

# River Crossings

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## New MICRA Web Site

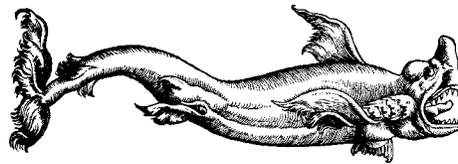
MICRA's Web Page has moved to: [wwwaux.cerc.cr.usgs.gov/MICRA/](http://wwwaux.cerc.cr.usgs.gov/MICRA/). We have changed and updated it's format, added new features, and provided for downloadable .pdf files on various subjects. Additional information and data links will be added as they become available. Also, *River Crossings* can now easily be accessed and downloaded via the Web Page using Adobe Acrobat Reader. If you prefer to receive your copy of *River Crossings* electronically, please let us know and we will delete your name from our mailing list. We also have provided links to all of our member agency and entity web sites. Come visit us!

## Invasive Species Executive Order

On February 3<sup>rd</sup>, President Clinton signed the Invasive Species Executive Order (EO). This EO is intended to prevent the introduction of invasive species, provide for control measures and minimize the economic, ecological, and human health impacts they cause.

The EO defined "Alien species" as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native" to a particular ecosystem. "Control" was defined as "eradicating, suppressing, reducing, or managing invasive species populations, preventing spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the

effects of invasive species and to prevent further invasions". "Introduction" was defined as "the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity". "Invasive species" were defined as "alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health".



*"Help stop the Invaders!"*

Under the EO each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law: (1) identify such actions; (2) use relevant programs and authorities (subject to the availability of appropriations,

and within Administration budgetary limits) to:

- prevent the introduction of invasive species,
  - detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner,
  - monitor invasive species populations accurately and reliably,
  - provide for restoration of native species and habitat conditions in ecosystems that have been invaded,
  - conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and
  - promote public education on invasive species and the means to address them; and
- (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the

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potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

The EO establishes an *Invasive Species Council* (ISC) whose members include the secretaries of State, Treasury, Defense, Interior, Agriculture, Commerce, and Transportation; as well as the Administrator of the Environmental Protection Agency. The ISC will be Co-Chaired by the secretaries of Interior, Agriculture and Commerce. It may also invite additional Federal agency representatives to be members, including representatives from subcabinet bureaus or offices with significant responsibilities concerning invasive species, and may prescribe special procedures for their participation. The Secretary of the Interior, with concurrence of the Co-Chairs, will appoint an ISC Executive Director and provide for staff and administrative support.

The EO also directs the Secretary of the Interior to establish an Advisory Committee (AC) to provide information and advice for ISC consideration. After consultation with other ISC members, the Interior Secretary will appoint AC members who represent the stakeholders. Among other things, the AC will recommend plans and actions at local, tribal, State, regional, and ecosystem-based levels. Additionally, the AC will act in cooperation with stakeholders and existing organizations.

The ISC will:

- provide national leadership regarding invasive species;
- oversee implementation of the EO;
- see that the Federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective, relying to the extent feasible and appropriate on existing organizations addressing invasive species, such as the *Aquatic Nuisance Species Task Force*, the *Federal Interagency Committee for the Management of Noxious and Exotic Weeds*, and the *Committee on Environment and Natural Resources*;
- encourage planning and action at local, tribal, State, regional, and ecosystem-based levels to achieve the goals and objectives, in cooperation with stakeholders and existing organizations addressing invasive species;
- develop recommendations for international cooperation in addressing invasive species;
- develop, in consultation with the Council on Environmental Quality, guidance to Federal agencies pursuant to the National

Environmental Policy Act on prevention and control of invasive species, including the procurement, use, and maintenance of native species as they affect invasive species;

- facilitate development of a coordinated network among Federal agencies to document, evaluate, and monitor impacts from invasive species on the economy, the environment, and human health;
- facilitate establishment of a coordinated, up-to-date information-sharing system that utilizes, to the greatest extent practicable, the Internet. This system shall facilitate access to and exchange of information concerning invasive species, including, but not limited to, information on distribution and abundance of invasive species; life histories of such species and invasive characteristics; economic, environmental, and human health impacts; management

techniques, and laws and programs for management, research, and public education; and

- prepare and issue a national Invasive Species Management Plan.

The EO also directs federal agencies to pursue the duties set forth for them in the EO in consultation with the (ISC), consistent with the ISC's Invasive Species Management Plan (required by the EO), and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when federal agencies are working with international organizations and foreign nations.

Within 18 months the EO directs the ISC to prepare and issue the first edition of its National Invasive Species Management Plan (Management Plan), which shall detail and

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*River Crossings* is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

recommend performance-oriented goals and objectives and specific measures of success for federal agency efforts concerning invasive species. The Management Plan shall recommend specific objectives and measures for carrying out each of the federal agency duties established in the EO and set forth steps to be taken by the ISC to carry out the duties assigned to it by the EO. The Management Plan will be developed through a public process and in consultation with federal agencies and stakeholders. Its first edition will include: a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species. If recommended measures are not authorized by current law, the ISC will develop and recommend to the President, through its Co-Chairs, legislative proposals for necessary changes in authority.

The ISC will update the Management Plan biennially and concurrently evaluate and report on success in achieving the goals and objectives set forth. The Management Plan will also identify the personnel, other resources, and additional levels of coordination needed to achieve its identified goals and objectives. Within 18 months after measures have been recommended by the ISC in any edition of the Management Plan, each Federal agency whose action is required to implement such measures will either take the action recommended or provide the ISC with an explanation of why the action is not feasible. The ISC will assess the effectiveness of the EO no less than once every 5 years and report to the Office of Management and Budget on whether the EO should be revised.



*“round goby” a Great Lakes invader*

## Freshwater Ecosystems Under Severe Stress

Freshwater ecosystems worldwide have come under “severe” pressure, “even more than the much-publicized plight of the world’s forests,” according to a new UN report released on 3/22 to mark *World Water Day*. A “preliminary global assessment” by the *UN Environment Program* (UNEP) and the UK-based *World Conservation Monitoring Center* (WCMC) identifies 23 “hotspots” of freshwater biodiversity, including the African Great Lakes, the **Mississippi River basin**, Lake Titicaca on the Peru-Bolivia border and parts of



*The Illinois River, a Mississippi River tributary, is a severely stressed ecosystem.*

Madagascar and Tasmania. The report also lists 30 “priority” river basins – including the Nile, the Volta and the Mekong – that support high biodiversity but are vulnerable to pressures from human activity. WCMC’s Brian Groombridge said, “Freshwaters are crucial to human life and wildlife [and] action to conserve their diversity and maintain their productivity is well overdue”.

Freshwater fisheries, a major source of food, livelihood and recreation in many countries, are “increasingly threatened” by environmental degradation, according to the *UN Food and Agriculture Organization* (FAO). In a 3/24 release, the FAO said that more than 7.7 million tons of freshwater fish were caught in 1997, representing about 6% of the total global fish catch. “Industrialization, urbanization, deforestation, mining and agricultural land and water use” pose “the greatest threats” to inland fish production, the FAO said. Specific problems include the release of industrial and urban effluents, runoff of agrochemicals, impoundment and channelization of water bodies, excessive water diversion, soil erosion and other kinds of manipulation of rivers, lakes and flood plains.

Such problems are seen in most parts of the

world but are of special concern in Asian watersheds, which are “the most important areas of inland fish production globally.” The FAO recommended better integration of water and land management. At the local level, fish production could be enhanced through periodic stocking of water bodies and other techniques. At the state and national level, the agency suggested that environmental, fishery, land and water agencies should work together more closely to prevent environmental degradation and rehabilitate aquatic habitats.

Sources: *UNEP release*, 3/22/99; *FAO release*, 3/24/99; and National Journal’s *GREENWIRE*, *The Environmental News Daily*, 3/22, 3/24/99

## Natural River Flows Beneficial to Farming?

For years, scientists have made it clear that endangered species like the pallid sturgeon need more natural river flows to survive on the Missouri River. However, increasing flows during the spring and lowering them in summer to mimic the river’s natural flow remains the basin’s most contentious issue.

But, a 1998 U.S. Army Corps of Engineers study, conducted as part of the preliminary revised draft-environmental impact statement (PRDEIS) for its Master Manual shows that not only do river wildlife species benefit with natural river flows, but floodplain farmers would be better off as well.

The Corps’ preferred alternative for river management, in its 1994 draft EIS, included a spring rise and a slight lowering of river levels in the summer. Floodplain farmers protested, claiming high spring flows would not allow them to properly drain their fields, shortening their growing season and hurting their profits, so the Corps agreed to study the interior drainage issue and revise its EIS.

The PRDEIS that came out in 1998 included a study showing that both wildlife and farmers benefit by a small spring rise and lower summer flows. Farmers benefitted most by having low flows and more consistently dry fields during the important summer growing season. Chad Smith, Missouri River Regional Representative for *American Rivers*, said, “Some may have been surprised by the results, but I think people are starting to understand that an altered river, not a natural river, is the harder one to live with.”

The Corps' study was based on the results from six floodplain study sites below Sioux City, IA. It showed that under alternatives which increased dam releases by 10,000 cfs and 15,000 cfs, farmers (for the 45-year period from 1949-94) would have experienced 5.596 and 4.5% less monetary damages, respectively, than under the current water control plan. That means crop damages were greater under constant navigation flows than if a more natural flow had been maintained during the study period. Further, a groundwater study conducted at the same time by the Corps and published in the PRDEIS also shows benefits to farmers during a spring rise.

The Corps' two so called "fish and wildlife alternatives" (i.e. a spring rise of 10,000 cfs and 15,000 cfs, respectively from May 1 to June 15) were evaluated. Both of these alternatives support a full navigation season, although flows are lowered from mid-July through mid-August to minimum navigation service levels in order to support nesting birds such as the interior least tern and the piping plover. The two alternatives are designed to somewhat mimic pre-dam flows.

In addition to benefitting farmers, Smith said further that "... it would boost recreation on the entire river and lead to more dollars flowing through riverside communities in the basin states." "I can't think of a better way to manage the river and benefit more people," he added.

However, farmers remain skeptical, and have called on the USGS in Iowa and Missouri to further study the interior drainage and groundwater matters. But the Corps' data has many in the Missouri River basin thinking more alike. "I know most farmers don't want to agree with me, but the data cannot be ignored," said Smith. "It's time to come together and make sound decisions that benefit all of us and that help to make the Missouri River a river once again."

Source: Missouri Monitor, March 1999

## Dam Removal Benefits

A draft report from a U.S. Army, Corps of Engineers' study projects "huge economic benefits" from breaching four dams on the lower Snake River, but federal officials argue that the data are unreliable. The report, leaked on 3/5 by environmental groups, is based on a survey of more than

4,700 households in the Pacific Northwest and California.

A consultant hired by the Corps asked participants if they would travel to the Snake River area if the river were restored to its natural water levels and salmon came back in fishable numbers. The survey suggested that as much as \$1.9 billion a year could be contributed to the region by sport fishers and up to \$3.3 billion by other recreational visitors, such as river rafters.

Current annual recreation spending at the four lower Snake reservoirs is \$33.6 million. Bill Arthur of the *Sierra Club* said, "Contrary to the prophets of doom, restoring the river

and the salmon can bring substantial economic benefit". But Greg Graham, the Corps's program manager for the lower Snake River economic study, expressed "dismay" that the study had been released in draft form, calling the leak a "misrepresentation of a partially completed study".

Environmentalists say that a new Bonneville Power Admin. analysis also demonstrates the economic feasibility of breaching the four dams. The analysis, although incomplete, says that breaching the dams would boost the average residential electricity bill by an average of \$2 to \$5 a month. And Mark Glyde, of the *Northwest Energy Coalition* said, "If we want to be serious about saving salmon, we've got to be serious about taking out the Snake River Dams. I think \$2 a month is a very reasonable price to pay for these fish"

Meanwhile, more than 200 scientists on 3/23 asked Pres. Clinton to consider removing some federal dams on both the Columbia and Snake rivers to help restore dwindling salmon runs. In a signed letter, the scientists said current fish recovery efforts, which depend on barging fish around dams, are not sufficient to reverse the decline of threatened Snake River salmon stocks. Removing the dams entirely, the scientists say, offers "the best promise" of saving the salmon.

All of these appeals come as the Corps prepares a \$22 million analysis of the biological and economic effects of breaching the four dams. The report, scheduled for release in April, has been delayed. Accord-

ing to Graham a "schedule change was necessary to accommodate the National Marine Fisheries Service (NMFS) in preparing" its biological report -- a critical part of the study." The delay in the draft report will delay any federal recommendation on the dams "well into year 2000".

A coalition of corporations, local governments and tribal leaders is also working to save Northwest salmon species by matching volunteers and corporate financial grants with projects to restore the region's waterways. The coalition's program, *Team UP! For Watershed Health*, will be coordinated by the conservation group, *Stop Oregon Litter and Vandalism*.

