



COASTAL FLOOD RESILIENCE PLANNING FELLOWSHIP

HOST OFFICE

Virginia Department of Conservation and Recreation, Office of Resilience Planning

PROJECT TITLE

Virginia Coastal Resilience Master Plan, Adaptive Management Plan

LOCATION

Richmond, 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 Virginia's natural and cultural resources. DCR values diversity of nature, culture, and communities to ensure a sustainable and equitable future for recreational access and a healthy environment for all Virginians to enjoy. DCR accomplishes its mission through funding, expertise, education, acquisition, and improved access.

DCR's **Office of Resilience Planning** serves as the Commonwealth's lead developer, administrator, and implementer of state-led flood resilience planning via the Virginia Coastal Resilience Master Plan (CRMP) and the Virginia Flood Protection Master Plan (VFPMP). These plans are scheduled to be developed every 5 years and must include a "whole community" approach to outreach and engagement to inform and guide the plan development.

PROJECT BACKGROUND

Nearly six million people, or 70% of the state's population, call coastal Virginia home. Our coastal regions are thriving economic hubs, hold unique cultural resources, and offer unparalleled natural beauty, which collectively shape diverse landscapes and communities. However, coastal Virginia faces growing threats. As sea levels rise and severe weather intensifies, climate change is threatening our cherished coastal regions' economic, cultural, and environmental resources. And while flooding affects many Virginians, it does not do so equally. Each community faces varying levels of flood exposure, vulnerability to harm or damage, and associated risks. Some communities are well-resourced to focus on the challenges ahead, but others lack capacity or allocated funds to address growing flood risks.

With so much at stake, we cannot afford a hands-off approach. The CRMP charts a comprehensive path toward long-term resilience to protect people, homes, businesses, infrastructure, and ecosystems from the impacts of coastal

VIRGINIA SEA GRANT PARTNER UNIVERSITIES



flooding. The 2020 Coastal Resilience Master Planning Framework established the guiding principles, goals, objectives, and desired outcomes for the CRMP and related state resilience initiatives. The 2021 CRMP (Phase I) modeled current and future land exposure to coastal flood hazards; estimated the impacts of exposure on key assets; identified areas with both high social vulnerability and coastal flood exposure; established an inventory of locally driven coastal resilience programs; established an inventory of grant and loan programs; and created an online coastal resilience database and web explorer. Phase II of the CRMP is currently in development and will be released by December 2024. This phase of work will build on the Phase I plan by incorporating all major flood hazards, including precipitation-driven flooding; updating the analysis of impacts of flood exposure; and updating the coastal resilience programs and funding inventory.

PROPOSED PROJECT DESCRIPTION, ACTIVITIES, AND GOALS (300-500 WORDS)

Phase II of the CRMP will be released in December 2024. Section 10.1-658 of the Code of Virginia requires that the plan be updated at least every five years. Looking ahead to 2029, uncertainty is assured; scientific knowledge, our communities, and our resilience governance will continue to evolve. To ensure the plan's success, DCR and its partners must keep pace with these changing conditions by identifying measures of success for plan, monitoring and evaluating progress, and learning from our findings to adapt ahead of the next iteration of the plan.

Establishing metrics to monitor and evaluate success in climate adaptation strategies is a contemporary challenge and opportunity broadly acknowledged by practitioners and researchers globally. For example, the Fifth National Climate Assessment states: "Although valuable for decision-making and evaluating effectiveness, indicators of resilience, adaptation responses, and adaptive capacity remain relatively limited."¹ Though we quantify and track measures such as grant funding dollars accessed, number of flood resilience plans and projects, and number of government staff dedicated to adaptation initiatives, indicators that track desired outcomes for flood resilience and adaptation have not yet been identified for Virginia's coastal region.

The primary responsibility of the fellow will be to support DCR to develop the adaptive management plan for the CRMP. Key components of this plan will include: qualitative and quantitative monitoring metrics; a monitoring and evaluation approach and process (including engagement of external stakeholders); recommended roles, responsibilities and resources for plan implementation; and decision points that can be adjusted in response to this information as well as other stakeholder inputs and context. The fellow will be responsible for tasks such as conducting research, interviewing key stakeholders, presenting findings, and developing adaptive management plan content. The fellow may also participate in other activities to support the work of the Office, including outreach and engagement for the CRMP, supporting the development of the VFPMP, staffing the Technical Advisory Committee, supporting the Annual Flood Preparedness Coordination Meeting, and other duties as assigned.

The fellow will report to the Office of Resilience Planning Program Manager and work together closely with other Office staff to carry out his or her duties. Additionally, DCR ORP has contracted with top resilience planning and consulting firms to support the accomplishment of its work. The fellow will engage with the contracted consulting firms and other external stakeholders in carrying out the project activities.

