A GREEN VISION FOR INFRASTRUCTURE INVESTMENT AND ECONOMIC RECOVERY

Introduction

The Nature Conservancy recognizes that investment in rebuilding infrastructure is an important tool for reversing our nation's economic decline. Such investment, however, can and should have environmental as well as economic benefits. This means: 1) spending stimulus funds both on a suite of job-intensive "green infrastructure" projects and, 2) minimizing the environmental impacts of traditional hard infrastructure projects.

Thus we recommend that the stimulus package include a significant investment in "green infrastructure" projects that restore degraded ecosystems, grow the nation's green economy and create green jobs. These projects range from rebuilding coastal wetlands to restoring forest health; all of these activities require extensive labor with significant job-creation benefits. In this proposal we describe the rationale for investing in green infrastructure, and we have developed funding recommendations for Federal programs where investing in ecological restoration will lead to job creation.

While we argue for a significant green infrastructure component to any stimulus package, we also recognize that much of our nation's infrastructure is deteriorating, would greatly benefit from federal investment, and that this investment would result in thousands of much needed jobs. Roads, rails, pipelines, dams, levees and other hard infrastructure projects have negatively impacted ecosystems in the past, but there are design techniques that can help ensure any new or refurbished infrastructure is built in a way that is more compatible with the conservation of natural resources. Given both the desire to minimize the environmental impacts of a massive new investment in infrastructure and the need to allocate funding in a short timeframe, this proposal argues for setting funding priorities based on a project's use of innovative design techniques to reduce environmental impact. Top funding priority would be given to those hard infrastructure projects that employ the most environmentally sensitive designs and planning approaches, a second tier would include projects that could easily be retrofitted to meet green design standards, and a third tier includes all of those projects that do not use innovative design but have completed all environmental review and are ready for construction.

Together, investing in "green infrastructure" and giving priority to hard infrastructure that employs "green techniques" will lead to economic recovery and rehabilitation of the nation's aging infrastructure while improving the condition of our natural resources. The proposal that follows lays out specific recommendation on why this approach is important and how this can be accomplished.

Investing in Green Infrastructure and Creating Green Jobs

The nation's rivers, coasts, and estuaries are directly and indirectly linked to billions of dollars in economic productivity and provide important habitat and ecological services. Wetlands provide water quality improvements and flood protection, oyster reefs can provide self-renewing barriers to reduce erosion along shorelines, and restored river systems can

mitigate flooding risks. Moreover, healthy rivers, coasts, and estuaries provide habitat and water quality for resource-based economies, such as tourism, fishing, and aquaculture.

Unfortunately, many of these critical ecosystems have been in decline for years. For example, a USGS report published in September of this year indicated that over 40% of freshwater fish in the US are under threat of extinction in the next 20 years. Approximately half of the Nation's wetland habitats have been lost, including in areas like coastal Louisiana where marshes provide important protection during hurricanes and other severe storm events. Multiple federal agencies are currently involved in restoration, but current Federal investment in restoration falls well short of the national need. As is the case in traditional infrastructure projects, restoration projects create jobs and opportunities in the near-term while also creating the ecological and economic benefits that flow from healthy ecosystems over the long-term.

Ecological restoration has emerged as a high growth sector of our regional and national economy with additional investment in restoration offering the potential to provide significant job-creation benefits. This emergent industry, comprised of many applied sciences, employs a wide set of labor skills. These skills range from non-skilled laborers, to restoration design engineers, restoration ecologists, landscape architects, hydrologists and specialized botanists who work in nurseries that offer local seedlings and other specialized plants for restoration. Other sectors of the restoration labor force include specialized equipment operators of both light and heavy duty construction equipment, restoration monitoring specialists, construction crews and experts, soil experts, and many other diversified skilled laborers.

A recent example of job creation through restoration is the jobs being offered to watermen in the Maryland blue crab fishery, which was declared a Commercial Fishery Failure earlier this fall. Federal and state disaster aid is being used to provide over 520 jobs to affected watermen, employing them to carry out oyster restoration work in the Chesapeake Bay. Similarly, a study by the North Coast Restoration Jobs Initiative showed that environmental restoration projects in Humboldt County, CA and surrounding areas employed 1057 worker-weeks over the course of 2002, mostly as a result of road decommissioning and culvert replacement projects. The Humboldt County study also indicated that most of the ecosystem restoration work using heavy equipment was contracted out to non-government entities, indicating private sector and small businesses benefit from the investment in restoration.

