategic plan for mercury testing with specific goals, and provide long-term funding (Bob Anderson, Baton Rouge Advocate, 6/11). Source: National Journal's GREENWIRE The Environmental News Daily, 7/16/97

LA Wetland Loss/Navigation - Environmentalists and federal officials are at odds over how to handle "one of the worst" regions of wetland loss in coastal LA, which has been created by an "ever-widening" navigation channel cut by the Army Corps of Engineers (COE). All agree that the Mississippi River Gulf Outlet (MRGO), cut in the 1950s and 1960s, has caused the massive destruction of wetlands in St. Bernard Parish. But COE officials have rejected the demands of some environmentalists and local property owners to close the channel to shipping, and to rebuild the protective ridges that once kept salt water from reaching and destroying freshwater marsh vegetation. For now, the COE is restoring marshland using

dredged sediment from the MRGO channel and is trying to stop erosion by securing channel banks with rocks. Congress has authorized funds for the COE to put rocks on just nine of the 76 miles of channel banks. Closing the MRGO would require port officials to move shipping docks from the channel to the Mississippi River, at an estimated cost of \$479 million. An alternate, less drastic plan backed by some environmentalists would modify a lock system so ships could avoid the MGRO, allowing it to close (Bob Anderson, Baton Rouge *ADVO-CATE*, 5/18). Source: *Greenwire* Vol. 7, No. 17

MT Pipeline Spill - Jim Nokes, a *Conoco* VP, on 6/24 met with Crow tribal leaders as company crews worked to clean up a 75,600 gal. oil spill from a ruptured *Conoco* pipeline on the tribe's Wyola, MT, reservation. The US EPA is expected to ask *Conoco* to monitor groundwater for contamination from the pipeline break, which is believed to have occurred on 6/20 (Clair Johnson, *Billings Gazette*, 6/25). Source: National Journal's *GREENWIRE*, The Environmental News Daily, 6/26/97

OH Fish - A new report by the OH EPA reveals that fish with "highly or extremely elevated levels of contaminants" have been found in nearly 20% of river and stream segments sampled since 1994. The main pollutants detected--PCBs, mercury and lead--were found in all but 178 of the 3,118 mi. of waterway sampled. Fish with deformities and lesions are still present in major streams, but "their numbers appear to be in decline." Although OH has made "massive investments" to clean the state's waterways, the OH EPA said half of the state's rivers and streams remain "impaired" and 712 miles cannot support aquatic life. The OH Dept. of Health said that new statewide fish consumption



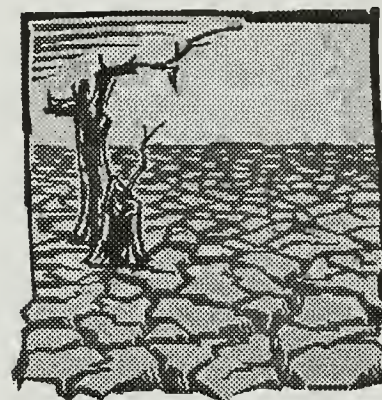
advisories are being prepared as a result of the study (Bill Sloat, *Cleveland Plain Dealer*, 6/21). Source: National Journal's *GREENWIRE*, The Environmental News Daily, 6/25/97

Platte River Agreement - Following three years of talks, CO, NE and WY on 5/22 tentatively agreed with the Interior Dept. (DOI) on how to protect endangered species along the Platte River. The preliminary accord addresses wildlife issues using a basin-wide approach, balancing habitat protections with the needs of water users in the three states. The U.S. Fish and Wildlife Service has pushed for increased flows along the Platte, and the agreement will send an additional 130,000 acre feet of water into central NE to maintain habitat for the whooping crane, least tern, pallid sturgeon and piping plover. The agreement also increases funding for habitat improvement and "simplification" of the Endangered Species Act review process for water-use activities. The DOI plans to finalize the agreement in coming weeks (Cindy Brovsky, *DENVER POST*, 5/23). Source: *Greenwire* Vol. 7, No. 18

