

America's Most Endangered Rivers of 2001



BRINGING RIVERS TO LIFE



American Rivers
FOUNDED 1972

www.americanrivers.org

About America's Most Endangered Rivers

Every year since 1988, American Rivers has released its Most Endangered Rivers report, issuing a strong call to action on behalf of rivers across the country. Although these rivers flow through pristine wildernesses and through the hearts of our largest cities, all of them share two things in common — a major threat to their health and a crucial turning point approaching in the coming year.

Conservation groups nationwide submit nomination forms for their local rivers, which the conservation staff of American Rivers review using the following criteria:

- The magnitude and imminence of the threat
- The likelihood that major action during the coming year could either intensify or lessen the threat
- The regional and national significance of the river
- Diversity of threats to rivers nationwide

Designating a river as one of the nation's most endangered is a call to decision-makers to hear the voices of the friends of that river, and the Most Endangered Rivers list has a distinguished track record that goes back many years. In 1998, six months after the listing of Montana's Blackfoot River as the nation's fifth most endangered, the people of Montana enacted a ballot initiative blocking the construction of a cyanide heap-leach gold mine that would have severely degraded the Blackfoot River. Another proposed gold mine prompted American Rivers to put the Clarks Fork of the Yellowstone River near Yellowstone National Park atop the most endangered list from 1994-1996, encouraging President Clinton to intervene — negotiating a resolution of the company's claim and extending a moratorium on new mining claims upstream of the Clarks Fork.

The Colorado River was named the #1 most endangered river in 1991 because of extreme fluctuations in water flow caused by the Glen Canyon Dam. In 1992, Congress passed the Grand Canyon Protection Act, mandating that the Colorado no longer be managed solely as a power source — and the dam is now operated by a flow regime that helps protect fish and riparian habitat.

Increasingly, American Rivers is using the Internet to make speaking up for rivers easier and more direct than ever. Citizens who wish to take action on behalf of this year's rivers can point their browsers to www.americanrivers.org, where they will find links to more in-depth information, action alerts and opportunities for "eConservation" — participating in important decisions electronically. By taking action, everyone can help ensure that future generations will enjoy and benefit from the clean water, abundant wildlife populations, and outstanding recreational opportunities that healthy rivers provide.

This publication made possible by a generous gift from Barbara Cohn.

Table of Contents

Introduction	4
Update on Last Year's #1 River	7
Rivers in Danger from Global Warming	8
Wanted: A River-Friendly Energy Policy	9
Map: Most Endangered Rivers of 2001	12
Most Endangered Rivers (by rank)	
1. Missouri River	13
2. Canning River	16
3. Eel River	18
4. Hudson River	20
5. Powder River	22
6. Mississippi River	24
7. Big Sandy River	26
8. Snoqualmie River	28
9. Animas River	30
10. Lewis River — East Fork	32
11. Paine Run	34
12. Hackensack River	36
13. Catawba River	38

Introduction: How Energy



PAUL JUSTICE

IN AN ENERGY INDUSTRY RELATED INCIDENT, THE BIG SANDY WAS BURIED IN 250 MILLION GALLONS OF WATER, MUD AND COAL WASTE LAST YEAR. THE EPA LABELED IT ONE OF THE WORST ENVIRONMENTAL DISASTERS EVER TO OCCUR IN THE SOUTHEAST.

When you think about how energy production and consumption affects the environment, do you think first of air pollution? With 80% of the nation's air pollution generated by fossil fuel combustion and daily headlines about global warming and rising rates of respiratory illness, it's only natural. However, you might be surprised to learn that the effects of the nation's insatiable energy demands are often felt first — and worst — on our rivers.

Consider how traditional methods of producing and consuming energy affects rivers:

Hydropower: The nation's 2,400 hydroelectric dams cause a disproportionate amount of damage to rivers, even though they generate less than 10% of the nation's electricity. Dams drown important wildlife habitat under reservoirs, block migratory fish from their spawning grounds, and alternately reduce downstream flows to a trickle and release scouring torrents, all of which transform a river as profoundly as clearing a forest for a

strip mall. As hydroelectric dams proliferated on the Columbia and Snake Rivers in the Pacific Northwest, the number of salmon returning each year fell from about 16 million to only 300,000 today.

Coal: More than half of the nation's electricity is still generated by coal-fired power plants, and coal mines scar almost 2.5 million acres of land across the country. West Virginia has permitted mining operations to bury more than 1,000 miles of mountain streams. The U.S. Geological Survey estimates that acid draining from coal mines in Pennsylvania has poisoned some 3,000 miles of streams, costing the state an estimated \$67 million in lost fishing revenue.

Once mined, burning coal releases pollution into the atmosphere,



REBECCA WODDER

Production Affects Our Rivers

which soon finds its way into the water through acid rain and snow where it kills or contaminates aquatic wildlife. More than 1,300 streams in the Mid-Atlantic highlands are chronically acidic, and coal-fired power plants generate two-thirds of the sulfur dioxide reaching these streams. Coal-fired power plants are also the largest uncontrolled source of mercury, a highly toxic heavy metal, which finds its way into rivers and lakes. The EPA estimates that seven million Americans eat unsafe amounts of mercury-contaminated fish, despite public health advisories in some 40 states.

Oil: Drilling for oil also has significant impacts on rivers. The infrastructure (heavy equipment, etc.) needed to drill for oil can disrupt river habitat and reduce river flows, especially when oil is



US FISH AND WILDLIFE SERVICE

extracted from remote pristine areas. Although oil burns cleaner than coal, just a single pint can cover an acre of the water's surface. Most of the 14,000 oil spills reported during the

recovery, refining, or transportation of petroleum each year occur in or reach fresh water. Last November, a tanker spilled half a million gallons of crude oil into the Mississippi River in Louisiana — the largest spill since the Exxon Valdez. Only a fortuitous change in the wind direction prevented a catastrophe at the Delta National Wildlife Refuge, home to thousands of wintering waterfowl. The Patuxent River in Maryland was not so lucky — last April an oil pipeline breach spilled 110,000 gallons of oil and fouled ten miles of river.

Natural Gas: Tapping natural gas and burning it to generate electricity can harm rivers in a variety of ways. Gas exploration and drilling can disturb habitat and often pump large amounts of waste water of suspect quality from underground, much of which is dumped in rivers

and streams. Natural gas power plants withdraw massive quantities of water from rivers to run the

steam turbines, and much of that water never returns to the river, prompting opposition to new power plants on rivers in New York, Georgia, and California. What water is returned is often heated to temperatures unhealthy for fish and wildlife.

Nuclear Energy: Like natural gas plants, nuclear plants withdraw water for their cooling towers, or return it to the river as “thermal pollution”. In the Columbia, Colorado, and Ohio Rivers, radioactive contamination leaches into rivers from mines or processing facilities.

Transportation: Pipelines transporting natural gas and oil cross thousands of rivers across the country, dissecting river corridors and disrupting habitat. And once electricity is generated from any of these power sources, it must be transported to homes and businesses on power lines. Power lines and their rights-of-ways also transect many river corridors, causing similar disruption. In addition, transformers used in the transport of electricity usually contain PCBs. Spills of these toxic chemicals have

the nation's insatiable energy demands are often felt first — and worst — on our rivers.



PAUL JUSTICE



ARMY CORPS OF ENGINEERS

had a fundamental impact on hundreds of rivers and streams.

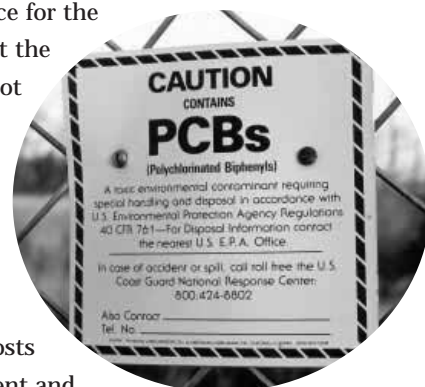
Several of this year's most endangered rivers have landed on the list as a consequence of our nation's production of energy. Read in this report about the following rivers:

- The Canning River in Alaska, which is threatened by oil and gas exploration.
- The Eel River in California, which is being dewatered by a two-dam hydropower project.
- The Hudson River in New York, which is polluted by PCBs manufactured for use in electrical transformers.
- The Powder River in Wyoming, which is threatened by thousands of proposed natural gas wells.
- The Big Sandy River between Kentucky and West Virginia, which last year was smothered under countless tons of coal sludge.
- Paine Run in Virginia's Shenandoah National Park, which is slowly succumbing to acid rain.

Energy is back at the top of the national agenda following a spike in the price of natural gas and electricity in late 2000. These soaring prices exposed the flaws in California's ill-conceived utility deregulation scheme, which is driving utilities towards insolvency and causing rolling blackouts across the state. These stories heightened anxiety over high home heating bills during a cold winter in many parts of the country.

Utilities and regulators are responding with a host of stopgap measures to address the situation that will affect rivers up and down the West Coast. Despite months of drought, regional hydroelectric dams are working overtime, drawing down water levels needed to support faltering salmon runs later this year. California regulators will allow many of the state's power plants to run longer and pollute more in order to meet demand for electricity this summer. In Washington, the Bush Administration and Congressional leaders have unveiled a variety of proposals straight out of the 19th century to "drill, dam, dig, and burn" the nation out of its current crunch.

Energy has become the cornerstone of modern society, and virtually all forms of energy production and consumption have at least some consequence for the environment. But the real problem is not that we don't have enough energy — but rather that we don't use energy wisely and don't account for its costs to the environment and human health. In addition, we have failed to invest enough in the development of new energy technologies that could result in a transformation as radical as that from type-



SCENIC HUDSON



US FISH AND WILDLIFE SERVICE

writers to computers, or rotary phones to cell phones. By putting off investments and incentives for energy efficiency and emerging generation technologies, the nation finds itself with a supply of energy that is less reliable, more expensive, and more harmful to the environment and the public health than it needs to be.

We should view the recent energy crunch as a wake up call to help us out of our harmful habits. Incentives for energy conservation and efficiency as well as investments in emerging generation technologies should be made a top priority. In the meantime, there are steps that all of us can take at home to save energy, save money, and help save our rivers for future generations to enjoy.

I invite you to join us at www.americanrivers.org, where you can find a growing community of people working to protect, restore, and enjoy rivers all across the country. There you will also find more information on how you can conserve energy at home and speak up for your local river, to decision-makers in your community and in Washington, D.C.

Rebecca R. Wodden

An Update on Last Year's #1 River

As we go to press, experts are predicting that a severe drought in the Northwest and California's failed energy deregulation scheme will result in deadly conditions for salmon in the Snake and Columbia Rivers and up to 95% of the wild salmon making their way out to sea may not survive. The federal Columbia and Snake River hydropower dams are running their turbines overtime and drawing down already-low water levels even further, which will result in slow moving, warm water in the rivers just when the young fish need a steady cool current to help flush them out to sea.

The Snake River, the nation's #1 most endangered river last year, does not appear on this year's list because the major decision pending over the past two years has been made — the Clinton Administration released the recovery plan for Columbia Basin salmon in December of 2000. The plan spells out measures to improve habitat and river conditions while leaving four large dams on the Lower Snake River in place. However, those dams could be removed as early as 2006 if the new plan is not implemented properly or if it fails to achieve salmon recovery. This year's poor river conditions underscore the urgency for immediate and full implementation of several crucial components of that plan, including:

- Restoring salmon spawning and rearing habitats;
- Improving water quality, quantity, and flow;
- Better managing hatcheries and harvest; and
- Operating the dams on the Snake and Columbia rivers to improve salmon survival.

Oregon Governor John Kitzhaber has called for an additional \$700 million in federal appropriations for the coming fiscal year, and estimates of future spending needs to implement the plan approach \$1 billion a year. As President Bush negotiates his Administration's first budget with Congress, aggressive implementation of the recovery plan will



be necessary to make good on his often-repeated campaign pledge to recover salmon with the dams in place. Absent a sustained commitment to improving river conditions, removing the Snake River dams will quickly become the only scientifically and legally defensible choice if we are to prevent the extinction of wild Snake River salmon.

Rivers in Danger from Global Warming

HIGHER STREAM TEMPERATURES RESULTING FROM GLOBAL WARMING WILL TRANSLATE INTO THE LOSS OF 50% TO 100% OF COLDWATER FISH SUCH AS TROUT, SALMON, AND BASS IN NORTHEASTERN STREAMS, AND UP TO 50% OF SUCH FISH IN THE WEST OVER THE NEXT CENTURY.

— ENVIRONMENTAL PROTECTION AGENCY



Changes in the earth's climate from global warming, caused mainly by burning fossil fuels to generate electricity and power automobiles, are projected to have far-ranging impacts on rivers and freshwater fisheries across the United States and worldwide.

The Earth's average temperature is up by one degree since 1860, and will increase anywhere from 2.5 to 10.4 degrees Fahrenheit from 1990 to 2100, the U.N.'s Intergovernmental Panel on Climate Change projected in early 2001.

According to a May 1999 report by the U.S. Environmental Protection Agency, higher stream temperatures would translate into the loss of 50% to 100% of coldwater fish such as trout, salmon, and bass in Northeastern streams, and up to 50% of such fish in the West, over the next century.

Freshwater ecosystems are extraordinarily complex, and global warming impacts on rivers in the United States are expected to vary widely from region to region.

Extended droughts in some areas will tax freshwater resources beyond capacity, predict scientists assembled by the United Nations. Those resources are already stretched thin on many rivers like the Catawba and Snoqualmie.

Less water in the Great Lakes is expected as evaporation increases. Lake Michigan and Huron water levels were already down 19 inches in May 2000 from their 80-year average, the Detroit News reported. By 2050, the National Oceanic Atmospheric Administration predicts that global warming could drop Lake Michigan by another two feet. That in turn could dramatically affect flows in the

basin's groundwater-fed trout streams.

More dramatic precipitation elsewhere would cause erosion and floods, sending more

sediment downstream, clouding water and harming plant and animal life, states an October 2000 report by the National Oceanic and Atmospheric Administration.

Alpine streams in the northern Rockies face glacial loss and rushed snowmelt, says a September 2000 report sponsored by the U.S. Interior Department. Alaskan rivers, where permafrost has already begun to thaw, are especially at risk of losing native plants and animals.

With sea levels rising, salt water will intrude on more coastal aquifers, such as those that supply central California and southern Florida, and island aquifers like those that supply Long Island and Hawaii.

River environments where many of us spend time may become less hospitable because of mosquito-borne tropical diseases, such as malaria, dengue fever, West Nile virus, and encephalitis, spreading northwards (as recent headlines attest). A study by NASA's Goddard Space Flight Center and the Walter Reed Army Institute of Research predicts epidemics among humans and animals.