The examples above illustrate that investing in restoration will not only meet a critical national need by improving the ecological health of our nations rivers, coasts and estuaries but will also create green jobs to stimulate the economy. Given the significant national need for Federal investment in restoration and the demonstrated job-creation benefit of this investment, any stimulus package should dedicate significant funding to the restoration of ecosystems.

The following table lists funding recommendations by Federal agency and by restoration activity. More detailed descriptions of the agency funding justifications follow. Lists of example projects that demonstrate the on-the-ground funding need are included in Appendix I.

SUMMARY FUNDING RECOMMENDATIONS		
AGENCY	**ACTIVITY/PROGRAM**	**FUNDING RECOMMENDATION**
U.S. Army Corps of Engineers	Large Scale Ecosystem Restoration	$1 billion
	Individually authorized restoration and multi-purpose projects	$1 billion
	Section 1135 and 206 Continuing Authority Programs	$500 million
National Oceanic and Atmospheric Administration	Community Based Restoration and Open Rivers Initiative	$250 million
Bureau of Reclamation	Water and Related Resources – environmental restoration	Priority funding and a minimum of 1/3 total Bureau stimulus funding
Department of Transportation	State allocation – retrofits for stream connectivity	2% of total DOT stimulus funding
	Park, Forest and Refuge roads – retrofits for stream connectivity	$500 million
	Stormwater runoff mitigation	2% of total DOT stimulus funding
Forest Service	Hazardous fuels reduction (includes Bureau of Land Management)	$250 million
	Forest Restoration Job Training	$50 million
	Small business grants	$100 million
	State and local fire assistance	$75 million
Environmental Protection Agency	Non-point source – Sec. 319 program	$300 million
	Clean Water State Revolving Fund	$1 billion
	Drinking Water State Revolving Fund	$1 billion
Fish and Wildlife Service	Fish Passage Program	$14 million
	Fish Habitat Action Plan	$10 million
	Coastal Program	$21 million
	Partners for Fish and Wildlife	$100 million
Animal and Plant Health Inspection Service	Eradicate Asian longhorned beetle infestations	$100 million
	Sudden Oak Death containment	$7 million
Bureau of Land Management	Abandoned Mine Lands	$400 million

Army Corps of Engineers

Since Congress added ecosystem restoration as one of the Corps of Engineers' primary missions in 1986, the Corps has led some of the nation's largest and most ambitious ecosystem restoration projects (e.g., the Florida Everglades, Coastal Louisiana, and Upper Mississippi River). The Corps has also become a leader in a myriad of smaller-scale projects. The Corps aquatic ecosystem restoration efforts include restoration of floodplain, wetland and coastal hydrology and vegetation, shellfish restoration, dam removal, fish passage, and levee modification, among others. Many of these large and small scale efforts require significant engineering and construction resources that would create a variety of jobs. There are also numerous projects that could quickly allocate funding.

We recommend that no less than a third of the Corps overall allocation in the economic stimulus package be dedicated to ecosystem restoration projects. There may be a tendency to focus stimulus funding solely on the largest restoration projects. However, to achieve geographic distribution of funding and to ensure that the stimulus funding meets multiple small and large scale restoration needs, we encourage distribution among the following restoration authorities:

- **Large-scale programmatic restoration authorizations that have received construction authority** (e.g. Upper Mississippi River, Everglades, Missouri River Recovery, Puget Sound and Louisiana Coastal Area). Many of these efforts have invested significant resources in pre-construction engineering and design and have projects that have received construction authorization but no funding to proceed with construction. Funding allocated through a stimulus package could be quickly obligated and provide significant economic and environmental benefits. The total funding recommendation provided for this line item is based on the FY 2009 spending capability for the five projects listed above.
- **Individually authorized small to medium scale restoration projects or multi-purpose projects with a restoration component**. There are a suite of projects that are individually authorized and have received regular investment for feasibility studies and design. Many of these received construction authority in the last Water Resources Development Act. Examples of such projects are provided in the list in appendix I. Funding should be allocated to those projects that have a clear environmental restoration benefit, are authorized for construction and could quickly obligate funding.
- **Continuing authority programs (CAPs),** which include Section 206, Aquatic Ecosystem Restoration, and Section 1135, Project Modifications for Improvement of the Environment. These continuing authority programs have been hamstrung by high demand, insufficient funding and a growing backlog of projects. As a result, the programs cannot implement new restoration projects and many existing projects have been languishing without funding. Many of the projects already in the program cue, some of which have received little or no funding in recent years, have completed large portions of the necessary design work and could quickly finalize design and award contracts for construction. Because of the small nature of projects within these programs (< $ 5 million total Federal cost), a significant investment via the stimulus package could clear the large backlog and quickly inject stimulus dollars into the economy.