Potomac River Wetlands - The Army Corps of Engineers (COE) on 6/26 granted a "key federal wetlands permit" for a proposed 4,600-home development in southern MD on "one of the largest expanses of woodland remaining along the Potomac" River. The decision to grant the permit to Seattle-based *Legend Properties Inc.* "removes a major hurdle to construction," which could begin this summer, and it is a "blow to environmental groups" that tried to protect the property from development. But the *Sierra Club's* Joy Oakes says the campaign "is not over" (Frank Roylance, *Baltimore Sun*, 6/27). Environmentalists vowed to file suit in the U.S. District Court in Washington, D.C. "to force a detailed study" (Todd Shields, *Washington Post*, 6/27) and said they will press their case with MD Gov. Parris Glendening (D). The development's proponents say it has passed the necessary environmental tests. "The applicant has really gone out of his way to avoid wetlands," said Randall Inouye of the COE's Baltimore District. But Ronald Young, of MD's planning office, "said it was not clear

whether" it will meet the requirements of the state's "smart growth" law, enacted this year to stem suburban sprawl (Roylance, *Baltimore Sun*). Source: National Journal's *GREENWIRE*, The Environmental News Daily, 7/5/97

TX Water Plan - The TX Legislature on 6/1 "overwhelming[ly]" passed a bill that for the first time requires comprehensive planning to address drought, population growth and environmental protection. Gov. George W. Bush (R) is expected to sign the bill that "radically revises" current water law, forcing cities, water districts and local governments to work together to develop conservation plans. And in its "most hotly contested" provision, the bill creates major blocks for future transfers of water between river basins. The



legislation also increases protection for freshwater flows to bays and estuaries and provides \$1 billion to upgrade drinking-water systems and regulate conservation. Craig Pedersen, of the *TX Water Development Board*, said the bill is "a major, major step forward for state water policy" (Ralph Haurwitz, *Austin American-Statesman*, 6/2). An *Austin American-Statesman* editorial said the bill "may be this Legislature's finest legacy" (6/3). Houston city officials are finalizing a \$25 million water conservation proposal they say could reduce demand more than 7% by 2006. The plan's key feature is the "lost-and-unaccounted-for water program," which traces and corrects illegal water taps and leaks in the city water system (Julie Mason, *Houston Chronicle*, 5/30). Source: *Greenwire* Vol. 7, No. 20

VA River Standards - The VA Dept. of Environmental Quality (DEQ) will drop most of its "contentious" proposals on pollution discharges into state waterways after reviewing new studies and receiving "a flood of letters." The DEQ originally proposed lifting the ban on chlorine discharges in waters containing endangered species, believing the regulation placed an "unnecessary and costly burden on sewage treatment plants." The agency also proposed weakening the standard for fecal bacteria and allowing concentrations of the "toxic boat paint" TBT to exceed current limits in some cases. The DEQ now suggests retaining the ban on chlorine, maintaining current regulations on fecal bacterial discharges, and enacting a new standard for TBT that would make all violations illegal. Jeffrey Corbin of the *Chesapeake Bay Foundation* said that while his group does not support all of the DEQ's latest suggestions, in sum they are "more good than bad." (Rex Springston, RICHMOND TIMES- DISPATCH, 5/26). Source: Greenwire Vol. 7, No. 20

WV Blackwater Canyon Sale - The sale of Blackwater Canyon -- a 3,000-acre area within the Monongahela National Forest in WV -- to a logging company in 2/97 has re-energized efforts by conservationists to preserve the canyon, which has been "advertised as the crown jewel of the state." The sale came after years of unsuccessful attempts by the Arlington, VA-based *Conservation Fund* to buy the land from *Allegheny Power Co.* (Mary Furbee, WASH. POST, 5/25). Source: Greenwire Vol. 7, No. 20

WI Nonpoint Source Pollution - A WI legislative committee on 5/23 backed a "fragile compromise" that would lead to the regulation of nonpoint-source water pollution, including runoff from feed lots and manure storage areas. The proposal also would limit farm animals' access to state waterways, "but only if tax money is available to help pay for those improvements" (Steven Walters, MILWAUKEE JOURNAL- SENTINEL, 5/24). Source: Greenwire Vol. 7, No. 20

Boaters Seek Par w/Fisheries

A sportsman's coalition has asked Congress to put boating safety on a par with fisheries programs in distributing federal excise taxes collected on sport fishing products and motorboat fuels. The *American League of Anglers and Boaters (ALAB)*, a group that endorses the "user-pay, user-benefit" taxes, presented recommendations for revising the *Aquatic Resources Trust Fund*, also called the *Wallop-Breaux Trust Fund*, which distributes the tax revenues to the states.

