



CLEAN WATER AND HEALTHY COMMUNITIES: RECOMMENDATIONS TO THE OBAMA ADMINISTRATION November 24, 2008

“An Obama administration will put water issues—both quantity and quality—at the top of our environmental agenda.” –President-elect in an interview with *Discover Magazine* (9/26/08)

The impacts of climate change combined with America’s crumbling water infrastructure are putting our communities at risk. In order to deal with this crisis, clean water must be a top priority for the Obama Administration.¹

Our country’s clean water supply is reaching a crisis point and we are woefully unprepared to deal with the floods, droughts and waterborne diseases that are increasing with global warmingⁱ. With the nation’s sewer systems, pipes, and levees outdated, crumbling, and unfit to handle the challenges of global warming, effective water infrastructure – especially green water infrastructure -- must be a priority investment for the Obama Administration.

We look forward to working with the Administration to transform America’s approach to water. It is a matter of economic security and jobs as well as public health and safety. The following are the three main areas of focus for the Obama Administration to ensure water security:

1. Fight global warming -- Our communities are experiencing the impacts of global warming first and worst in the water cycle, whether it is with more frequent floods or more severe droughts, or increased pollution and water-borne diseasesⁱⁱ. This past year we suffered our second 500 year flood on the Mississippi River in less than 20 years, even while we are approaching a decade of drought in the Southwest and the Southeast regions of the country. The Obama Administration must make passage of cap-and-trade legislation that reduces carbon emissions 80% from 1990 levels by 2050 one of its top tier goals. Some of the revenues from such a program should be invested in renewable energy technologies, including efficiency, and providing assistance to low-income Americans affected by increased energy prices. The rest should be invested in smart, sustainable solutions to help people and wildlife adapt to a changing climate, including droughts and floodsⁱⁱⁱ. The Obama Administration should also immediately direct all federal agencies with responsibility for water resources to integrate the best science and policy to promote responsible adaptation measures^{iv}.

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2. Invest more and invest smarter in water infrastructure -- Our nation's traditional water infrastructure -- treatment plants, dams, levees and pipes -- is crumbling and outdated, built in a time when the climate was more predictable. Water and wastewater systems now receive the lowest grade, a D-, of all infrastructure rated by the American Society of Civil Engineers. Further, our nation's natural water infrastructure -- wetlands, floodplains, forests, and stream channels -- has been degraded and neglected. In fact, the critical role these natural systems play in providing abundant clean water and protection from storms and floods has largely gone unrecognized.

We need to rebuild our infrastructure with an eye toward better, cheaper and more effective solutions to meet current and looming realities^v. The best kind of engineering integrates nature rather than fighting it. Nature works best and cheapest, and provides greater safety and security than the over-engineered, one-size-fits-all approach of the last century. We need to make better use of our natural assets like wetlands and floodplains, and we need to use innovative technologies and tools which create jobs and save tax dollars. As with energy, we also need to invest more in using water efficiently -- always the cheapest source of new water -- and like energy efficiency, it creates good jobs that can't be outsourced. Economic stimulus bills and other infrastructure legislation must take a 21st century approach that fully integrates sustainable green solutions rather than relegating them to the sidelines^{vi}. American Rivers, other concerned non-profits, the US Conference of Mayors, water utility organizations, and other stakeholders are part of a broad coalition in support of such efforts. American Rivers has submitted a separate memo detailing our views on the initial stimulus.

3. Restore federal protection to our nation's waters -- The Supreme Court's 2006 Rapanos and 2001 SWANCC decisions has left thousands of river miles and hundreds of thousands of wetland acres at risk of losing critical protections. We need these natural assets now more than ever, as they provide clean abundant water and protection from storms and floods^{vii}. Those protections have also ensured that upstream communities do not threaten the health and well-being of their downstream neighbors. The progress of the past 35 years toward cleaning up our nation's rivers and streams is in jeopardy. Congress should pass the Clean Water Restoration Act to ensure that our clean water, health and safety enjoy the same level of protection they have since 1972. The Administration should immediately announce its strong support for that legislation and replace the current guidance and directives that the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) are using to implement those Supreme Court decisions^{viii}.

