Commonwealth Coastal & Marine Policy Fellowship

2019 Host Office Descriptions

FELLOWSHIP PROGRAM DESCRIPTION

Virginia Sea Grant (VASG) and the Virginia Environmental Endowment (VEE) are now soliciting applications for the 2019 Commonwealth Coastal & Marine Policy Fellowship**.** This twelve month paid fellowship is intended to provide educational and professional development opportunities for post-graduates interested in Virginia's coastal and marine resources. Fellows receive on-the-job training by working with a Virginia host office to address pressing coastal and marine resource issues, while learning about the policy and management process occurring at the state level. Selected finalists for the fellowship will interview with prospective host offices to find the best fit for the fellow. VASG, VEE, and their partners anticipate supporting one to two post-graduate fellows starting on July 1, 2019. This announcement and guidance on how to submit your application can be found at: https://vaseagrant.org/

PARTICIPATING HOST OFFICES

Each potential office listed below has expressed interest in hosting a fellow during the 2019 fellowship year. Applicants are strongly encouraged to visit their websites for more details on the offices' missions and activities. Each host office has shared a short project description of activities a fellow could work on in their program. While final projects may vary based upon the host office's needs, and the skillsets of the selected fellow, these provide an example of the breadth and content of the host office's current needs. Additional host offices and projects may be added before the fellowship application deadline. Please visit www.vaseagrant.org for the current list.

Department of Conservation and Recreation

- *Project 1:* Verification of Shoreline Management BMPs for Chesapeake Bay TMDL Nutrient and Sediment Reduction Credits

Marine Resources Commission

- *Project 1:* Agency Scoping Comments Review Coordinator & Habitat Management Division Permit Tracking Database Fellow

Office of the Secretary of Natural Resources

- *Project 1:* Commonwealth of Virginia Resilience Initiative

The Nature Conservancy

- *Project 1:* Coastal Habitat Restoration
- *Project 2:* Using the Coastal Resilience Program at the Virginia Coast Reserve to Inform Policy-making

In Collaboration With

VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

Project Title: Verification of Shoreline Management BMPs for Chesapeake Bay TMDL Nutrient and Sediment Reduction Credits
Location: Tappahannock, VA

Description of Host Office

The Department of Conservation and Recreation (DCR) is the state's lead natural resource conservation agency. DCR protects what Virginians care about – natural habitat, parks, clean water, dams, open space, and access to the outdoors. DCR enables and encourages people to enjoy and benefit from natural and cultural resources. DCR accomplishes its mission through funding, expertise, education, acquisition, and improved access. Through its Division of Soil and Water Conservation, DCR works with 47 soil and water conservation districts, farmers, urban and suburban landowners, and other land managers to reduce harmful runoff. DCR works to reduce nutrients and sediment that can impact the quality of waters, including the nation's largest estuary, the Chesapeake Bay. DCR's Shoreline Erosion Advisory Service (SEAS) provides technical assistance to property owners, localities, and state and federal agencies who are experiencing shoreline or streambank erosion. SEAS provides many services to property owners including: site investigations, advisory reports, review of plans and designs, permit assistance, and construction inspections.

Project Background

Shorelines are in constant states of change and erosion is part of the natural ecosystem processes in the Bay. Shoreline erosion is primarily caused by wind-driven waves –to a smaller extent boat wakes, tides, and currents – and is exacerbated by the rapid rate of sea-level rise. Erosion of banks supplies sand to beaches and marshes, helping them to keep pace with rising sea levels. However, excess sediment and associated nutrients can negatively affect submerged aquatic vegetation and water quality. Human activity, such as agriculture and urban development, can drastically accelerate the natural rate of erosion. According to the U.S. Geological Survey, erosion of unconsolidated shorelines is a major source of sediment to the Bay accounting for approximately 57 percent of the sediment source loads.

The suite of solutions to shoreline erosion that a property owner can employ varies along a continuum of green-to-grey infrastructure – marsh grass plantings, marsh toe revetments of coir logs or oyster shell bags, biogenic reefs, stone sills with sand nourishment and marsh grass plantings, offshore gapped breakwaters with sand nourishment and dune grass plantings, riprap revetments, wood or vinyl bulkheads. Living shorelines are the Commonwealth's preferred shoreline stabilization practice.

SEAS is working to identify shoreline management practices (e.g., living shorelines, revetments) across tidal Virginia that qualify for Chesapeake Bay Total Maximum Daily Loads (TMDL) nutrient and sediment reduction credits, verify these practices are installed and meet specifications set out by the U.S. Environmental Protection Agency's Chesapeake Bay Program, and report these load reductions as part of the Commonwealth's efforts to meet goals established in the Watershed Implementation Plan. SEAS has reported annual pollutant load reductions for 988 sites protecting 37.9 miles of shoreline – nearly 14,300 tons of sediment, nearly 5,900 pounds of phosphorus, and over 8,500 pounds of nitrogen.