The fishing tackle excise tax, established by the *1950 Sports Fisheries Restoration Act*, is administered by the U.S. Fish and Wildlife Service. States count on it for coastal wetlands restoration, recreational boaters' waste treatment facilities, and boating safety programs, said Derrick Crandall, co-chairman of the anglers and boaters group. The sportsmen met with members of Congress at breakfast at the Capitol.

While the Sports Fisheries Act has permanent budget authority, which means it does not have to be reauthorized in each budget cycle, boat safety grants by the Coast Guard from motorboat fuel excise taxes are subject to annual appropriations. The ALAB wants the excise taxes to continue going to the *Aquatic Resources Trust Fund* and expand federal matching grants to state boating safety programs. They support providing \$70 million annually in two parts -- \$55 million under permanent budget authority, as proposed by the Clinton administration in its proposed *Highway Trust Fund* reauthorization bill (NEXTEA) and \$15 million under the *Clean Vessel Act*.

The coalition also wants \$5 million a year in permanent budget authority for the Coast Guard's boat safety efforts, \$10 million a year for state marine sanitation pump-out projects, \$10 million a year for boating infrastructure and \$15 million a year for

state boating safety grants. In fiscal year 1999, the states' trust funds would share \$65 million from the boat safety fund and \$233.3 million from the Sports Fishing Fund. About 15% of the sports fishing money goes to boating programs.

Source: White Paper Database, By-Line Article by Tom Bryan, Federal Document Clearing House, Inc., 5/20/97

Comparing Macroinvertebrate Monitoring Data

A recently completed WI Water Resources Coordination Project, a pilot project of the *Intergovernmental Task Force on Monitoring Water Quality*, compared macroinvertebrate data collected by the U.S. Geological Survey (USGS), the WI Department of Natural Resources (WIDNR), the U.S. Forest Service (USFS), and volunteers from the *Water Action Volunteer Water Quality Monitoring Program (WAV)*. The outcome of the study is significant for groups seeking to integrate or compare data collected using different sampling methods.

Field staff from each agency and organization sampled the same six streams in the western Lake Michigan drainage basin during three days in May 1995. The sampling effort was carefully coordinated to avoid sampling the same spot twice. In addition, monitors approached sampling locations in a downstream-to-upstream order to avoid capturing organisms dislodged at sites already monitored. Monitors also took care to avoid marginal areas, such as below bridges and near impoundments, where they would be likely to encounter large amounts of silt or vegetation that would sharply influence their results.

After being preserved in the field, most samples were sent to the same lab for analysis. The WAV monitors, however, identified the aquatic macroinvertebrates in their own samples in the field. In addition to collecting and identifying the samples, the monitors made visual observations about watershed qual-



ity and riparian and in-stream habitat. Hilsenhoff's Biotic Index (HBI) was used to analyze the data. The analysis revealed that the macroinvertebrate samples collected by the three agencies interpreted water quality conditions similarly for all six streams.

The HBI estimates water quality based on the tolerance of aquatic macroinvertebrates to organic pollution and resulting reductions in dissolved oxygen. The resulting water quality values showed little variability. The HBI value for each sample collected at a given stream fell within a single unit of the median HBI value for all samples collected at that stream.

Macroinvertebrate samples collected from the same riffle at each stream contained similar taxa, but the number of individuals within the taxa varied. This variation is probably attributable to the difference between sampling methods. For instance, the USGS method of digging into the substrate increased the proportion of taxa from this habitat.

Several USFS samples were dominated by macroinvertebrate taxa not dominant in samples collected by other agencies for the same stream. This result may also be attributable to the sampling method, since the USFS does not limit its monitors to one location. Instead, it requires each monitor to obtain 125 or more individual organisms. As a result, USFS monitors may target certain microhabitats abundant with a particular taxa. An additional bias in this approach may result if monitors choose the larger, more visible organisms in their effort to reach the benchmark.

Net size is another issue. The study showed that WIDNR collected the greatest number of taxa from five of the six streams while the USFS collected the fewest. This difference may be attributed to the fact that the USFS uses a larger mesh size than WIDNR. Another cause could be that WIDNR generally sampled a larger area and may have encountered more

microhabitats.

Visual watershed survey results also varied significantly. No relationship could be found between physical watershed characteristics and the macroinvertebrate communities. Personal bias, differences in observations, and previous knowledge of the site are factors that may have influenced these results.

The study was successful in identifying some limits to sharing macroinvertebrate data collected using different sampling methods. The results suggest that shared monitoring data can accurately determine water quality using robust measures such as the HBI. In contrast, data sharing may not be feasible in cases where information on specific species assemblages is needed. The study makes a strong case for considering differences in field collection methods when comparing data.