Meanwhile, three California environmental groups on 3/18 filed a lawsuit to halt construction of the Seven Oaks Dam on the Santa Ana River, near Redlands, so modifications can be considered that could save the endangered San Bernardino kangaroo rat and two rare plants. The species are dependent on the flooding that the \$440 million dam is supposed to prevent, say the Tucson-based *Southwest Center For Biological Diversity*, the *California Native Plant Society* and the *Tri-County Conservation League*. The flooding creates open areas and deposits fresh sand, needed by the Santa Ana River woolly star, and spreads the seeds of the slender-horned spineflower. The groups say the dam can be modified to mimic flood conditions that will benefit the species, while still protecting farms and structures in Riverside and Orange counties from heavy floods

Also, in southern California several other environmental groups favor removing a dam near Ojai, CA, to help save the endangered southern steelhead trout, but "a growing number of critics say it would be costly, complicated and potentially dangerous for the few remaining steelhead." The Matilija Creek and other tributaries of the Ventura River make up one of the last stretches of steelhead habitat in southern California. The Matilija Dam was built after World War II to store water for area farmers and residents. The southern California steelhead was listed as endangered under the Endangered Species Act in 8/97, but the NMFS has not yet developed a plan to rescue the fish. Groups such as *Friends of the River*, the *Surfrider Foundation* and *Environmental Defense Center* are calling for removal of the dam, and the NMFS tentatively agrees. But studies by consultants and by researchers at the *University of California-Santa Barbara* suggest that removing the dam



could cost between \$64 and \$82 million, mostly to remove and dispose of sediment behind the dam. A cheaper alternative would be to lower the dam gradually and allow sediments to wash away, but this could exacerbate siltation and flooding downstream and “decimate the remaining steelhead populations.” Other critics say the first priority should be building a fish ladder around the Robles Diversion Dam two miles downstream

In Washington state, last November the Skokomish Indian Tribe filed a claim with the Justice Dept. seeking \$5.7 billion for damages caused by the *Cushman Hydroelectric Project*, which provides electricity to Tacoma, WA. According to the tribe’s claim, the *Cushman* project has not only drained the North Fork of the Skokomish River, but it has also reduced the flow in the main stem of the waterway by 40% and reduced biological productivity in the river.

In a victory for the \$200 million, 31-year-old salmon restoration program on the Connecticut River, Atlantic salmon have returned to the river after spending two years in the North Atlantic. Angelo Incerpi of the Vermont Dept. of Fish and Wildlife said, “We’ve had fish in the river for several years, but this is the first time we’ve been able to document spawning.” The *Manchester [NH] Union Leader* reports that the salmon’s return would not have been possible without help from regional electric utilities that built ladders and elevators to help the salmon bypass the river’s dams.

Meanwhile, the *Fish for Cooper Creek Coalition* has charged the *Chugach Electric Assn.* with trying to “hoodwink” the Federal Energy Regulatory Commission by implying that the state of Alaska endorsed a \$750,000 project to raise the height of the Cooper Lake dam. The coalition alleges that *Chugach* intentionally distorted a letter from Alaska Natural Resources Commissioner John Shively to suggest that the project would have no effect on fish and wildlife. However, Shively’s letter said there were no land-use problems associated with raising the dam, but did not extend that opinion to wildlife issues. The Cooper Lake dam has come under “increasing criticism” from both state and federal biologists who say it was responsible for killing Cooper Creek salmon runs in the 1960’s.

Sources: Richard Cockle, *Portland Oregonian*, 3/8/99; *AP/Portland Oregonian*, 3/9/99; Jonathan Brinckman, *Portland Oregonian*, 1/8/99; *AP/Portland Oregonian*,

3/23/99; O’Bryant/Crampton, *Columbia Basin Bulletin*, 1/4-8/99 issue; Rocky Barker, *Idaho Statesman*, 1/8/99; Jonathan Brinckman, *Portland Oregonian*, 3/22/99; Bruce Richie, *Riverside [CA] Press-Enterprise*, 3/19/99; Gary Polakovic, *Los Angeles Times*, 12/7/99; *AP/Seattle Times*, 11/27/98; *AP/Manchester [NH] Union Leader*, 11/27/98; Craig Medred, *Anchorage Daily News*, 1/10/99; and National Journal’s GREENWIRE, *The Environmental News Daily*, 12/1 and 12/7/98, 1/2, 1/11, 3/9, 3/22, and 3/23/99

## Water Shortages, Markets and Wars

The growing scarcity of freshwater resources could spawn future wars, according to Klaus Toepfer, director-general of the UN Environment Program. In an interview appearing in the 1/1 issue of the journal *Environmental Science & Technology*, Toepfer said he is “completely convinced” that there will be future conflicts over natural resources, especially water. Toepfer said, “Everybody knows that we have an increase in population, but we do not have a corresponding increase in drinking water, so the result in the regional dimension is conflict.”

The world will need 62% more fresh water in the next 25 years to maintain current standards of living, according to Klaus Siegert, the Asia regional water resources officer for the *UN Food and Agriculture Organization*. Siegert warned that there will be higher demands for water not only from a growing population but also from the industrial and agricultural sectors. According to UN projections, the number of countries facing water shortages will rise from the current 29 to 34 by 2025, assuming that renewable water resources remain undeveloped. By 2050, the population projected to be living in water-scarce countries will be between 1.06 billion and 2.43 billion, about 13-20% of the global population. Among the regions most affected are much of Africa, northwestern China, west and south India, parts of Pakistan and Mexico, **and the western coasts of the United States** and South America.

As the global water supply decreases, “competition for water, and for the power that control of water represents, is intensifying from Africa and Central Asia to **Los Angeles and the Everglades**,” the *New York Times* reports. “Per capita water consump-

tion is rising twice as fast as the world’s population,” writes former Sen. Paul Simon in his new book *Tapped Out*. Simon said, “You do not have to be an Einstein to understand that we are headed toward a potential calamity.” Countries that control water are “likely to be the big winners of the future.” In particular, Turkey, which controls the flows of the Tigris and Euphrates rivers, is using its water as a tool of foreign policy by building a 50-mile undersea pipeline that would carry water to northern Cyprus. Turkish officials and foreign mediators hope that excess water can be sold to the ethnic Greek republic on the southern part of Cyprus as a way of promoting peace. Ishak Alaton, a Turkish businessman whose company has won the contract to build the Cyprus pipeline said, “You can’t overstate [water’s] importance. I firmly believe that just as the 20<sup>th</sup> century was the century of oil, the 21st century will be the century of water”.

In what “may turn out to have been the



starting gun in a new global scramble” for water resources, the Canadian Parliament in January voted unanimously to ban bulk sales of water to foreigners. The moratorium will remain in place until an agreement is reached between federal officials and all 10 provinces. Canada holds 20% of the world’s fresh water supply, but “motivated as much by raw nationalism as environmentalism,” Canada “doesn’t want to share a drop.” Bill Blaikie, a member of Parliament from Manitoba said, “Water is as Canadian as hockey, as the Mounties, as the beaver”. Some observers, though, say the moratorium “is just a temporary stopgap” to give the federal and provincial governments time to devise a water policy and pricing strategy before opening up the resource to bidders. Terence Corcoran, business editor of Toronto’s *National Post* said, “Canada is a future OPEC of water.”

According the *Wall Street Journal*, a private

market for acquiring, storing and shipping water is emerging. The market “remains in its infancy, but already shows glimmers of what it could become” with the recent acquisition of Palm Springs, CA-based *US Filter* by France’s *Vivendi SA*, a communications and utility group, for \$6.2 billion. *US Filter*’s main operations are in municipal and industrial water treatment, but it holds the rights to southern California farmland with Colorado River water claims. *US Filter* hopes to recycle and conserve water used on fields, and use any surplus for sales to local irrigation districts and municipalities. *US Filter* is the largest private water company in the US, and *Vivendi* Chair Jean-Marie Messier said the two companies “share a vision of a full-service global water enterprise”. The deal should “catapult *Vivendi* into a dominant position in a highly fragmented but huge market” for water services, reports the *Financial Times*.

Meanwhile, “in a precedent-setting deal,” a Canadian company “has quietly won the first North American license to ship bulk quantities of drinking water to China -- from a pristine lake in the US.” Vancouver, BC-based *Global Water Corporation* plans to ship 18.2 billion gallons a year from Blue Lake near Sitka, AK, to bottling plants in China.

Within the U.S. “a fragile peace between New Mexico and Texas was shaken” in early March by news that El Paso water officials “have rounded up millions ... to battle New Mexico” for the rights to Rio Grande water. At issue are ownership and use of Rio Grande water stored at Elephant Butte, New Mexico’s largest reservoir. The two states and a Washington, DC-based mediator are negotiating allotments for irrigation districts in an effort to resolve a lawsuit the federal government filed in 7/97 claiming federal ownership of Elephant Butte water. When Texas lawmakers “tentatively agreed to appropriate \$4 million for litigation” in case the negotiations fail, New Mexico water officials “reacted with shock and anger.” At least one New Mexico irrigation district “vowed it would cease cooperating” in the talks.

Meanwhile, Interior Secretary Bruce Babbitt has given Western states six months to set rules for handling annual surpluses of Colorado River water in a move that may allow the states to avoid a federal dictate on the matter. “By letting the states hash it out, southern California could keep its aqueduct full to satisfy farmers and ranchers.” A draft agreement by Nevada, Wyoming, Utah, New

Mexico, Colorado and Arizona would give “equal treatment” to southern California and Las Vegas in surplus water years. By taking unused water from other states, California anticipates that by 2015 it will reduce its annual take from the Colorado River by more than 200,000 acre feet. Babbitt has warned California that it must reduce its use of the river’s water

For a state like Utah, leasing unused water to California “would be a cash cow.” The state could see an annual injection of \$60 million by leasing 400,000 acre feet to California. Utah Speaker of the House Mel Brown (R) said funds from anticipated water leases are “very much needed” to pay for mitigation of endangered species lost to water projects. But the *Southwest Center for Biological Diversity* (SWCBD) criticized Babbitt’s plan to let the states bargain over unused Colorado River water, saying “any shift in the river’s use” should be used to help restore wildlife habitat in the Colorado River Delta at the Gulf of California. For the same reasons, the SWCBD also blasted a recently announced deal among California agricultural users that Babbitt supports because it sets the stage for an agriculture-to-urban water market.

“Highlighting the dangers of wasting water” as a matter of “human survival,” the UN and many governments around the world on 3/21 observed *World Water Day*. The theme of this year’s event was “Everybody Lives Downstream” to emphasize that problems in one region can affect people even great distances away.

Sources: Stephen Collinson, *Agence France-Presse*, 2/7/99; UNESCO release; Stephen Kinzer, *New York Times*, 2/28/99; Colin Nickerson, *Boston Globe*, 3/4/99; Anthony DePalma, *New York Times*, 3/7/99; Rick Wartzman, *Wall Street Journal*, 3/23/99; Owen/Waters, *Financial Times*, 3/23/99; Mike Taugher, *Albuquerque Journal*, 3/6/99; Mary Manning, *Las Vegas Sun*, 12/18/99; Brent Israelson, *Salt Lake Tribune*, 12/20/99; *UN Daily Highlights*, 3/22/99; National Journal’s GREENWIRE, *The Environmental News Daily*, 11/12, 12/18, 12/21/ 1/7, 2/8, 2/1, 13/1, 3/4, 3/8, 3/9 and 3/23/99

## 21<sup>st</sup> Century Water Policy

Last June, the *Western Water Policy Review Advisory Commission* (WWPRAC) published “*Water in the West: The Challenge for the Next Century*”. It may be the most far-sighted federal study of Western

water since John Wesley Powell’s visionary *Report on the Lands of the Arid Region of the United States*, published in 1878. The WWPRAC report is more than a water study. It is a mission statement and a wake-up call, and it puts a new spin on Western water. It identifies contemporary water problems, highlights troublesome trends, such as rapid urban growth, challenges the status quo, and replaces sentiment and myth with science.

If made into legislation, *Water in the West* would:

- restore aquatic ecosystems,
- find new uses for dams,
- free up more water for cities through water markets,
- realign federal programs along watershed boundaries,
- restore water to Indian reservations,
- encourage more efficient use of agricultural water and
- bring more local voice to federal water management.

Separated by 120 years, *Water in the West* and Powell’s *Lands of the Arid Region* report share the same “North Star”: sustainable water use. However while Powell focused on economic development, *Water in the West* focuses on a broader universe and recognizes new and long-overlooked issues, including recreation, environmental protection and, through Native American claims, religion.

The WWPRAC was created by Congress in 1992 to review federal activities in Western states which affect the allocation and use of water resources. It was composed of a powerful 22 member group – including the secretaries of the Interior and Army and 12 ex-officio members of Congress. The nucleus of the “brain trust” was made up of eight citizen members – three water-law professors, two water lawyers, a rancher, an Indian lawyer and the deputy administrator of the Bonneville Power Administration – an all volunteer group appointed by President Clinton. The report is meant to influence legislation and to help Congress shape ideas and see new ways of doing business.