National Oceanic and Atmospheric Administration (NOAA)

The nation's coastal areas are home to half of the US population and generate nearly 60% of our GDP. Restoring ecological health in these areas supports the long-term sustainability of coastal communities and coastal economies. Restored landscapes provide new opportunities for businesses such as river rafting or kayaking; they support recreational and commercial fishing industries; and improve tourism. Working with partners, the National Oceanic and Atmospheric Administration's (NOAA) **Community-based Restoration Program and Open Rivers Initiative** has the expertise to successfully implement a wide array of coastal restoration projects that both result in near-term job creation and result in long-term economic growth by supporting natural resource based economies. NOAA is well prepared to deliver stimulus funding by competitively selecting projects based on factors such as ecological benefit, feasibility, cost-effectiveness, and socio-economic benefits, including meeting job creation criteria.

Over 100 projects have been identified for NOAA with an estimated funding need of over $700 million. Some examples are included in Appendix I. This is not a comprehensive list but rather a sampling of projects to demonstrate scope and scale of the existing opportunity for this kind of work. Given the demonstrated need, job creation potential, and NOAA's capacity to implement projects, we recommend providing a minimum of $250 million in the economic recovery legislation for coastal and estuarine restoration and fish passage projects through NOAA.

Bureau of Reclamation

The Bureau of Reclamation is the largest water manager in the western United States, and as a result, has a significant impact on freshwater ecosystems in the West. While the Bureau's mission is focused on water supply, the agency has supplemental authorities to address endangered species and other environmental concerns related to its projects. Bureau of Reclamation projects suffer from serious maintenance neglect with much of the water infrastructure managed by the agency in need of rehabilitation and repair. While we support investment in the Bureau's water supply projects, before investing funding in outdated infrastructure, it is important to seize the opportunity to evaluate whether existing infrastructure is meeting current needs and if not, to remove it. Furthermore, new investment in rehabilitation of water supply infrastructure affords an opportunity to identify modifications that both meet water supply needs and benefit the environment.

Given that there are a number of infrastructure removal, modification, repair and rehabilitation projects that can both improve water supply and provide environmental benefit, priority should be given to projects at Bureau of Reclamation facilities that provide environmental benefit with a minimum of 1/3 of the total funding received by the Bureau going to these projects. Examples of environmentally beneficial projects the Bureau could fund include improving the efficiency of water delivery systems to provide water for environmental purposes, modifications to facilities for fish passage, removal of unused or derelict facilities and consolidation of irrigation or other diversions to provide environmental benefit, and restoration of riparian habitats to meet endangered species or other environmental goals. A list of example projects for the Bureau of Reclamation is included in Appendix I.

Department of Transportation

Roads can have a significant impact on ecosystems by causing fragmentation of habitats, spreading invasive species, and degrading water quality. There are a number of restoration projects that involve the modification of roads. These projects require significant engineering and construction resources and as a result, will have a significant job creation effect. Suggested stimulus investments are outlined below:

- **Modification of roads for fish passage.** In the past, most road-stream crossing design has been aimed at minimizing costs, protecting the road and minimizing traffic interruptions. Less attention has been given to protecting stream functions, such as sediment transport, fish and wildlife passage, and the movement of woody debris. Many bridges and culverts disrupt these processes causing ecological degradation. The last transportation bill provided authorization and funding for retrofitting culverts on Forest Service lands to improve habitat connectivity. High Priority Project funding was allocated to Alaska for similar work. This initial investment for bridge and culvert retrofits should be expanded in the economic stimulus package. First, $500 million should be provided through existing authorities for road modifications on Forest Service, Fish and Wildlife Service and Park Service land. Second, a new authority with dedicated funding should be created to allow state Departments of Transportation to construct projects to retrofit or replace stream-crossings for environmental benefit. We recommend 2% of the total allocation to transportation infrastructure be dedicated for this purpose.
- **Projects to address water quality impairment related to roads.** Modification of hydrological conditions associated with roads as well as the polluted runoff from road surfaces seriously degrades water quality in many areas. According to the Environmental Protection Agency, stormwater runoff from roads, parking lots and other paved surfaces is the largest source of water pollution today. Furthermore, there is currently no dedicated funding for localities to address these concerns. In response to this need, the Senate version of the last transportation bill reauthorization included the Highway Stormwater Discharge Mitigation Program; unfortunately this new program was not included in the final conference agreement. To address the critical threat posed by water pollution from roads, the economic recovery package should authorize the Stormwater Discharge Mitigation program and dedicate 2% of the total investment in road infrastructure to these projects.

