

2012

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Recommended Citation

Hoffman, Greg, "Current Resiliency Projects and Potential Partnership Opportunities" (2012). *Sea Grant Law Fellow Publications*. 60.
https://docs.rwu.edu/law_ma_seagrant/60

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CURRENT RESILIENCY PROJECTS AND POTENTIAL PARTNERSHIP OPPORTUNITIES

Greg Hoffman



Climate Change Resiliency

Examples of Climate Change Resiliency Projects:

- Freeboard Incentive- Hull, MA
 - Board of Selectman passed a freeboard incentive which gives citizens up to \$500 in building permit fees if the builder elevates the home 2 feet above the current highest standard
 - Hull experiences regular damages and flood claims from northeasters and is also vulnerable to hurricanes so providing funding to mitigate the damage from these weather patterns is crucial as they frequency of them will increase due to climate change
- Shoreline Restorations
 - Atlantic City and Ventnor, New Jersey
 - Major beach replenishment project is set to begin the weekend of March 11, 2012 in Ventnor and Atlantic City, New Jersey
 - Project is designed to protect the tourist communities from possible flooding while restoring storm-damaged beaches in time for summer
 - Project will also consist of the reconstruction of pedestrian and vehicle beach crossovers, planting of dune and beach grasses and erection of sand fencing
 - Project will also provide shoreline protection for homes and business in addition to protection from high tides, storm surges and flooding
 - Main purpose of project is to ensure great beaches for all who visit Atlantic City and Ventnor because tourism is the core of the towns revenue production
 - Agencies involved in the project include the Army Corps of Engineers, New Jersey Department of Environmental Protection and New Jersey's Shore Protection Fund
 - Total time spent pumping sand for the replenishment is estimated to take 40 days in Atlantic City and 30 days in Ventnor
 - Funding:
 - Jointly financed by the federal government, DEP, Atlantic City and Ventnor
 - Federal government- 65 percent of the project (\$11.7 million)
 - DEP- 35 percent (\$4.3 million) through the state's Shore Protection Fund
 - Atlantic City- \$1.1 million
 - Ventnor- \$525,000
 - Similar projects are underway or have been recently completed in Delaware and on Long Beach Island, New Jersey
- Alabama's Baldwin County Grasses in Classes Program
 - Local middle and high school students cultivated and planted native grasses at restoration sites along Alabama's Gulf of Mexico Coast

- Similar projects have been implemented in classrooms in Tampa Bay, Florida and Chesapeake Bay, Maryland
 - Native grasses provide shoreline stabilization and habitat for wildlife
 - Without this vegetation coastal areas are much more susceptible to increased coastal storms and sea level rise
 - Grasses planted included: sea oats, saltwater cordgrass, panic grass, black needle rush and smooth cordgrass
 - Students also removed the invasive common reed
 - The students, under the guidance from their teachers and experts, grew the native plants for wetland and dune restoration projects
 - Students also helped to maintain and monitor native plant nurseries and assisted scientists with monitoring at restoration sites
 - Funding:
 - Provided by the Gulf of Mexico Community-based Restoration Partnership but expired in 2006
- Wellfleet Bay Oyster Reef Habitat Restoration Project
 - Project's goal was to restore the oyster reef habitat in order to help protect shorelines and keep coastal marshes intact by helping to break down wave energy before it reaches the shoreline
 - Project experimented with different types of structures upon which oysters can seed and build a foundation over two acres of intertidal flats
 - Different techniques tested included: oyster blocks, reef balls and shell cultch
- Oyster River Watershed Culvert Study
 - Project implemented under the EPA's Climate Ready Estuaries Program
 - Piscataqua Region Estuaries Partnership received a grant to conduct an inventory and assessment of climate change indicators on road and stream networks in the Oyster River Watershed
 - Inventory and assessment team has identified specific culvert that are likely to fail under projected precipitation pattern changes associated with climate change
 - Used this information to create a strategy with specific recommendations to help reduce habitat degradation, infrastructure damage and public safety risks from flooding
 - Project has provided real economic consequences for towns to consider in improving culverts and general road infrastructure in the face of climate change
- Cape Hatteras Lighthouse
 - Cape Hatteras Lighthouse, which consisted of seven historic structures, was successfully relocated more than 2,900 feet from its original spot
 - Lighthouse needed to be moved due to the threat of shoreline erosion caused by climate change
 - Agency in charge of the project was the National Park Service which had to balance its obligations to both historic preservation and coastal protection
- Beaver Creek Flood Risk Reduction Project, Bristol, Tennessee