Our rapid releases of carbon dioxide could even quadruple the pre-industrial level. Solutions lie in using energy wisely, converting to low-to-zero emissions sources, and protecting forests that absorb greenhouse gases.

Hydropower may seem like a tempting alternative since it doesn't directly emit greenhouse gases. But according to the World Commission on Dams, the reservoirs created by dams often trap and concentrate decaying organic matter, which can release large amounts of methane and carbon dioxide. And they can easily cause far too much environmental damage for too little energy benefits.

Threats to rivers from global climate change provide yet another powerful reason for acting now to improve our nation's energy policies. The U.S. should begin by joining other nations in implementing the 1997 Kyoto treaty. Global warming is not a distant warning; it is already having a visible influence on our American waters.

Wanted: A river-friendly energy policy

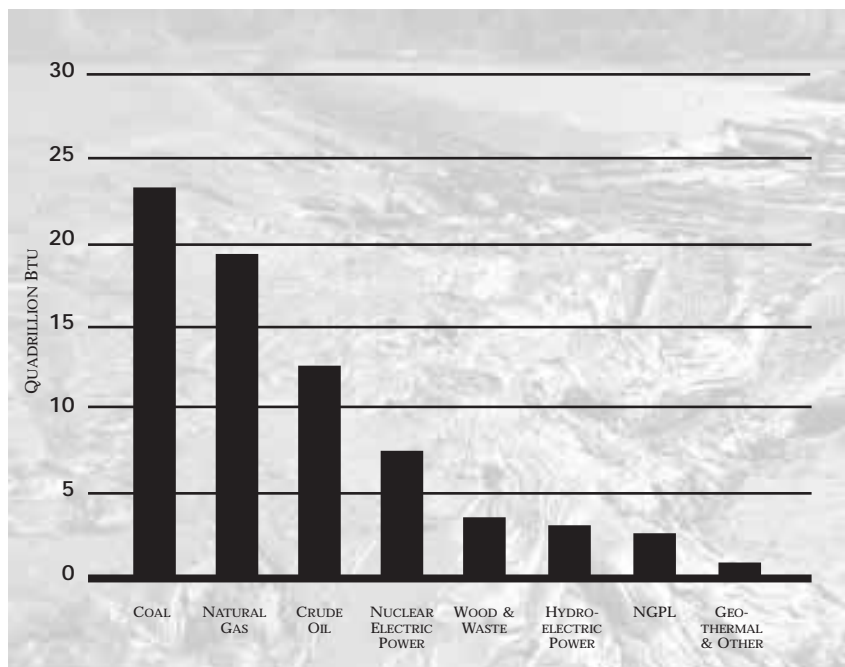
The threats to several of this year's Most Endangered Rivers underscore the need for America to develop a new energy policy for the 21st century. There is already considerable consensus within the environmental community on what to do. Energy efficiency and emerging technologies should be the cornerstones, expanding our energy supplies with environmentally preferable sources such as fuel cells, wind, and solar power.

First, consumers and businesses must be told the true impacts of generating energy and the benefits of conservation and efficiency. The Pacific Northwest has some of the lowest electric bills in the nation, partly because they don't reflect the expense of the salmon restoration effort. The nation as a whole picks up these costs each April at tax time. Specifying energy-efficient lighting and climate controls can save a business thousands of dollars a month, but building codes and low-bid contracting don't encourage it, and should the company decide to sell, current appraisals may not reflect that investment.

An employee of Seattle City Light once said, "There's no cheaper, cleaner power than power you don't have to produce." In the wake of California's rolling blackouts, the governor has asked businesses and consumers to cut the state's energy demands by 10% through such painless and common-sense steps as turning off lights, televisions, and other appliances when they are not needed. According to the Rocky Mountain Institute, the United States has gotten more than four times as much new energy from such savings as from all net expansions of domestic energy supplies since the Arab oil embargo of 1973.

Rapid gains are still possible when energy efficiency is pursued on an institutional scale. The American Council for an Energy Efficient Economy estimates that the nation by 2010 could save up to 60,000 megawatts in capacity — twice the energy consumption of California — if utility companies and regulators adopted programs to improve air conditioning and

Where Our Energy Comes From



lighting in homes and businesses. And two automakers have made major breakthroughs in recent years, introducing long-awaited hybrid gas-electric cars which get up to 70 miles per gallon.

Although the federal government showers far more investment and subsidies on traditional power sources than on renewables, the cost of electricity from utility-scale wind systems has dropped by more than 80% over the last 20 years and will become even more competitive over time. The American Wind Energy Association estimates that expanded federal research and tax credits could help boost output of electricity from wind by 2010 to 30,000 megawatts — the same as California's consumption.

AMERICA IN 2001
STILL RELIES ON A
19TH-CENTURY
TECHNOLOGY —
BURNING COAL —
TO SUPPLY THE
MAJORITY OF OUR
ELECTRICITY.

COMPACT FLOURESCENT BULBS ARE FOUR TIMES MORE ENERGY EFFICIENT THAN INCANDESCENT BULBS. ONE 23W COMPACT FLOURESCENT LIGHT BULB CAN LAST UP TO SIX TO EIGHT YEARS.



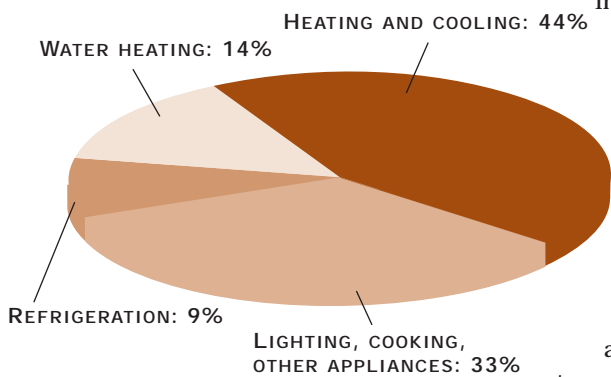
What You Can Do To Conserve Energy

Energy efficiency means getting the most from every energy unit by using better technologies to provide daily needs. By taking simple steps, each household can make a significant difference and do its part for a healthy environment.

■ **Use energy-efficient compact fluorescent light bulbs.** Installing these long-life, cool-operating bulbs in 25% of your most-used fixtures will save about 50% of your lighting bill (and cost less over the long run for bulb replacement).

■ **Check the insulation** in your attic, ceilings, exterior, and basement walls, floors, and crawl spaces. Save 10% or more on heating and air conditioning by caulking or weather-stripping all seams and openings to the outside. Dirty spots in insulation help show where air leaks in and out.

How Energy is Used in the Home



■ **Maintain heating and cooling systems.** Clean furnace filters once a month. Ensure vents are clean and unblocked by furniture or drapes (or closed if not needed). Pay for “room tempera-

ture” only when people are at home and awake; get an auto-setback thermostat to help. Ask for an analysis of how quickly new equipment would pay for itself.

■ **Check your windows.** Windows can account for 10–25% of your heating and cooling bill. In cooler climates, storm windows can reduce your heat loss by 25–50%. In warm climates, light-colored window shades reflect heat away from the house. In the winter, keep draperies and shades on south-facing windows open during the day to let in warming sunlight, and closed at night to reduce chill from windows; reverse that in the summer.

■ **Plant a tree in the right place.** Strategically-placed trees, shrubs, or vines can act as wind blocks or deliver shade, saving up to 25% of energy used for heating and cooling. Deciduous trees block the sun in the summer, but let in its heat in the winter. Plant evergreens to the north and west to deflect winter winds; to the south and west to deflect summer winds.

■ **Investigate environmentally preferable sources of energy**, for your home or from your utility. Solar collectors focus and concentrate sunlight to heat steam and hot water, or use panels of semi-conductors to turn it into electricity. Geothermal heat pumps circulate fluids underground to pick up warmth in the earth; they already power the homes of nearly 4 million people worldwide.



SAVING WITH ENERGY STAR: BUYING AN ENERGY STAR APPLIANCE INSTEAD OF STANDARD EQUIPMENT COULD PREVENT THE RELEASE OF 70,000 POUNDS OF CARBON DIOXIDE OVER THE LIFE-TIME OF THE PRODUCTS. AN ENERGY STAR EQUIPPED HOUSEHOLD CAN ALSO CUT THE RELEASE OF NITROGEN OXIDES, THE PRIMARY CONTRIBUTORS OF SMOG AND ACID RAIN. ENERGY STAR PRODUCTS ALSO REDUCE ENERGY BILLS BY UP TO 40%. FOR MORE INFORMATION, CALL 1-888-STAR-YES OR LOG ON AT WWW.EPA.GOV/ENERGYSTAR.HTML.

Wind-generated electricity, after technological breakthroughs in the past 30 years, is increasingly cost-competitive with coal-based electricity. It is available both in tiny home units and on large scale through utilities — wind projects exist or are planned in 28 states.

■ **Ask your utility company if it offers free energy audits.**

What the Government Can Do To Save Energy and Reduce Pollution

Eight steps Congress, federal, state, and local governments can take to encourage energy efficiency and reduce pollution from generating energy:

- Update building codes and government bidding procedures to encourage energy-efficient design of new facilities and ensure that energy-efficient heating, cooling, and lighting systems are installed when existing ones are replaced;
- Require utility companies to purchase an increasing percentage of their electricity from renewable energy sources such as wind, solar, and geothermal power, and to inform their customers about how their energy is generated;
- Give consumers the right to purchase power from providers that generate electricity through renewable sources;
- Require government offices to purchase power from clean and renewable energy sources;
- Eliminate existing tax breaks and loopholes for coal and other fossil fuels, such as a “grandfather clause” that exempts older coal-fired power plants from some of the requirements of the Clean Air Act;
- Increase government support for research and development of clean and renewable forms of energy, reduce government research and development for fossil fuel technologies;

Community Success Stories

More and more communities are capitalizing on the financial and environmental benefits of energy efficiency. The Rocky Mountain Institute has documented many such efforts that have paid off handsomely, including these:

The municipal utility of **Osage, Iowa** started a program in 1974 to use simple tools like caulk guns, duct tape, insulation, light bulbs and education to reduce their customers’ energy consumption, saving the local economy \$1 million a year.

Energy efficiency programs saved **Ellensburg, Washington** \$6.84 million since 1989 — money which supported 18 city jobs a year between 1990 and 1999.

San Jose, California predicts that over a 10-year period its sustainable energy programs will support a \$33 million increase in wages and salaries countywide, and a net employment gain of 1,753 job years.

Pennsylvania allowed consumers to choose environmentally preferable energy sources when it deregulated its utilities; by this spring, as many as 115,000 of the region’s two million households will have switched.

- Offer tax credits to consumers who purchase highly efficient hybrid gas-electric vehicles and require government agencies to begin purchasing such vehicles for their fleets;
- Support strong international agreements such as the 1997 Kyoto accord which would commit developed countries to take the lead in reducing fossil fuel emissions that cause global warming.



America's Most Endangered Rivers of 2001



1. Missouri River
2. Canning River
3. Eel River
4. Hudson River
5. Powder River
6. Mississippi River
7. Big Sandy River
8. Snoqualmie River
9. Animas River
10. Lewis River — East Fork
11. Paine Run
12. Hackensack River
13. Catawba River

Missouri River

THREAT: DAM OPERATIONS

Summary

Several species of Missouri River fish and wildlife face extinction because the operation of six federal dams prevents the natural rise and fall of water levels to facilitate just a trickle of barges downstream from Sioux City, Iowa. The U.S. Army Corps of Engineers will take public comments starting this summer on options, including one recommended by the U.S. Fish and Wildlife Service, for operating these dams to create more hospitable river conditions for the endangered pallid sturgeon, the endangered interior least tern, and the threatened piping plover. These changes would also boost recreation and tourism along the Missouri, providing tremendous economic benefits for riverfront communities.

The River

The nation's longest river, the "Big Muddy" makes its 2,500-mile journey from western Montana to the Mississippi River just north of St. Louis. When Meriwether Lewis and William Clark explored the Missouri in 1804, they found a dynamic river of meandering



U.S. FISH AND WILDLIFE SERVICE

channels, thousands of islands and sandbars, and a rich floodplain of wetlands, grasses, and forests. The river and its banks teemed with fish

and wildlife, and the explorers recorded scores of species new to science.

The seasonal rise and fall of water levels defined life along the river. Each spring, the snow melted and the waters rose, rearranging the river's islands and sandbars, and cuing the pallid sturgeon and other fish to begin spawning. In the summer, the waters receded, exposing the sandbars where birds like the interior least tern and the piping plover made their nests. These low flows were also critical for young sturgeon and other fish, which depend on easy access to shallow, slower-flowing areas where they can feed and avoid predators.

The Risk

Today, Lewis and Clark would not recognize the Missouri River and many of the species that filled their journal pages may soon disappear forever.

Dams and channels built to facilitate barge traffic over the last 70 years have dramatically altered the river. Below Sioux City, Iowa, the river has been transformed into a deeper, faster, and more stable barge canal. The river is two-thirds narrower and 127 miles shorter than it once was, and the braided channels, islands, and sandbars are largely gone. As a result, dozens of native Missouri River species are in trouble.

Currently, the Corps operates six Missouri River dams in Montana and the Dakotas to provide steady flow almost year-round for just a handful of barges on the lower river. These dam operations prevent water levels from rising naturally each spring and creating sandbar habitat or cuing the spawning of fish. Unnaturally high summer flows do not expose sandbars for nesting or provide suitable shallow-water habitat for fish.

These river conditions have proved particularly difficult for the pallid sturgeon, a contemporary of the dinosaurs but now close to extinction. Since 1990, scientists have recorded only two instances of natural reproduction by pallid sturgeon in the Missouri River. Prior to dam construction, young sturgeon had roughly 100 acres of shallow-water habitat for each river mile during the summer months. Today, only about one acre is available in each river mile.

Terns and plovers are in trouble, too. Current dam operations result in insufficient



U.S. ARMY CORPS OF ENGINEERS

THE GAVINS POINT DAM (LEFT) IS ONE OF SIX FEDERAL DAMS ON THE MISSOURI THAT THREATENS THE EXISTENCE OF THE PIPING PLOVER (FAR LEFT), THE INTERIOR LEAST TERN AND THE PALLID STURGEON.



Missouri River continued

sandbar habitat for the birds to nest and rear their chicks. The Corps has failed to meet established reproductive goals for the birds for eight of the last 10 years.