Potential Fellowship Project

The fellow will work as an integral SEAS team member to provide technical assistance to property owners, localities, and state and federal agencies who are experiencing erosion. They will participate in conducting site investigations, construction inspections, and reviewing plans and designs for stabilization practices. The fellow will contribute to other division goals and activities including nutrient management planning on farms. The fellow will identify installed shoreline management practices that qualify for TMDL reduction credits to verify these practices meet specifications, and calculate the load reductions utilizing protocols developed by SEAS. The fellow will conduct data analysis with Geographic Information Systems (GIS), and have the opportunity to engage with partnering agencies and organizations, and interact with the general public.

VIRGINIA MARINE RESOURCES COMMISSION, FISHERIES MANAGEMENT DIVISION

Project Title: Agency Scoping Comments Review Coordinator & Habitat Management Division Permit Tracking Database Fellow

Location: Hampton, VA

Description of Host Office

Virginia Marine Resources Commission (VMRC) serves as stewards of the Commonwealth's marine and aquatic resources. The agency manages saltwater fishing, both recreational and commercial, and works to create and maintain sustainable fisheries for the benefit of all anglers and the ecosystem. The agency also manages the state's submerged bottomlands, tidal wetlands, sand dunes, and beaches in order to preserve and protect Virginia's natural resources and the habitat our saltwater fisheries depend on.

Potential Fellowship Project

The Commonwealth Coastal and Marine Policy Fellow will assist VMRC's Habitat Management Division with developing a process that will facilitate the issuance of its subaqueous, tidal wetlands and beaches and dunes permits electronically; including alternative procedures for collection of permit fees and royalties, and capturing field data in real time for upload into an internal permit tracking database.

Additionally, the fellow will help coordinate agency reviews between the Fisheries and Habitat Management Divisions necessary to draft scoping comments on environmental documents provided to VMRC for review of project activities potentially affecting marine fisheries and habitats. Examples of documents submitted for review include Environmental Assessments, Environmental Impact Statements, and Federal Coastal Zone Management Consistency Determinations. The fellow will be responsible for initial assessment and coordination of the document reviews between agency divisions and departments.

OFFICE OF THE SECRETARY OF NATURAL RESOURCES

Project Title: Commonwealth of Virginia Resilience Initiative

Location: Richmond, VA

Description of Host Office

The Secretary of Natural Resources, Matthew J. Strickler, advises the Governor of Virginia, Ralph S. Northam, on natural resources issues throughout the Commonwealth and works to advance the Governor's top environmental priorities. Those environmental priorities include climate change and resiliency, Chesapeake Bay Restoration, and land conservation. The Secretary of Natural Resources oversees six Virginia state agencies: the Department of Conservation and Recreation, the Department of Environmental Quality, the Department of Game and Inland Fisheries, the Department of Historic Resources, the Marine Resources Commission, and the Museum of Natural History. The Governor, Secretary, and agencies work to protect and restore the Commonwealth's natural and historic resources.

Project Background

On November 2, 2018, Governor Ralph Northam signed Executive Order 24 that lays out a series of actions the Commonwealth of Virginia will undertake to limit the impact of flooding, extreme weather events, and wildfires. Coastal adaptation and resiliency is a top priority for the Governor's Administration.

Potential Fellowship Project

The fellow will support the Secretary of Natural Resources and the Special Assistant to the Governor for Coastal Adaptation and Protection, in the creation and implementation of an initiative to increase the Commonwealth of Virginia's resilience to natural hazards and events. The fellow will report to the Special Assistant and provide administrative, research and other support as requested. Primary responsibilities will be focused on the creation of a Coastal Master Plan to reduce flood risks to coastal Virginia. Associated tasks will include staffing advisory panels, conducting research and other duties as assigned.

THE NATURE CONSERVANCY, VIRGINIA COAST RESERVE

Project Title: Coastal Habitat Restoration
Location: Nassawadox, VA

Description of Host Office

The mission of The Nature Conservancy (TNC) is to conserve the lands and waters on which all life depends. A leading conservation organization in the U.S. and around the world, TNC works with public and private partners to ensure our lands and waters are protected for future generations.