- US Army Corps of Engineers has joined forces with the cities of Bristol, Virginia and Bristol, Tennessee on a 4 phase project to revitalize the city of Bristol
- Phases of the project include:
 - Removing an existing box culvert in Beaver Creek
 - Sloping the creek banks
 - Creating a plaza area
 - Installing a parking lot and providing for landscaping and lighting
- Project will help to reduce the harm caused to the city from flooding which includes harms to the public safety as well as harm to the economy
- Atlanta Regional Commission, Georgia
 - Atlanta Regional Commission is a local organization focused on the city's growth and development issues
 - Developed a strategy which includes compact, walkable communities where senior can live near services and social opportunities in existing communities
 - Will allow seniors and others to drive less in their daily activities thereby reducing air pollution while also conserving open space from development and devising a housing focused land use strategy that can provide additional opportunities for older adults
- Montgomery County, Maryland
 - Requested assistance through EPA's Smart Growth Implementation Assistance Program to develop an approach which mitigates against climate change
 - Mitigation techniques include: reducing vehicle miles travelled, preserving natural areas that serve to sequester carbon and creating more compact, energy efficient buildings
 - County was having difficulty forming a coordinated methodological approach of measuring the benefits of the approaches as steps towards meeting their climate protection goals
 - Being able to demonstrate the benefits from these approaches would allow county to focus on the most beneficial techniques and persuade the public of their importance
- Coastal Adaptation Plan for the Town of Groton, Connecticut
 - Long Island Sound Study (LISS) received a partner start-up grant from the EPA's Climate Ready Estuaries Program to develop an adaptation plan for Groton
 - Grant funded 3 workshops for government officials to inform them of their respective roles in adapting to climate change
 - Grant will also support four working groups which will focus on infrastructure, natural resources and ecological habitats, agriculture and health
 - Workshops were held for representatives of state, federal and municipal governments to develop an adaptation plan for the town
 - Workshops focused on education stakeholders of climate change impacts, identifying vulnerabilities and adaptation strategies and developing a plan for implementing strategies
- Folsom Dam Joint Federal Project: Sacramento, California

- Legislative efforts spearheaded by Congresswoman Matsui has led to the procurement of \$7.42 million from the Army Corps of Engineers new “Reserve Fund”
 - A related project known as the Folsom Dam Raise is set to receive an additional \$720,000 from the fund
 - The Army Corps year end appropriations package for fiscal year 2012 established a \$59.3 million fund to allow the Corps to allocate additional money to critical flood protection projects
- Project is currently underway and proceeding through the procedural requirements established by NEPA
 - Similar funds could be procured to rehabilitate and relieve stress on dams currently in Rhode Island
- Goal of project is to allow dam to hold more water and release it more safely when necessary
 - When completed, it will improve all of Sacramento’s protection and give much of Sacramento over 200-year flood protection
- DOI’s WaterSMART (“Sustain and Manage America's Resources for Tomorrow”) Grants
 - 7 applied science projects have received \$1.2 million for the enhancement of water resources in a changing climate
 - Funds are designed to allow for better water management strategies
 - Funding available has only be given to projects located in the Western United States
 - Desert Research Institute in Nevada will receive \$199,761 for the evaluation of evapotranspiration and irrigation water requirements in a changing climate.
 - Southern Nevada Water Authority will receive \$188,410 to enhance resource management of the Colorado River through understanding changes to water quality and sediment transport in Lake Mead.
 - Desert Research Institute in Nevada will receive \$126,014 to develop and evaluate regional climate downscaling techniques that will benefit understanding future surface and groundwater supplies.
 - Southern Nevada Water Authority will receive \$200,000 to evaluate potential future additional utilization of water resources in the eastern great basin.
 - Utah State University will receive \$141,033 to provide more accurate projections of seasonal precipitation cycles within the upper Colorado River basin.
 - University of California at Irvine will receive \$200,000 to utilize novel statistical techniques to quantify the uncertainty associated with the current suite of global climate models.
 - University of Arizona will receive \$200,000 to do a two-phase project where they will use tree-ring data to reconstruct the historical flows of the Klamath and San Joaquin Rivers and update the reconstructed flows of the Sacramento River. The researchers will then construct a database and