NORTH DAKOTA DEPT.
OF GAME AND FISH

The river has never lived up to expectations as a commercial waterway, but current dam management favors navigation over all other uses of the river. According to the U.S. Department of Agriculture and the Corps, Missouri River barges carry only 0.3% of all the grain harvested each year in Nebraska, Iowa, Kansas, and Missouri and produce only \$6.9 million in annual economic benefits for the basin. The Corps estimates that on average the 735 channelized miles of the lower Missouri River hold only one barge tow per day, particularly during the little-used summer months.

In the operation of its dams, the Corps gives little consideration to boating, fishing, hunting, camping, hiking, bird watching, and other forms of recreation that attract millions of visitors to the Missouri and its riverside communities each year, generating nearly \$90 million in economic activity.

What Can Be Done

In November 2000, the U.S. Fish and Wildlife Service released its Final Biological Opinion on the operation of the Missouri River's main-

stem dams, determining that the interior least tern, piping plover, and pallid sturgeon are threatened by dam operations that have eliminated the river's natural flow patterns. The biological opinion concludes with a "jeopardy" finding, meaning the least tern, piping plover, and pallid sturgeon are likely to go extinct along the Missouri River without a change in the way the Corps operates the dams.

In the Biological Opinion, the wildlife service proposes several "reasonable and prudent alternatives" intended to assist the recovery of those species. These steps include increasing flows from Gavins Point Dam in South Dakota and Fort Peck Dam in Montana in the spring when water conditions permit, and reducing Gavins Point Dam flows each summer to mimic the natural rise and fall of water levels. Other steps include restoration of floodplain habitat, adaptive management of the river system, and intensive monitoring of the threatened and endangered species.

This summer, the Corps will release a new alternative for the Missouri River Master Water Control Manual ("Master Manual"), the guidebook used by the federal river manager to set dam operations. In the revised manual, the Corps should adopt the U.S. Fish and Wildlife Service's recommendations for spring and summer flows below key Missouri River dams.

By changing how it operates its dams, the Corps would not only end practices that jeopardize the survival of several river species, it would also stimulate the economies of towns along the river. In the Dakotas and Montana, marinas and other businesses would benefit from higher water levels in reservoirs during the summer. In the lower basin, reduced summer flows would mean slower, shallower water and exposed sandbars, attracting increased numbers of anglers, canoeists, campers, and boaters.

Studies indicate that revised dam operations would not prevent traditional uses of the river and its floodplain. Increasing spring releases would not flood low-lying farmland, according to Corps studies. Barge navigation would continue during the spring and fall,

THE ENDANGERED PALLID
STURGEON (ABOVE) AND
ENDANGERED INTERIOR LEAST
TERN (BELOW).



U.S. ARMY CORPS OF ENGINEERS



when more than 80% of farm-related cargo is shipped on the Missouri. Dam reforms on the Missouri would send more water downstream to the Mississippi River when barge traffic on that river is heaviest.

The Corps will hold workshops and hearings throughout the Missouri River basin for six months following release of the proposed dam reform plan. The public should urge the Corps to adopt the recommendations of the Fish and Wildlife Service. This will prevent extinction of Missouri River species, support traditional uses of the river, and provide substantial recreation and tourism dollars for riverside communities. As the nation approaches the bicentennial of Lewis and Clark's voyage, reforming dam operations provides a rare opportunity to help restore the Missouri River.

Personal Contacts

Chad Smith, American Rivers, 402-477-7910, csmith@amrivers.org

Mark Albers, American Rivers, 406-454-2076, malbers@amrivers.org

Jonathan Bry, Sierra Club – Dacotah Chapter, 701-223-6179, jonathan.bry@sierra-club.org

Jim Heisinger, Sierra Club – Living River Group, 605- 624-3170, heising@usd.edu

Duane Hovorka, Nebraska Wildlife Federation, 402-994-2001, dh43048@navix.net

Paul Zeph, Audubon Iowa, 515-727-4271, pzeph@audubon.org

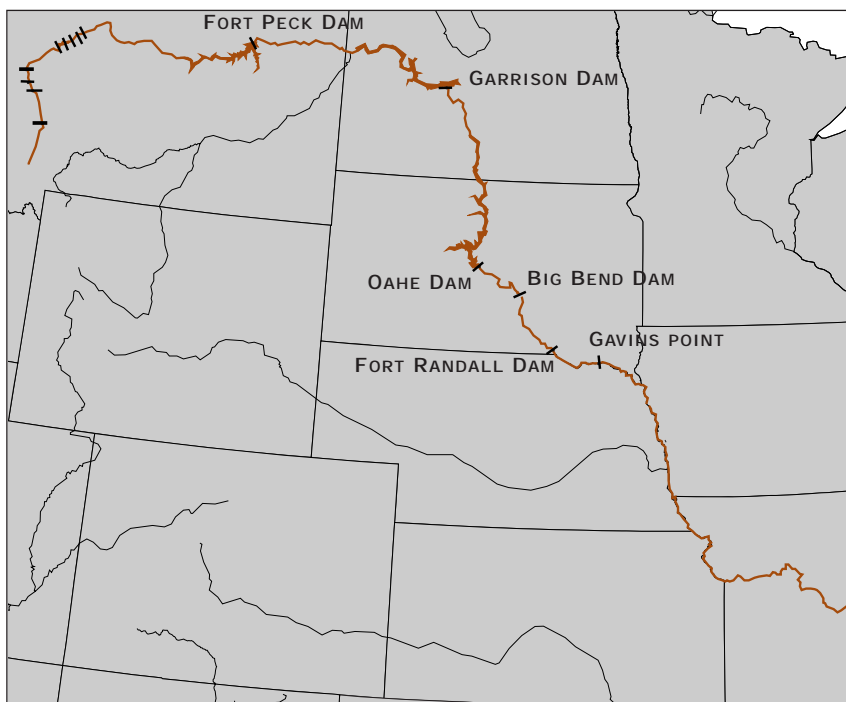
Bill Griffith, Sierra Club – Kansas Chapter, 913-772-8960, bgriff@lwnworth.com

Denny Ballard, Conservation Federation of Missouri, 573-634-2322, mofed@sockets.net

THE ARMY CORPS OF ENGINEERS MUST CHANGE THE WAY IT OPERATES ITS DAMS TO RESTORE THE MISSOURI RIVER.

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:

WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/MISSOURI2001.HTM



Canning River

THREAT: OIL AND GAS EXPLORATION AND DEVELOPMENT



ARCTIC TREKS

Summary

High energy prices have renewed the oil industry's determination to extend its reach from Alaska's Prudhoe Bay oil fields, across the Canning River, and into the Arctic National Wildlife Refuge to drill for crude oil and gas. In addition to the high risk of accidents and spills, the Canning would likely be pumped and mined for the raw materials needed to assimilate the wildest place left in America into a sprawling network of drilling rigs and pipelines. The refuge is protected by law, and Congress should resist pressure from the Administration and reject any bills introduced that allow this destruction for an estimated six months worth of oil.

The River

As the western boundary of the Arctic National Wildlife Refuge, the Canning River valley and delta form a "line in the tundra" separating the only protected portion of Alaska's North Slope from an industrial complex the size of Rhode Island. The Canning is the largest of the refuge's 24 rivers, and water is precious in this area, which receives less than six inches of precipitation annually.

Almost unimaginably pristine and undeveloped compared to rivers in the lower 48 states, the Canning River bursts from beneath the ice and snow each spring, drawing caribou mothers and their newborn calves, polar bears, musk oxen, and over a hundred species of species of birds which have migrated from as far away as Florida. The Canning River is a "once in a lifetime" destination for those seeking a true wilderness experience where they will not encounter trash, buildings, or polluted water.



U.S. FISH AND WILDLIFE SERVICE

THE CANNING RIVER COULD SUFFER FROM OIL AND CHEMICAL SPILLS IF DRILLING IN THE ARCTIC NATIONAL WILDLIFE REFUGE IS PURSUED. RIVERS ARE A CRITICAL PART OF THE REFUGE AND THE CANNING IS THE MOST VULNERABLE. INDIGENOUS ANIMALS LIKE THE POLAR BEAR AND ARCTIC GRAYLING WOULD SUFFER.

The Risk

The oil industry has long had its eye on the coastal plain of Arctic National Wildlife Refuge, which the U.S. Fish and Wildlife Service calls the "biological heart of the refuge." Claims that the Arctic refuge is a snow-covered Saudi Arabia are not backed up by the estimates of impartial government scientists. In 1998, the U.S. Geological Survey estimated that the likely scenario is that the refuge contains just a six-month supply of oil.

Although the oil industry touts improved technology that would allow it to get that oil with minimal disturbance, it has divulged few details of how such development would proceed. It would probably take a decade before the first barrel was delivered, and the Department of the Interior estimates the industry would construct as much as 280 miles of roads, hundreds of miles of pipelines, 11 production facilities, two ports, and housing and services for thousands of people. The Canning



USFWS, RICHARD BLADE

would be at risk of oil and chemical spills. The river and nearby lake water would be siphoned off for drinking water, the construction of ice roads and drill sites, and used in industrial processes. As much as 50 million cubic yards of gravel could be excavated from the refuge's floodplains.

Since calving caribou and many other wildlife species avoid industrial facilities, sprawling oil development would effectively disturb a much larger portion of the coastal plain than the "footprint" of the direct development. Other species, such as polar bears, could be disturbed by industrial noise from their maternity dens in snow banks along the Canning, or attracted to food supplies and garbage and shot if they became a "nuisance."

What Can Be Done

Opening the Arctic National Wildlife Refuge for development will not affect the price that consumers pay for oil, gasoline, or natural gas



US FISH AND WILDLIFE SERVICE

OIL DRILLING IN THE ARCTIC NATIONAL WILDLIFE REFUGE WOULD RESULT IN A TEMPORARY SOURCE OF ENERGY, BUT A PERMANENTLY SCARRED LANDSCAPE.

— the deposits are too small, it would take too long to get, and the wilderness is too uniquely valuable to contemplate this step. A better solution is to invest in additional pipeline infrastructure along existing right-of-ways to deliver natural gas from the existing Prudhoe Bay oil field, which is already open for development.

Efforts to link exaggerated estimates of oil and gas in the Arctic National Wildlife Refuge to high utility bills are particularly disingenuous — two-thirds of our oil consumption is for transportation. The nation could save more oil than the projected output from the refuge by improving the average efficiency of cars on its roads. Congress should hike

average efficiency requirements for automobile manufacturers and offer tax credits for the purchase of “hybrid” gas-electric vehicles that get up to 70 miles per gallon. By ensuring that their vehicles are properly main-

tained, consumers can save money and the Canning River at the same time. Purchasing high quality tires, keeping them properly inflated, and regular tune-ups all improve gas mileage and pay for themselves several times over the life of an automobile.

Concerned citizens can write their representatives and the White House and insist that they oppose any efforts to open the Arctic

National Wildlife Refuge to development, urging them instead to stop the 20-year-old debate over oil in the refuge by designating the coastal plain as a wilderness area. Sacrificing the wildest place left in America for such a small supply of oil would have, as Aldo Leopold once wrote, “the same desperate finality as having to chop up the furniture to stay warm.”

Personal Contacts

Andrew Fahlund, American Rivers, 202-347-7550, ext. 3022, afahlund@amrivers.org

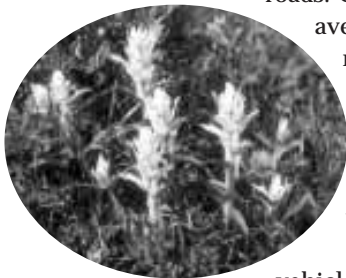
Adam Kolton, Alaska Wilderness League, 202-544-5205, awl@alaskawild.org

Pam Miller, Arctic Connections, 907-272-1909, alaskapam@email.msn.com

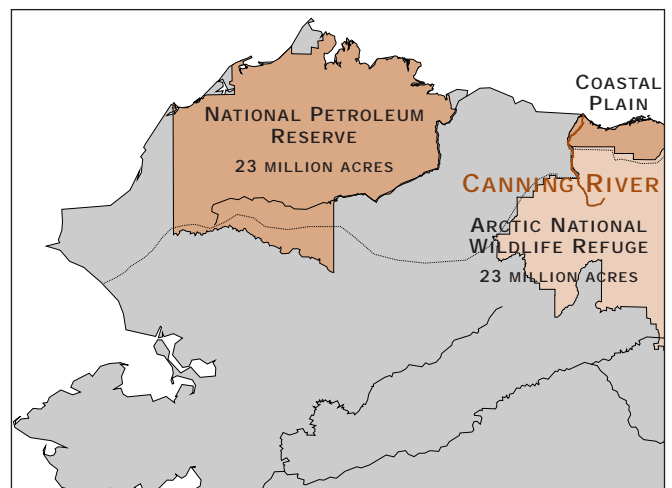
Chuck Clussen, Natural Resources Defense Council, 202-289-2412, CClussen@nrdc.org

Deb Moore, Northern Alaska Environmental Center, 907-452-5021, Deb@Northern.org

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/CANNING2001.HTM



ARCTIC CONNECTIONS



Eel River

THREAT: HYDROPOWER DAM OPERATIONS

Summary

Once among California's most productive salmon rivers, the Eel River has been reduced to a trickle in order to satisfy the thirst of a neighboring river valley. Much of the Eel River is piped through a mountain ridge to the Russian River to satiate water consumers. Three species of fish are on a path to extinction unless action is taken to put Eel River water back into the Eel River, and a long-term restoration plan is developed. This year, the Federal Energy Regulatory Commission (FERC) and state decision-makers hold the future of California's Eel River in their hands as they decide the fate of two dams and address electric utility deregulation.

The River

From its headwaters in Mendocino National Forest, the Eel River winds north out of the Coastal Mountain Range until it spills into the Pacific Ocean about 200 miles later. The Eel used to support one of California's top salmon and steelhead fisheries. Fish packing and cannery records describe catches as high as 600,000 fish annually. In recognition of this resource, the river was designated as a California Wild and Scenic River in 1972 and added to the National Wild and Scenic River System in 1981.

Dams, water diversions, and other impacts on habitat have caused populations of coho salmon, chinook salmon, and ocean-going steelhead trout in the Eel to decline by 97% over the last century. Today, all three species are listed as threatened under the federal Endangered Species Act.

The Risk

Since 1908, the Eel River has been robbed of the most essential component of a healthy river — water.