It includes scores of factual gems – nuggets you can extract and put to your own use.

“You can take them to cocktail parties, impress and depress your friends at the same time. You can even make a customized Harper’s Index of Western water”:

- Percent of U.S. hydropower generated by Western rivers (70);
- Percent of Western water used by farmers

(78);

- Percent of Western water used by domestic and commercial users (10);
- Number of native Western fish species that have gone extinct this century (22);
- Number of native Western fish now threatened, endangered or of special concern (more than 100);
- Percent of U.S. reservoir capacity in the 17 Western states (67.6);
- Five fastest-growing states in the U.S. (Nevada, Idaho, Arizona, Colorado, Utah).

But the study's most important contribution is its broad-brush look at Western water and what can be done to manage it more wisely:

**Groundwater:** "Achieving sustainable groundwater use is one of the major challenges facing the West.... The U.S. Geological Survey projects severe depletions in the High Plains region by the year 2020.... State laws commonly allow groundwater overdraft – the depletion of an aquifer at a rate faster than the natural rate of discharge."

**Drought:** "We continue to treat drought as an emergency rather than a systemic risk in arid areas.... We must realize drought is a recurrent feature of the climate of the West.... As the demand for relatively fixed water supplies increases, future droughts can be expected to produce greater impacts."

**Urban Growth:** "For the past 15 years, the West has been experiencing the most dramatic demographic changes for any region or period in the country's history. Should present trends continue, by 2020, population in the West may increase by more than 30 percent. The West is rapidly becoming a series of urban archipelagos (e.g. Denver, Salt Lake, Boise, Missoula, Portland, Phoenix, Albuquerque, Dallas, Houston and Seattle) arrayed across a mostly arid landscape...."Nationally, per capita water use is about 40 gallons of water daily; in the desert Southwest (where residents use a large part of their urban water supplies to water lawns and gardens), the average per capita daily use is three times as high and the per capita use for Las Vegas and Phoenix is over 300 gallons per day."

**Floods:** "Characterizing floods as natural disasters has made it difficult to recognize the need for periodic inundations on some

river systems to maintain their historic natural productivity and their riparian zones....Water and land management policies have increased the magnitude of floods and settlement of flood plains and thus the amount of flood damages. In addition, floodplain management programs have not succeeded in mitigating flood losses in most situations. Multiple- purpose dams have often increased downstream flooding by diminishing the channels' capacity to pass floods.... For example, Elephant Butte Dam on the Rio Grande in New Mexico has increased flooding in El Paso by reducing flushing of the stream channel downstream. Sediment from bank scouring has combined with sediment loads from undammed tributaries to raise the (river) bed level downstream. The net result is that even though Elephant Butte Dam has reduced pre-dam flows at El Paso by as much as 75 percent, small floods can do a great deal of damage."



**Aquatic Species:** "At least 40 kinds of North American freshwater species have suffered extinction in the last century, more than half this total in arid lands west of the Continental Divide. It must be recognized that native biota are sentinels of ecological change. Reductions in their abundance signal the beginning of ecosystem deterioration and disappearances of sensitive species demonstrate major shifts in an ecosystem that may often precede its collapse."

**Pollution:** "Despite progress in the quality of Western water, significant problems remain....Among the most serious unregulated forms of water pollution is that generated by irrigated agriculture and drainage districts. Irrigation return flows can, in certain situations, contain toxic constituents as well as salts, pesticides and fertilizers.... Western irrigated cropland accounts for 89 percent of quality-impaired river mileage and irrigated agriculture accounts for more than 40 percent of the pollution in impaired lakes. Irrigation return flows are the most common source of

pollution in national wildlife refuges."

**Science:** "Water resources management has generally been supported by good science, but the research missions of government agencies are not well adapted to produce the science needed to make informed aquatic restoration decisions. Too often, we spend millions of dollars on science that cannot be applied to make the necessary regulatory decisions. The Sacramento-San Joaquin River Basin Study reported a familiar problem: Millions of dollars have been spent on numerous projects that study elements of the ecosystem, but the research has not been integrated. Thus, scientists cannot answer questions that are basic to making sustainable use decisions.... We need more focused and integrated research."

**Dams:** "Many dams are now providing benefits to a much broader range of interests than was originally envisioned.... Many structures are getting older and must be the focus of significant maintenance decisions. The issue of maintenance is critical given the declining federal budget."

**Indian Water Rights:** "The federal government needs to fulfill its trust responsibilities to Indian tribes and nations to secure tribal water rights and assist the nations and tribes in putting those rights to use. Federal contributions toward meeting these obligations should not be limited to potential federal liability for breach of trust, but should recognize a moral and legal obligation to protect and assist the tribes. The federal government should recognize that it has often failed to protect prior and paramount Indian water rights while encouraging and financing non-Indian water development."

However, spotlighting these problems is one thing – fixing them is another. *Water in the West* proposes an entire drug store of remedies, from the expansion of water marketing – the voluntary sale of water, usually from agriculture to urban areas – to the use of federal dams to heal downstream ecosystems. "Dams have a great potential to contribute to ecosystem restoration because they are a source of altered flows and, where power is generated, restoration funds," the report says.

*Water in the West* also suggests that we borrow a page from John Wesley Powell and shape and integrate federal agencies, programs and budgets along hydrological

boundaries. The concept failed in the 1870s and faces opposition today. But in ways that are as mysterious as water, governance by large river-basin unit is taking hold anyway. You can see it in the multi-agency restoration efforts in the Sacramento-San Joaquin River Delta in California, along the Platte River in Colorado, Wyoming and Nebraska, the Truckee River in California and Nevada and the Columbia River in the Northwest.

The idea has drawn howls of protest from critics who see it as a federal intrusion into state water law and administration. But Denise Fort, a member of the *National Research Council's Water, Science and Technology Board*, disagrees. "We're not talking about broader federal powers," she said. "What we're attempting to do is address the complaint, which was voiced so often, of too many federal agencies that are ill-coordinated and sometimes contradictory. If that's the problem, the answer is to bring them together in some visible setting where they have to coordinate."

You can see democracy bubbling up, too, challenging the oligarchy of traditional water use, the monopoly of state and federal decision-making. The *Henry's Fork Watershed Council* in Idaho and the *Walker Lake Working Group* in Nevada are two of many examples. There are more players at the table. There are trout fishermen, river rafters, university professors, stream restoration specialists, Indian tribes, booming Western cities—as well as farmers, power companies and engineers. By proxy, there are razorback suckers, cutthroat trout, cottonwood trees, and whole aquatic ecosystems at the table. And everyone, everything, is thirsty. *Water in the West* has looked at this and pronounced it good.

"To accept local participation is not simply to engage in a democratic exercise," the report says, "but to recognize the need for sustainable local economies and energetic stakeholder consensus to replace frustration and dissension.... From the bottom up, the new federal challenge will be to effectively participate with local stakeholders through watershed groups and watershed councils."

But as the number of players increases, the stakes get higher. Decisions get tougher. Selling agricultural water to cities means drying up some farms, shrinking rural economies. Sending Colorado water to Nebraska for sandhill cranes means less water for Colorado squawfish. Deregulating the utility industry means less money for

hydropower—and less environmental mitigation. *Water in the West* recognizes this, too. But alas, it has no miracle cure.

The sobering truth is that no panacea exists, the report says. Rapidly growing demands on Western water resources continue to pose a formidable challenge to our capacity for institutional change: "There will be fewer truly win-win solutions in the future. Instead, we seek solutions that equitably share the burden and minimize social disruption."

Copies of *Water in the West: The Challenge for the Next Century*, along with 22 research reports, are available at the WWPRAC Web Site: <http://www.den.doi.gov/wwprac>. Printed copies are available from the WWPRAC office at (303) 445-2100.

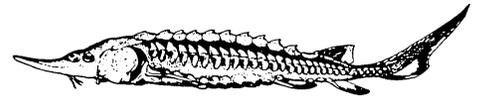
Source: By line article (paraphrased) by Tom Knudson, *High Country News*, Vol. 30, No. 12, 6/22/98 (Tom Knudson is a two-time Pulitzer Prize winning journalist, western water user and special assistant to U.S. Secretary of Interior Bruce Babbitt. The opinions expressed in this article are his own.)

### Young Pallid Sturgeon Collected

The pallid sturgeon, *Scaphirhynchus albus*, inhabits open channels in large, turbid rivers. It occurs in the Missouri River and the Mississippi River below the mouth of the Missouri River. In these rivers, pallid sturgeon live on the bottom in strong current, but may also be found along sand bars and in deep scour holes along wing dams. The species was designated as Federally endangered in October, 1990 because its survival was jeopardized by over-fishing, habitat destruction, and hybridization. Young-of-the-year (Y-O-Y) pallid sturgeon were not documented from the wild until last summer.

On 24 July 1998, a Y-O-Y pallid sturgeon, measuring 79 mm, fork length, was collected in an experimental trawl from the Mississippi River at river mile 49.5L, approximately 2.5 miles south of Cape Girardeau, Cape Girardeau County, Missouri. The experimental trawl used is a modification of the standard Upper Mississippi River Long Term Resource Monitoring Program (LTRMP) slingshot balloon trawl. It is 4.8 m wide x 4.5 m long with 18 mm mesh (16 feet x 15 feet with 3/4-inch mesh). A 4-mm (3/16-inch) delta style mesh was attached to the outside of this net to more

effectively capture small fish, particularly *Macrhybopsis* chubs. A standard trawl sample is 350 meters (1,148 feet) long.



"larval sturgeon"

The pallid sturgeon was collected over primarily a sand substrate; some gravel was present. Bottom dunes to 31 cm high were recorded at the sample site. The water averaged 2.7 m deep and the bottom water velocity averaged 0.55 m/s. Surface water velocity averaged 1.07 m/s. Water temperature was 29.6 °C.

The collection site is classified as main channel border-unstructured strata (no revetment or wing dams) and was located on an inside bend. Typically, inside bends in the Mississippi River near Cape Girardeau have large sand flats with a point bar at the downstream end. Sand dunes occurring in these areas range from 15 cm to 1.2 m high. Substrate types were determined by dragging a metal pole on the bottom. Substrate firmness could be estimated as the pole ascended and descended a dune. In general, the substrate was soft to firm sand when ascending a dune and firm sand or cobble/gravel in the trough below the dune. It is not known whether the pallid sturgeon was captured on or below a dune or in some interstitial space between dunes.

Forty-six fish were captured along with the pallid sturgeon at the collection site. Species composition was 52% channel catfish (*Ictalurus punctatus*), 32% blue catfish (*Ictalurus furcatus*), 9% unidentified sturgeon, 2% gizzard shad (*Dorosoma cepedianum*), and 2% sicklefin chub (*Macrhybopsis meeki*). Three of the four unidentified sturgeon were 100-150 mm long (these were probably Y-O-Y); the other was 258 mm long (probably age-1). All of the other species captured were Y-O-Y.

One hundred and five sites were sampled with the experimental trawl in 1998. Nineteen samples produced 32 unidentified sturgeon that were less than 258 mm long; 28 were less than 150 mm long. Twelve of the 19 samples (63%) occurred at inside bends and 20 of the 32 unidentified sturgeon were captured in inside bends (62%). This suggests that Y-O-Y sturgeon may be using inside bends as rearing habitat from June through October. More research is needed to determine sturgeon distribution through-

out the seasons and over its entire historical range.

The Y-O-Y pallid sturgeon collected was killed during the trawl sample, probably the result of trauma. The specimen has been preserved and is in ichthyological collections at the *University of Alabama*. Bobby Reed (Louisiana Department of Wildlife and Fisheries), an active member of the Louisiana Pallid Sturgeon Recovery Team, made the initial verification of the vouchered specimen. The specimen was also verified by Dr. Richard Mayden (*University of Alabama*).

For additional information contact: Mike Petersen and David Herzog, Missouri Department of Conservation, Fisheries Research, Assessment, and Monitoring Section, Long Term Resource Monitoring Program, Open River Field Station, 3815 East Jackson Boulevard, Jackson, MO 63755, (573) 243-2659.

### FWS Caviar ID Method Criticized

The last issue of *River Crossings* noted that methods are being developed by scientists to use DNA “fingerprinting” to help investigators track harvested sturgeon eggs (for individual species) from source to market in order to detect poaching. Scientists cannot rely on sight alone because traders market caviar in only three major categories – *beluga*, *sevruga*, and *osetra* (or Russian) – distinguished by egg size. Certain species tend to produce eggs of a given size and are traditionally marketed in a given category.

Dr. Vadim J. Birstein (*The Sturgeon Society*) and his colleagues have developed DNA tests which identify DNA sequences unique to certain sturgeon species. They offered this test to the U.S. Fish and Wildlife Service (FWS) for use in monitoring U.S. imports for compliance with new *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) rules. However, when Birstein and his colleagues asked the FWS to pay royalties for use of the technique’s patented parts, FWS officials instead opted to develop their own test, which is based on sequencing one section of DNA common to all sturgeon species. According to Dr. Kenneth W. Goddard, director of the FWS Forensics Lab, the agency wanted a tool it could share with enforcement agencies in other nations without bothering with royalty fees.