incorporate the tree-ring data and flow reconstruction into a climatological framework.

- Grants are awarded competitively to all non-federal partners
- EPA's Climate Showcase Communities Program
 - 2009 and 2010, EPA awarded \$20 million in competitive grants to help local and tribal governments establish and implement climate change initiatives
 - The goal of the program is to create replicable models of cost-effective and persistent greenhouse gas reductions that will catalyze broader local and tribal government actions to stabilize the climate and improve environmental, economic, health and social conditions
 - Programs are selected through two rounds of funding
 - If selected for the program, EPA offers peer exchange, training, and technical support to grant recipients
 - EPA encourages replication across the country to promote the creation of sustainable climate management programs that are not only the foundation for stabilizing our climate, but also create jobs, improve people's health, and fulfill other local government priorities
 - Projects are all focused on lowering GHG's and making the target community greener
 - Examples can be found at:
<http://www.epa.gov/statelocalclimate/local/showcase/index.html>
- EDA's Global Climate Change Mitigation Incentive Fund (GCCMIF) Projects:
 - Green Collar Workforce Training Center (Austin, TX)
 - EDA invested \$1.9 million in American YouthWorks/American Charter Schools to support the renovation of an existing facility into a LEED certified training center
 - Center will offer green workforce training programs for at-risk youth and other members of South Austin
 - Provides training in areas such as solar power installation, rainwater harvesting and green facilities management
 - Recipient estimates that project will create 164 jobs
 - Renewable Energy Resource Center (RERC) (Maui County, HI)
 - EDA invested \$1.06 million to support the creation of RERC to advance HI's renewable energy cluster
 - Funds will assist the Maui Economic Development Board to transition into the use of alternative energy resources
 - Recipient estimates project will create 175 jobs
 - Solid Waste Recycling Center (Palmer, AK)
 - EDA invested \$3 million to construct 23,000 square foot solid waste recycling building
 - Building will be LEED certified and will support the regional recovery of recyclable materials from solid waste stream
 - Training in recycling technologies and innovative utilization of recyclable materials will be offered by University of Alaska and local Job Corps Center

- Recipient estimates that project will create 177 jobs
 - Clean Technology and Renewable Energy Revolving Loan Fund Initiative (RLF) (Dover, DE)
 - EDA invested \$500,000 in the RLF to make low interest, longer term loans to private sector companies involved in the development, design and manufacturing of alternative energy equipment
 - Goal of fund is to attract private sector investment and entrepreneurial growth in environmentally conscious clean technology and renewable energy products and businesses
 - Recipient estimates that project will create 200 jobs
 - Wind Technician Training Turbine (Mitchell, SD)
 - EDA invested \$1.2 million to fund the acquisition of a wind turbine to train and certify wind technicians
 - Project was driven by public-private partnership which included: private sector utility company, tribal education partner, various federal, state and industry collaborators
 - Recipient estimates that project will create 300 jobs
- Forest Service's Urban and Community Forestry Program
 - Program provides technical, financial, research and educational services to local government, non-profit organizations community groups, educational institutions, and tribal governments
 - Assistance includes educating cities of what species of trees to plant where, how to care for those trees and how to manage the overall urban forest
 - Program aims to assist cities and communities to mitigate and adapt to climate change through increased use of trees to provide ecosystem services, participation in ecosystem services markets, establishment of strategic canopy goals and increased use of urban wood for energy production and value added products
 - Goals of program include:
 - Conserve working forest landscapes
 - Protect forests from harm
 - Enhance benefits associated with trees and forests