The main culprit is the two-dam Potter Valley Hydropower Project, owned by the Pacific Gas & Electric (PG&E) utility company. The project's primary purpose is to divert almost 90% of the water from the north-flowing Eel River through a mountain ridge to the south-flowing Russian River to serve agricultural, municipal, and industrial interests. The

diversion reduces the Eel to a mere trickle — disrupting migration cues for Eel River fish, degrading spawning and rearing habitat, and creating high water temperatures that harm salmon. In addition, the uppermost dam blocks access to more than 100 miles of salmon spawning habitat.

Along the way, the water diversion generates 9.4MW of electricity — less than 0.02% of California's energy supply.

The FERC will decide in the coming year how to amend the operating license for the Potter Valley Project to restore fisheries in the Eel River. To date, FERC has supported a proposal put forth by PG&E and the Potter Valley Irrigation District. However, a legal opinion from the National Marine Fisheries Service (NMFS) determined that this proposal would jeopardize the continued survival of coho, chinook, and steelhead.

California's troubled electric utility industry poses additional threats to many of the state's rivers, including the Eel. PG&E operates a system of 174 dams in 16 different river basins. As part of the state's electric utility industry deregulation, ownership and operation of these facilities may change hands. Given the short-term gap between electricity supply and demand, whoever operates PG&E's



ROB BADGER, FRIENDS OF THE EEL RIVER

SINCE 1908, WATER FROM THE EEL RIVER HAS BEEN DIVERTED THROUGH A MOUNTAIN-RIDGE TO THE RUSSIAN RIVER TO SERVE AGRICULTURAL AND INDUSTRIAL INTERESTS. AS A RESULT, THREE FISH SPECIES ARE ON A PATH TO EXTINCTION.

ROB BADGER, FRIENDS OF THE EEL RIVER



hydropower system will likely face market pressures to maximize power generation at the expense of river health. A recent report released by the California Public Utilities Commission indicates that the next owner of the Potter Valley Project could further harm the Eel River and its fish by operating the dams to maximize power generation or water supply.

What can be done

To begin recovering Eel River fish, natural flows must be returned to the river immediately. The river also needs an objective analysis of whether long-term restoration can be accomplished with continued dam operation.

As a first step, FERC must satisfy its Endangered Species Act obligations by requiring PG&E to restore flows to the Eel River as described by NMFS in its Biological Opinion. Second, FERC should complete a supplemental Environmental Impact Statement that analyzes whether restoration can be achieved with continued dam operation. This is consistent with the NMFS biological opinion, which recommends a dam removal study. The relatively insignificant amount of electricity the project generates must be weighed against the substantial damage it does to one of California's most important salmon-producing rivers.

If this analysis shows that restoration of Eel River fisheries cannot be accomplished with the dams in place, FERC should put forth a plan for removal of the two dams and an assessment of the consequences for water users in Potter Valley.

The state of California should craft an integrated water management plan for Potter Valley, through more efficient use of groundwater and surface water supplies, that mitigates for lost benefits when diversions are decreased or if dams must be removed.

California must not compromise long-term environmental quality to respond to a short-term energy crunch. Any disposition of PG&E's dams must be conditioned to ensure that California's rivers are protected and restored for future generations. Specifically, the immediate restoration of flows to the Eel River and an assessment of the future of the Potter Valley dams should be a condition of any such change in ownership.



ROB BADGER, FRIENDS OF THE EEL RIVER

Personal Contacts

Matt Sicchio, American Rivers and the Hydropower Reform Coalition, 202-347-7550, msicchio@amrivers.org

Steve Rothert, American Rivers, 510-644-2900 x119, srothert@amrivers.org

Tom Weseloh, California Trout, 707-839-1056, caltrout@reninet.com

Steve Evans, Friends of the River, 916-442-3155, sevans@friendsoftheriver.org

Steve Wald, California Hydropower Reform Coalition: 510-644-2900 x105, swald@calhrc.org



FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTDANGERED/EEL2001.HTM

Hudson River

THREAT: PCB CONTAMINATION

Summary

Two General Electric Corporation plants released more than one million pounds of dangerous chemicals into New York's Hudson River over a 30 year period, and the Environmental Protection Agency is accepting public comments through April 17 on a proposal to dredge 270 acres of river bottom to remove contaminated sediment. GE — which would have to pay the estimated \$450 million cost for the cleanup — is waging a multimillion dollar public relations campaign to persuade the public that the plan is risky and unnecessary despite a large body of scientific evidence to the contrary. EPA's final decision could set a precedent for more than 25 similar sites across the nation.

The River

From its headwaters in Adirondack State Park, the Hudson River flows through 315 miles of mountains, forests, wetlands, and towns before reaching New York City and the Atlantic Ocean. It is difficult to overstate the importance of the Hudson River for the people of New York.

Ten million residents live within a half-mile of its banks, and eleven municipalities get their drinking water from the river.

Tourism around the river generates an estimated \$3 billion per year in economic activity. Home to some 200 species of fish, the Hudson supports rebounding populations of commercially valuable striped bass and American shad.

The Risk

Once heavily polluted, the Hudson has made a remarkable recovery in recent decades. Unfortunately, the New York State Department of Health continues to greet visitors to the Hudson River with signs that read "Do not possess, remove or eat fish from this water," and in 1983 the federal government declared 197 miles of the river a Superfund site — warranting

ing federal intervention to ensure cleanup.

According to the EPA, GE discharged an estimated 1.3 million pounds of polychlorinated biphenyls (PCBs) into the river from electric transformer manufacturing plants at Hudson Falls and Fort Edward in the upper Hudson from 1947 to 1977. The US EPA ranks PCBs among the most toxic 10% of chemicals for human exposure, causing reproductive and developmental effects, immune deficiency, nervous system alterations, gastrointestinal system bleeding, liver damage, and cancer.

Approximately 200,000 pounds of PCBs still remain concentrated in the 40-mile stretch of the Upper Hudson, and continue to migrate downriver, distributing throughout the basin, down to the tidal estuary at the mouth of the river. These pollutants collect in the sediment and enter the food chain, contaminating fish and the wildlife and humans that consume these fish. Despite moratoriums and warnings, fish continue to be consumed by thousands of families, many of them from poor, minority, and immigrant communities.

Following more than ten years of analysis, five peer reviews, and unprecedented public input, the EPA released its proposed plan in December 2000 to dredge 272 acres of the most contaminated sediment in the upper Hudson River. EPA predicts that their remediation efforts will result in significant improvements in PCB levels in the lower river with few short-term impacts.

EPA's findings were subsequently supported by an independent report from the National Academy of Sciences. These analyses have concluded that, absent clean-up, PCBs continue to pose a risk to the public, and that hydraulic dredging is a safe and effective way to reduce the level of contamination in both sediments and fish. Despite this evidence, GE has called the proposal "absurd" and "outrageous" and has spent millions of dollars on advertising to turn public opinion against the overwhelming evidence sup-



TIM PALMER



NEARLY 200 MILES OF THE HUDSON RIVER HAVE BEEN DECLARED A SUPERFUND SITE DUE TO CONTAMINATION FROM TWO GENERAL ELECTRIC CORPORATION PLANTS.



SCENIC HUDSON



SCENIC HUDSON: AL. POEIZL

porting the cleanup. GE has also sued the federal government challenging the Superfund laws.

What Can Be Done

Cleanup of the Hudson is a precedent-setting effort with implications for similar sites throughout the nation. After extending the deadline 60 days, the EPA is accepting comments on its draft Record of Decision through April 17, 2001, and a final decision should be issued in August. Members of the public should write the EPA at HUDSONCOMMENT.region2@epa.gov to end the decades of delay and support the hydraulic dredging alternatives (numbers 4 or 5) to ensure that the Hudson River gets its long-overdue cleanup.

Personal Contacts

- Andrew Fahlund**, American Rivers, 202-347-7550, ext. 3022, afahlund@amrivers.org
- Andy Mel e**, Hudson River Sloop Clearwater, Inc, 845-454-7673, andy@mail.clearwater.org
- Rich Shiafo**, Scenic Hudson, 845-473-4440, rshiafo@scenichudson.org
- Alex Matthiessen**, Riverkeeper, 845-424-4149, amatthiessen@riverkeeper.org
- Chris Ballantyne**, Sierra Club, 518-587-9166, chris.ballantyne@sierraclub.org

Bruce Carpenter, New York Rivers United, 315-339-2097, nyrubc@aol.com

Aaron Mair, Arbor Hill Environmental Justice Corp., 518-463-9760, staff@ahej.org

Val Washington, Environmental Advocates, 518-462-5526, ext. 228, vwash@envadvocates.org

Laura Haight, NYPIRG, 518-436-0876, ext. 258, Lhaight@nypirg.org



FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/HUDSON2001.HTM

Powder River

THREAT: COAL BED METHANE EXTRACTION

Summary

The booming Coal Bed Methane (CBM) industry in the Powder River basin of Wyoming and Montana creates an unusual threat for western communities and rivers: the prospect of too much water. This relatively new form of energy development uses many shallow wells to tap natural gas deposits along coal seams. Large quantities of water — often of poor quality — must be discharged from these wells before the methane can be extracted. This year, federal and state agencies are making critical decisions that will guide CBM extraction practices well into the future. With an estimated 51,000 wells likely to be drilled by 2010, public officials must ensure that the CBM industry develops responsibly and that by-product water is properly managed to protect the Powder River and its tributaries from harm.

The River

The Powder River of Wyoming and Montana is a healthy remnant of the once vast and unspoiled river ecosystem spanning the Great Plains. The sagebrush and mixed grass prairie of the Powder River basin support abundant elk, mule deer, pronghorn antelope, bobcat, and swift fox, as well as domestic cattle and sheep ranching operations.

In 1999, The Nature Conservancy reported

that, “In an inventory of all streams in the Great Plains of Wyoming, the Powder River was found to support the most intact assemblage of fish species.” Among these species, the sturgeon chub is being evaluated for protection under the Endangered Species Act, and populations of the western silvery minnow are in sharp decline.

The Risk

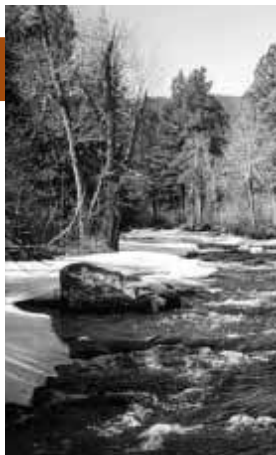
The current rush to extract CBM in northeast Wyoming was triggered by the development of inexpensive drilling techniques and surging natural gas prices. The Wyoming Oil and Gas Conservation Commission has issued over 14,000 CBM drilling permits as of February 19, 2001. The federal Bureau of Land Management (BLM) recently predicted that the total number of CBM wells in the Wyoming portion of the Powder River basin could reach 51,000 wells by 2010 and 70,000 by the year 2060. The prospect of rapid, poorly regulated CBM development now overshadows more traditional threats to the Powder River such coal mining, conventional oil and gas extraction, cropland irrigation, and livestock grazing.

Once a CBM drilling site has been identified, a truck-mounted rig bores into the coal aquifer and the water is pumped to the surface. During the first stage of the extraction process, approximately 15,000 gallons of groundwater are pumped out of a CBM well every day.

Generally too salty for irrigation, the water is typically discarded on the surface or in nearby creeks — degrading soils and accelerating erosion which threatens the Powder River and its tributaries.

Since CBM development began in 1986, approximately 30 billion gallons of often salty water have been extracted from coalbed aquifers in northeast Wyoming — that’s more than 12 full-sized tanker trucks of water for every resident in the state.

As the CBM industry continues to expand, state and federal agencies still have not adequately studied the effects of the CBM by-product water on the river, the creeks, and the



WYOMING OUTDOOR COUNCIL

A CBM WELL LIKE THE ONE PICTURED BELOW CAN DISCHARGE 15,000 GALLONS OF WATER PER DAY, ACCELERATING EROSION AND THREATENING WATER QUALITY.



WYOMING OUTDOOR COUNCIL

aquatic wildlife they support. 80% of Wyoming residents get their drinking water from wells, but little is known about the effects of these massive water withdrawals on the aquifers. Comprehensive scientific studies would be the first step to developing effective management tools, regulations, and technologies to ensure responsible CBM development.

What Can Be Done

In 2001, public officials in state and federal land management agencies will make several key decisions regarding future CBM development in the Powder River basin. Of particular importance is the BLM's current effort to develop a draft "Powder River Basin Coal Bed Methane Project Environmental Impact Statement." This document will estimate the cumulative impact of 51,000 CBM wells on water and air quality, aquifer recharge, fisheries, wildlife, drinking water, and agriculture in northeast Wyoming over the next ten years, and will propose alternatives designed to minimize impacts and mitigate environmental damage. While this document is being prepared, state and federal officials should continue to increase their scrutiny of water discharge permits for CBM wells, as requested by local stakeholder groups.

Once the BLM releases the draft EIS, the public will have an opportunity to comment on the assessment. It will be critical for citizens to review the document and contact public officials at the local, state, and federal levels

to voice support for the alternatives that offer the most protection for the Powder River, its tributaries, and the arid landscape of northeast Wyoming.

Personal Contacts

Michael Garrity, American Rivers, 202-347-7550, mgarrity@amrivers.org

Michelle Barlow, Wyoming Outdoor Council, 307-755-1376, mbarlow@lariat.org



Jeff Kessler, Biodiversity Associates, 307-742-7978, jkessler@igc.org

Gwen Lachelt, Oil and Gas Accountability Project, 970-259-3353, glachelt@fone.net

Cheyrl Phinney or Jill Morrison, Powder River Basin Resource Council, 307-672-5809, prbrc@wavecom.net

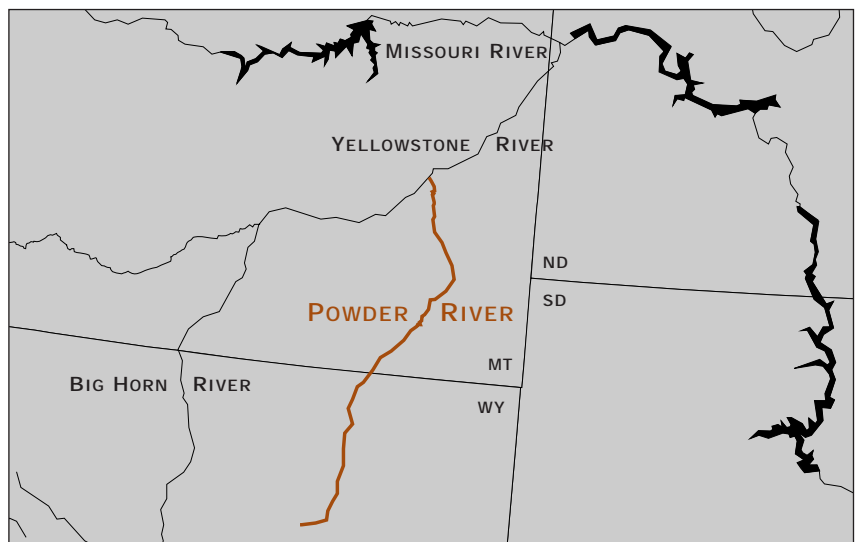
Mark Fix, Northern Plains Resource Council, 406-421-5460, mfix@nprcmt.org

THE POWDER RIVER, THREATENED BY COALBED METHANE EXTRACTION, IS A HEALTHY REMNANT OF THE ONCE VAST, UNSPOILED RIVER ECOSYSTEM SPANNING THE GREAT PLAINS.