Environmental Protection Agency

The Environmental Protection Agency leads efforts to address the water quality of our nation's rivers, streams and wetlands. We have made great progress since the passage of the Clean Water Act in reducing the pollution contributed to our waterways, but work remains to be done. First, much of our water infrastructure, which has been largely responsible for improvement in water quality over the past 30 years, is aging and in need of re-investment and repair. This can be accomplished through investment in the **Clean Water State Revolving Fund and Drinking Water State Revolving Fund**.

While water and wastewater infrastructure and a strong point source control program have realized drastic water quality improvements, non point source pollution remains a significant threat to many of the nation's water bodies. Investment in activities to address non-point

sources of pollution could go a long way towards improving water quality. Furthermore, many of the practices that would be employed involve infrastructure development and modification. For example, one practice with promise is the construction of two-stage ditches on agriculture land. These wider ditches slow the flow of water leaving agricultural landscapes, reducing the nutrient and sediment input to downstream water bodies. This type of work requires construction labor, materials, and equipment and thus would provide an economic stimulus. To address this non-point source water quality issue, we recommend a stimulus investment in the **Section 319 non-point source pollution program** with a focus on projects that require construction or other infrastructure modification.

Forest Service

More than 100 million acres of federal, state, and private lands are at high risk from damaging wildfire. Addressing the fire threat by removing overgrown brush and trees and restoring forest health at a national scale will stimulate local economies and put people to work in the wildland urban interface and in rural communities.

Removal of overgrown brush and trees is an effective technique to jump start restoration of degraded ecological systems and to enable fire to play its natural role even as climate change extends the fire season. The National Fire Plan, with its sustained program of hazardous fuels reduction, has already spawned the beginning of a green industry to restore forest health and reduce wildfire threats. These existing industries range from community-based operations with chainsaws and trucks to large multi-state operations with mechanical harvesters and hundreds of employees. Under current programs, only 3 million acres of at-risk forests can be treated each year and the backlog is growing faster than the treatments can keep up. Accelerated fuels treatment will require sustained funding to the federal land management agencies and states and capacity building to get the workforce and business infrastructure in place.

The economic recovery package should address four aspects of this green jobs opportunity:

- **Hazardous Fuels Reduction on Federal land.** Increase funding to the Forest Service and Department of Interior agencies in the Wildland Fire Management account, Hazardous Fuels Reduction line item, for agencies to prepare fuels treatment projects, gain NEPA clearance, and administer contracts.
- **Forest restoration job training.** Provide job training programs to build the workforce and contractor capacity needed to restore forests, using USDA grants programs and authorities, such as Economic Action Program, Youth Conservation Corps, Job Corps Centers, and partnerships and agreements.
- **Small business incentive grants.** Build infrastructure for efficient restoration of forests and utilization of small diameter wood from fuels treatments by providing small businesses and local governments with grants and technical assistance (under the Economic Action Program authorities) and low-interest loans and short-term lines of credit through the Small Business Administration.
- **Hazardous fuels reduction on private lands.** Increase funding to the Forest Service, State Fire Assistance and Department of the Interior, State and Local Fire Assistance for fuels reduction on state and private lands and for job training and capacity building to employ local and volunteer firefighters in fuels reduction and controlled burning.

Animal and Plant Health Inspection Service

The Asian longhorned beetle threatens hardwood forests reaching from New England to Minnesota and in parts of the West. Sudden Oak Death is an invasive non-native forest pathogen that infects and kills oaks, hardwoods, and shrubs in the Pacific Coast states and across the East. Vulnerable forests support hardwood timber, maple syrup, and autumn foliage tourism industries, each of which represents a multi-million dollar contribution to the economy. Furthermore, these pests and blights threaten economic harm, job losses to the timber, agriculture, and nursery industries, plus state, national, and international quarantines. Asian longhorned beetle, in particular, also puts urban trees in cities across the country at risk; these trees have a total value of more than $600 billion. The experience in Chicago shows that the beetle can be eradicated when sufficient resources are deployed.