Contact: Mike Miller, WIDNR, 101 South Webster Street, Madison, WI 53707, . Phone: (608) 267-2753; fax: (608) 267-2800; e-mail: millema@dnr.state.wi.us. Or the USGS, 6417 Normandy Lane, Madison, WI 53719. Phone: (608) 276-3810.

Source: Nonpoint Source News Notes, April/May 1997, ISSUE #48

Nutria for Lunch?

A new project in LA will try to persuade people to eat nutria, rodents that are "eating away huge areas of coastal marsh." Nutria, which are native to South America, were introduced to LA in the 1950s as a way to boost fur production. But a sagging fur market is contributing to "an overflow population" of nutria, which devour the vegetation on marsh lands until they erode and "disappear into open water." A 1996 study showed that 100,000 acres of LA wetlands had been damaged by nutria.

The \$2.1 million project, being overseen by the LA Dept. of Wildlife and Fisheries, calls for "a demonstration that nutria meat can be good to eat," a plan to develop recipes and pro-

mote and market the meat, and a study on the nutrias' impact on coastal marshes. The project is funded by the federal Breaux-Johnston Act, which provides \$30 million a year to LA to combat wetlands losses. Residents of south LA, who refer to the animals as "nutria rats," may need a "major attitude adjustment" to buy into the project (Dallas Morning News, 7/7).

Meanwhile, the LA Dept. of Natural Resources (DNR) is also using funds from the Breaux-Johnson Act to launch a "national awareness and education campaign ... about the value of LA's coastal wetlands." The DNR has signed a year-long contract with New Orleans-based *Montgomery Stire Davis*, which will produce media kits, materials for school children, an Internet Web site, and a directory of support groups (Bill McMahon, Baton Rouge Advocate, 7/8).

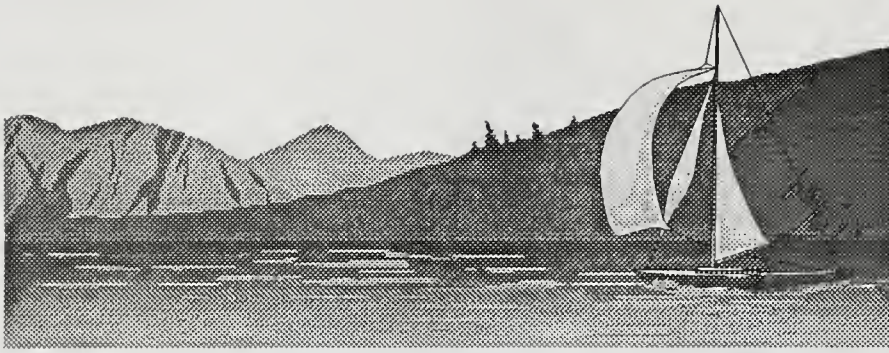
New federal estimates of LA coastal wetlands losses from 1978 to 1990 indicate a loss of about 35 m² a year, which "equates to a total 12-year loss of about 420 m²," or roughly twice the size of the greater New Orleans area (USGS/ BRD release, 7/7).

Source: National Journal's GREEN-WIRE, The Environmental News Daily, 7/9/97

Watershed Protection Saves \$

The nearly \$140 billion that the US EPA estimates will be needed for drinking-water infrastructure over the next 20 years could be "significantly reduced" by modest investment in watershed protection, according to a recent report by the *Trust for Public Land* (TPL). The report explores case studies of states and cities that have invested in watershed preservation, as well as several that have not.

In the case of metro Atlanta, local communities have had to abandon eight water supplies over the past 70 years due to watershed degrada-



tion stemming from development, according to the report. In contrast, TPL says that New York City, by investing \$1.5 billion to protect surrounding watershed land, will save between \$6-8 billion in filtration facility construction costs, in addition to \$300 million annually in operating costs. Even with such savings estimates, TPL says the EPA "did not even consider" watershed protection as an option in a recent survey on drinking water supply needs.

The report singles out NJ as a state that has adopted a "complete reversal of thinking" on water management, shifting from an emphasis on increasing capacity in the 1980s to a current focus on watershed protection and aquifer recharge.

According to the *Centers for Disease Control*, nearly one million Americans fall ill each year and 900 die from drinking contaminated water (TPL release, 5/6).