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/POWDER2001.HTM



WYOMING OUTDOOR COUNCIL



Mississippi River

THREAT: FLOOD CONTROL PROJECTS

Summary

Two large flood control projects proposed by the U.S. Army Corps of Engineers along the Mississippi River and its tributaries would damage more than 200,000 acres of rare floodplain wetlands — three times more wetlands than the rest of the nation damages each year. These projects jeopardize the successful implementation of the Gulf Hypoxia Action Plan, a federal and state effort to reduce polluted runoff that causes the “dead zone” at the mouth of the Mississippi in the Gulf. The U.S. Army Corps of Engineers will accept public comments later this year as it decides whether or not to proceed and present the two projects to Congress.

The River

The Mississippi River is America’s hardest working river and has been almost entirely cut off from its floodplain to support barge traffic and provide flood control between Minneapolis and the Gulf of Mexico. The Mississippi drains more than 40% of the nation, sending so much fertilizer and polluted runoff downstream that it suffocates marine life at its mouth in a “dead zone” the size of New Jersey each summer.

But the “Mighty Mississippi” remains an

important natural and cultural resource — more than 400 different species of wildlife call the river and its floodplain home, including 40% of North America’s migratory waterfowl. The Mississippi River winds through the literary triumphs of Mark Twain, and tourism along the river brings more than \$15 billion in economic activity to communities along its banks.

The Risk

The scientific evidence is clear — reconnecting the river to its floodplain and restoring seasonally flooded wetlands are essential to restoring the Mississippi River and reducing pollution that causes the dead zone. Despite this, the Corps is considering two projects that would cut off more of the floodplain, damage more than 200,000 acres of wetlands, and potentially increase downstream pollution.

In southeastern Missouri, a \$65 million combined levee and pumping plant called the New Madrid Levee would cut the river off from its largest remaining stretch of connected floodplain, damaging 36,000 acres of floodplain wetlands. Although project backers tout flood control benefits for the town of East Prairie, the Corps acknowledges that the area would still flood about once every ten years anyway. A few hundred miles downstream, the Corps is contemplating another such boondoggle — the \$181million Yazoo Pump. The world’s largest hydraulic pumping plant, the Yazoo Pump would drain one of the most sparsely populated regions in Mississippi, damaging 200,000 acres of wetlands. The project would still leave many homes unprotected from a 100-year flood.

In both cases, alternatives to the pumping stations such as reforesting some lands and flood-proofing vulnerable homes are available at a fraction of the cost to the taxpayers — and would restore wetlands to protect water quality as called for by the Gulf Hypoxia Action Plan. The real beneficiaries of these projects are a handful of large-scale floodplain farmers who would increase already-subsi-



A HYDRAULIC PUMPING PLANT, PICTURED BELOW, CAN DRAIN THOUSANDS OF ACRES OF WETLANDS IN A SHORT TIME. THE PROPOSED YAZOO PUMP WOULD BE THE WORLD’S LARGEST.



U.S. ARMY CORPS OF ENGINEERS



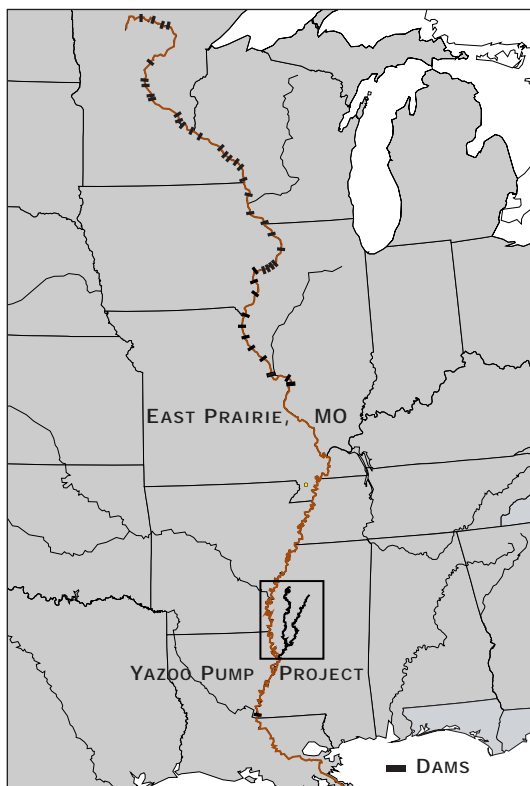
U.S. ARMY CORPS OF ENGINEERS

dized agricultural production in areas drained by the projects.

The public has ample reason to question the Corps' justifications of these projects. In December of 2000, the Army's own Inspector General concluded that an "institutional bias for large-scale construction projects" had caused the Corps to deliberately exaggerate economic benefits and downplay environmental consequences in an attempt to secure a \$1 billion project on the Upper Mississippi River — and suggested that this was not an isolated incident.

What Can Be Done

Later this year, Corps officials in Vicksburg, MS and Memphis, TN will accept public comments on the Environmental Impact Statements that will accompany the two projects should the Corps recommend them to Congress. The public should take these opportunities to demand honest and credible analyses of the economic costs and benefits of the proposed projects — and insist that the Corps take a closer look at less destructive alternatives to the levees and pumping stations, that are consistent with the Gulf Hypoxia Action Plan such as restoration of delta lands and elevation of some frequently flooded homes.



U.S. ARMY CORPS OF ENGINEERS

More broadly, the Corps of Engineers is in desperate need of reform to restore credibility, reduce the waste of taxpayer dollars, and prevent needless environmental damage to hundreds of rivers across the country. Congress and the Administration should take steps to ensure that proposed Corps projects serve the public interest by subjecting large, controversial projects to review by outside experts, requiring full mitigation for project impacts, and requiring projects to meet tougher economic and environmental criteria.

TWO ARMY CORPS PROJECTS, THE YAZOO PUMPS AND THE NEW MADRID LEVEE, THREATEN THE HEALTH AND VITALITY OF THE "MIGHTY MISSISSIPPI."

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/MISSISSIPPI2001.HTM

Personal Contacts

Jeff Stein, American Rivers, 319-884-4481, jstein@amrivers.org

Melissa Samet, American Rivers, 415-627-6700, msamet@amrivers.org

Scott Faber, Environmental Defense, 202-387-3500, sfaber@environmentaldefense.org

Cyn Sarthou, Gulf Restoration Network, 504-525-1528, cyn@gulfrestorationnetwork.org

Tim Sullivan, Mississippi River Basin Alliance, 612-334-9460, timsullivan@mrba.org

Big Sandy River

THREAT: UNSTABLE COAL SLURRY IMPOUNDMENTS

Summary

Last October, the bottom of large coal slurry impoundment in Kentucky cracked — sending 250 million gallons of water, mud, and coal waste surging through a mineshaft below, down two streams and into the Tug Fork of the Big Sandy River, killing all river life in more than 75 miles of stream. The Environmental Protection Agency (EPA) has called this one of the worst environmental disasters ever in the southeastern United States. Federal and state authorities must take action this year to ensure cleanup and to prevent other rivers and streams in coal country from sharing the fate of the Big Sandy.

The River

The heart of Appalachian coal country is drained by some 2,000 miles of streams that pour into the Tug Fork of the Big Sandy River, which forms the border between Kentucky and West Virginia until it reaches the Ohio River. The rugged landscape is riddled with coal mines and slurry impoundments. Supporting vibrant fisheries in its upper reaches and heavy barge traffic where it joins the Ohio River, the Big Sandy is both the economic muscle and the recreational jewel of the region.

The Risk

Coal must be washed before it goes to market, producing slurry — a molasses-consistency mixture of water, mud, and coal waste containing heavy metals like mercury, lead, and

arsenic — which is dumped into large holding ponds. On October 11, 2000, a mine shaft beneath a 2.2 billion gallon slurry impoundment owned and operated by Martin County Coal Company collapsed, releasing a wave of sludge into local streams and then into the Tug Fork of the Big Sandy,

where it was carried as far as the Ohio River.

The spill clogged and polluted domestic and industrial water supplies and suffocated river life underneath an oozing blanket of coal slurry. The governor of Kentucky declared a disaster area in ten counties in the eastern corner of the state due to water supply shortages. Although cleanup efforts are underway, many tons of slurry still clog the river beds, threatening to stir up once again during heavy rains.

The October 11 disaster highlighted the inadequacy of the region's contingency planning, emergency response capabilities, and regulatory oversight of mining operations.

Martin County Coal Company's application for a permit for the impoundment did not accurately describe conditions of the impoundment, and regulators had rated it at only moderate risk of failure. Hundreds of such impoundments containing billions of gallons of slurry are scattered throughout coal country in Appalachia, many located over or near abandoned mineshafts and near small communities.

What Can Be Done

Martin County Coal Company and its parent company Massey Energy will be responsible for continuing the cleanup under EPA oversight. The cleanup process must involve a feasible long-term as well as short-term cleanup plan, with a citizen advisory board and notice to citizens of all future risks.

With hundreds of slurry impoundments in the region, there is an urgent need to ensure that the damage that occurred in the Big Sandy watershed not be repeated. Several assessments of the safety and efficacy of coal slurry disposal methods have been recently completed or are underway:

- A study by the National Academy of Sciences, due in October 2001, will compare methods of coal waste disposal. This study could publicly certify the alternatives and push for a change in disposal standards.
- The U.S. Office of Surface Mining plans to report on the safety of impoundments, neighboring mines and the effectiveness of regulations that govern them to determine whether any regulations need to be incorporated

THE MARTIN COUNTY COAL COMPANY SLURRY SPILL RELEASED OOZING BLANKETS OF SLUDGE INTO LOCAL STREAMS, THE TUG FORK OF THE BIG SANDY, AND EVENTUALLY THE OHIO RIVER.



SUZANNE WEBB

nationally to avoid another disaster.

■ The Kentucky Department of Surface Mining, Reclamation, and Enforcement is conducting a review of existing impoundments and an internal review of its permitting process.

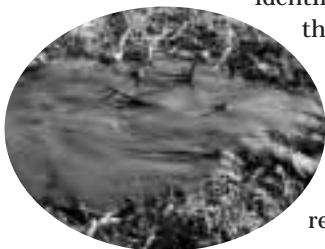
■ A task force led by West Virginia Division of Environmental Protection will release in May a draft report on community response capabilities for coal slurry disasters.

Agencies must seek public input on all of these reports. In addition, until all reviews are complete, a moratorium should be placed on new permits and expansions of existing permits. New permits must have public input and require a disaster plan and posting of a reclamation bond. State regulators should perform special investigations of all dams

identified as high priority in their recently completed national survey of slurry impoundments, and should establish that all cleanup costs will be recovered from the responsible company.

The decisions in 2001

must not only guarantee that another disaster will not happen again; they must also turn the page on harmful and outdated waste disposal practices, and press for modern standards and vital public input.



ULLA REEVES, SOUTHERN ALLIANCE FOR CLEAN ENERGY



Personal Contacts

Rebecca Sherman, American Rivers, 202-347-7550, ext. 3052, rsherman@amrivers.org

Judy Petersen, Kentucky Waterways Alliance, 270-524-1774, judy@kwalliance.org

Nathan Fetty, West Virginia Rivers Coalition: 304-637-7201, nfetty@neumedia.net

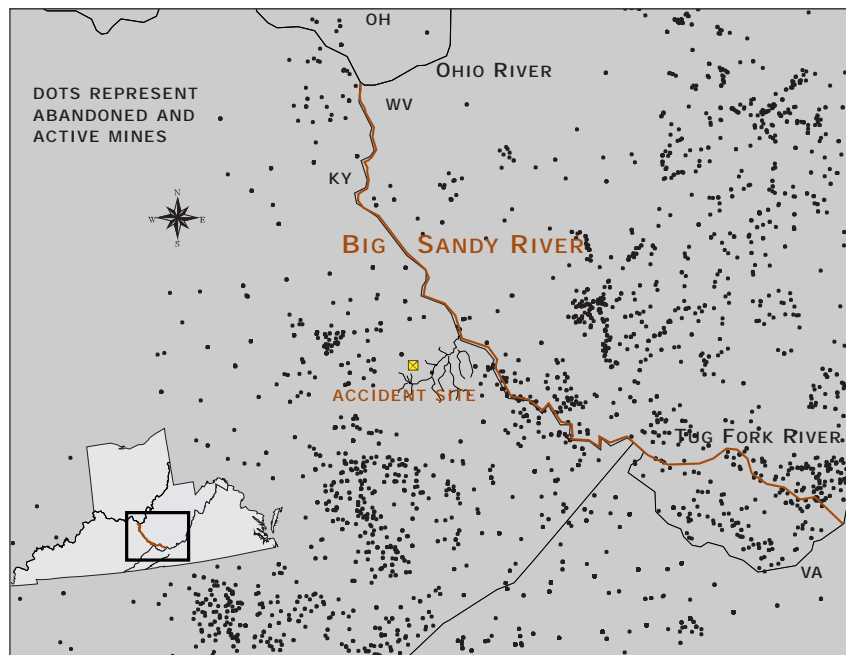
Vivian Stockman, Ohio Valley Environmental Coalition: 304-522-0246, vivian@ohvec.org

Tom FitzGerald, Kentucky Resources Council: 502-875-2428, fitzkrc@aol.com

BECAUSE THERE ARE HUNDREDS OF SLURRY IMPOUNDMENTS IN THIS REGION, FEDERAL AND STATE AUTHORITIES MUST ACT NOW TO ENSURE THAT OTHER RIVERS DO NOT SHARE THE FATE OF THE BIG SANDY.