The Conservancy's Virginia Coast Reserve (VCR) is one of the last coastal wildernesses on the East Coast and one of the most important migratory bird stop-over sites in North America. VCR manages and protects a 1,250-acre seaside farm called Brownsville Preserve and 45,000 acres of natural landscape that includes 14 barrier and marsh islands, multiple mainland holdings and a seascape that is being successfully restored with eelgrass, oysters and bay scallops. Increasingly, this coastal preserve is threatened by rising seas and increased storm intensity. The work at VCR serves as a model for how conservation and natural solutions can help a landscape adapt and become more resilient in the face of changing climate.

Project Background

Currently, the extent and impact of coastal habitat restoration projects along the Virginia Eastern Shore are primarily limited to restoration in the context of creating and expanding natural components of the system such as oyster reefs and eelgrass meadows. There is growing interest, however, in the role that restoration projects focused on creating and maintaining barrier island and coastal marsh habitats may have in the future as these habitats become increasingly threatened by sea level rise. Projects such as these, potentially implemented with the objectives of protecting human and/or natural communities, could have significant impacts on the dynamics of the system and the natural resources it supports. Given its extensive landholdings along the Eastern Shore, TNC is committed to monitoring and evaluating the interest of partners and stakeholders in coastal restoration projects in this context and the range of related projects that may be proposed for the region into the future.

Potential Fellowship Project

The fellow will have the opportunity to develop and implement a project that will result in a comprehensive synthesis of information that will inform and advance priorities, proposals, decisions and policy related to coastal restoration in Virginia. Potential objectives of the project may include: 1) bringing together local and regional partners and stakeholders to assess current philosophies and priorities on this topic, 2) synthesizing current information modeling the dynamics of the system and identifying potential linkages with the Conservancy's existing Coastal Resilience tool, 3) evaluating the existing need, opportunity and limiting factors for potential projects in the region, and 4) summarizing impacts and lessons learned from related projects across the country and the world. A more cohesive and coordinated thought process among interested partners and stakeholders will ensure that coastal habitat restoration projects on Virginia's Eastern Shore are developed and implemented in a way that will best protect the natural integrity of the system, leading to a more resilient future for the human and natural communities that depend on it.

The Nature Conservancy
Protecting nature. Preserving life.™

THE NATURE CONSERVANCY, VIRGINIA COAST RESERVE

Project Title: Using the Coastal Resilience Program at the Virginia Coast Reserve to Inform Policy-making
Location: Nassawadox, VA

Description of Host Office

The mission of The Nature Conservancy (TNC) is to conserve the lands and waters on which all life depends. A leading conservation organization in the U.S. and around the world, TNC works with public and private partners to ensure our lands and waters are protected for future generations.

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Project Background

TNC has been working for many years to develop a suite of strategies designed to provide Virginia's Eastern Shore residents, leaders, elected officials, and planners with tools to help predict the likely effects of climate change and to implement on-the-ground nature-based solutions to abate coastal flooding and sea level rise. This is in response to a growing awareness that current approaches to flood preparedness and response are inadequate to address the rate and pace of change. For example, it has collaborated with Eastern Shore Climate Adaptation Work Group and the University of Virginia (UVA) to build an online Coastal Resilience mapping and decision support tool that provides scenario-based forecasting for coastline change, flooding, and future habitats. In addition, TNC has restored more than 60 acres of oyster reef habitat, and in partnership with UVA are evaluating selected reefs' effectiveness at reducing wave energy and erosion of nearby marshes. Furthermore, TNC has collaborated with the Virginia Institute of Marine Science and others to restore over 9,000 acres of eelgrass and have completed two living shoreline projects. Despite the growing body of research that documents the role of wetlands, reefs, and other nature-based solutions to both reduce threats to coasts and strengthen a region's overall resilience, nature-based features are not as widely preferred by communities and private landowners as the Conservancy would like to see.

Building off the history of the on-the-ground restoration at the VCR, TNC is seeking a fellow to help understand how those experiences and lessons learned may resonate with policy makers and officials to inform support of nature-based solutions. In particular, TNC is interested in developing an understanding of the array of federal and state programs and policies that may be germane to scaling up on-the-ground restoration activities. Agencies with relevant programs include FEMA, the U.S. Army Corps of Engineers, and the U.S. Department of Housing and Urban Development. In the private sector, relevant companies may include those in the insurance and re-insurance industry. At the state level, the Governor's newly announced Executive Order 24 that increases resilience to sea level rise and natural hazards presents a clear and immediate opportunity for engagement with state leaders, using the living laboratory of VCR as an engine to inform policy makers.

Potential Fellowship Project

The fellow will work with a mentor, other staff at VCR, and the Virginia Chapter government relations team to investigate and develop potential pathways to scale up the lessons learned at VCR to promote nature-based solutions with policymakers. The specific scope, direction and details of the project will be determined based on the fellow's particular background and area of expertise.

Sea Grant Virginia

Virginia Environmental Endowment