Clean water is the most valuable substance on the planet. It is essential to life and there are no substitutes. Healthy rivers, with all the services they provide, are one of a community's most valuable assets. Failure to protect our rivers and clean water today will lead to serious economic, health, and environmental problems tomorrow.



AGENCY AND ISSUE - SPECIFIC RECOMMENDATIONS

In addition to those over-arching initiatives, we propose the following specific recommendations, focused primarily on the main agencies with some responsibility for water resource management.

1. Council for Environmental Quality – Establish a “Water Czar”

With the multitude of challenges facing freshwater managers, including climate change and our crumbling infrastructure, it is important to have someone at a high level within the administration with freshwater as his/her sole priority. A dedicated position at the President’s Council for Environmental Quality would be well placed to take on these challenges. Freshwater resource management involves a complex and competitive web of local, state, and federal jurisdictions as well as an extremely broad range of stakeholders. This complexity often results in seemingly intractable disputes that ultimately require resolution at the federal level. Addressing these challenges head on and getting out ahead of the problems will require high-level coordination of agencies and stakeholders and mediation of disputes. We recommend establishing a position dedicated to water resources to best meet these challenges. With clean water consistently topping public polls of the most important environmental issues facing the country, putting resources in freshwater management makes good political sense as well. *For more information contact Andrew Fahlund, afahlund@americanrivers.org*

2. Department of Energy and EPA – Addressing the Energy / Water Nexus

One of the great untapped sources of energy savings and therefore carbon reduction is the energy imbedded in water^{ix}. Nationwide, anywhere from 3 – 8% of total energy use is devoted to the conveyance, treatment, and heating of water. In California, approximately 20% of all electricity consumption is tied to water, largely due to the long distances it must travel from source to end user. In addition, water supply concerns in many parts of the country are spurring a turn toward energy-intensive technologies like wastewater recycling and desalination. Saving water not only contributes to water security and sustainability but also reduces carbon emissions and promotes energy security – and it’s cheaper^x. A comprehensive effort to reduce water consumption therefore presents a “two-fer” for policymakers and should be incorporated into legislative and policy efforts targeting carbon emissions. Water efficiency can also be a vehicle for job creation and innovation in ways similar to energy efficiency. We propose several specific policy reforms:

- Expand efforts across all relevant programs at DOE to incorporate water efficiency approaches into any energy efficiency policy, funding, and research programs.



- Task DOE to carefully explore the vulnerability of various energy technologies to water shortage and develop strategies to buffer against those risks.
- Support authorization of EPA's WaterSense program including an annual funding level of \$50 million. This program, established during the previous administration, creates a water efficiency analogue to EnergyStar and significantly increases its capacity^{xi}.
- Funding and support should be significantly increased for the U.S. Geological Survey's stream gauging and monitoring programs, which provide critical data on how much water is available for human and environmental needs.
- Require any customers or beneficiaries of federal water projects to demonstrate improvements to water efficiency performance.
- Include water efficiency in energy infrastructure bills and funding programs.

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3. EPA – Water and Climate

Climate change will have far-ranging impacts on the nation's water resources, and our approach to water management will have to be altered significantly to preserve access to clean water and maintain healthy rivers. To weather the threat global warming poses to clean water, EPA must take the lead on smarter management and regulation over all aspects of our water resources by integrating the best climate science into decisions and using all tools to achieve the goals of the Clean Water Act. Finally, EPA must revise its *National Water Program Strategy for Climate Change* to take more aggressive and concrete actions to address this most pressing issue. American Rivers recently commented on this strategy, and some highlights include^{xii}:

- Invest at least \$30 billion or a minimum of 15% of any water infrastructure funding over 10 years in grants for green infrastructure through EPA's State and Tribal Assistance Grant (STAG) program^{xiii}.
- Make the use of green infrastructure a condition for approval of permits and funding awards (e.g. National Pollutant Discharge Elimination System (NPDES) permits, combined sewer overflow (CSO) long term control plans or State Revolving Fund (SRF) awards).
- Incorporate climate models into NPDES permit renewals. Strengthen permit limits to accommodate lower instream flows resulting from climate change.
- Require efficiency and conservation measures to ensure instream flows rather than downgrading uses for waters through Use Attainability Analyses (UAAs).
- Work with states to set water conservation and efficiency standards for all water withdrawal permits.



- Enforce the existing provisions of the federal antidegradation policy and provide clear and robust guidance for states to use proactively protect high quality waters.

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4. U.S. Forest Service – National Water Security Initiative

What is the largest water treatment plant in the world? What water agency provides drinking water to more than 60 million Americans nationwide? The National Forest System of the United States. Although often overlooked, freshwater is the most important and valuable resource that comes from our National Forests. Healthy, intact forested watersheds have been proven to maintain the highest water quality, conserve water supplies through increased groundwater recharge, and reduce flood damage by absorbing storm run-off. Development and resource extraction threaten to impair these invaluable functions, and climate change only increases the importance and value of these benefits in the future. These same intact forests are also economically and ecologically important for maintaining healthy fish and wildlife species, 70% of which rely upon riparian areas for some part of their lifecycle.

Building off of the work of former Chief Mike Dombeck, the U.S. Forest Service should launch a National Water Security Initiative in order to protect and restore this most valuable of resources^{xiv}. These mounting challenges require forest managers to anticipate rather than merely respond to growing pressures on freshwater systems. A National Water Security Initiative would 1) analyze and prioritize key watersheds in our National Forests important for drinking water, flood water reduction, and fish and wildlife habitat, and 2) outline and adopt specific restoration and protection measures such as riparian reserves to ensure the long-term productivity of these watersheds under rapidly changing environmental conditions. The Forest Service must play a central role in helping the country protect and maintain the nation's water security.

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5. FEMA – Improving Security, Enhancing the Environment and Restoring Fiscal Responsibility

Our nation's flood management approach is outdated and must be reformed to avoid flooding and protect communities from flood-related disasters. To reduce flood risk, historically the nation has relied upon structural measures such as dams, levees, and channelization to keep floodwater away from people. Despite investing well in excess of \$125 billion in these inadequate structural protections over the past 80 years, flood damages over the same period have exceeded \$410 billion. Building dams and levees has only given people and businesses a false sense of security, and encouraged them to build in harm's way. It has also led to the destruction of free, natural solutions in the form of floodplains and wetlands. While the U.S. Army Corps of Engineers (see below) is also



responsible for this cycle, the Federal Emergency Management Agency (FEMA) plays a critical role. By the end of the Clinton Administration, FEMA had become a leader in reframing our nation's approach to flood management by starting to focus on keeping people away from the risk of flooding in the first place. Unfortunately, FEMA's focus and capacity have declined over the past eight years, as illustrated by the catastrophic results of Hurricane Katrina.

American Rivers recommends that FEMA launch a "new but old" initiative to protect our communities by keeping people out of harm's way and by working with nature to provide nonstructural and sustainable flood management. Elements of such a vision are included in the Galloway Report that followed the Midwest floods of 1993^{xv}. We recommend the new administration re-launch this initiative, updated and rebranded to incorporate the advances of the past 15 years.