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTDANGEROUS/BIGSANDY2001.HTM

SOUTHERN ALLIANCE FOR CLEAN ENERGY



Snoqualmie River

THREAT: URBAN SPRAWL, RIVER CORRIDOR DEVELOPMENT

Summary

Sprawling development threatens the future of the Snoqualmie River, which produces some of the largest salmon runs in the state of Washington. Forests and farmlands are disappearing in the increasingly urban watershed, threatening both the salmon listed under the Endangered Species Act and some of the Pacific Northwest's most scenic landscapes. State and local governments will be making key decisions this year that will test their commitment to protecting this magnificent river in Seattle's back yard. If successful in limiting sprawl, local governments will establish the Snoqualmie as a model for sustainable management of Puget Sound rivers and salmon recovery.

The River

Surprisingly undeveloped despite its close proximity to metropolitan Seattle, the Snoqualmie River originates in the Cascade mountains as three separate forks which merge about three miles above Snoqualmie Falls, which draws visitors from near and far. Below the falls, salmon and sea-run trout spawn in the river and its tributaries, which flow to the northwest until it joins with the Skykomish River to form the Snohomish River, which empties into Puget Sound.

The Snoqualmie is one of the few rivers in the state managed for all-wild (as opposed to

hatchery) salmon production. The river supports wild runs of coho, chinook, pink, sockeye, and chum salmon, steelhead, rainbow and cutthroat trout, and native char, which were vital to the culture of native Americans and which supported valuable commercial fisheries for many years. The Snoqualmie and its tributaries produce more wild adult coho salmon than the entire state of Oregon, and are vital to the recovery of Puget Sound chinook or "king" salmon, which are listed as threatened under the Endangered Species Act.

The Risk

Although remarkably healthy for a river so close to a major urban center, over the last century development, flood control structures, roads, agriculture, timber harvesting, salmon-over harvest, and poor hatchery practices have degraded the Snoqualmie and its wild-fish populations. Despite significant progress in restoring degraded habitat and protecting remaining intact habitat, this could soon be lost as development sprawls into the Cascade foothills and along the river's floodplain.

Most of the Snoqualmie watershed lies within King County — which has been nationally recognized for its leadership in salmon recovery. Under the leadership of King County Executive Ron Sims, the county has established programs to protect good salmon habitat and to restore degraded habitat. Both King and Snohomish counties have adopted innovative land use regulations to protect the Snoqualmie. Unfortunately, development pressures threaten to squander these good efforts. Forested slopes along the river and its tributaries are steadily being converted into residential developments, which have contributed to flooding and water quality violations. Development is also encroaching on the Snoqualmie River's floodplain, expanding the

THE WILD SALMON POPULATION IN THE SNOQUALMIE RIVER IS AT RISK AS DEVELOPMENT INFRINGES ON CRUCIAL HABITAT.



WASHINGTON TROUT

amount of asphalt and pavement which increases erosion and polluted runoff flowing into habitats essential to rearing young salmon. Sadly, existing zoning allows development along tributaries such as Griffin Creek — some of the most productive coho salmon spawning habitat in Puget Sound.

King, Snohomish and Pierce counties are currently developing a plan to respond to the March 1999 listing of Puget Sound populations of chinook salmon as threatened under the Endangered Species Act. Known as the Tri-County Process, this effort should conclude in 2001 with a model plan, which will provide direction to the counties and their cities on how development should be regulated to protect salmon.

Although the draft Tri-County plan contains many promising elements, it permits too much destruction of forests and native vegetation and does not adequately limit pavement, asphalt, and other hard surfaces that degrade the Snoqualmie and its tributaries by increasing flooding and erosion. The National Marine Fisheries Service (NMFS) has determined that these flaws must be fixed before the plan will protect salmon, but development interests are lobbying hard against such improvements.

What Can Be Done

The Snoqualmie watershed is still relatively undeveloped and there is great potential to retain and enhance its ecological, recreational and scenic values. To protect the Snoqualmie, local governments in the watershed must update their land use, shorelines, and critical areas regulations to reflect new scientific information on fish and wildlife needs. Rezoning of land from forestry to allow housing development must be limited. The public should urge elected officials in King, Pierce and Snohomish counties to adopt a Tri-County Plan that is adequate to protect water quality and recover salmon.

Some members of the Washington State Legislature want to force the Department of Ecology to repeal its new science-based guidelines for updating local shoreline protection regulations. The legislature should join Governor Gary Locke in supporting those guidelines, and include funding in the 2002-2003 budget to help local governments carry out this important new initiative. In addition, the Legislature should not repeal the Growth Management Act requirement that local gov-



ernments update by 2002 their regulations that protect environmentally critical lands. Finally, the State and local governments must do a better job funding and enforcing growth management and shoreline regulations.

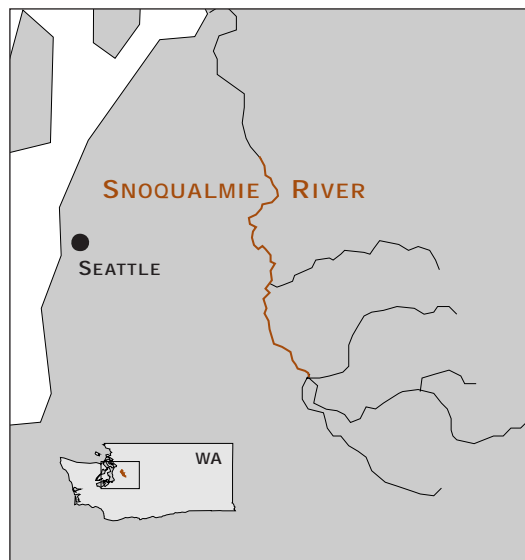
Personal Contacts

Rob Masonis, American Rivers, 206-213-0330, ext. 12, masonis@amrivers.org

Kurt Beardslee, Washington Trout, 425-788-1167, kurt@washingtont trout.org

Tim Trohimovich, 1000 Friends of Washington, (206) 343-0681, tim@1000friends.org

FOR LINKS TO MORE
INFORMATION OR TO TAKE
ACTION:
[WWW.AMERICANRIVERS.ORG
/MOSTENDANGERED
/SNOQUALMIE2001.HTM](http://WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/SNOQUALMIE2001.HTM)



Animas River

THREAT: PROPOSED WATER PROJECT

Summary

The Animas-La Plata (ALP) water project — one of the last big Western water projects — threatens endangered fish species, a thriving recreational rafting industry, riparian wetlands, and a gold medal trout fishery on the Animas River in southwestern Colorado. Disguised as a tribal water rights settlement, last fall Congress reinvigorated the decades-old pork barrel project by authorizing a scaled down, yet still costly and environmentally damaging version. Congress should reconsider its decision and not ask the American taxpayer to foot two-thirds of ALP's \$450 million price tag — creating a water supply which is not currently and may never be needed.

The River

Winding from southwestern Colorado into New Mexico where it joins the San Juan River, the Animas is the Colorado Plateau's largest — and one of its last — remaining free-flowing rivers. Flowing through arid desert country, the wetlands along the Animas are oases for native and migratory wildlife and are studied with important archeological sites. Two endangered fish species — the Colorado pikeminnow and razorback sucker — depend on water from the Animas, and the river attracts thousands of rafters, kayakers, and anglers to the area every year.

The Risk

ALP was first proposed in 1968 during a time of large-scale dam building — but due to the project's excessive water subsidies

and environmental impacts it was shelved and declared infeasible. Now — due to an environmental rider passed in Congress last fall — the project is back, and while scaled-down it remains an environmentally destructive government boondoggle.

The new ALP would divert approximately one quarter of the river's flow — pumping it 500 feet uphill into a storage reservoir. With

no need anticipated for at least 30 to 100 years according to the Bureau of Reclamation, the water would sit in the reservoir to evaporate or be released back into the Animas approximately five miles downstream. The pumps required to move the water into the reservoir would consume as much power as the 16,000 residents of nearby Durango — a questionable investment given the current energy crunch.

The environmental, cultural and recreational impacts of the new ALP are numerous. The project is expected to: (1) significantly reduce river flows directly above critical habitat for endangered fish species; (2) inundate 2,000 acres of habitat for elk and deer; (3) devastate the only gold medal trout fishery in the area; (4) create air and water pollution from the coal-fired power plant needed to pump the water uphill; (5) severely impact a thriving whitewater industry and bankrupt numerous commercial river outfitters; and (6) engulf hundreds of Pueblo Indian burial sites.

ALP would have died years ago if in the 1980s project proponents had not convinced two Indian tribes — the Southern Utes and Ute Mountain Utes — to use ALP water as part of tribal water claims settlements. Linking ALP to the tribal claims breathed new life into the otherwise politically defeated project. Even though its proponents now claim ALP is an "Indian only" project, just 57% of the water would go to the tribes — the rest would go to local municipalities and likely feed future sprawl development in the area. Further, the 2000 legislation did not deauthorize the original ALP, causing many to fear that the scaled-down version is simply a stepping stone for a much more extensive and damaging project that would divert water from the upper storage reservoir into the La Plata River Basin.

The \$450 million project is a waste of hard-earned American tax dollars — and has never had a benefit-cost analysis. A Bureau of Reclamation analysis for a previous version of ALP found that the project would return just 36 cents for every dollar spent — a ratio that violates the agency's policy. The Bureau now claims that ALP no longer requires a benefit-cost analysis because it is part of a tribal water rights settlement.



SAN JUAN CITIZENS ALLIANCE



SAN JUAN CITIZENS ALLIANCE

THE ANIMAS RIVER, WHICH SUPPORTS A THRIVING RAFTING INDUSTRY AND A GOLD MEDAL TROUT FISHERY, IS THREATENED BY A WATER PROJECT THAT WOULD DIVERT A QUARTER OF THE RIVER'S FLOW TO A STORAGE RESERVOIR.



THE ANIMAS RIVER IS THE COLORADO PLATEAU'S LARGEST REMAINING FREE-FLOWING RIVER. IT SUPPORTS TWO ENDANGERED FISH SPECIES — THE COLORADO PIKEMINNOW AND RAZORBACK SUCKER.

What Can Be Done

Although ALP has a new lease on life, it is not too late to save the Animas River. The Ute tribal water rights should be honored in an environmentally sound, non-structural manner — the major components of which include funds to purchase tribal water rights and use of existing infrastructure to supply additional water to the tribes. Because the Bureau of Reclamation has never fully investigated non-structural alternatives or completed a benefit-cost analysis, ALP opponents will likely fight the project in court.

Congress should recognize ALP for what it is — a federally subsidized, environmentally damaging water diversion that will contribute to sprawl — and not appropriate funds to construct this project. If Congress is serious about providing water for the tribes, it must not build a project with no current benefits, but rather should embrace a non-structural alternative to ALP that does not devastate one of the West's last free-flowing rivers.

Personal Contacts

Elizabeth Maclin, American Rivers: 202-347-7550 x3014, emaclin@amrivers.org

Dylan Norton, San Juan Citizens Alliance: 970-259-8156, dylan@frontier.net

Michael Black, Taxpayers for the Animas River: 970-385-4118, wccdgo@fone.net

Jerry Swingle, Four Corners Action Coalition: 970-247-5797, jerswingle@earthlink.net

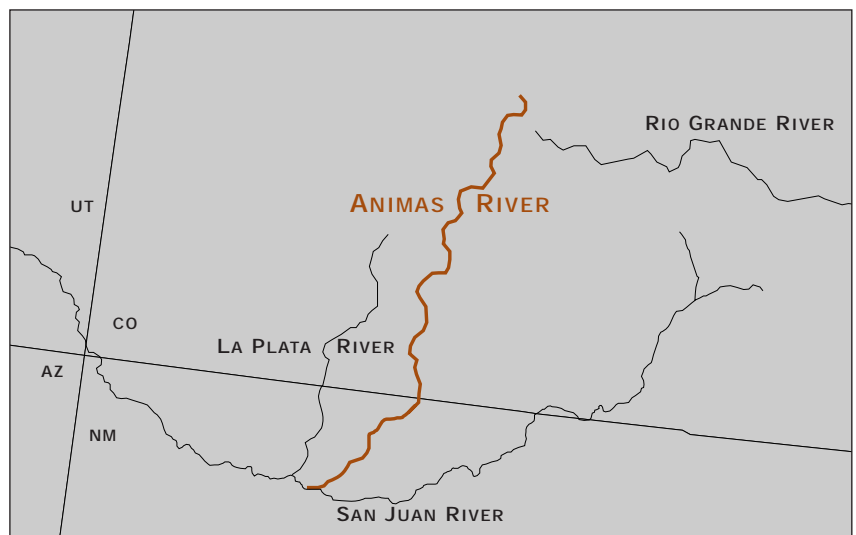
Jill Lancelot, Taxpayers for Common Sense: 202-546-8500 x105, jill@taxpayer.net

Joan Mulhern, Earthjustice Legal Defense Fund: 202-667-4500 x223, jmulhern@earthjustice.org

Erich Pica, Friends of the Earth: 202-783-7400, ext. 229, epica@foe.org

Lori Potter, Counsel for the Sierra Club, SJCA, TAR, and FCAC: 303-296-9412, lpotter@khgk.com

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/ANIMAS2001.HTM



Lewis River, East Fork

THREAT: GRAVEL MINING OPERATIONS IN FLOODPLAIN

Summary

A proposed 4,000-ton a day gravel mine expansion along the East Fork of the Lewis River in Washington state threatens crucial spawning and rearing habitat for three species of salmon that are listed as threatened under the Endangered Species Act. Private landowners and local governments have invested hundreds of hours of labor and over ten million dollars to preserve and restore salmon habitat in the river, one of the last free-flowing rivers in the entire Columbia River basin. The proposal must clear three hurdles this year, and federal, state, and county officials will accept public input as they determine whether or not to allow the proposed expansion.

The River

The East Fork of the Lewis River flows emerald green out of the rugged terrain of the Gifford Pinchot National Forest. The river is entirely undammed and is a major groundwater recharge area for key aquifers. Fly-fishing legend Gary Loomis has stalked trophy steelhead on the Lewis River, which also boasted one of the best chum salmon runs in the lower Columbia basin.

The salmon and steelhead runs are now shadows of their former selves, but conservationists believe that the undammed East Fork has the potential to support vibrant fisheries once again and it has been identified as a high priority area for recovery of threatened salmon species. Government and non-profit organizations have acquired and are restoring some 2,500 acres of habitat in the East Fork river valley, which is also home to a wide variety of wildlife, including waterfowl, eagles, ospreys, herons, coyotes, and otters.

The Risk

The East Fork has yet to recover from gravel mining accidents in the recent past. During a flood in 1996, the river flooded mining pits not far from the proposed site. This changed the river's course, destroyed 5,000 feet of prime salmon spawning habitat, and formed a maze

of warm-water ponds where salmon predators flourish. Geologists say that it will take over 25 years for the East Fork to return to its pre-1996 condition.