In response to the *River Crossings* article,

Dr. Birstein sent MICRA an email message criticizing the FWS technique. Included with his message was a copy of a letter of criticism written to John M. Sellar, Acting Head of the CITES Enforcement Assistant Unit. Dr. Birstein’s criticisms follow (paraphrased in part for brevity):

- The FWS did not (and still does not) have enough tissue samples for development of its own DNA identification method -- even for the three commercial sturgeon species. All FWS tissue samples (i.e. 5 *beluga*, 11 *osetra*, and 8 *sevruga* individuals only) are of unknown origin without any indication of population or subspecies. FWS samples were obtained between January and April 1998, while FWS announced in August 1997 that it had developed its own DNA caviar identification method (Fact Sheet Series, 08/97, p. 3). The three main caviar producing species, *beluga* (*Huso huso*), *sevruga* (*Acipenser stellatus*), and the Russian sturgeon or *osetra* (*A. gueldenstaedtii*) live in three different basins (the Caspian, Black, and Azov seas), where they are represented by a number of populations (or subspecies) each. Any method of caviar identification should be tested with tissue samples from several (10-20) individuals from each of the sea stocks.

- Creation of the FWS DNA method violated elementary scientific ethics by using Dr. Birstein’s unpublished data (partial cytochrome b gene sequences of sturgeons) without his knowledge and permission. Dr. Birstein said that FWS officials were aware that these data were a part of materials submitted for patenting in the USA and Europe, but they used the unpublished materials anyway.

- The FWS method of sequence analysis is subjective and not based on and/or supported by results of a scientific study. Without any experimental data FWS declared that there is intra-species variation in all sturgeon species in any two of 28 nucleotide positions that were subjectively chosen for caviar species identification within the 270-nucleotide region of the cytochrome b gene which were sequenced.

- FWS laboratory reports, which Birstein accessed as an expert witness in a case against the FWS, described caviar samples taken from a certain shipment as “most similar to Russian sturgeon” and “most similar to ship sturgeon”. Birstein says that the term “most similar” is not scientifically acceptable when one uses DNA

sequences for species identification.

- Scientifically, it is not possible to use a short part of the cytochrome b gene for the identification of all sturgeon species or at least all potentially caviar producing sturgeon species as the FWS claims. There are no species-specific nucleotide sites in this region for many of the sturgeon species. Using this approach, only two of the three main caviar producing species – *beluga* and *sevruga* – can be identified. The third – *osetra* – cannot be discriminated from three other potentially caviar producing species.

- The FWS DNA method is very expensive, requiring the use of expensive equipment (a DNA automated sequencer). Because of this equipment’s high cost, the FWS can make only random analyses of caviar shipments and is testing only one, rarely two eggs. This method cannot be introduced in caviar exporting countries such as Russia and Romania with their current economic problems since it is impossible for them to obtain and use expensive equipment.



*Paddlefish eggs, such as these, are also being mixed with, and used as a surrogate for sturgeon eggs in today’s caviar markets.*

- The FWS method has not been published in any professional journal or reviewed by any independent professional molecular genetics expert. The use of the FWS DNA method for law enforcement before approval by the scientific community contradicts principles used in science for hundreds of years.

- The current FWS practice of caviar shipment seizures based on the analysis of one egg from the whole shipment (sometimes more than 1 ton of caviar) has no effect or impact on sturgeons in the wild, which should be the ultimate goal of the CITES, i.e. conservation of species. If a dishonest Russian supplier loses his unfortunate honest American partner (whose shipment has been confiscated by the FWS), he has an opportunity to send his next mislabeled shipment to Europe where no

country is conducting DNA tests. This form of the CITES implementation can result only in destruction of the caviar business (which is carried out by small businessmen) in the United States without any effect on stocks of the endangered sturgeon species in the former Soviet Union, Europe or China.

Dr. Birnstein has authored more than 100 scientific publications and several monographs – 25 are on the molecular phylogeny, taxonomy, and conservation biology of sturgeons. As noted earlier, he is also co-author of the DNA method of caviar species identification (i.e. *beluga*, *sevruga*, and *osetra*). The Birnstein et. al. method has been published in *Nature* and *Conservation Biology*, patented in the United States and is presently being patented in the European Union. The American patent has been assigned to the *American Museum of Natural History* (New York), and the European patent, to the *Karl-Schmitz-Scholl-Fonds for Environmental Law and Policy* (Bonn, Germany). Dr. Birnstein describes his (Birnstein et. al.) DNA method as simple, precise, very cheap (it does not include DNA sequencing), and can be introduced in any caviar producing country, including Russia and Romania.

Birnstein says that the question of the DNA method used is crucial for caviar species identification. A particular sturgeon species egg can be scientifically identified only through a DNA study, not visually or through measuring egg size. Dr. Birnstein is convinced that there is no need to identify all sturgeon species for the CITES implementation. Scientifically, he says, it is not possible to create a simple and cheap DNA method for species identification of all sturgeon species. For the CITES implementation, he says, it is enough to check labeling of caviar from the main three commercial species (*beluga*, *osetra*, and *sevruga*) and to confiscate all mislabeled parts of caviar shipments. This type of control will introduce strong monitoring of the caviar trade in the main commercial sturgeon species, and cut off the use of the other Eurasian sturgeon species for caviar production.

Birnstein says that professional conservation biologists already have a serious problem with the CITES implementation: a lack of an exemption in the CITES rules for fixed tissue samples for the DNA research and other types of scientific specimens creates a constant problem for many international scientific studies. Birnstein predicts even more profound polarization of professional

conservation biologists and CITES as an international body if the Secretariat does not follow the rules appropriate in science, but supports poorly scientifically based DNA methods developed by governmental structures (FWS) without any oversight by professional DNA conservation biology experts.

The last issue of *River Crossings* noted that of 95 lots of caviar, mostly purchased in New York City stores, Birnstein et. al. found that about 25% contained species of sturgeon different from those that buyers would expect. These included three lots of *beluga*, which can fetch prices of \$90 an ounce. However, after examining 105 caviar samples purchased on the East and West Coasts, FWS scientists, using the FWS DNA testing method, suggests that only about 3% of the lots are mislabeled.

### Witt Assails Floodplain Building

The man in charge of preparing the nation for the next natural disaster has a few critical words for what's happening along the Missouri River in Saint Louis County. James Lee Witt, head of the Federal Emergency Management Agency, noted the wave of development in Chesterfield Valley, where business owners are banking that an improved levee will protect them from future floods.

"If it's man-made," Witt said, "nature can wipe it out." Witt was at Lambert Field last month en route to a visit in Cape Girardeau. At Cape, he will name that city as Missouri's first Project Impact community. The program recognizes communities that take steps to protect themselves before a disaster hits. Cape also is improving its levee, but that is to protect the town that is already there.

In Chesterfield, and neighboring Maryland Heights, levees are being improved to lure development where before there had been farm fields. The federal government has been doing just the opposite. Millions have been spent to buy out floodplain buildings that are subject to repeated disasters. Witt noted that of more than 10,000 properties purchased for nearly \$100 million, nearly half of the them were in Missouri.

Witt is pushing for changes that will make it harder for home and business owners to file repeat damage claims under the federal flood insurance program. The problem, Witt said, is that so-called 500-year levees are not guaranteed against catastrophe. "You may get 10 years, you might get 20," he said. "I'm not saying Chesterfield shouldn't build there, but

they'd better know the risk."

Witt said predicting future flood levels is difficult because of development in a river's entire watershed. More roofs, parking lots, streets, even farm fields means more water runs off with each rain.

Sources: Tom Uhlenbrock, *Saint Louis Post-Dispatch* Writer and *Missouri Monitor*, March 1999

### Navigation Economics Model Revisited

A sophisticated new economics model is expected to give the Upper Mississippi River Navigation Economics Study Team more precise answers, but it will also require collection of more detailed data. Economists have learned that the economic decisions made by shippers could be more complicated - and varied - than assumed in previous Corps of Engineers studies.

The Upper Mississippi River Navigation Study's determination of the National Economic Development Plan -- or the combination of improvements that maximizes net economic benefits consistent with protecting the nation's environment -- was basically put on hold last summer for a technical review of the economic models. Preliminary results raised concerns for study officials because they varied significantly from outputs of traditional Corps models.

Experts who conducted the "quality control" check found the model was sound. However, it's outputs can be extremely sensitive to the economic assumptions being used - particularly to the concept of elasticity, or the impact of a price change on demand for river transportation, said Rich Manguno, a New Orleans District economist now heading the study's economic evaluation. If shippers keep moving goods on the river despite a price increase, the product is considered to be inelastic, while a product would be elastic if shippers sent their product to alternative markets given even a small increase in the cost of river transportation.

Some have accused the Corps of delaying the study to develop a recommendation that favors construction of new locks and dams. In fact, many of the economic assumptions examined with the new model make construction appear to be a less favorable alternative than it would be using traditional Corps models, Manguno said. If you

assume that demand for river transportation is totally inelastic -- the assumption made in previous studies -- then navigation improvements like lock construction are economically justified more quickly than they would be assuming more elasticity or responsiveness to price he said.

Early this year, a private contractor began compiling actual data to help determine the relative elasticity of various commodities that are carried on the Mississippi, including grain, coal, petroleum, industrial chemicals, iron and steel. The contractor's efforts will ultimately allow the study to estimate how much of a given commodity is shipped via the waterway at a given price. "What we're after is, as congestion starts to build on the waterway, what kind of response can we expect in the shipments of corn and other commodities relative to the increase in price they face," Manguno said. In previous Corps' studies, economists assumed all traffic would remain on the river until it could be shipped to the same point more cheaply through another means, like rail, he said.

"Now we're saying that, especially with grain, it's wrong to assume that the only other option is to put it on rail and ship it to New Orleans. What we're saying is there are other things that come into the picture as well. They could ship it to a feedlot, or crush it and turn it into corn oil or another product. The seller of the grain is not interested in where it goes. What he's really interested in is maximizing what he can get for it. We're trying to get to the nature of the willingness of an individual to pay for water transportation."

In August, the Corps held an expert elicitation meeting, bringing together four of the nation's top experts on grain transportation to glean more information on the demand issue. Their conclusion, meeting facilitator Paul Soyke said, was that the Corps needed more data, and that is what has prompted the additional research effort. Some of what they did suggest, however, was:

- Elasticity is to some degree a function of geography. The closer to the river, the more advantage there is to putting goods on the river, and therefore the more inelastic, or inflexible the decision;
- Grain is relatively elastic, given its many alternative markets;
- Events in the future could have a significant impact on the shape of the model's demand curves, and the assumptions made in the model requires an understanding of a

variety of world markets and conditions.

Information gained from the contractor, study states and other experts will help the Corps determine the most accurate set of economic assumptions to use in developing a preferred improvement plan. The model has been run given a variety of scenarios, and answers have varied dramatically, Manguno said. If you assume demand is totally inelastic, as the Corps has done historically, the preliminary analysis indicates construction of new locks to be justified immediately. If you assume somewhat more elastic demand, coupled with projections of traffic near the high end of the Corps forecasts then the economic justification of locks is pushed out 20 years or more - and even further assuming greater levels of elasticity or lower traffic levels.

Manguno cautions against making any study conclusions before the correct economic assumptions are determined, though. Environmental costs, not yet determined for the system, also could be a major factor in the economic equation. "I'm unwilling to say we know everything with certainty," he said. "I don't think we do yet."

Source: U.S. Army, Corps of Engineers, *UMR-IWW System Navigation Study Newsletter*, January 1999

## Ag Waste Update

In early March VP Al Gore announced a federal plan to limit pollution from agricultural waste by "bringing to bear the full weight of the Clean Water Act on meat producers". Under the plan, a joint initiative by the US EPA and the Agriculture Dept., large cattle, pig and poultry growers will be viewed as potential polluters. Control of manure and runoff from farms will be monitored at a level of scrutiny previously reserved for industrial waste. The plan, which will go into effect in 2002, will apply state or federal permitting rules to about 18,000 major hog, cattle, dairy and poultry producers nationwide.

Standards will be established requiring operations with more than 1,000 beef cattle, 100,000 chickens or 2,500 hogs to develop waste management plans and obtain state permits by 2003, with a goal of having all growers in voluntary compliance by 2009. If states do not create their own programs, the US EPA could do it for them under the Clean Water Act. Gore also announced an

additional \$260 million over two years for states to control pollution from farm runoff. States will also be given the option of singling out their most nutrient-damaged waterways and requiring growers in those areas to get permits, regardless of their size.