U.S. Geological Survey Director Gordon Eaton and six MI universities have announced a "major initiative" to protect that state's drinking water supply. The state has spent \$73.7 million cleaning up groundwater contamination since 1985, according to the *MI Environmental Council* (George Weeks, DETROIT NEWS, 5/4).

Source: Greenwire Vol. 7, No. 4

EPA Watershed Training

The U.S. EPA has initiated a new program to provide watershed ap-

proach training to local, state, tribal, and federal officials and private practitioners of watershed management. The *Watershed Academy* provides short courses and related reference materials about watershed processes, functions, and management techniques. Training courses are offered several times a year, as funding permits, usually in EPA regional offices or other central locations.

Doug Norton, an environmental scientist with the Watershed Branch of EPA's Office of Water, says the program's message and courses center on elements of the watershed approach that are important to the successful management of a watershed: communications, science, and organizational management elements. Courses currently being offered include:

- The Statewide Approach to Watershed Management (2 days);
- The Executive Overview of the Watershed Approach (1 day)
- Principles of Watershed Protection and Management;
- Getting in Step: a Pathway to Effective Outreach in Your Watershed; and
- Watershed Management Tools.

In addition to its own courses, the Academy maintains an Internet Catalog of Watershed Training Opportunities containing information about dozens of other watershed-oriented training courses offered by local, state, and federal agencies, and private organizations. Norton said plans are underway for a distance learning program called *Academy 2000*, which will permit any watershed manager or interested party with Internet access to participate in an Academy work-

shop. The proposal calls for 20-50 modules, each requiring 1-2 hours running time. The planned format includes a class lecture with visuals and accompanying narrative.

The Academy also cosponsors special training events on different aspects of the watershed approach as resources permit, and it is also involved in the *Interagency Watershed Training Cooperative*, an ongoing multiagency effort, to make better use of the resources available for training by jointly developing courses, sharing scientific expertise, facilities, and other resources. Initial efforts have involved EPA, the Forest Service, Bureau of Land Management, NRCS, Army Corps of Engineers, and Fish and Wildlife Service.

Contact: Doug Norton, fax: (202) 260-1977; or visit the Watershed Academy Web site: <http://www.epa.gov/OWOW/watershed/wacademy.htm>.

CITYgreen

CITYgreen is an urban planning tool from *American Forests* that helps map and measure the value of trees in terms of summer energy savings, stormwater management, carbon storage, and urban wildlife habitat. For information and a demo disk, call (202) 667-3300, ext 227, or visit <http://www.amfor.org>

Working Trees

Working Trees for Communities is a color brochure developed by the *National Agroforestry Center* that illustrates planting practices to protect natural resources, diversify the environment, and conserve energy. To obtain copies, contact Kim Issacson, National Agroforestry Center, USDA Forest Service, Rocky Mountain Station, USDA NRCS, east Campus-University of Nebraska-Lincoln, Lincoln, NE 68583-0822. Phone: (402) 437-5178; 437-5712.

Greenlines

Greenlines is a new, one page publication, offered 5 days a week of news around the world regarding wildlands and wildlife. Greenlines I

s published by *GREEN* the Grassroots Environmental Effectiveness Network. The publication is delivered free over the Internet. To subscribe, send the message "subscribe Firstname Lastname" from your e-mail

account to listproc@envirolink.org. If you have any questions or problems contact: GREEN at greemomfp@defenders.org or call (202) 682-9400 x236.

Meetings of Interest

Aug. 24-28: 127th Annual Meeting of the American Fisheries Society, Monterey, CA. Contact: Paul Brouha, (302) 897-8617, Ext. 209.

Sept. 19-20, 1997: "Clean Enough?" A Conference on Mississippi River Water Quality, University of New Orleans. Panels and Talks Include: Historical Ecology of the Mississippi River, Freshwater Diversions & Coastal Restoration, New Orleans' Drinking Water, Fish Tissue & Contaminants, Algal Blooms & Hypoxia, Bayou Lafourche. Sponsoring Organizations include: Coalition to Restore Coastal LA, Gulf Restoration Network, Lake Pontchartrain Basin Foundation, New Orleans Mayor's Office of Environmental Affairs, Tulane Environmental Law Institute, and University of New Orleans. For More Information, call (504) 836-2215

Sept. 23: Restoration Forum for River Corridors and Wetlands, Springfield Hilton, Springfield, VA. A one plus-day workshop to broaden and strengthen relationships among river restoration part

ners. Contact: Stephanie Peters (Wetlands Division), U.S. EPA, 401 M Street, SW (4502F), Washington, D.C. 20460, (202) 260-7946