Despite this unfortunate track record, the same mine operator plans to expand operations and recently persuaded the Federal Emergency Management Agency to redraw the East Fork's 100-year floodplain so that its proposed expansion now lies one foot outside the boundary. Having circumvented the local county's ban on mining operations in such areas, the operator is now proposing to more than double their current operations and remove several million tons of gravel — threatening even more critical habitat.

The Washington Department of Fish and Wildlife has warned that the expanded gravel mining operation is a “serious threat” to salmon recovery. There is no reason to assume that the problems caused by previous activities would not reoccur at the new site, which adjoin even more sensitive and important habitat.

What Can Be Done

Three key decisions in 2001 will determine whether the mine expansion will go forward:

- First, the company must secure the transfer of disputed water rights, as the mining operations cannot be expanded without using more



EXPANDING GRAVEL MINING OPERATIONS WOULD REMOVE SEVERAL MILLION TONS OF GRAVEL, THREATENING LOCAL EFFORTS TO PROTECT AND RESTORE THE RIVER.

ALL PHOTOS ON THIS SPREAD COURTESY OF THE EFL





THE EAST FORK OF THE LEWIS RIVER IS ENTIRELY UNDAMMED AND PROVIDES SPAWNING AND REARING HABITAT FOR THREE SPECIES OF THREATENED SALMON.

river and groundwater for pumping and washing the gravel. The company has applied to the Washington Department of Ecology for a special expedited review of this transfer, and a decision is expected in early 2001.

■ Second, the mining company must receive permission from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to move forward with the expansion because the expansion may harm (“take”) threatened species. Although the company has submitted a plan to federal agencies that would allegedly minimize the harm, Washington state resource agencies believe it will not be adequate. The federal agencies are expected to act on the proposal in the summer of 2001.

■ Third, the mining company must also obtain permission from Clark County for the expanded mine site. The company has submitted a draft Environmental Impact Statement to the county for the expansion. After the county releases the draft, the county will take public comment and then decide whether or not to allow the mine expansion to proceed.

Public opinion can effect these decisions. It is imperative that the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Washington Department of Ecology, and Clark County hear from concerned citizens that it is clearly not in the public interest to allow the East Fork of the Lewis — and the

species it supports — to be placed in peril by this unwise mine expansion.

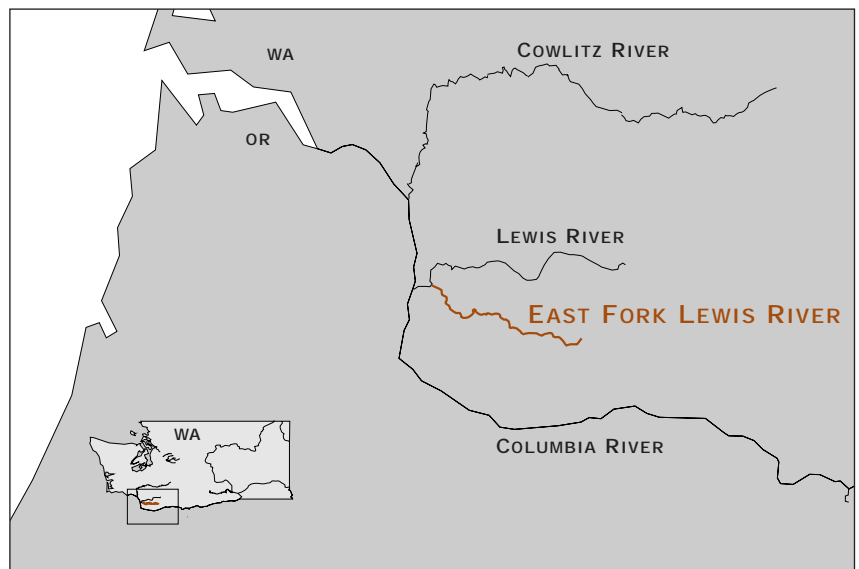
Personal Contacts

David Moryc, American Rivers,
206-213-0330, dmoryc@amrivers.org

Richard Dyrland, Friends of the East
Fork, 360-887-0866, toppacif@teleport.com

Jack Kaeding, Fish First, 360-225-5651,
jkaeding@teleport.com

FOR LINKS TO MORE
INFORMATION OR TO TAKE
ACTION:
WWW.AMERICANRIVERS.ORG/MOSTDANGEROUS/EASTFORKLEWIS2001.HTM



Paine Run

THREAT: ACID RAIN



Summary

Paine Run in Virginia's Shenandoah National Park and other mountain streams and rivers throughout the Mid-Atlantic are being slowly killed by acid rain blowing in from old coal-fired power plants in the Ohio and Tennessee Valleys. Congress has an opportunity to pass legislation requiring these plants to be brought up to modern environmental standards. If emissions of these pollutants are not reduced by 70% in the next few years, Paine Run, along with numerous other streams in Virginia and throughout the Appalachian mountains, will become too acidic to sustain wild brook trout populations.

The River

Paine Run and its neighboring mountain streams are known throughout the country as some of the finest habitat for native brook trout in the United States, drawing



anglers from around the country in search of the increasingly rare fishing experience these beautiful fish offer. As it makes its way down the western flank of the Blue Ridge,

Paine Run picks up several small streams before emptying into the South River on the valley floor near the town of Grottoes. Although the area is among the most scenic on the East Coast, the forested watershed is heavily stressed by pollution. Paine Run, which once held as many as eight different species of fish, is now home to just three.

TROUT UNLIMITED

THE PAINE RUN'S FAMOUS BROOK TROUT POPULATION COULD BE LOST FOREVER DUE TO ACID RAIN CAUSED BY COAL-FIRED COAL PLANTS IN OHIO AND TENNESSEE.

The Risk

Established to protect its unique combination of historic structures, scenic mountains, and clear mountain streams, Shenandoah National Park is one of the most popular parks in the country. Unfortunately, it is also the second most heavily polluted. Downwind from coal plants in the Ohio and Tennessee Valleys, the park and its rivers are suffering from the ill effects of burning coal, including, ozone, acid rain, and smog concentrations that occasionally exceed that of the region's major cities.

Our nation's principal energy source — coal — is also the dirtiest, emitting tremendous amounts sulfur dioxide (SO₂) and nitrogen

oxides (NO_x), which are transformed into acids in the atmosphere and can travel long distances before they return to the surface as acid rain, snow, mist, or fog. The impact of acid rain on Paine Run and neighboring streams is very well understood. According to a recent study conducted by the University of Virginia (UVA), out of 304 Virginian trout streams, six percent are currently too acidic to host reproducing populations of brook trout.

In 1993, American Rivers identified the St. Mary's River in the nearby George Washington National Forest as one of the most threatened rivers in the country because of the damage it had suffered from acid rain. The St. Mary's has since become too acidic to host self-sustaining trout populations, and the Forest Service has resorted to dosing the river with massive amounts of limestone in an effort to reduce the stream's acidity and restore its fishery.

Even if the 1990 Amendments to the Clean Air Act (CAA) meet their goal of reducing sulfur dioxide emissions by 40% below 1984 levels, Paine Run, along with 22% of Virginia's mountain trout streams, will join the St. Mary's and become too acidic to support brook trout by 2041, according to the researchers. The researchers' models suggest it

U.S. FISH AND WILDLIFE SERVICE





will take a reduction in sulfur dioxide emissions of approximately 70% (from 1991 levels) to sustain these streams' ability to support life.

What Can Be Done

To protect Paine Run and the mountain streams of the mid-Atlantic, Congress must strengthen laws to restrict pollution from coal-burning power plants — by 70% below 1991 levels, according to University models. Even deeper cuts may be necessary to allow streams that have already suffered from high acidity to recover.

Older coal-fired power plants are not subject to the same emissions requirements as modern plants, and consequently emit four to ten times as much pollution as modern plants. A straightforward way of achieving these cuts would be legislation to bring older coal-burning power plants up to modern emissions standards.

Several bills may be introduced in Congress this session that would address the reduction of SO₂ and NO_x emissions. Swift passage would help ensure that future generations of Americans can benefit from a Shenandoah National Park that fulfills its mission of conserving “the scenery and the natural and historic objects and the wildlife therein.”

Personal Contacts

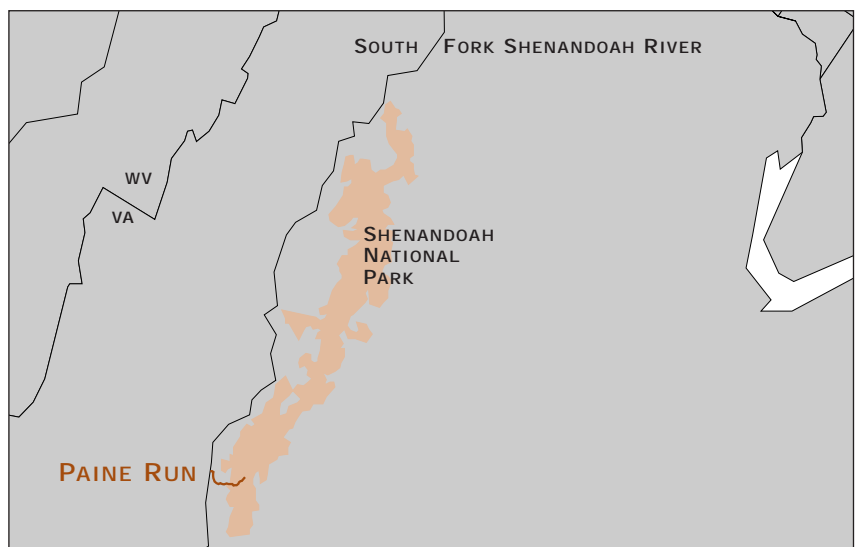
Steve Higgs, American Rivers: 202-347-7550 x 3012, shiggs@amrivers.org

Leon Szeptycki, Trout Unlimited: 804-984-4919, lszeptycki@tu.org

Angel a Menegay, Southern Environmental Law Center: 804-977-4090, amenegay@selcva.org

THE PAINE RUN'S BROOK TROUT FISHING OPPORTUNITIES ATTRACT ANGLERS FROM ACROSS THE COUNTRY.

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/PAINERUN2001.HTM



Hackensack River

THREAT: URBAN DEVELOPMENT

Summary

The Hackensack River and the Meadowlands in New York and New Jersey face rapidly escalating development pressure that threatens to destroy a significant portion of the largest block of wetlands left in the region and increase the amount of pollution entering reservoirs that supply drinking water for one million people. This year, federal, state and local authorities must demonstrate resolve to protect the river from an unpopular proposal to construct an enormous shopping, entertainment, and office complex and take steps to slow new developments which are multiplying on the reservoirs upriver.

The River

Flowing right through the heart of the New York City metropolitan area, the Hackensack River winds south from Rockland County, New York, into New Jersey where it empties into Newark Bay. The river's estuary — the Meadowlands — is the last large block of open space in this densely populated region. Although most of the Meadowlands' original white cedar swamps have been replaced with phragmites (a common reed), the area still supports a remarkable diversity and concentration of birds, fish, and other animal life, including 55 rare and important species of birds and 29 rare or important species of fish. The area has

been designated Essential Fish Habitat by the National Marine Fisheries Service.

The Risk

Once comprised of roughly 21,000 acres of wetlands, open water, and lowland forests, the Meadowlands has been reduced to about 7,000 acres of wetlands today — and development pressure is unrelenting. Since 1995, the U.S. Environmental Protection Agency (EPA), U.S.

Army Corps of Engineers, Hackensack Meadowlands Development Commission (HMDC), and the New Jersey Department of Environmental Protection have been developing a Special Area Management Plan (SAMP) to guide development in this ecologically sensitive area. The current draft of the SAMP allows for 465 acres of Meadowlands' remaining wetlands to be filled for development and does not impose limits on impacts — such as polluted runoff — to surrounding wetlands. An Environmental Impact Statement for the SAMP has never been completed.

A developer has since proposed to construct an enormous shopping, entertainment, and office complex on 206 of those acres. In addition to the outright destruction of a large block of habitat, the mall and its associated parking lots would produce large volumes of runoff, carrying high concentrations of pollution, such as grease and heavy metals, into an estimated 300 acres of surrounding wetlands. Although the EPA is leading development of the SAMP, it has joined the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in opposing this development due its severe impacts on the entire Meadowlands ecosystem and the ready availability of suitable alternative sites for the complex.

The project cannot move forward until the developer receives a permit to fill the wetlands from the Corps of Engineers. During the preparation of a draft Environmental Impact Statement for the development last fall, the Corps received 9,000 public comments —



ALL PHOTOS HACKENSACK RIVERKEEPERS

ABOVE AND UPPER RIGHT: THE HACKENSACK-MEADOWLANDS ESTUARY SUPPORTS 55 RARE BIRD AND 29 RARE FISH SPECIES.

RIGHT: DEVELOPMENT PRESSURE IS DEGRADING THE RIVER AND THE ESTUARY.



HACKENSACK RIVERKEEPERS

85% of which strongly objected to the project.

Development pressure is also mounting in the upper reaches of the river, and the forested buffers that historically surrounded the drinking water reservoirs on the upper river have been disappearing. The private company that owns and operates the local drinking water system has created a real estate company to market these lands for development, and in places the buffers have been reduced to strips only 50 feet wide. The loss and fragmentation of riverside habitat will result in more polluted stormwater and runoff reaching the reservoirs, threatening the quality and quantity of drinking water. Remaining margins of open space for local residents will also vanish.

What Can Be Done

Federal, state, and local agencies have compelling reasons to exercise their authority to prevent further damaging development and to strengthen protection of the Hackensack and the Meadowlands. The Corps of Engineers should heed the concerns that local citizens and federal and state agencies expressed during the preparation of their Environmental Impact Statement and deny the permit for the proposed shopping center development in the wetlands. Other more suitable sites are readily available nearby and will bring jobs and

economic development to the very same communities.

The remaining Meadowlands marshes should be given permanent protection by federal and/or state agencies, and the SAMP should be finalized with the primary goal of conserving — not developing — the Meadowlands. The long-delayed Environmental Impact Statement on the SAMP should be revived and completed through an open and public process. The agencies involved in developing the SAMP should set an explicit standard of allowing development only if it can be demonstrated to be compatible with protecting the estuary.

Local communities along the upper Hackensack River's remaining forest buffers should act to protect the habitat that protects their drinking water. Riparian forests and other existing open space tracts within the watershed should be protected through such methods as land purchase, conservation easements, and development setbacks.