Additionally, reauthorization of the National Flood Insurance Program must be undertaken next spring^{xvi}. Additional coverage for wind damage should be left out of this program, which is already \$18 billion in debt. Instead, more emphasis should be placed on ensuring that rates discourage new floodplain development and encourage flooded communities to relocate, improved mapping and risk communication to the affected public, and financial solvency. This program should also create more incentives for communities to seek cheaper, more natural approaches to flood reduction^{xvii}. The Pre-Disaster Mitigation program should be reauthorized and funding increased for Repetitive Loss and Severe Repetitive Loss programs to a combined level of \$100 million annually.

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6. Corps of Engineers – Implement Reforms

To protect lives, communities, the economy, and the environment, the Administration should direct the Corps of Engineers to fully implement and embrace wholesale changes to its project planning and construction processes. The fundamental need for reforms to the Corps' planning process was made abundantly clear by the deadly and economically devastating flooding of New Orleans after Hurricane Katrina^{xviii}. That unnatural disaster can be traced directly to flawed project planning and design, construction of projects that destroyed the natural storm protection provided by Louisiana's coastal wetlands, and misplaced priorities for water resource projects. In November 2007, Congress recognized that the status quo was no longer acceptable and instituted a package of fundamental reforms to the Corps' planning process in the Water Resources Development Act of 2007^{xix}. Unfortunately, the Corps has not yet implemented these reforms and instead continues to produce projects that put people at risk, destroy vitally important natural systems, and ignore critical national priorities.

The Administration should direct the Corps to fully implement the WRDA 2007 reforms to make protecting and restoring natural systems, and the vital services



they provide for public health and safety, the highest priority for all Corps projects. Further, the Administration should issue and implement an Executive Order directing the Corps and all other federal water agencies to (1) utilize the most up to date climate science, and known consequences of climate change, in planning water management and development projects; and (2) utilize nonstructural approaches whenever practicable to protect healthy natural systems that buffer the effects of climate change. Finally, the Administration should reconstitute and expand the Water Resources Council (established by 42 U.S.C. 1962a) as many have recommended, including the 1993 Galloway Report (see above).

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7. Federal Dams – Establish a Process for Review of Operations

Our nation's 1,000 federally owned dams were constructed and authorized decades ago for a multitude of purposes – flood control, water supply, navigation, hydropower, recreation, and environmental – many of which were either never fully realized or are no longer necessary. The operation of these dams has been at the center of some of the nation's fiercest interstate debates along rivers as diverse as the Colorado, Missouri, Columbia, and Chattahoochee. Most of these dams operate under management plans that are decades old and now prop up or subsidize some activities at the direct expense of others. With a rapidly changing environmental, political, and socioeconomic context as well as an advancing understanding of science and resource management options, it is time to reevaluate the purposes and operations of this vital national infrastructure.

Periodic review of dam operations that is open to all interested stakeholders must be mandated for the U.S. Army Corps of Engineers and the Bureau of Reclamation. In developing a system for periodic review, the existing FERC process provides an excellent model upon which to build^{xx}.

Operators of federal water projects should be required to implement changes to the design, configuration, or operation of dams that will improve existing operations, bring them into full compliance with all state and federal laws and provide for consideration of non-power values like environmental protection along with flood control, navigation, water supply, and hydroelectricity. Antiquated project purposes should be deauthorized, and federal operators should have the authority to decommission federal projects if changes in dam operation or configuration prove insufficient to meet federal legal obligations or if the cost of those changes is greater than the cost of decommissioning.

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8. U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) – Species Recovery and Resilience

Climate change seriously threatens American wildlife and habitats, which clearly strikes to the very core of the missions of the Services. This comes on top of the myriad other threats to species survival and recovery which must be addressed. The Services must adopt an approach not just of avoiding extinction, but of achieving recovery and resilience in the face of these threats. They must be leaders in understanding the impacts of climate change and in developing the tools necessary to maintain the nation's fish, wildlife and plants for future generations.