Oct. 4-8: 51st Annual Southeastern Association of Fish and Wildlife Agencies Conference, The Medallion Hotel, Oklahoma City, OK. The conference theme is "Partners for the Future of Fishing, Hunting and Conservation -- Stakeholders, Industries and Resource Agencies Working Together". Also, a panel discussion, "Marketing Recreational Sport Fishing -- Whose Job Is It?" is planned. Contact: 1997 SEAFWA Registration, Oklahoma Dept. of Wildlife Conservation, 1801 N. Lincoln, Oklahoma City, OK 73105, (405) 522-4357.

Oct. 7-9: Conference on the Management of the Illinois River System. Holiday Inn City Centre, Peoria, IL

Early Nov. 1997: Ecological Restoration as a Key Element of Regional Conservation Strategies - 9th Annual Society for Ecological Restoration Conference, Ft. Lauderdale, FL. Contact: SER, 1207 Seminole Highway, Suite B, Madison, WI 53711, (608) 262-9547

Dec. 6-10: Symposium on the Effects of Riparian Land-Uses on Aquatic Ecosystems. Milwaukee, WI. Contact: John Lyons, WI Dept. of Natural Resources, 1350 Femrite Dr., Monona, WI 53716-3736, (608) 221-6328, FAX (608) 221-6353, lyonsj@dnr.state.wi.us.

Dec. 7-9, Midwest Fish & Wildlife Conference - Managing Natural Resources: Integrating Ecology and Society. Milwaukee, WI

May 3-6, 1998: Watershed Management: Moving from Theory to Implementation, Denver, CO. Water Environment Federation. (703) 684-2400.

May 23-28, 1998: First International Ictalurid Symposium - Catfish 2000, Davenport, IA. Contact Steve Eder, Missouri Dept. of Conservation, P.O. Box 180, Jefferson City, MO 65109-0180. (573) 751-4115, FAX (573) 526-4047.



Congressional Action Pertinent to the Mississippi River Basin

Agriculture

H.R. 246 and H.R. 247 (Peterson, D/MN) extension of existing and expiring contracts under the Conservation Reserve Program.

H.R. 640 (Hostettler, R/IN) amends the wetland conservation provisions of the Food Security Act of 1985 and the Clean Water Act to permit

the unimpeded use of privately-owned crop range and pasture lands that have been used for the planting of crops or the grazing of corn in at least 5 of the preceding 10 years.

H.R. 861 (Moran, R/KS) authorizes a farmer or rancher whose bid for re-enrollment of land into the Conservation Reserve is rejected to

unilaterally extend the contract for a final year.

H.R. 1185 (Minge, D/MN) to ensure that land enrolled in the land conservation program of the state of MN known as *Reinvest in MN (RIM)* remains eligible for enrollment in the Conservation Reserve Program upon the expiration of the RIM contract.

Brownfields

H. R. 1396 (Rothman, D/NJ) to assist states and local governments in assessing and remediating brownfield sites and encouraging environmental clean-up programs.

H.R. 1462 (Visclosky, D/IN) to authorize the EPA Administrator to establish a pilot project providing loans to states to establish revolving loans for the environmental cleanup of brownfield sites in distressed areas that have the potential to attract private investment and create local employment.

Fish and Wildlife

S. 361 (Jeffords, R/VT) amends the Endangered Species Act to prohibit the sale, import, and export of products labeled as containing endangered species.

S. 491 (Ford, R/KY) to amend the National Wildlife Refuge System Administration Act of 1966 to prohibit the Fish and Wildlife Service from acquiring land to establish a refuge of the National Wildlife Refuge System unless at least 50% of the land owners in the proposed refuge favor the acquisition.

S. 751 (Shelby, R/AL.) to protect and enhance sportsmen's opportunities and conservation of wildlife.

H.R. 374 (Young, R/AK) amends the Sikes Act to enhance fish and wildlife conservation and natural resources management programs.

H.R. 478 (Herger, R/CA) amends the Endangered Species Act of 1973 to improve the ability of individuals and local, state and federal agencies to comply with that act in building, operating, maintaining or repairing flood control projects.

H.R. 752 (Chenoweth, R/ID) amends the Endangered Species Act of 1973 to ensure that persons that suffer or are threatened with injury resulting from a violation of the act or a failure of the Interior Secretary to act in accordance with that act have standing to commence a civil suit on their behalf.