The Animal and Plant Health Inspection Service has been working in partnerships with state agencies to eradicate these pests and blights, and the stimulus package presents an opportunity to ramp up eradication efforts. Stimulus funding would allow for efforts to eradicate the extensive **Asian longhorned beetle outbreak** detected in Massachusetts in summer 2008 as well as complete eradication of previously known infestations in New York and New Jersey. Funds would also be used to hire workers to target **Sudden Oak Death outbreaks** in Southern Oregon and Northern California with work concentrating on early detection, host removal, and eradication efforts. Funding would allow hiring and equipping of hundreds of workers who would remove the several thousand infested trees, apply proven chemical treatments to tens of thousands of trees exposed to the insect, and carry out intensified surveys to ensure that no beetles escape.

Fish and Wildlife Service

The US Fish and Wildlife Service operates a number of voluntary habitat restoration programs that provide grants to improve fish and wildlife habitat. All of these programs currently have a backlog of projects and could spend funding quickly on restoration projects such as dam removal and fish passage construction, fish habitat restoration, and wildlife habitat restoration. We recommend investment in the following programs:

- **Fish habitat restoration:** The Fish and Wildlife Service operates a fish passage program that provides grants for the removal or modification of barriers to fish passage as well as the National Fish Habitat Action Plan, which provides funding to partnerships for on-the-ground fish habitat restoration. Based on current backlogs, we recommend $14 million and $10 million, respectively, for each of these programs
- **Coastal Restoration:** The Fish and Wildlife Service's coastal program focuses on a variety of coastal restoration projects ranging from invasive species removal to coastal marsh and wetland restoration by cost-sharing restoration projects with coastal landowners. The program has an average annual funding level of $11 million and a project backlog of $10 million; thus, we recommend a stimulus investment of $21 million.
- **Partners for Fish and Wildlife:** The Partners Program provides funding to private landowners for projects in all habitat types that conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams.

This program currently funds approximately $75 million in projects per year and has a backlog exceeding $35 million. We recommend $100 million in stimulus funding.

Bureau of Land Management

The Bureau of Land Management (BLM) Abandoned Mine Land (AML) program seeks to eliminate or reduce dangers to public health, safety and the environment as a result of impacts related to abandoned hard rock mines on public lands. There are over 12,000 abandoned mines. Of the 12,000 sites that have been evaluated and approximately 80% need remediation. In addition there are estimated to be a total of 100,000-500,000 abandoned sites yet to be fully characterized for remediation.

Environmental problems from abandoned mines include: contaminated/acidic surface and ground water; and stockpiled waste rock and mill tailing piles. In addition, surface runoff can carry AML-originated silt and debris down-stream, eventually leading to stream clogging. Sedimentation results in the blockage of the stream and can cause flooding of roads and/or residences and pose a danger to the public. Sedimentation may also cause adverse impacts on fish. The cost estimates to clean up abandoned hardrock mines range from $30 - $70 billion. The BLM AML program could quickly allocate a minimum of $400M, which could produce tens of thousands of jobs.

Minimizing Environmental Damage from Hard Infrastructure Projects

Design approaches and environmental standards have improved dramatically since much of our current infrastructure was built. If we are to avoid many of the harmful impacts of past infrastructure development, any new investment in infrastructure should seize on the opportunity to use the state of the art design and building standards that are already being applied in many places.

An important example of an improved design approach is the development of stream crossing standards for roads in New England. One study inventoried 3,600 crossing structures in New England and identified over 2,000 that act as severe barriers to aquatic organism passage and river processes, demonstrating that road crossings present one of the greatest threats to these aquatic ecosystems. In response, the New England District of the Army Corps of Engineers, working with state and NGO partners, developed standards for road-stream crossings that ensure new or rebuilt crossing structures maintain habitat connectivity by defining minimum criteria for parameters such as minimum bridge span width, culvert design, and substrate type. The standards apply to all new projects seeking regulatory approval under the programmatic general permit for each state in New England and offer a tested model to apply to road projects nation-wide.