Personal Contacts

Betsy Otto, American Rivers, 202-347-7550, botto@amrivers.org

Capt. Bill Sheehan, Hackensack Riverkeeper, 201-692-8440, captain@keeper.org

Andy Willner, NY/NJ Baykeeper, 732-291-0176, nynjbay@keeper.org

Rebecca Lubot, Hackensack Meadowlands Partnership, 973-353-3230, rebecca@meadowlandspartnership.org

Richard Kane, New Jersey Audubon Society, 908-766-5787



ONCE COMPRISED OF 21,000 ACRES OF WETLANDS, OPEN WATER, AND LOWLAND FORESTS, THE MEADOWLANDS — THE HACKENSACK RIVER'S ESTUARY — HAS BEEN REDUCED TO 7,000 ACRES TODAY, DUE TO DEVELOPMENT.

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/HACKENSACK2001.HTM

Catawba River

THREAT: LAND DEVELOPMENT, SEWAGE DISCHARGES AND SPILLS, WATER WITHDRAWALS

Summary

Explosive urban growth along the Catawba River in North and South Carolina threatens to overwhelm the river's capacity to provide drinking water, assimilate sewage, support wildlife, and serve the recreational needs of Charlotte and growing communities throughout the basin. The governments of North and South Carolina must take steps towards developing a comprehensive long-term plan for managing the shared resources of the Catawba River. Otherwise continued "first-come-first-served" allocation of the river's finite resources could well lead to the Southeast's next "water war."

The River

As the Catawba River descends from mountains to the piedmont, it turns south and passes close by Charlotte, North Carolina — one of the fastest growing cities in the country — before crossing the border into South Carolina and emptying into Lake Wateree, just a half-hour drive from Columbia, South Carolina. The river provides habitat for abundant wildlife — including 50 fish species and the world's largest colony of the rare Rocky Shoals Spider Lily — and is a popular destination for boaters and anglers.

Archaeological and historical sites along the river indicate that people have depended on the Catawba River for over 10,000 years — but never so many as today. According to one estimate, the region's population is increasing by more than 200,000 people per decade.

There are 11 dams along the Catawba, and just one of its reservoirs provides drinking water for 8% of the people in North Carolina, but cities and industry hold permits to discharge more than 175 million gallons of pollution into the watershed daily

— and that number is expected to double within the next ten years.

The Risk

The greatest risk to the Catawba River's future is that development will continue to race forward without protection of irreplaceable resources and without a fair and comprehensive allocation of stream flows to competing uses. Even as the growing population demands more drinking water, the river is threatened by proposals to expand the number of wastewater treatment facilities, poor regulation of existing sewage systems, and increased pollution from runoff and erosion, as the river's scarce flows decrease even more.

Five large wastewater plant expansions are under construction or on the drawing board, and Charlotte area business interests propose to install large sewer lines along a 20-mile stretch of the Catawba River to carry wastes down-

stream to South Carolina. The facilities would dump as much as 100 million gallons of treated waste per day into one of the last free-flowing segments of the river, and the sewer line would promote more sprawl, disrupt valuable wildlife habitat along the riverbank, and could destroy historical and cultural treasures.

A large number of small wastewater treatment systems along Catawba basin streams threaten the safety of water users, as well. Pumping station malfunctions and sewer line overflows sent at least nine million gallons of untreated human wastes into the Catawba basin last year. Small residential treatment facilities known as "package plants" could further exacerbate these problems, due to poor maintenance and inadequate discharge quality standards.

The explosive development along the Catawba has increased erosion and polluted runoff washing into the river. Each day, approximately 40 acres of green space is



ALL PHOTOS CATAWBA RIVERKEEPERS

THE CATAWBA RIVER IS THREATENED BY WASTEWATER TREATMENT FACILITIES, POOR REGULATION OF EXISTING SEWAGE SYSTEMS, AND INCREASED POLLUTION FROM EROSION AND RUNOFF.





cleared in the Charlotte metro region alone. The lack of proper stream-bank buffers and other runoff controls will further degrade the river and downstream reservoirs.

What Can Be Done

Citizens should encourage the Governors and legislators in North and South Carolina to build on recent efforts by local individuals and groups, such as the Catawba River Basin Conference and Catawba-Wateree Relicensing Coalition, to form comprehensive plans to preserve and equitably share the river's finite resources. Agreements between the states must include orderly processes for allocating water supplies, stream flows, and waste assimilation capacities to protect aquatic species and the interests of future generations.



The North Carolina Environmental Management Commission should adopt increased stream-side buffer zones for the river and its tributaries before they lose the statu-

tory authority to do so in July 2001. South Carolina must also implement buffer rules in its portion of the Catawba River Basin.

South Carolina officials must not allow proposed regional treatment facilities to degrade water quality, riparian habitats, or cultural and historic treasures. Alternatives for waste disposal must be examined that do not foster urban sprawl and are less damaging to important resources.

North Carolina Department of Environment and Natural Resources officials must grant petitions from citizens to revise permits for "package plants" discharging to Catawba River reservoirs. Revisions should require additional safeguards for human and environmental health, including increased monitoring and reporting of facility performance.

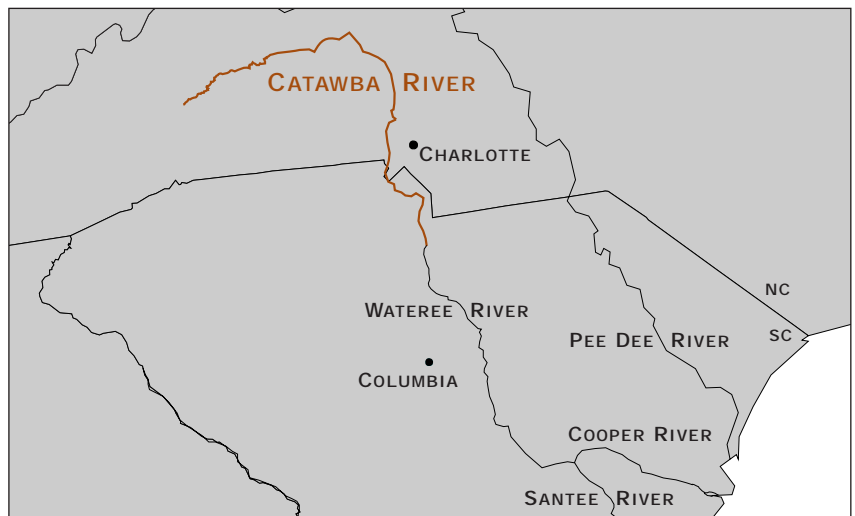
Personal Contacts

David Sligh, American Rivers: (423) 265-7505, dsligh@amrivers.org

Donna Lisenby, Catawba Riverkeeper, (803) 789-7007, riverkeeper@InfoAve.Net

Harry McMillan, Wateree Homeowner's Association, (803) 337-2600, hkmcmillan@aol.com

FOR LINKS TO MORE INFORMATION OR TO TAKE ACTION:
WWW.AMERICANRIVERS.ORG/MOSTENDANGERED/CATAWBA2001.HTM



American Rivers Staff

REBECCA R. WODDER
President

MARK ALBERS
Director, Montana Field Office

PAT APPEL
Vice President for Resource
Development

JAINA AYERS
Receptionist/Administrative
Assistant

LESLIE BECK
Conservation Associate,
Northwest Regional Office

AMY BUTLER
Associate Director of
Foundation Relations

MARGARET BOWMAN
Senior Director of Dam Programs

PETE CARRELS
Traveling Exhibit Coordinator

ERIC ECKL
Director of Media Affairs

ANDREW FAHLUND
Policy Director of Hydropower
Programs

ROB FISHER
Writer, Geographical
Information Specialist

JUSTIN HAYES
Associate Director of
Public Policy

SARAH HAWKINS
Web Producer

JENNIFER HESELMAYER
Capital Campaign Assistant

STEVE HIGGS
Conservation Assistant

RON HINES
Director of Accounting

ANNE HOFFERT
Associate Director of Finance &
Administration

LYNETTE HOPKINS
Accounting Assistant

MELISSA HOPKINS
Development Assistant

CONNIE KELLEHER
Northwest Legal Fellow

BEA KELLER
Manager, Membership Services

PETER KELLEY
Vice President for Strategic
Communications

ELIZABETH MACLIN
Associate Director of Dam
Programs

RICH MAIORE
Director of Corporate Relations

ROB MASONIS
Northwest Conservation Policy
Director

BARBARA MATOS
Executive Associate/Manager,
Board Services

KRISTEN McDONALD
Associate Director of Wild &
Scenic Rivers Program

JAMIE MIERAU
Administrative Assistant to the
VP of Conservation

ANN MILLS
Vice-President for Conservation/
Director of Public Policy

KELLY MILLER
Conservation Associate

ANN MONNIG
Membership Development
Counsel

DAVID MORYC
Conservation Assistant,
Northwest Regional Office

BETSY OTTO
Director, Community Rivers
Program

RICHARD PENNY
Director, Northwest Regional
Office (Seattle, WA)

ANDREA PETZEL
Development Assistant

KATHERINE RANSEL
Senior Counsel

ANDY ROMERO
Community Development
Director

MELISSA SAMET
Senior Director

REBECCA SHERMAN
Conservation Assistant

MATT SICCHIO
Hydropower Reform
Coalition Coordinator

WALTER SISSON
Vice-President of Finance &
Administration

DAVID SLIGH
Southeast Field Representative

CHAD SMITH
Director, Missouri River
Field Office

AMY SOUERS
Editor and Chief Content
Provider for American Rivers
Online

JEFF STEIN
Mississippi River Regional
Representative

BRETT SWIFT
Associate Director of Northwest
Hydropower Programs

KARA TOOLE
Membership Development
Associate

JILL WASBERG
Communications Assistant &
Publications Specialist

LAURA WILDMAN
Associate Director, Dam
Programs
Northeast Field Office

PATRICK YOUNGBLOOD
Director of Major and
Planned Gifts



MICHAEL GARRITY
Conservation Assistant,
Snake River Program

ANNE GORE
Associate Director of
Foundation Relations

JACK HANNON
General Counsel/Wild & Scenic
Rivers Program Coordinator

American Rivers Board of Directors

WHITNEY HATCH
Chairman
Ipswich, MA

RICHARD V. HOPPLE
First Vice-Chair
Wilton, CT

NICHOLAS G. PENNIMAN IV
Second Vice-Chair
Clayton, MO

JOHN I. TAYLOR
Secretary
Boulder, CO

DONALD B. AYER
Treasurer
McLean, VA

STEPHEN E. AMBROSE
Helena, MT

ALBERT ANDREWS, JR.
Minneapolis, MN

LOU CAPOZZI
New York, NY

SALLY DAVIDSON
Washington, D.C.

DAVE GRUSIN
Santa Fe, NM

CHRISTIAN C. HOHENLOHE
Washington, D.C.

LOTSIE HERMANN HOLTON
St. Louis, MO

MICHAEL DOUGLAS KEATON
Pittsburgh, PA
Los Angeles, CA
McLeod, MT

ANTHONY A. LAPHAM
Washington, D.C.

DEE LEGGETT
Great Falls, VA

DAVID M. LEUSCHEN
New York, NY

GEORGE LUND
Sioux Falls, SD

DAVID M. MALCOLM
Bedford, NY

LEE W. MATHER, JR.
Greenwich, CT

SUSAN MCDOWELL
Jackson Hole, WY

DR. JUDY L. MEYER
Athens, GA

EDWARD W. PETTIGREW
Seattle, WA

KATE MCBRIDE PUCKETT
Snowmass, CO

REYNARD RAMSEY
Washington, D.C.

JOHN A. SCULLY
Bernardsville, NJ

PETER J. SOLOMON
New York, NY

JAMES L. TERRILL
New York, NY

ALBERT WELLS
San Francisco, CA
Belgrade, MT

R. GLENN WILLIAMSON
Phoenix, AZ



Scientific and Technical Advisory Committee

JUDY L. MEYER, PH.D.
University of Georgia, Athens, GA
Committee Chairman

JOAN L. FLORSHEIM, PH.D.
University of California-Davis
Davis, CA

DAVID H. GETCHES, J.D.
University of Colorado
School of Law
Boulder, CO

MICHAEL W. KLEMENS, PH.D.
Wildlife Conservation Society
Bronx, NY

DAVID MARCUS
Berkeley, CA

WENDELL L. MINCKLEY, PH.D.
Arizona State University
Tempe, AZ

DAVID R. MONTGOMERY, PH.D.
University of Washington
Seattle, WA

MICHAEL MOORE, PH.D.
University of Michigan
Ann Arbor, MI

DUNCAN PATTEN, PH.D.
Arizona State University
Tempe, AZ

JOHN SCHMIDT, PH.D.
Oregon State University
Corvallis, OR

RICHARD SPARKS, PH.D.
University of Illinois
Urbana, IL



American Rivers

Washington D.C. Headquarters
1025 Vermont Avenue NW
Suite 720
Washington D.C., 20005-3516
Phone (202) 347-7550
Fax (202) 347-9240
Email: amrivers@amrivers.org

NORTHWEST REGIONAL OFFICE

150 Nickerson Street
Suite 311
Seattle, WA 98109
Phone (206) 213-0330
Fax (206) 213-0334
arnw@amrivers.org

SOUTHEAST FIELD OFFICE

424 Georgia Avenue
Suite 2A
Chattanooga, TN 37403
Phone (423) 265-7505
Fax (423) 266-2558
dsligh@amrivers.org

NORTHEAST FIELD OFFICE

20 Bayberry Road
Glastonbury, CT 06033
Phone (860) 652-9911
Fax (860) 652-9922
lwildman@amrivers.org

NEBRASKA FIELD OFFICE

Mill Towne Building
650 J Street, Suite 400
Lincoln, NE 68508
Phone (402) 477-7910
Fax (402) 477-2565
csmith@amrivers.org

MONTANA FIELD OFFICE

215 Woodland Estates
Great Falls, MT 59404
Phone (406) 454-2076
Fax (406) 454-2530
malbers@amrivers.org

QUAD CITIES FIELD OFFICE

326 W Third Street
Suite 714
Davenport, IA 52801
Phone (319) 884-4481
Fax (319) 884-4511
jstein@amrivers.org

CALIFORNIA FIELD OFFICES

180 Montgomery Street
Suite 1725
San Francisco, CA 94104
Phone (415) 627-6700 ext. 209
Fax (415) 627-6749
msamet@amrivers.org

Natural Heritage Institute
2140 Shattuck Avenue
5th Floor
Berkeley, CA 94704
Phone (510) 644-2900 ext. 119
srothert@amrivers.org

BRINGING RIVERS TO LIFE



American Rivers
FOUNDED 1972

www.americanrivers.org