The most controversial element of the plan is a requirement that states hold major meat producers responsible for the manure their animals produce, even if the animals are raised by independent farmers. The effort is the first time that both companies and growers will share liability for any legal consequences arising from disposal violations. The industry generally opposes being "legally responsible for the fate" of the 1.4 billion tons of animal waste produced annually. *American Farm Bureau Federation* (AFBF) Pres. Dean Kleckner said the administration should use incentives to target areas where problems exist instead of "throwing a costly regulatory blanket over the countryside". Environmentalists praised the plan, but criticized the fact that the plan does nothing for the short term. Poultry companies were "irate." Richard Lobb of the *National Chicken Council* said, "It is inappropriate for the EPA to jump in". The *National Cattlemen's Beef Assn.* (NCBA) said the Dept. of Agriculture and the EPA "have made improvements to their animal feeding operation strategy," but they still have "significant concerns" about "one size fits all" regulations. However, the *National Pork Producers Council* (NPPC) said it supports the initiative, which mirrors the commitments pork producers made in 1997

In **Georgia** the Environmental Protection Division (EPD) on 1/27 imposed a moratorium on permits for factory hog farms until new regulations are implemented. EPD Director Harold Reheis's decision came after the Board of Natural Resources "strongly" endorsed the action to prevent water pollution from farms. The moratorium on farms exceeding 1,000 pigs is expected to last until 6/99 or until the EPD finishes new rules to limit pollution from hog farms.

**Maryland's** Upper Eastern Shore is potentially facing the same environmental problems that have shown up at Lower Eastern Shore waterways because of an increase in area poultry farming since 1992, according to a new federal farm census. Area farmers say economic necessity has forced them to take up poultry farming and work under contract for the Delmarva Peninsula's large poultry companies. In a

move aimed at changing the relationship between chicken growers and large corporations, the *Chesapeake Bay Foundation* plans to form a cooperative of Eastern Shore poultry farmers as an alternative to the processing companies. Though known for more environmentally oriented projects, the foundation has pursued alternative agricultural efforts as a means of promoting better stewardship of the land. Meanwhile, Maryland is poised to become the first state to place the burden of manure disposal on poultry companies by "tying a company's state operating permit to its success at preventing manure from washing into waterways." Currently, farmers who work under contract for the poultry companies are responsible for the disposal of chicken manure. The new provision would shift the responsibility to the companies. The industry "fiercely opposes" the provision and says voluntary efforts, not "punitive" measures, should be pursued. But environmentalists and federal regulators applaud the move, saying it will help protect waterways such as the Chesapeake Bay. Maryland last year became the first state to limit the amount of chicken manure farmers may spread as fertilizer.

**Delaware** must quickly reduce its poultry pollution by strengthening its "lax" environmental regulations or the US EPA will intervene. Recent poultry-waste controls in Maryland, Virginia and Pennsylvania make Delaware's "inattention" to the problem "more glaring." Delaware was not party to an agreement among the three other states nearly a decade ago to reduce nutrient pollution in the Chesapeake Bay by 40%. Delaware is home to upstream portions of many of the Eastern Shore rivers that are struggling with polluted runoff. The problem is most apparent on the Nanticoke River, which has about 66% of its drainage basin in Sussex County, DE, the U.S.'s leading poultry-producing county. Waste from the 200 million chickens has been linked to polluted drinking water and harmful algae blooms. Court orders requiring Delaware to set nutrient-reduction goals for its waterways set no deadline.

However, EPA Region II Administrator W. Michael McCabe says if the state does not pass significant reforms this year, the agency will step in. Meanwhile, *Perdue Farms Inc.* and Salisbury, MD-based *Eastern Shore Forest Products (ESFP)* in mid March each said they

would build factories to convert chicken waste into commercial fertilizer. *Perdue* plans to build a facility that will use 120,000 tons of waste each year, and it said it would consider using any profit for environmental projects. ESFP is seeking permits to build a factory in Princess Anne, MD, and hopes to build a plant in Delaware as well. Delaware Gov. Thomas Carper (D) is proposing \$2.3 million in funding for conservation programs to help farmers build manure sheds to control runoff. Meanwhile, "nervous farmers" spread tons of chicken manure on their Delaware fields after *Delmarva Poultry Industry Inc. (DPI)* warned them of an impending "crackdown" by the US EPA. A 12/98 letter from DPI to more than 2,000 chicken farmers said manure not "properly covered" would draw EPA citations, and some farmers responded by hiding the manure or spreading it on their farms.

**Alabama's** Environmental Management Commission on 2/16 approved regulations for management of animal waste that will cover about 4,000 large livestock operations. The rules, which took effect on 4/1, established buffer zones of 1,320 feet between liquid waste facilities and the nearest house, school, church or hospital and 330 feet between dry waste facilities and the nearest structure. Farmers also must demonstrate they are managing waste properly. Although environmentalists and farmers expressed mixed reactions, neither group is expected to challenge the rules, says Steven Jenkins of the Alabama Dept. of Environmental Management.

*Seaboard Farms Inc.*, **Oklahoma's** largest swine producer, should be allowed to operate a 25,000-hog facility adjacent to a wildlife refuge, according to a ruling by Judge John Patterson on 3/1. The application to open the farm was opposed by neighbors and environmental, farming and hunting groups, including the *Oklahoma Sierra Club* and the *Oklahoma Wildlife Federation (OWF)*, on grounds that the farm would not be able to properly manage its manure. And a state Dept. of Wildlife official said he feared that odor from the

farm would interfere with public use of the adjacent Beaver River Wildlife Management Area, which provides a home for pheasant, quail, deer, turkey, rabbits and beavers. OWF Pres. Paul Purser said, "To precariously position 25,000 hogs on a slope above some of the best public quail hunting in the state demonstrates that someone somewhere doesn't understand either the aesthetic or economic benefits our wildlife and outdoor recreation bring to Oklahoma." The state Board of Agriculture adopted Judge Patterson's decision with the stipulation that it find 640 acres for manure disposal. But opponents promise further legal action. The state attorney general's office said it will appeal the Agriculture Board's decision.

**In Kansas**, a bill passed by the state House on 2/26 would give the state's counties the power to place stricter standards on hog farming operations than required by the state. Legislation passed last year took away county commissioners' authority over hog operations.

The **Iowa** Environmental Protection Commission on 3/15 recommended tighter standards for earthen manure lagoons. The new standards, meant to prevent polluted runoff and lagoon leakage, are the result of months of debate over livestock-containment rules approved by the Legislature last year. The commission also recommended allowing commercial manure applicators the option of either passing a test or completing a class to obtain a license. The rules must now be approved by the Legislature's Administrative Rules Review Committee.

**In South Dakota** actor James Cromwell, who played Farmer Hoggett in the movie "Babe," is joining members of the Rosebud Sioux Indian Tribe to protest the placement of the "world's third-largest hog factory on tribal lands without adequate environmental and cultural impact studies." Tribe members met with Sen. Tom Daschle (D/SD) to discuss the *Bell Farms* facility and held a rally in Mellette County on land adjacent to the proposed factory.

**Colorado** pork producers and county officials are concerned that new waste regulations that take effect on 7/1 could drive the hog business out of Colorado. Producers say there is no way they will be able to comply with the standards approved by voters last fall.

The **Illinois** Senate unani-



mously passed a bill requiring that new farms with more than 1,000 animals receive state Agriculture Dept. certification on eight requirements including environmental protection measures. The House is expected to pass the compromise legislation later this Spring.

The **Nebraska** Environmental Quality Council has rejected two citizen's efforts to strengthen the state's livestock regulations. One would have required large farms to carry insurance to cover environmental cleanups, and the other would have prohibited spraying liquid waste from irrigation units.

U.S. District Judge Edward Shea in mid March ruled that dairies should be classified as concentrated animal feeding operations (CAFO) subject to tougher regulatory scrutiny. The ruling, stemming from a lawsuit filed by the *Community Assn. for Restoration of the Environment*, found the term CAFO applies not only to feeding pens but also to waste lagoons and fields sprayed with manure. Shea also said manure runoff is subject to the Clean Water Act.

Sources: Peter Goodman, *Washington Post* 3/9/99; Fesperman/Dewar, *Baltimore Sun* 3/9/99; H. Josef Hebert, *AP/San Francisco Chronicle/Examiner* online 3/9/99; Goodman, *Washington Post* 3/9/99; Oldham, *Little Rock Arkansas Democrat-Gazette* 3/9/99; Todd Spangler, *AP/Dover Delaware State News*, 3/10/99; Lambrecht, *St. Louis Post-Dispatch* 3/9 and 3/10/99; AFBF release, 3/9/99; NCBA release, 3/9/99; NPPC release, 3/9/99; AP 1/28/99; *Dover Delaware State News*, 1/29/99; Greg Layton, *Dover Delaware State News*, 2/18/99; Ashley Estes, *AP/Birmingham News* online, 2/17/99; Hinton/McNutt, *Oklahoma City Oklahoman*, 3/2/99; Mick Hinton, *Oklahoma City Daily Oklahoman*, 3/18/99; *USA Today*, 3/1 and 3/26/99; Peter Goodman, *Washington Post*, 3/19/99; Perry Beeman, *Des Moines Register*, 3/16/99; *Environmental Media Services* release, 3/17/99; Dewar/Roylance, *Baltimore Sun*, 3/21/99; Dan Fesperman, *Baltimore Sun*, 3/20/99; Tom Horton, *Baltimore Sun*, 3/28/99; Greg Layton, *Dover Delaware State News*, 3/25/99; John Kennon, Lamar [CO] *Daily News/Denver Post*, 3/29/99; George Gunset, *Chicago Tribune*, 3/27/99; *AP/Portland Oregonian* online, 3/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 12/17, 2/18, 1/29, 3/3, 3/9, 3/10, 3/19, 3/22, 3/29/99

## Miscellaneous River Issues

**Alabama Sturgeon Listing:** The U.S. Fish and Wildlife Service (FWS) on 3/23 proposed adding the Alabama sturgeon to the endangered species list, "risking the renewal of a political firestorm." A similar proposal in 1993 touched off an 18-month battle between the government and **Alabama** lawmakers, who argued that protection would shut down Alabama's waterways and cost the state billions of dollars in economic losses. The government eventually withdrew that proposal, saying the species may already be extinct. But since that time, fishers have caught at least six Alabama sturgeon. And recent studies by the FWS and the Army Corps of Engineers have concluded that listing the fish as endangered will not affect activities in the Alabama and Tombigbee rivers, said Sam Hamilton, FWS southeast regional director. But the FWS "is likely to be in for another fight." Bill Satterfield, who helped lead the fight against the 1993 listing said, "We don't think there's anything to gain by the listing re-proposal". Sources: Motoko Rich, *Wall Street Journal* [Southeast edition], 3/24/99; David Pace, *AP/Birmingham News online*, 3/24/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/25/99

**Lower Miss Gasoline Spill:** A gasoline spill that closed a 21-mile stretch of the Mississippi River in Arabi, **Louisiana** has not damaged wildlife or the freshwater marsh fed by the Caernarvon Diversion, officials say. A 551-foot tanker carrying pyrolysis gasoline went out of control on 2/26 and hit two boats, two barges and a dock causing the spill. Sources: Karen Turni, *New Orleans Times-Picayune*, 3/2/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/4/99

**Fox River Cleanup:** Cleaning up the PCB-contaminated Fox River could cost up to \$721 million and take as long as 10 years, according to **Wisconsin** Dept. of Natural Resources (DNR) studies released in February. But environmentalists said the effort would not do enough and called for a \$1 billion effort. DNR officials will hold public hearings before settling on a final cleanup strategy. Sources: Sandler/Vanden Brook, *Milwaukee Journal-Sentinel*, 2/26/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/2/99

**Oregon Streamside Easement Program:** The *World Wildlife Fund* will pay \$25,000 to the *Southern Oregon Land Conservancy* for

a new streamside easement program on private forests within the Illinois watershed to eliminate logging, grazing, road building and other activities next to streams. Sources: Mark Freeman, *Medford [OR] Mail Tribune*, 1/28/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/5/99

**Blackwater Canyon Endangered Species:** *Allegheny Wood Products* on 2/18 announced it had signed an agreement with the *Sierra Club* to protect endangered species in the Blackwater Canyon of **West Virginia**. *Allegheny Wood* said the *Sierra Club* promised to refrain from filing a lawsuit against the company in exchange for a company commitment to continue working with the U.S. Fish and Wildlife Service to address environmental concerns. Sources: Ken Ward, *Charleston [WV] Gazette*, 2/19/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/24/99

**Chippewa Indian Fishing Rights:** The Supreme Court in late March ruled that Chippewa Indians can fish and hunt on 13 million acres of public land in **Minnesota** without having to abide by state regulations limiting takings. An 1837 treaty with the federal government guaranteed the tribe's fishing and hunting rights in the area in exchange for relinquishing ownership of the land. Minnesota and a coalition of landowners and counties challenged the treaty in court, saying it had expired. But in a 5-4 vote the court upheld the hunting and fishing rights. The decision "affirms a 1997 ruling by the 8th Circuit Court of Appeals that the rights are guaranteed to the bands under" the treaty. In Minnesota, the issue "has been hotly debated ... largely because of fears that tribal members would take too many fish from Lake Mille Lacs, one of the state's prime walleye lakes". Source: Dennis Lien, *St. Paul Pioneer-Press*, 3/25/99; Biskupic/Claiborne, *Washington Post*, 3/25/99; Steve Schultze, *Milwaukee Journal-Sentinel*; 3/25/99; National Journal's GREENWIRE, *The Environmental News Daily*, 3/25/99