H.R. 1155 (Fazio, D/CA) to exempt certain maintenance, repair and improvement of flood control facilities in CA from the Endangered Species Act.

H.R. 1718 (Cunningham, R/CA) to protect and enhance sportsmen's opportunities and enhance wildlife conservation.

Flood Insurance

H.R. 230 (McCullum, R/FL) to ensure that insurance against the risk of catastrophic natural disasters, such as hurricanes, earthquakes, floods, and volcanic eruptions, is available and affordable, and to provide for expanded hazard mitigation and relief.

Forests

S. 977 (Robert Torricelli, D/NJ) and (John Kerry, D/MA) to amend the Forest and Rangeland Renewable Resources Planning Act of 1974 to ban clearcutting and strengthen preservation on federal lands, and designate ancient forests, roadless and other areas where no logging may occur.

H.R. 101 (Baker, R/LA) amends the National Forest Foundation Act to extend and increase the matching funds authorization for the foundation, to provide additional administrative support to the foundation, to authorize the use of investment income, and to permit the foundation to license the use of trademarks, trade names, and other such devices to advertise that a person is an official sponsor or supporter of the Forest Service or the National Forest System

H.R. 1376 (Eshoo, D/CA) to amend the Forest and Rangeland Renewable Resources Planning Act of 1974 and related laws to strengthen the protection of biodiversity and ban clearcutting on federal lands and to designate certain federal lands as Northwest Ancient Forests, roadless areas, and special areas where logging and other intrusive activities are prohibited.

H.R. 1861 (Hinchey, D/NY) amends the Forest and Rangeland Renewable Resources Planning Act of 1974, the Federal Land Policy and Management Act of 1976, the National Wildlife Refuge System Administration Act of 1966, the National Indian Forest Resources Management Act, and title 10 of the U.S. Code to strengthen the protection of native biodiversity and to place restraints upon clearcutting and certain other cutting practices on U.S. forests.

H.R. 2127 (Frank Riggs, R/CA) to streamline Forest Service operations by contracting out some services-connected with planning and implementing programs in national forests.

Government Affairs

S. 34 (Feingold, D/WI) to phase out federal funding of the Tennessee Valley Authority.

Senate Environment Committee held a hearing June 10 on the relationship between the federal and state governments in the enforcement of environmental laws.

Grazing

H.R. 547 (Nadler, D/NY) requires the Interior and Agriculture secretaries to establish grazing fees at fair market value for use of public grazing lands.

Land Acquisition

Senate Energy Committee held hearings June 11 on the state-side of the Land and Water Conservation Fund.

H.R. 1487 (Campbell, R/CA) to provide off-budget treatment for one-half of the receipts and disbursements of the Land and Water Conservation Fund, and to provide that the amount appropriated from the fund for a fiscal year for federal purposes may not exceed the amount appropriated for that fiscal year for financial assistance to the states for state purposes.

H.R. 1732 (Kildee, D/MI) to amend the Land and Water Conservation

Fund Act of 1965 to provide for off-budget treatment of the receipts and disbursements of the land and water conservation fund and the accounts established under that act.

Mining

S. 325, S. 326, and S. 327 (Bumpers, D/AR) to repeal the percentage depletion allowance for certain **hardrock mines**, provide for the reclamation of abandoned hard-rock mines, and ensure federal taxpayers receive a fair return for the extraction of locatable minerals on public domain lands, respectively.

House Resources Committee panel held **hearings June 12** on the BLM's **hard rock mining bonding regulations**.

Parks

S. 301 (McCain, R/AZ) and H.R. 682 (Kolbe, R/AZ) authorizes the Interior Secretary to set aside up to \$2 per person from park entrance fees or assess up to \$2 per person visiting the Grand Canyon or other national parks to secure bonds for capital improvements to the park.

S. 991 (Frank Murkowski A/AK) to make technical-changes to **Omnibus Parks and Public Lands Management Act of 1996**.

Senate Energy Committee on **June 12** held **oversight hearings** to review the preliminary findings of the General Accounting Office concerning a study on the health, condition and viability of the range and wildlife populations in **Yellowstone National Park**.

H.R. 104 (Bartlett, R/MD) authorizes the private ownership and use of **National Park System lands**.

H.R. 302 (Skaggs, D/CO) a bill entitled the "**Rocky Mountain National Park Wilderness Act of 1997**".