Federal Funding Opportunities:

- FEMA Pre-Disaster Mitigation Grant Program
 - Provides direct funding for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event
 - Projects are to focus on reducing the overall risks to the population and property while also reducing reliance on funding from actual disaster declarations
 - Projects are to be submitted by local governments to the state which selects applications based on predetermined priorities set forth in a disaster-specific Mitigation Strategy to send to FEMA for final approval
 - Grants are generally available annually without any linkage to disaster declaration
- National Fish Passage Program

- Program is administered by the U.S. Fish and Wildlife Service
- Program is a voluntary, non-regulatory conservation assistance program that provides financial and technical assistance to remove or bypass artificial barriers that impede the movement of fish or other aquatic species and contribute to their decline
- Program goals are to protect, restore or enhance habitats that support fish and other aquatic species and their populations
- Application deadline is September 20, 2012 with a total of 80 awards expected to be granted
 - Range of award amount is \$500,000 to \$200 with total program funding estimated to be \$11,000,000
- National Coastal Wetland Conservation Grant Program (NCWCGP)
 - NCWCGP was established by the Coastal Wetlands Planning, Protection and Restoration Act with the goal to acquire, restore and enhance wetlands in coastal states
 - Primary goal of NCWCGP is the long term conservation of coastal wetland ecosystems
 - Program provides funding through competitive matching grants to State agencies
 - Expected number of awards that will be granted is 20
 - Estimated total program funding is \$17,500,000 with the award ceiling being \$1,000,000
- FEMA Flood Mitigation Assistance Program
 - Created as a part of the National Flood Insurance Reform Act (NFIRA) of 1994 with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP)
 - Funds are provided by FEMA to assist states and communities in implementing measures that reduce or eliminate the long-term risk of flood damage to buildings, homes and other structures insured under the National Flood Insurance Program
 - Three different types of grants are available to States and communities:
 - Planning Grants:
 - Only available to communities that participate in NFIP to help prepare Flood Mitigation Plans
 - Project Grants:
 - Implement projects to reduce flood losses such as elevation, acquisition or relocation of NFIP-insured structures
 - Projects are encouraged to prioritize FMA funds for applications that include repetitive loss properties (structures with 2 or more losses each with a claim of at least \$1,000 within any ten-year period since 1978)
 - Management Cost Grants:
 - Funds are used to assist State when administering FMA program and activities
 - Up to ten percent of Project Grants may be awarded to State for Management Cost Grants
 - These grants are available on an annual basis with the application period running from June through December