**Invasive Blue Catfish:** Blue catfish may be responsible for declining numbers of American shad and blueback herring in **Virginia's** James River, say scientists from *Virginia Commonwealth University* (VCU). When the Virginia Dept. of Game and Inland Fisheries introduced catfish to the James River more than 20 years ago, no one thought about the possible consequences to native fish. The state Game Dept. is attempting a "major effort" to restore the

shad population by banning shad fishing and releasing millions of hatchery-reared shad fry into the James. The state also will open a fifth dam on the James this spring, allowing shad to swim more than 100 miles up the river to spawn. Future studies may follow to further the understanding of the "complicated" James River ecology. Source: Lawrence Latane, *Richmond Times-Dispatch*, 2/16/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 12/22/98 and 2/16/99

#### **Upper Missouri River Riparian Forests:**

At the urging of *American Rivers*, the Bureau of Land Management designated \$185,000 for a river forest project to help protect cottonwood trees from livestock grazing along a "wild and scenic" 150-mile stretch of the Missouri River. Cottonwoods can live 150 years and are the foundation of river forests, supporting a higher diversity of breeding birds than all other Western habitats combined. Sources: Clair Johnson, *Billings Gazette*, 2/10/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/11/99



**Tennessee River Diesel Spill:** A ruptured pipeline on 2/10 caused 45,000 gallons of diesel fuel to spill into Fort Loudoun Lake, Atlanta-based *Colonial Pipeline Co.* said it had tested the pipeline "just a few days ago." *Colonial*, the nation's largest pipeline company, was the subject of a federal task force probe after a 1996 spill in **South Carolina** dumped more than 900,000 gallons of fuel oil into the Reedy River. Sources: Jamie Satterfield, *Knoxville News-Sentinel*, 2/11/99; Satterfield, *Knoxville News-Sentinel*, 2/12/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 2/12/99

**Canadian River Decision:** Landowners and state officials have asked the **Texas**

Supreme Court to determine if a stretch of the Canadian River in the Panhandle is officially a stream or a wide area of wilderness. The outcome could affect other drainage systems in the state where the natural flow of a stream has been dammed. Sources: Jim Vertuno, *San Antonio Express-News*, 2/11/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/12/99

**Black Warrior River Mining:** A plan to mine coal 1,100 feet below the Black Warrior River in **Alabama** is raising environmental concerns. But *Drummond Coal*, which is proposing the work, says the project and the mining technology pose no threat. Sources: *USA Today*, 2/9/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/11/99

**Wisconsin Enviro Regs:** In what may turn out to be a national model for future regulation, **Wisconsin** and the US EPA on 3/25 signed an agreement giving state environmental regulators new flexibility to work with individual businesses to jointly meet pollution-control goals. Under the deal, the first in the US, Wisconsin's Dept. of Natural Resources (DNR) over the next five years will be able to use a flexible regulatory approach with up to 10 businesses. Two manufacturers have already started the application process. In exchange for participating, the companies may face fewer DNR inspections and fewer reporting and permit requirements. State officials say the program will give the DNR the ability to resolve pollution issues on a case-by-case or company-by-company basis, instead of the current "one-size-fits-all" standards set by state and federal laws. But Keith Reopelle of *Wisconsin's Environmental Decade Inc.* say he is withholding judgement on the program until he is assured that it will not result in less environmental enforcement. Sources: Walters, *Milwaukee Journal-Sentinel*, 3/26/99; Sharon Theimer, *AP/St. Paul Pioneer-Press*, 3/26/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 3/26/99

**Montana Water Quality Regs:** US EPA officials in late January praised recent changes to **Montana's** water-quality rules and promised to work with state lawmakers this session to address the EPA's concerns with the state's water program. The EPA in December ordered Montana to revise its water regs, which the agency says the state weakened in 1995. EPA Region VIII Administrator Jack McGraw told Gov. Marc Racicot (R) that most changes the state has

made recently to the program are acceptable. EPA official Bill Wuerthele is helping state lawmakers draft legislation to "fix" any remaining problems. Sources: Erin Billings, *Billings Gazette*, 1/29/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 1/7 and 1/29/99

**Crooked Creek Gravel Mining:** In an effort to control the impacts of gravel mining on Crooked Creek, a special committee of the **Arkansas** Pollution Control and Ecology Commission on 3/16 asked the full department to study possible changes in mining and water quality regulations. The committee recommended providing for staged reclamation of mining lands; requiring larger buffers between mines and waterways; changing Crooked Creek's status to an "extraordinary resource waterway;" and shortening the time for which gravel mining permits are granted. Sources: Andrew Green, *Arkansas Democrat-Gazette*, 3/17/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/18/99

**Acid Rain:** State and federal environmental agencies on 3/20 dumped 140 tons of limestone into the St. Mary's River in Augusta County, **Virginia** to combat the damage done by acid rain and restore the waterway as suitable trout habitat. Meanwhile, in **New York** an environmental group says the release of an acid rain report is being delayed because it shows that federal policies in the Adirondack Mountains are too lenient. The National Acid Precipitation Assessment Program was due to release the report to the public in 12/96. The report, ordered by Congress in 1990, concludes that acid rain deposit levels are increasing in sensitive areas despite lower sulfur dioxide and nitrogen oxide emissions from Midwest factories. *Adirondack Council* Executive Director Timothy Burke said the conclusions show that federal emissions standards are too easy to meet. More than 500 lakes and ponds in Adirondack Park are too acidic to support native life. Rep. John Sweeney (R-NY) has asked the General Accounting Office to investigate the delay in the release. Sources: Carlos Santos, *Richmond Times-Dispatch*, 3/21/99; Lawrence Latane, *Richmond Times-Dispatch*, 3/23/99; *AP/Boston Globe*, 3/4/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/5 and 3/23/99

**Construction Site Runoff Indictment:** In the first indictment in southern **Alabama** involving silt runoff at construction sites, Charles Talbert of Vossberg, MS, was

arrested in early March for allegedly violating the federal Clean Water Act while doing site preparation work in Mobile in 1997 and 1998. J. Don Foster, the U.S. attorney for southern Alabama, said he expects more such cases unless contractors get vigilant about protecting streams from pollution. Sources: *AP/Birmingham News* online, 3/8/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/9/99

**Montana Enviro Leases:** Environmental groups that lease state lands in an effort to protect wildlife are "reeling" from steep new lease rates that reflect what the lands would bring if they were developed. Clive Rooney of the Dept. of Natural Resources said he cannot ignore rising property values because state officials are required to get the maximum return on state properties. Sources: *AP/Billings Gazette*, 3/4/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/9/99

**Minnesota Water Buffer Bill:** Legislation introduced in the Minnesota House would limit logging and require buffer zones around streams on state and county managed lands. The bill, promoted by the *National Audubon Society*, would ban clearcutting in 250-foot buffer zones around lakes and streams and allow only selective logging in watersheds elsewhere. It also would mandate a 40-foot no-logging buffer zone around seasonal ponds and a 100-foot buffer around permanent wetlands, where only selective logging could occur. *Audubon's* proposal is "similar but more restrictive" than the compromise plan passed last year by the *Minnesota Forest Resources Council*, which suggested voluntary buffer zones of between 50 and 200 feet. Sources: John Myers, *Duluth News-Tribune*, 3/9/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 12/22/98 and 3/9/99

**Berkeley Pit Microbes:** Microorganisms found thriving in the "toxic stew" of Montana's Berkeley Pit, part of the nation's largest Superfund site, could help naturally clean up the highly polluted waters, scientists say. Researchers at the site in Butte, MT, have found a variety of single-celled life in the 1.5-mile-wide, 1,800-foot-deep copper mine pit. The pit has been filling with water laced with arsenic and heavy metals since the mine was abandoned about 17 years ago. Until recently it was assumed to be unable to support life. Some of the organisms found may eventually help clean up the water by

making the heavy metals precipitate. And scientists are looking at some of the microbes as possible sources of anti-cancer, antifungal and antibacterial agents. Sources: Mark Matthews, *Washington Post*, 3/8/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/8/99

**NE, KS, WY Water Wars:** Nebraska Gov. Mike Johanns (R) said in early February that his state is open to negotiating settlements of its water fights with Kansas and Wyoming. However, he said a settlement is "unlikely." Nebraska and Wyoming are mired in a 13-year-old lawsuit over North Platte River water use. Sources: Kevin O'Hanlon, *AP*, 2/10/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/11/99

**Frog Force:** Interior Secretary Bruce Babbitt asked Congress in late February to approve more than \$9 million for research into the decline of amphibians throughout the U.S. Up to one-third of the nation's 230 species of frogs, toads and salamanders are in decline, Babbitt said. And reports of deformed frogs are on the rise. Scientists suspect a diverse group of culprits, including pesticide contamination, increases in UV radiation, fungal infections and loss of



wetlands. Ron Heyer of the *Smithsonian Institution* said, "All amphibian biologists are now convinced that something unusual and catastrophic is happening to amphibians". The 15-agency federal *Task Force on Amphibian Decline and Deformities* launched a program called *Frog Force*, which is intended to encourage volunteers to gather information on vanishing or deformed frog populations. Sources: Erin Kelly, *USA Today*, 2/25/99; *Reuters/ABC News*, 2/24/99; Seth Borenstein, *Philadelphia Inquirer*, 2/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/24/98, 2/25/99

**Pennsylvania Contamination:** US EPA officials visited several farms in Montgom-

ery County, PA, in March to investigate livestock deformities and stunted crop growth. The EPA conducted a series of water and soil tests on the farms in January but found no evidence that could explain the area's high death rates among pigs and the bizarre birth defects, such as displaced stomachs and reversed leg joints, among cattle. Some farmers, such as Tom Yarnall, have reported that their pigs and crops have turned purple. The problems were first noted in the early 1990s. The EPA will also review the environmental record and practices of the *Cabot Corp.* chemical plant in Boyertown, just a few miles from the farms. The plant was listed by the Nuclear Regulatory Commission in 1992 as being seriously contaminated with radioactivity, but it was taken off the list last year after contaminants were removed. Still, farmers suspect it may be responsible for the livestock and crop defects. Sources: Matt Stearns, *Philadelphia Inquirer*, 3/5/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 3/5/99

**Kansas River Pollution:** Johnson County, Kansas wastewater officials hope the results of a study on ammonia discharges will show that costly upgrades to the county's Mill Creek Regional Treatment Facility are unnecessary. The plant exceeds federal discharge levels and will require a \$30 million upgrade to protect aquatic life in the Kansas River if officials cannot find scientific evidence to back their assertion that the standards are too strict. Sources: Finn Bullers, *Kansas City Star*, 2/15/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/17/99

**Montana Fertilizer Regs:** A bill before the state House would require the state Dept. of Environmental Quality to set limits on acceptable hazardous waste allowed in fertilizer. There are no national standards for heavy metals, arsenic or organochlorine in fertilizer products. Sources: Erica Curless, *Billings Gazette*, 2/12/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/17/99

**Wisconsin River Pollution:** A Wisconsin biologist says thousands of dead fish along the Wisconsin River pose a disposal problem because they contain too much poison to be dumped inland. The fish, which are contaminated with dioxins and PCBs, are casualties of a die-off caused partly by last summer's drought. Sources: *AP/Milwaukee Journal-Sentinel*, 2/15/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 2/17/99

**Mississippi River Delta Disappearing:** Southern Louisiana's Mississippi River Delta wetlands are "vanishing" at a rate of 40 acres/hr. Since 1930, the state has lost more than 1 million acres of wetlands due to water diversions and industrial projects. If this loss continues, "most of the southern part of the state" will be underwater by 2050. And these estimates do not take into account predictions of rises in sea level due to global warming. Gene Turner of *Louisiana State University* says canals are the biggest cause of wetland loss. Turner said, "If water levels can't rise and fall naturally, these plants die and the land sinks away." Current federal and state funds will only prevent an estimated 22% of the expected land loss over the next 50 years. Estimated costs to stabilize the area are about \$14 billion. Some Midwestern scientists believe that the Gulf of Mexico's hypoxia (oxygen deficit) problem is, in part, due to the loss of the Mississippi River's coastal wetlands. In its natural form the River delivered its nutrient laden waters to the Gulf through a complex network of rich coastal wetlands which stabilized suspended and dissolved materials before they could reach the Gulf. The dikes and levees that today isolate the River from its coastal wetlands in order to create a deepwater ship canal also deliver its nutrient laden waters off shore directly into the deep waters of the Gulf, bypassing the River's life-giving wetlands. This delivery process has been likened to a hypodermic syringe (the ship canal) delivering drugs (nutrient laden waters) to the addict (the Gulf of Mexico). In the process the River's coastal wetlands are deprived of the sediments they need to replenish and maintain themselves against the constant onslaught of coastal erosion caused by the wave action and tides of the Gulf of Mexico. Sources: Colin Woodard, *Christian Science Monitor*, 2/18/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 2/18/99