Many infrastructure projects are being developed in coordination with regional conservation plans such as ecoregional assessments, regional Habitat Conservation Plans (HCPs), and watershed plans. Many organizations utilize ecoregional assessments to identify important conservation areas sufficient to ensure the long-term persistence of the ecoregion's biodiversity. The Nature Conservancy, Western Governor's Association and Bureau of Land Management are all investing in some form of ecoregional planning to guide decision-making. Similarly, California has employed regional HCPs for infrastructure siting,

permitting and mitigation and has recognized the streamlining benefits of this approach. These planning tools ensure that necessary project permitting can go forward in a timely manner and result in mitigation that provides greater ecological benefit. Therefore, projects that utilize these tools should be given priority in allocation of stimulus funding.

In the realm of water resources infrastructure, numerous studies and decades of experience have demonstrated the economic and environmental benefit of combining non-structural approaches with structural projects to achieve flood risk reduction goals. The best example of this approach is the development of set-back levees that provide flood protection but do so in a way that maintains connection between the floodplain and the river and allows the floodplain to serve its natural function of attenuating floods. This design approach is a significant departure of the traditional practice of building levees directly on the river bank but should be employed where possible in any new investment.

Broad scale standards for bridge design, regional planning and flood risk reduction should be adopted in a stimulus package to steer the agencies' project selection toward those projects that employ best practices such as the ones described above. Funding should first be allocated to projects that have been designed using these techniques. While we understand the need to allocate funding quickly, there will be a number of projects that are not designed using the best design practices but that could easily be retrofitted to meet these standards. A second funding priority should go to those projects that can be retrofitted to reduce or reverse environmental damage. The third tier for funding should be any other project that has completed design and environmental review and is ready to be built but does not employ innovative design practices to minimize environmental damage.

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APPENDIX I

ARMY CORPS OF ENGINEERS			
State	**Site**	**Project**	**Funding Need**
Large-scale Regional Ecosystem Restoration			
FL	Everglades	South Florida Ecosystem Restoration Program	$702,000,000
IL	Upper Mississippi River	Upper Mississippi River Environmental Management Program	$20,000,000
IL	Upper Mississippi River	Upper Mississippi River Navigation and Ecosystem Sustainability Program	$50,000,000
Multiple	Missouri River, NE, IA, SD, MO, KS	Missouri River Fish and Wildlife Recovery Program	$20,600,000
WA	Puget Sound	Puget Sound and Adjacent Waters Ecosystem Restoration	$11,121,000
Multiple	Nationwide	Estuary Restoration Act	$10,000,000
Individually Authorized Projects			
AZ	Bill Williams River	Alamo Dam	$200,000
CA	Hamilton City	Increase floor protection through levee replacement and habitat restoration	$15,700,000
IL	Illinois River	Illinois River Basin Restoration	$8,000,000
MD	Poplar Island, Talbot County	Poplar Island Ecosystem Restoration	$18,000,000
MD, VA	Chesapeake Bay	Oyster Recovery	$5,000,000
MD, VA	Chesapeake Bay	Environmental Protection and Restoration Program	$14,000,000
MT	Yellowstone River	Yellowstone River and Tributaries (Sec. 3110)	$10,000,000
MT	Dornix Park Project, Big Timber	Levee removal, floodplain and wetland restoration, interpretive centers, trails, sustainable gardening, tertiary wastewater treatment	TBD
WA	Whidbey Basin, Snohomish County	Snohomish River Estuary, Diking District 6	$10,575,000
Continuing Authority Programs			
OR	Camp Creek - Zumwalt Prairie	Remove small push-up dams to restore aquatic and riparian habitat	$575,000
VA	Powell River, Southwest Virginia	Powell River	$4,000,000
VA	Village of Oyster	Restore degraded wetlands and remove invasive species	$832,000