According to most wildlife scientists and managers, the key to species recovery and resilience is habitat connectivity and continuity. Ensuring that species have paths to move and migrate and that they have non-fragmented, undeveloped areas to occupy is especially important as a changing climate will force many plants and animals to move from their traditional habitats. Rivers have served as ideal migratory corridors during previous times of climatic change and should be viewed as critical components of a wildlife adaptation strategy. Our specific recommendations include:

- Budgets, guidance and directives of the previous administration that have undermined implementation of the Endangered Species Act should be rescinded.
- Programs such as NOAA's Community Based Restoration Program, USFWS's Partners for Fish and Wildlife Program and National Fish Habitat Initiative should be modified, expanded and promoted as effective ways to recover species and enhance their resilience to climate change. The Open Rivers Initiative, piloted by the previous administration, is an especially promising tool that should be continued and significantly expanded to enhance migration corridors.
- Major, comprehensive restoration projects that provide multiple benefits to communities should be embraced, ensuring that all sectors of a community are given a new beginning. Examples of this approach include the Penobscot River restoration and the recently announced agreement in principle on the Klamath River. The Obama Administration should see these efforts through to the end as well as achieve resolution of decade-old conflicts such as the Lower Snake River. Bringing together stakeholders in a collaborative, problem-solving approach is long overdue.
- A portion of revenue generated by any cap-and-trade legislation should be devoted to wildlife adaptation.

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9. Hydropower – Limit New Development

Hydropower is a valuable source of low-emissions power, but it has significant limits to further development. With river systems stressed by the impacts of climate change and by America's growing demand for water resources, the environmental cost of building new hydropower dams is simply too high to be considered in almost any circumstance. Most profitable dam sites were developed decades ago. There are few opportunities remaining to develop sites using existing technologies, most of which involve adding hydropower to existing dams. In its 2008 extension of the production tax credit for renewable energy, Congress recognized that there is a distinction between appropriate new hydropower development and projects that cause unacceptable environmental harm, limiting public investment in new hydropower to projects that improve the operation of existing dams rather than constructing new ones^{xxi}.

Renewable energy incentives directed at new hydropower development should recognize hydropower's worst impacts and seek to avoid them by steering investments towards projects that improve the efficiency of existing hydropower dams or use existing dams that already serve a useful purpose rather than building new dams^{xxii}. Investment should be made in the research and pilot development of new "damless" technologies with careful analysis of the cumulative environmental impacts of such development.

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ENDNOTES:

ⁱ See America's Most Endangered Rivers: 2008 Edition.

http://www.americanrivers.org/site/DocServer/MER_Report2008opt.pdf?docID=7681.

American Rivers. "River Budget: National Priorities for Local River Conservation Fiscal Year 2010."

ⁱⁱ See "What Does Global Warming Mean for Rivers?" America's Most Endangered Rivers: 2008 Edition, p. 6. http://www.americanrivers.org/site/DocServer/MER_Report2008opt.pdf?docID=7681.

ⁱⁱⁱ For an example see the 2008 Climate Security Act, S. 2191. Title VI, Section 633: Impacts on Water Resources and on Agriculture; Title XII Federal Program to Protect Natural Resources.

http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=aaf57ba9-ee98-4204-882a-1de307ecdb4d.

^{iv} A good example of this is S.AMDT. 1094 to H.R. 1495, the Water Resources Development Act of 2007. Congressional Record, May 15, 2007. pS6101. Available from THOMAS (Library of Congress). Accessed November 20, 2008.

^v "Economic Stimulus Bill Should Include Critical Clean Water Investments." American Rivers Press Release October 29, 2008.

http://www.americanrivers.org/site/News2?page=NewsArticle&id=11979&news_iv_ctrl=-1.

^{vi} For details see American Rivers. "Investing in Infrastructure: The Road to Recovery." Testimony before the Committee on Transportation and Infrastructure, U.S. House of Representatives. October 29, 2008.

http://www.americanrivers.org/site/DocServer/AR_Testimony_on_TI_economic_stimulus_10_29_08.pdf?docID=8441.