- Investments for Public Works and Economic Development Facilities
 - Grants support the construction or rehabilitation of public infrastructure to generate or retain private sector jobs and investments while also attracting new industry
 - Projects generally include water and sewer systems, industrials access roads, industrial and business parks, port facilities, eco-industrial facilities etc.
 - Project must be located in or benefit a region that satisfies one or more of the economic distress criteria set forth in 13 CFR 301.3(a)
 - Average size of Public Works investment in FY 2008 was \$1,320,000
- FTA's Bus and Bus Facilities Grant- 49 U.S.C 5309(b)(3)
 - Provides capital assistance for new and replacement buses, related equipment, and facilities
 - Eligible projects include purchasing of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment
 - Eligible recipients include state and local governments, public agencies and private companies involved in providing bus transportation
 - Funding is available for three years
 - The federal share of eligible capital costs is 80 percent but may exceed that for projects related to ADA, the Clean Air Act (CAA), and certain bicycle projects
 - In 2010 agency issued \$516,224,661 in grant money through this program
- FTA's Alternatives Analysis- 49 U.S.C. 5339
 - Grant is available to finance the evaluation of all reasonable modal and multimodal alternatives and general alignment options for identified transportation needs in a travel corridor
 - Identified areas assess a wide range of public transportation or multimodal alternatives and identify transportation problems
 - Provide information to Secretary to demonstrate project justification and local financial commitment
 - Select locally preferred alternative
 - Funding is available for a total of three years with the statutory match for Alternatives Analysis program funding is 80 percent Federal, 20 percent local
 - Total funds dispersed under this program in 2010- \$15,526,675
- Community Catalyst Fund- a project of Clean Air-Cool Planet
 - Available organizations must have an annual budget of less than \$150,000, and the project in question must serve at least one community of fewer than 25,000 permanent residents
 - Only states that are eligible include NY, NJ, and New England States

- Funds are used to promote environmental sustainability, improve environmental stewardship, and/or decrease consumption of energy and fossil fuels on a local level
 - Examples include hiring interns to conduct energy inventories or create community action plans, implementing recycling programs, sponsoring speaker events, developing websites and/or educational materials
- Funding amount ranges from \$250 to \$2,500.
 - There are no deadlines for grant submission and proposals are reviewed on a rolling basis
- Organization is very receptive to a variety of different projects
- NCRS's Emergency Watershed Protection (EWP) Program
 - Designed to respond to emergencies created by natural disasters and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, windstorms and other natural occurrences
 - Not necessary for a national emergency to be declared for an area to be eligible for assistance
 - NCRS may be responsible for up to 75 percent of the construction costs for the emergency measures
 - Remaining 25 percent must come from local sources
 - Types of projects include:
 - Purchasing EWPP easements on any floodplain lands that have been impaired within the last 12 months or that have a history of repeated flooding defined as a floodplain land that has flooded at least two times during the past 10 years
 - Easements can restore, protect, maintain, and enhance the functions of wetlands and riparian areas
 - Easements can also conserve natural values including fish and wildlife habitat, water quality, flood water retention, ground water recharge, and safeguard lives and property from floods, drought, and the products of erosion
 - Remove debris from stream channels, road culvers and bridges
 - Reshape and protect eroded banks
 - Correct damaged drainage facilities
 - Establish cover on critically eroding lands
 - Repair levees and structure
 - Repair conservation practices
 - Rhode Island received a total of \$6,450,000 for EWP state funding, both financial and technical assistance, in fiscal year 2012 but has received \$0 for the second round of funding during fiscal year 2012
- HUD and Fair Housing Administration (FHA) Property Improvement Loan Insurance Title I
 - Insures loans to finance the light or moderate rehabilitation of properties as well as the construction of nonresidential buildings on the property
 - maximum loan amount is \$25,000 for improving a single-family home or for improving or building a nonresidential structure