**Mississippi Gravel Mining Fines:** The Mississippi state Senate seeks to impose penalties of up to \$25,000 on sand and gravel operators that repeatedly mine without permits. Sources: *USA Today*, 1/28/99 and

**Endangered Species Tax Credits:** South Carolina State Sen. Phil Leventis (D) has introduced the Endangered Species Incentive Act to allow tax credits for homeowners who have endangered species on their land and are willing to work with state officials on habitat management. Leventis said the legislation would "bring in a new era of

partnerships for endangered species protection". Sources: *AP*, 1/28/99 and National Journal's GREENWIRE, *The Environmental News Daily*, 1/29/99

**Multi-State Trout Recovery:** Federal protection for cutthroat trout "may be unnecessary" if states are able to develop conservation agreements, federal and state wildlife managers said at a recent meeting in Salt Lake City. The U.S. Fish and Wildlife Service (FWS) is helping develop grants for states to work on agreements and management plans for cutthroat recovery, according to Mike Stempel, the agency's fisheries supervisor for **Montana, Wyoming, North Dakota and South Dakota**. But the Boulder, CO-based *Biodiversity Legal Foundation* (BLF) has petitioned the FWS to list the Bonneville and Yellowstone cutthroat trout as federally threatened or endangered species, and it is preparing a petition to force the FWS to list the Colorado River cutthroat trout. The group criticized the idea of state conservation agreements in place of federal protection, saying the agreements alone have never brought back species and are not enforceable or adequate for restoration efforts. BLF executive director Jasper Carlton said, "It's all verbal garbage. ... every subspecies of cutthroat trout from Mexico to Canada is in serious trouble." The FWS "is close" to issuing a decision on whether to list the Bonneville trout, and it has put the petition for the Yellowstone trout on hold until at least 3/99. Meanwhile, the U.S. Forest Service in early December gave permission to poison non-native fish in a portion of **Montana's** Lee Metcalf Wilderness in order to reintroduce native Westslope cutthroat trout. The project supported by the Montana Dept. of Fish, Wildlife and Parks, would kill rainbow, brook and Yellowstone cutthroat trout in Cherry Lake and Cherry Creek in order to reintroduce the Westslope, which is a candidate for listing under the federal Endangered Species Act. Sources: *AP/Casper [WY] Star-Tribune*, 12/7/98; Joe Kolman, *Billings Gazette*, 12/8/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 12/8/98

**Southeastern Rivers:** The *World Wildlife Fund* and local environmental groups met in Chattanooga, TN in mid March to discuss the pressures that population growth and pollution are placing on rivers in the South. The groups plan to call on state governments to protect the most threatened waterways in a 250,000-square-mile area from **Virginia to Florida and west to Mississippi**. The region is home to half the

freshwater fish in the US, many of which are known only to specific rivers, as well as to rare salamanders, river otters and snapping turtles. Participants called for better national forest management plans and increased voluntary conservation efforts by private landowners. A coalition of southern Appalachian environmental groups attending the meeting identified several rivers and watersheds it believes should be protected to preserve the region's "rich diversity of aquatic life." The group's report names 15 watersheds in **Tennessee, Virginia, Kentucky, Alabama, North Carolina and South Carolina** "most critical" to protecting about 100 species of fish, crayfish and mussels. Susan Andrews, ecologist for the *Southern Appalachian Forest Coalition* said "Many of the region's streams have experienced a 50% decline in species during this century. If these native creatures no longer live in the water they've inhabited for millions of years, what does that tell us?" An additional 22 smaller watersheds were also recommended for protection because they contain special features or biological richness. Meanwhile, a group of Clifton, TN, residents in mid March filed a lawsuit in US District Court seeking to stop the construction of a limestone quarry and a barge terminal on the Tennessee River. *Save Our Air, Rivers & Recreation* (SOARR) says the project would hurt area wells and catfish beds and add noise and ground pollution to the quiet countryside. SOARR attorney Frank Fly said the Army Corps of Engineers, which issued a permit for the project, "failed to prepare an environmental impact statement, which is required any time there is a major federal action". Sources: *AP/Biloxi Sun Herald*, 3/15/99; Morgan Simmons, *Knoxville News-Sentinel*, 3/17/99; *The Tennessean*, 3/10/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 3/15 and 3/17/99

**River Logging:** Environmentalists and some state officials are concerned that river logging – the practice of salvaging from river bottoms lumber that sank while being floated to saw mills decades ago – could damage fish habitat. Biologists say river logging could destroy spawning areas and bottom debris where fish seek shelter and food. Some projects to remove the fine-grain lumber have been stalled by objections, and the practice has been banned in **Florida**. River logging proponents say that environmental disruptions are temporary and that the practice helps restore the river to its original condition. Sources: Jerry Allegood, *Raleigh News & Observer*, 1/3/99

and National Journal's GREENWIRE, *The Environmental News Daily*, 1/5/99

**Yellowstone Bioprospecting:** A federal judge on 3/24 ordered a temporary halt to a "precedent-setting" deal between Yellowstone National Park and a biotechnology firm for the right to prospect in the park's geysers and hot springs for commercially valuable microbes. Citing concerns that the agreement with San Diego-based *Diversa Corp.* was a "dramatic change" in policy for the National Park Service (NPS), Judge Royce Lamberth ordered the profit-sharing deal suspended pending an environmental impact assessment. Lamberth ruled that the NPS has "failed to seek public input" on the Yellowstone plan and has denied requests from Congress, environmental groups and the press for financial details of the agreement. The decision is a "blow" to the NPS's new approach to insuring that parks and the public benefit from commercially useful products based on the parks' natural resources. Preston Scott, a consultant for the park who helped develop the agreement, said the ruling would not stop bioprospecting in Yellowstone. Scott said, "*Diversa's* permit to collect is still in place -- but now the park will get no money and no information." Park officials said they would comply with the judge's ruling by beginning an environmental assessment of the deal. But Scott also said NPS will appeal the decision. Sources: Andrew Pollack, *New York Times*, 3/26/99; Michael Milstein, *Billings Gazette*, 3/26/99; Tom Lackey, *AP/Casper [WY] Star-Tribune*, 3/25/99; and National Journal's GREENWIRE, *The Environmental News Daily*, 3/26/99

**Yellowstone Lake Trout:** In follow-up to a miscellaneous note regarding the Yellowstone Lake lake trout problem reported in the November/December issue of *River Crossings*, Jack Wingate, Minnesota Dept. of Natural Resources, informs us that the lake trout were introduced into Yellowstone Lake in the early 1900's by the National Park Service (NPS). Wingate says, however, that the NPS has never been willing to acknowledge this introduction.

## Climate Change Update

There is a "compelling basis for legitimate public concern" about global climate change resulting from human activities, according to the *American Geophysical Union* (AGU). In a public statement released in January,

the AGU said that scientific uncertainty about the issue "will never be completely eliminated" but that "does not justify inaction." "While the statement recommended the development of strategies for dealing with global warming, it did not propose any specific solutions". Other scientific groups have reached similar conclusions, but "from the standpoint of scientific credibility, the (AGU) statement could rank among the most influential yet".

The industry-based *Global Climate Coalition* said the AGU "verified [its] concerns that the science behind global climate policies is uncertain" And S. Fred Singer of the *Science & Environmental Policy Institute* in Fairfax, VA, said, "I quibble with the politics, procedures and science [involved]. I say the science is faulty, misleading and incomplete". The report acknowledged that the observed global temperature increase is not "outside the range of climate variability of the last few thousand years". And it noted that factors other than greenhouse-gas emissions affect the climate.

Meanwhile, "Two new studies of the Earth's ancient atmosphere may alter the way scientists understand the relationship between airborne carbon dioxide and climate change." In one study, published in the 3/12 issue of the journal *Science*, researchers at the *Scripps Institution of Oceanography* in San Diego addressed the "chicken-or-egg" question of whether rising levels of atmospheric CO<sub>2</sub> have preceded or followed increases in global temperatures. "Contrary to what many believe, the team concluded that the temperature rise comes first, followed by a carbon dioxide boost 400 to 1,000 years later". "Carbon dioxide levels in the atmosphere fluctuated after the Ice Age, helping to heat up Earth's climate and trigger the spread of deserts." The study, based on analysis of hundreds of Antarctic ice cores, also suggests the CO<sub>2</sub> fluctuations were caused by changes in vegetation, not the oceans, as has previously

been postulated.

The other study, published in the 3/11 issue of the journal *Nature*, found that global atmospheric levels of CO<sub>2</sub> have varied "considerably" over the last 10,000 years. According to study co-author Thomas Stocker of the *University of Bern* in Switzerland, one implication is that experts will need to stop referring to the "pre-industrial CO<sub>2</sub> concentration" as if it were a constant. Greenhouse skeptics "will probably jump" on these papers as "proof" that there is no necessary causal relation between carbon dioxide levels and temperatures, said Anthony Broccoli of the *Geophysical Fluid Dynamics Lab* in Princeton, NJ. But in fact, he said, the new findings are consistent with a "positive CO<sub>2</sub>-temperature feedback" system in which changes in one prompt changes in the other. And none of the ancient climate changes involved a rate of CO<sub>2</sub> change like that occurring today, said Gerard Bond of *Lamont-Doherty Earth Observatory* at *Columbia University*.

At a conference in Ames, IA, on farming, energy and global climate change, Thomas Spencer, who chairs the foreign affairs and security policy committee of the European Parliament, "warned U.S. farmers against the temptation to dismiss the threat of global warming." And he praised Sen. Richard Lugar (R-IN) for urging greater efforts to develop biofuels from corn, soybeans, straw and animal wastes.

Meanwhile, a direct examination by *University of Munich* scientists of the actual behavior of plants across Europe (616 springtime surveys and 178 autumn surveys on genetically identical plants from 77 controlled sites spread from Ireland to Hungary and from Finland to Macedonia) appears to confirm" earlier findings that "spring warmth is arriving sooner and autumn coolness is coming later in the Northern Hemisphere. The previously reported study, published in the current issue of the journal *Nature*, found that from 1959 to 1993, "the advent of botanical spring advanced an average of six days, while autumn was delayed an average of about five days." "Modeling studies" showed that 70% of the lengthened growing season could be explained by rises in daily temperature. The researchers attributed the rising temperatures to a general global warming trend rather than any "urban heat-island" effect, as only a few of the research sites were in urban areas. Ranga Myeni of *Boston University* "said all the recent studies indicate that a warming and greening of the planet is indeed under way,



and that the growing season should lengthen further if temperatures continue to rise.” One result could be higher agricultural and timber production in northern regions. The study lends “powerful support” to the idea that human-caused emissions of greenhouse gases are causing global warming. Annette Menzel of the university’s department of forest science calls it a “clear sign from the biosphere that we can observe global change. Ten days may not sound [like] much, but it represents a significant extension of a growing season of about 150 days.” A longer growing season could cause plants to absorb more greenhouse gases from the atmosphere, the researchers say.

The *Pew Center on Global Climate Change* in early February released a study that finds climate change has the potential to affect livestock, crops and local agricultural economies. The report suggests grain yields could fall significantly in Southern states and rise in the North. Changes in grain production and foraging areas could also cause shifts in livestock production. And a change in the frequency or intensity of events such as storms, droughts and early or late frosts could also affect agriculture. The report also points to the “secondary” impacts of climate change, which could include higher ozone smog levels and changes in water resources or pest populations. The report on agriculture is the first in a series to be released by the *Pew Center* this year. Other studies will address the potential impacts of climate change on water resources, coastal areas, human health, ecosystems and forests.

Meanwhile, the *Pew Center* announced that *ABB*, a Swiss-based energy and engineering group; *Entergy*, a New Orleans-based energy company; and *Shell International*, a unit of the *Royal Dutch Shell Group*, are joining the *Pew Center’s Business Environmental Leadership Council*. The companies join a group of 19 other companies that are committed to greater understanding of and action on climate change. Claussen said, “The decision by these three global leaders to join our effort continues to signal a growing shift in the climate change debate. These businesses, representing diverse sectors, have recognized the serious challenges created by climate change and have committed to working toward solutions that can keep both the environment and the economy healthy”.