H.R. 901 (Young, R/AK) to preserve the sovereignty of the U.S. over public lands by requiring that **United Nations heritage designations** be subject to congressional approval.

H.R. 2143 (Miller D/CA) to provide

certain **escrowed oil and gas revenues** be available to improve national parks' visitors facilities.

Public Lands

S. 477 (Hatch, R-UT) amends the **Antiquities Act** to require an Act of Congress and the consultation with the governor and state legislature prior to establishment by the president of national monuments in excess of 5,000 acres.

S. 691 (Murkowski, R/AK), to require public review and the authorization of Congress for any **presidential designations** of national monuments, biosphere reserves, and world heritage sites on public lands;

S. 749 (Dorgan, D/ND) to provide for more effective management of the **National Grasslands**.

H.R. 919 (Miller, D/CA) establishes **fair market value pricing** of federal natural assets, and for other purposes.

H.R. 1196 (Skaggs, D/CO) to amend the **Colorado Wilderness Act of 1993** to extend the interim protection of the Spanish Peaks planning area in the San Isabel National Forest.

Refuges

H.R. 511 (Young, R/AK) to amend the **National Wildlife Refuge System Administration Act of 1966** to improve the management of the refuge system.

H.R. 512 (Young, R/AK) to prohibit the expenditure of funds from the **Land and Water Conservation Fund** to create new **National Wildlife Refuges** without specific authorization from Congress.

H.R. 952 (Miller, D/CA) to clarify the mission, purposes and authorized uses of the **National Wildlife Refuge System** and to establish requirements for administration and conservation planning of that system.

House Resources Committee approved on **April 30, H.R. 1420**, the **National Wildlife Refuge System Improvement Act of 1997** reforming the management of the **National Wildlife Refuge System**. Passed by a vote of 407.

H.R. 1856 (Sexton, R/NJ) to direct the Interior Secretary to conduct a volunteer **pilot project at one national wildlife refuge in each U.S. Fish and Wildlife Service region**.

Takings

S. 709 (Hager, R/NE) to protect private property rights guaranteed by the fifth amendment to the Constitution by requiring federal agencies to prepare **private property taking impact analyses** and by allowing expanded access to federal courts.

S. 781 (Hatch, R/UT) to establish a uniform and efficient federal process for **protecting property owners' rights** under the fifth amendment.

H.R. 95 (Solomon, R/NY) to ensure that federal agencies establish the appropriate procedures for assessing whether federal regulations might result in the **taking of private property**, and to direct the Agriculture Secretary to report to the Congress with respect to such takings under programs of the Dept. of Agriculture.

Transportation.

S. 468 (Chafee, R/RI) to continue the federal role in developing a national intermodal surface transportation system through programs that ensure the safe and efficient movement of people and goods, improve economic productivity, preserve the environment, and strengthen partnerships among all levels of government and the private sector.

S. 586 (Moynihan, D/NY) to reauthorize the **Intermodal Surface Transportation Act of 1991**.

H.R. 1609 (Molinari, D/NY) to reauthorize the **Intermodal Surface Transportation Efficiency Act of 1991**.



Water and Wetlands

H.R. 128 (Crapo, R/ID) to preserve the authority of the states over waters within their boundaries, to delegate the authority of the Congress to the states to regulate water.

H.R. 227 (McCollum, R/FL) directs the Secretary of the Army to conduct a study of mitigation banks.

H.R. 238 (Robert Menendez D/NJ) to amend the Oil Pollution Act of 1990 to make the act more effective in preventing oil pollution in the nation's waters through enhanced prevention of, and improved response

to, oil spills, and to ensure that citizens and communities injured by oil spills are promptly and fully compensated, and for other purposes.

H.R. 550 (Oberstar, D/MN), Non-Point Source Water Pollution Prevention Act of 1997 amends the Clean Water Act to establish requirements and provide assistance to prevent nonpoint sources of water pollution, and for other purposes.

H.R. 640 (Hostettler, R/IN) amends the wetland conservation provisions of the Food Security

Act of 1985 and the Clean Water Act to permit the unimpeded use of privately- owned crop range and pasture lands that have been used for the planting of crops or the grazing of corn in at least 5 of the preceding 10 years.

Wilderness.

H.R. 1567 (Hansen, R/UT) to provide for the designation of additional wilderness lands in the eastern U.S.

Sources: Land Letter, STATUS REPORT, Vol.16, No. 2,5,8,11,13, 17, and 20; and NOAA Legislative Informer, March 1997, Issue #22



River Crossings

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