- For improving a multifamily structure, the maximum loan amount is \$12,000 per family unit, not to exceed a total of \$60,000 for the structure
- Loans are fixed rate loans for which lenders can charge market price interest rates
- Can be utilized to provide owners with the funds necessary to implement climate change resilient strategies such as raising homes from ground to protect from flooding
 - Generally, loans may be used to finance permanent property improvements that protect or improve the basic livability or utility of the property
- Federal Highway Administration's (FHWA) Surface Transportation Environment and Planning Cooperative Research Program (STEP)
 - Federally funded program with approximately \$13 million available each year
 - Funding has a 20% non-federal matching requirement
 - Research program authorized in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to improve the understanding of the relationship between surface transportation and the environment.
 - Funds are used to identify, address and reassess national research priorities for planning in highway's to take into account the environment and changing climate
 - Research efforts also help achieve national objectives for streamlining, congestion reduction, safety and security
 - Once the STEP Plan is in place stakeholders are incorporated in the process by:
 - Refining and implementing the national research agenda through national workshops, annual community of practices conferences, program advisory groups etc.
 - In order to satisfy non-federal matching requirement partnerships are formed with federal, state and local agencies, National Cooperative Highway Research Program, Future Strategic Highway Research Program, pooled funds and foreign jurisdictions to solicit funding
 - Peer reviews are utilized to solicit input from partners and stakeholders in the development of projects and in the review of selected reports and publications
- EDA's Global Climate Change Mitigation Incentive Fund (GCCMIF)
 - Funds are provided through the Economic Development Assistance Programs authorized under PWEDA
 - Used to support projects that foster economic competitiveness while enhancing environmental quality
 - Goal of funding is to advance the green economy by supporting projects that create jobs through and increase private capital investment in initiatives to limit the nation's dependence on fossil fuels, enhance energy efficiency, curb greenhouse gas emissions and protect natural systems
 - Funds can be used to finance a number of projects including renewable energy end-products, the greening of existing manufacturing functions or processes and the creation of certified green facilities
 - Past funding that has been provided includes: FY 2008 \$9.4 million, FY 2009 \$14.7 million, FY 2010 \$25 million

- Database of State Incentives for Renewables and Efficiencies
 - In an attempt to reduce GHG's and promote efficient, renewable energy RI allows homeowners to create solar easements in same manner as creating an interest in real property
 - Authorized pursuant to RI General Laws R.I. Gen. Laws § 34-40 and R.I. Gen. Laws § 45-24-33
 - Must be created in writing and include:
 - Description of real property involved
 - Description of the angles and three-dimensional space involved
 - The terms under which the easement is granted or may be terminated
 - Any provisions for compensation of either property owner
 - Local zoning ordinances must take into account solar easements
- Interagency Partnership of Sustainable Communities (HUD, DOT, EPA)
 - Agencies are working together to provide citizens with affordable housing, more transportation options and lower transportation costs while protecting the environment nationwide
 - Sustainable Communities Initiative
 - \$100 million for regional integrated planning grants to support linking integrated housing, transportation, economic development and other land use planning
 - \$40 million for community challenge grants to foster reform and reduce barriers to achieve affordable, economically vital and sustainable communities
 - \$10 million for joint HUD/DOT research efforts that shall include a rigorous evaluation of the regional integrated planning grants and community challenge grants programs
 - Energy Innovation Fund
 - \$25 million for a multifamily energy pilot directed at the multifamily housing market
- Transportation, Community, and System Preservation (TCSP) Program
 - Program sponsored by DOT to award grants to investigate the relationships between transportation, community, and system preservation plans and practices and identify private sector-based initiatives to improve such relationships
 - Goal of the program is to:
 - Improve the efficiency of the transportation system of the United States
 - Reduce environmental impacts of transportation
 - Reduce the need for costly future public infrastructure investments
 - Ensure efficient access to jobs, services, and centers of trade
 - Examine community development patterns and identify strategies to encourage private sector development patterns and investments that support these goals
 - Contact the Metropolitan Planning Organization (MPO) for their area for prospective projects at: <http://www.ampo.org/directory/index.php>
- Department of Commerce Habitat Restoration Grants

- Goal of program is to provide grants and cooperative agreements for habitat conservation activities including coastal and marine habitat restoration and protection
 - Projects funded are aimed to the protection and restoration of the Nation's wetlands and other coastal habitats
- Restoration includes, but is not limited to, activities that contribute to the return of degraded or altered marine, estuarine, coastal, and freshwater fish habitats to a close approximation of their function prior to disturbance
 - Also aimed to create “green infrastructure” and storm buffers
- Eligible applicants for assistance include State and local governments, including their universities and colleges as well as private colleges and universities
- Program has no matching requirements as federal government supplies 100% of funding
- Awards are normally for 12-24 month periods with typical awards ranging from \$35,000 to \$200,000