Sources: William Stevens, *New York Times*, 1/29/99; Peter Spotts, *Christian Science Monitor*, 1/29/99; *GCC release*, 1/28/99; Joyce Howard Price, *Washington Times*, 1/29/99; Joseph Verrengia, *AP/Boston Globe*, 3/11/99; Curt Suplee, *Washington Post*, 3/15/99; Steve Agence *France-Presse*, 3/1/99; William Stevens, *New York Times*, 3/2/99;

Nick Nuttal, *London Times*, 2/25/99; Connor, *London Independent*, 2/25/99; *Pew Center* release, 2/10/99; and National Journal’s *GREENWIRE*, *The Environmental News Daily*, 1/29, 2/1; 3/1, 3/2 and 3/15/99

## States Short Changing Fish and Wildlife

Despite the huge economic benefits generated for states by hunting, fishing and wildlife watching, most state governments are shortchanging fish and wildlife management, according to a new *Izaak Walton League of America (IWLA)* report. In “*Passing the Buck: A Comparison of State Fish and Wildlife Agency Funding and the Economic Value of Wildlife-Associated Recreation*,” IWLA reports that hunting, fishing and wildlife watching generated more than \$254 billion in estimated total economic impact in the U.S. during 1996. These activities also combined to support 2.9 million jobs, paying roughly \$68.6 billion in wages and salaries, and contributed more than \$5 billion in state sales and income tax. In spite of the enormous economic impacts provided by wildlife-associated recreation, however, the report reveals that the overwhelming majority of states fail to provide adequate financial support for fish and wildlife management. Rather, they depend almost exclusively on hunters and anglers for funding their state agencies’ operations.

“Sportsmen are justifiably proud of their financial support,” said Paul Hansen, IWLA executive director, “but they cannot be expected to carry the entire load if the fish and wildlife management challenges of the new millennium are to be met.” Although almost every state now carries a large budget surplus, few reinvest any significant amount into the agencies responsible for stewarding the natural resources that support recreation-generated tax revenues. In 22 states, fish and wildlife agencies received less than 20% of their overall budgets from the state general fund or a dedicated tax source in fiscal year 1995. Another 20 states provided absolutely nothing to their agencies from the state treasuries. “Clearly, most state legislatures do not appreciate the relationship between the substantial revenues provided to the private sector and the state by wildlife-associated recreation, and the role fish and wildlife agencies play in providing those recreational opportunities,” said *Wildlife Management Institute* President Rollin Sparrowe. Current unmet needs - especially conservation efforts for nongame species - emerging challenges, and increasing public expectations demand a new approach to funding fish and wildlife management from state governments.

In a March 19 letter, Hansen urged all state governors to increase the direct financial investment in their fish and wildlife agencies in order “to become a full financial partner in conserving fish and wildlife resources.”

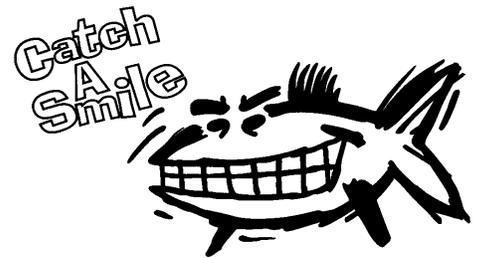
Contact: Ron Scott, *IWLA* senior conservation associate, at (301) 548-0150, ext. 229

## E-Cards and WWF

E-Cards are the postcards of the Internet. These virtual greeting cards are free and feature wildlife, people, places, live-video, animations, and more. Since its inception, E-Cards has supported *World Wildlife Fund (WWF)*, and is the second-largest source of traffic to WWF’s own Web site. Through its card content and card write-ups, E-Cards provides educational information about wildlife and the environment. E-Cards may be sent to anyone with Web access and an e-mail account. E-Cards can be accessed at <http://www.e-cards.com>. To learn more about this and other partnerships, visit the WWF Web site at <http://www.worldwildlife.org/help/new/mktg>

## Wildlife Forever State-Fish Art Contest

*National Fishing Week* recently announced a great activity for kids aged 4-12. Kids are being invited to draw, paint, color or sketch their state fish. Winners will be chosen from the best artwork from each state. Winning artwork will be displayed at the *Mall of America* during a week-long *State Fish Expo*, on *America Online* and in *North American Fisherman* magazine.



Get all the details, list of state fish, complete rules and judging criteria on *AOL* (keyword: FISH ART), on the web at <http://www.statefishart.com>, or by calling 877-FISH-ART. Have fun while you learn more about your state fish and fisheries conservation! Sponsors include *Mall of America*, *America Online*, *North American Fishing Club*, *Cabela’s*, *Careco Television Productions, Inc.*, and *National Fishing Week*.

## Meetings of Interest

**May 9-14: 15<sup>th</sup> International Symposium on Biotelemetry, Juneau, AK.** Contact: John H. Eiler, (907) 789-6033, john.eiler@noaa.gov.

**May 10-11: 6<sup>th</sup> Annual LMRCC Meeting, Holiday Inn Memphis East, Memphis, TN.** Contact: Ron Nassar, LMRCC Coordinator, (601) 629-6602.

**May 13-14: 26<sup>th</sup> Annual Conference on Ecosystem Restoration and Creation, Tampa, FL.** Contact: Frederick J. Webb, (813) 757-2104, webb@mail.hcc.cc.fl.us.

**May 16-19: National Watershed Coalition's 6th National Watershed Conference, Austin, TX.** Contact: John W. Peterson, Executive Director, National Watershed Coalition, 9304 Lundy Court, Burke, VA 22015-3431, (703) 455-6886, jwpeterson@erols.com.

**May 23-28: 10<sup>th</sup> International Soil Conservation Organization Conference – Sustaining the Global Farm, Local Action for Land Stewardship, Purdue University, West Lafayette, IN.** Contact: Mark Nearing, Purdue University, 1196 SOIL Bldg., West Lafayette, IN 47907-1196, (765) 494-8673, isco99@ecn.purdue.edu.

**May 25-28: 47<sup>th</sup> Annual Meeting of the**

**North American Benthological Society, Duluth, MN.** Contact: Stephen W. Golladay, (912) 734-4706, http://www.benthos.org.

**June 1-4: Evaluating the Benefits of Recreational Fishing, The Fisheries Centre, University of British Columbia, Vancouver, BC.** Contact: Gunna Weingartner, (604) 822-0618,

**June 5-13: National Fishing Week, Your Home Town.** Contact: Your local fish and game agency or National Fishing Week Steering Committee, 1033 N. Fairfax St., Suite 200, Alexandria, VA 22314, (703) 684-3201, Fishingweek@gofishing.org

**August 2-6: 9<sup>th</sup> Annual National Gap Analysis Program Meeting, Duluth Entertainment Convention Center, Duluth, MN.** Contact: (208) 885-3555, gap@uidaho.edu

**August 6-8: 1999 Annual Convention of the N. American Native Fishes Association, Jumers Castle Lodge, Champaign-Urbana, IL.** Contact: NANFA, 8401 North Lakewood Place, West Terre Haute, IN 47885, (812) 535-4175 or (812) 535-1230.

**August 29-Sept. 2: 129<sup>th</sup> Annual Meeting**

**of the American Fisheries Society, Adam's Mark Hotel, Charlotte, NC.** Contact: Betsy Fritz, (301) 897-8616, ext. 212, bfritz@fisheries.org

**Sept. 21-22: Vegetation of the Upper Mississippi and Illinois River System: Status, Management and Ecological Systems, Radisson Hotel, La Crosse, WI.** Contact: Penny Tiedt, UW-La Crosse, La Crosse, WI 54601, (608) 785-6503, FAX (608) 785-8221, rada@mail.uwlax.edu

**Sept. 23-25: International Conference of the Society for Ecological Restoration, Presidio, San Francisco, CA.** Contact: SER, 1207 Seminole Highway, Suite B, Madison, WI 53711, (608) 262-9547, (608) 265-8557, ser@vms2.macc.wisc.edu

**October 24-27: 4<sup>th</sup> Microcomputer Applications in Fish and Wildlife Conference, Caesars Tahoe Hotel, Stateline, NV.** Contact: Jeff Trollinger, OFWIM Treasurer, c/o VDGIF, 4010 West Broad St., Richmond, VA 23230-1104, (804) 367-1185, jtrollinger@dgif.state.va.us

**Nov. 29-Dec. 3: 1999 Congress on Recreation and Resource Capacity, Snowmass Village, Aspen, CO.** Contact: Susan Scott Lundquist, (970) 491-4865, FAX (970) 491-2255,

## Congressional Action Pertinent to the Mississippi River Basin

### Endangered Species

**H.R. 494 and 495: Endangered Species Fair Regulatory Process Reform and Land Management Reform acts, (W.M. Thomas R/CA).**

**H.R. 960: (G. Miller (D/CA)).** Amends the Endangered Species Act of 1973 to strengthen the commitment to protect wildlife, safeguard our children's economic future, and provide assurances to local governments, communities, and individuals.

**H.R. 1101: R. Pombo (R/CA).** Amends the Endangered Species Act of 1973 to improve the ability to prevent flood disasters.

### Environment

**S. 352: State and Local Government Participation Act of 1999, C. Thomas (R/WY).** Amends the National Environmental

Policy Act (NEPA) of 1969 to require that Federal agencies consult with State agencies and county and local governments on environmental impact statements. The House Resource Committee scheduled oversight hearings on NEPA on April 21.

**S.481: Environmental Crimes and Enforcement Act of 1999, C.E. Schumer (D/NY).** Provides for protection of government employees and the public from environmental crimes.

**H.R. 525: Defense of the Environment Act of 1999, H.A. Waxman (D/CA).** Requires any Congressional provision that reduces environmental protection to: (1) identify and describe the provision, (2) assess the extent of the reduction, (3) describe actions taken to avoid the reduction, and (4) recognize any statement of the Comptroller General assessing the reduction.

### Population Growth

**H. Con. Res 17: Population Growth Resolution (T.C. Sawyer (D/OH)).** Expresses the sense of Congress that the U.S. should develop, promote, and implement, at the earliest possible time and by voluntary means consistent with human rights and individual conscience, the policies necessary to slow U.S. population growth.

### Public Lands

**S. 446: (B. Boxer D/CA).** Provides for permanent protection of U.S. resources in the year 2000 and beyond.

**S. 510: (B.N. Campbell R/CO) and H.R. 883: (D. Young (R/AK)).** Preserves U.S. sovereignty over public and acquired lands, and preserves state sovereignty and private property rights in non-federal lands surrounding public and acquired lands.

**S. 532: (D. Feinstein (D/CA) and H.R. 1118: (T. Campbell (R/CA)** Provides increased funding to resume state grant funding for the Land and Water Conservation Fund and development of conservation and recreation facilities in urban areas under the Recreation Recovery Programs.

**S. 446: (B. Boxer D/CA); S. 568: (C. Thomas R/WY) and H.R. 154: (J. Hefley (R/C).** Establish fee systems for commercial filming activities on public lands.

**H.R. 1002: Declaration of Taking Act, (D. Hunter (R/CA).** Amends the subject act to require that all condemnations of property by the government proceed under that Act.

**H.R. 1142: D. Young (R/AK).** Ensures that landowners receive equal treatment to the government when property must be used.

**H.R. 1207: B.F. Vento (D/MN).** Prohibits the U.S. government from entering into agreements related to public lands without Congressional approval.

#### Refuges

**H.R. 1199. R.W. Pombo (R/CA).** Prohibits expenditure of Land and Water Conservation Funds for new National Wildlife Refuges without Congressional authorization.

**H.R. 1284: Minnesota Valley Refuge Bill, D. Young (R/AK).** Provides protection for the Minnesota Valley National Wildlife Refuge and protected species to ensure scarce refuge land in and around the Minneapolis, MN metro area are not subjected to physical and auditory impairment.

#### Regulations

**S. 746: Regulatory Improvement Act of 1999, S.M. Leven (D/MI).** Improves the ability of Federal agencies to use scientific and economic analyses to assess cost-benefits and risk assessments of regulatory programs.

#### Tennessee Valley Authority

**S. 123: TVA Funding Act, R.D. Feingold (D/WI).** Phases out Federal funding for the Tennessee Valley Authority.

#### Water Resources

**S. 123: (R. Wyden D/OR).** Directs the Secretary of the Army to develop and implement a comprehensive program for fish screens and passage devices.

**S. 507: Water Resources Development Act, (J. Warner R/VA).** Provides for construction of various projects in rivers and harbors of the U.S.

**S. 685: (M. Crapo R/ID).** Preserves state authority over water within their boundaries and delegates states the authority of Congress to regulate water.

**S. 740: (L. Craig R/ID).** Amends the Federal Power Act to improve coordination and licensing processes.

#### Water Quality

**S. 20: Brownfield Remediation and Environmental Cleanup, F.R. Lautenberg (D/NJ).** Directs the EPA to establish a program to provide grants to States and local governments to inventory and conduct site assessments of brownfield sites. Defines brownfield sites as facilities suspected of having environmental contamination that could limit their timely use and can be readily analyzed.

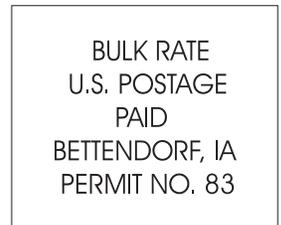
**S. 493: (P. Sarbanes D/MD).** Requires the U.S. Army, Corps of Engineers to conduct pilot projects on toxic microorganisms in tidal and non-tidal waters.

**H.R. 684: Farm Sustainability and Animal Feedlot Enforcement Act, (G. Miller (D/CA).** Amends the Clean Water Act.

**H.R. 1290: Federal Water Pollution Control Act (FWPCA), W.B. Jones (R/NC).** Amends the FWPCA related to wetlands mitigation banking.



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