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION			
State	**Site**	**Project**	**Funding Need**
AL	Mobile Bay National Estuary Program	Prichard Reading Park stream bank restoration	$30,000
CA	Central California Coast	Water conservation via recycled water infrastructure and water storage	$10,000,000
CA	Monterey County	San Clemente dam removal	$8,000,000
CT	Pequonnock River, Bridgeport	Cement apron modification (to enhance fish migration)	$90,000
DE	New Castle County	Brandywine dam removals	$2,000,000
FL	Florida Keys	Staghorn coral large scale restoration	$5,500,000
HI	Hawaiian Islands	Sedimentation controls to protect corals	$12,000,000
MA	Little River	Habitat improvement and hard infrastructure removal	$240,000
MD	Patapsco River	Simkins/Daniels dam removal	$2,000,000
ME	Penobscot River	Penobscot River dam removal and fish passage restoration	$15,000,000
MI	Muskegon Lake	Wetland and shoreline restoration	$3,500,000
NC	Pamlico Sound	Alligator River Growers drainage re-diversion project	$6,000,000
NH	Great Bay Estuary	oyster and eelgrass restoration	$7,000,000
NJ	Cape May	Restoration of critical habitat for horseshoe crabs and migratory shorebirds	$24,434,000
NY	Great South Bay	Hard clam restoration throughout 65,000 acre estuary	$10,000,000
OR	Illinois River Basin, Josephine County	Sediment source reduction prioritization action plan and pilot projects	$5,000,000
RI	Upper Pawcatuck River, Shannock Village	Fish passage restoration	$2,500,000
TX	The Moses Lake, Galveston County	Shoreline protection and marsh restoration project	$820,000
VA	Eastern Shore of VA	Lagoon-wide restoration of sea grass, bay scallops, and oysters	$10,000,000
WA	Puget Sound	Regional restoration projects	$105,000,000
WI	Hog Island, St Louis	Invasive control and wetlands restoration	$2,000,000
CT, NY, RI	Long Island Sound	Oyster and shellfish restoration	$25,000,000
FL, AL, MS, LA, TX	Gulf of Mexico	Marine debris crews	$9,500,000

BUREAU OF RECLAMATION			
State	**Site**	**Project**	**Funding Need**
AZ	Lower Colorado River	Laguna restoration	$16,000,000
AZ	Lower Colorado River	Hunter's Hole restoration	$7,000,000
CO	Upper Colorado River and tributaries	Upper Colorado Endangered Species Recovery	$1,280,000
CO	San Juan River	Rock slide repair	$7,000,000
CO	Colorado River	Tamarisk control	$2,000,000
CO	Colorado River, Mesa County	Orchard Mesa Irrigation District improvements	$15,000,000
MT	Cartersville Dam, Forsyth	Irrigation dam rehabilitation, fish passage, entrainment protection, boating and recreation	TBD

DEPARTMENT OF TRANSPORTATION			
State	**Site**	**Project**	**Funding Need**
IN	Northwestern Indiana	Control of invasive plant species to protect rare species and plant communities	$2-3,000,000
ME	Penobscot River	Culvert replacement	$175,000
MT	I-94 Bridge, Glendive	Construction of second bridge span over side channel, 2-3 mile long chute restoration, new bridge, floodplain island habitat restoration, trails, ice jam flood abatement	TBD
OH	Statewide	Environmentally-beneficial designs for stream crossings	$2-3,000,000

ENVIRONMENTAL PROTECTION AGENCY			
State	**Site**	**Project**	**Funding Need**
DE	Nanticoke River watershed	Implementation of the Nanticoke Restoration Plan	$300,000
IN	Statewide	Install 200 miles of two stage ditches in headwater drainage ditches	$2,500,000
OH	Lake Erie basin	Maumee drainage environmentally friendly channel design projects	$20,000,000
OH	Statewide	Improved municipal storm water handling	TBD

FISH AND WILDLIFE SERVICE			
State	**Site**	**Project**	**Funding Need**
DE	Pemberton Forest Preserve, Sussex County	Ponders Tract restoration	$258,370
DE	Milford Neck Preserve, Kent County	Upland forest and wetlands restoration at Milford Neck	$250,000
MA	Town of Clarksburg	North Branch Hoosic River Dam Removal	$332,000
MA	Town of Plymouth	Eel River Headwaters Restoration	$100,000
MA	Pittsfield	West Branch Housatonic River, Mill St. Dam Removal	$320,000
OH	Ohio River basin	Muskingum River dam(s) removal or improvement	$200,000,000
VT	Lake Champlain Basin	Lake Champlain Basin Aquatic Passage	$2,000,000

NATIONAL PARK SERVICE			
State	**Site**	**Project**	**Funding Need**
MA	Millbury	Blackstone River, Worcester Consolidated Street Railway (Mass Electric) Dam Removal	$750,000

ANIMAL AND PLANT HEALTH INSPECTION SERVICE			
State	**Site**	**Project**	**Funding Need**
MA, NY, NJ	Regional	Asian Longhorn Beetle Eradication	$100,000,000
OR, CA	Regional	Detect and eliminate Sudden Oak Death infections	$7,000,000