- ^{vii} For more information, see Meyer, Judy et al. “Where Rivers are Born: The Scientific Imperative for Defending Small Streams and Wetlands.” American Rivers and the Sierra Club, February 2007. <http://www.americanrivers.org/site/DocServer/WhereRiversAreBorn1.pdf?docID=182>. and “Headwaters in a Warming World.” American Rivers. http://www.americanrivers.org/site/DocServer/CWARA_Fact_Sheet.pdf?docID=4082.
- ^{viii} “EPA Announcement Increases Clean Water Confusion.” American Rivers press release, June 5, 2007. <http://www.americanrivers.org/site/News2?page=NewsArticle&id=10429>.
- ^{ix} For an excellent summary of this subject, see Elder, Don. “Water, Energy and Climate Change” *River Voices* Volume 16, Number 4, 2006. <https://rivernetwork.org/files/rv/rv2006v16n4.pdf>.
- ^x For an excellent summary of local water efficiency measures see American Rivers. “Hidden Reservoirs: Why Water Efficiency is the Best Solution for the Southeast.” October, 2008. http://www.americanrivers.org/site/DocServer/SE_Water_Efficiency_Oct_2008_opt.pdf?docID=8421.
- ^{xi} Environmental Protection Agency. WaterSense Website. <http://www.epa.gov/watersense/>.
- ^{xii} American Rivers. Comments on *National Water Program Strategy: Response to Climate Change*. June, 2008. http://www.americanrivers.org/site/DocServer/American_Rivers_Comments_on_National_Water_Program_Clima.pdf?docID=8381&JServSessionIda001=s747h0eic1.app11c.
- ^{xiii} This percentage is based on an average percentage of funding going to green infrastructure projects for cities implementing green infrastructure programs compiled by American Rivers.
- ^{xiv} Dombeck, Mike. “The United States Forest Service: The World’s Largest Water Company.” Speech to the Outdoor Writers Association of America, June 21, 1999. <http://www.uwsp.edu/cnr/gem/Dombeck/MDSpeeches/CD%20COPY/The%20World%27s%20Largest%20Water%20Company.062199.htm>.
Dombeck, Mike. “The Forgotten Forest Product.” *New York Times* January 3, 2003. http://www.uwsp.edu/cnr/gem/md%20pubs/NYT_3jan2003.htm.
- ^{xv} Interagency Floodplain Management Review Committee. “Sharing the Challenge: Floodplain Management into the 21st Century.” (The Galloway Report) June 1994. <http://edc.usgs.gov/sast/2P-00526.PDF>
- ^{xvi} “Flood Insurance Reform Postponed Until Next Year.” American Rivers Blog. October 6, 2006. <http://blog.americanrivers.org/wordpress/index.php/2008/10/06/flood-insurance-reform-postponed-until-next-year/>.
- ^{xvii} American Rivers. “Unnatural Disasters, Natural Solutions: Lessons from the Flooding New Orleans.” August, 2006. <http://www.americanrivers.org/2006Katrina>.
- ^{xviii} Ibid.
- ^{xix} “Senate Passes Mixed Water Resources Bill.” American Rivers Blog. May 17, 2007. <http://blog.americanrivers.org/wordpress/index.php/2007/05/17/senate-passes-mixed-water-resources-bill/>.
- ^{xx} For more information visit the Hydropower Reform Coalition website: <http://www.hydroreform.org/>.
- ^{xxi} See The Emergency Economic Stabilization Act of 2008 (H.R. 1424) § 101(e).
- ^{xxii} American Rivers. “On the Role of Hydropower in the Current and Future Energy Mix of the United States.” Written Testimony Submitted to the Water and Power Subcommittee, Committee on Natural Resources, U.S. House of Representatives. June 11, 2008. http://www.americanrivers.org/site/DocServer/Hydro_Future_-_Written_Testimony_-_June_08.pdf?docID=7901.