¹<https://nca2023.globalchange.gov/chapter/appendix-4/>

VIRGINIA SEA GRANT PARTNER UNIVERSITIES



The chosen fellow should have an interest in climate adaptation policy, and environmental and flood impacts, and adaptation strategies.

CONTACT INFORMATION

Matt Dalon, PE, CFM

Office of Resilience Planning Program Manager
Department of Conservation and Recreation
600 East Main Street
Richmond, Virginia 23219
matt.dalon@dcr.virginia.gov
804.613.0517

NAMES AND E-MAIL OF ADDITIONAL MENTORS

Carolyn Heaps-Pecaro, CFM

Resilience Planner
Department of Conservation and Recreation
600 East Main Street, 4th Floor
Richmond, Virginia 23219
804.929.0268

VIRGINIA SEA GRANT PARTNER UNIVERSITIES





2024-2025 SEA GRANT FELLOW PROJECT SUMMARY

The Virginia Department of Environmental Quality Water Planning Division is responsible for activities related to the Chesapeake Bay including the Watershed Implementation Plan, assistance with Bay related planning, and nonpoint source implementation activities, Total Maximum Daily Loads, and No Discharge Zones. The Sea Grant Fellow would work primarily in these programs to assist with Chesapeake Bay and water quality improvement efforts focused within the Bay watershed.

Assistance with No Discharge Zones

The federal Clean Water Act bans untreated vessel sewage releases within three nautical miles of shore but allows states to seek EPA approval for No Discharge Zones (NDZ) waters which are designated to additionally prohibit the release of vessel sewage that has been treated by an onboard marine sanitation device. VA DEQ is developing a strategy designed to expand and prioritize NDZs in Chesapeake Bay tributaries with the goal of improving water quality in waters with shellfish and recreational designated uses. The spatial scope of this effort includes the tidal tributaries of the Chesapeake Bay with sufficient salinity to sustain a shellfish population other than the James, York, and Rappahannock rivers and the Chesapeake Bay mainstem. Topic areas and a sampling of activities are as follows:

- Assistance with prioritization and waterbody identification for future NDZ development
- Application to EPA for NDZ designation in identified waterbodies.
 - Communication with commercial and government sectors to gain insight into their vessel sewage management practices and vessel sewage pump-out requirements.
 - Communicating with and visiting marinas to gain additional information required for NDZ application to EPA.
 - Refining our understanding of the vessel populations navigating in subject waters.
 - Identifying mobile sewage pump-out vessels available to the commercial sector.
 - Assist in completion of an NDZ application to EPA and responding to EPA's comments on the application.
 - Research costs of NDZ implementation to the commercial and government sectors as well as impacts to local small business entities.
 - Research socioeconomic benefits of NDZ implementation.
- Enforcement of NDZs is difficult so outreach and education are important components of successful NDZ implementation.
 - Development and promotion of educational materials.
 - Investigate how Environmental Justice communities or VA Tribes may be impacted by shellfish closures as well as NDZ implementation.

VIRGINIA SEA GRANT PARTNER UNIVERSITIES



Assistance with TMDL Research and TMDL/IP Development

- Research and assist in TMDL development particularly related to research, outreach, and document development.
- Assist with IP and Clean Water Act 319 funding outreach and stakeholder identification and engagement.
- Assist with development and refinement of Clean Water Act Nonpoint Source Management Plan development and revisions.

Assistance with Bay WIP, Chesapeake Bay Preservation Act, and Bay Implementation Activities

- Assist with outreach and stakeholder engagement on Bay WIP activities and implementation.
- Assist with WIP goals, milestones, and updates including outreach and engagement, research, or drafting.
- Assist with Chesapeake Bay Preservation Act guidance, training, and tools updates, document or guidance development, and stakeholder engagement particularly related to climate resiliency amendments.

VIRGINIA SEA GRANT PARTNER UNIVERSITIES





DEPARTMENT OF
WILDLIFE RESOURCES
CONSERVE. CONNECT. PROTECT.

BUILDING VIRGINIA'S VOLUNTARY WETLANDS RESTORATION WORKFORCE

Name of Agency:

Virginia Department of Wildlife Resources

Description of Agency:

The Virginia Department of Wildlife Resources (DWR) is responsible for managing inland fisheries, all terrestrial wildlife, and recreational boating for the Commonwealth. The agency has statutory responsibility for threatened and endangered wildlife in Virginia and exercises conservation, management, regulatory, and enforcement jurisdiction over all state and federally listed wildlife, including protected marine species. The mission of the DWR is to conserve and manage wildlife populations and habitats for the benefit of present and future generations; connect people to Virginia's outdoors through boating, education, fishing, hunting, trapping, wildlife viewing and other wildlife-related activities; and protect people and property by promoting safe outdoor experiences and managing human-wildlife conflict. The agency is organized into 7 major work units (Wildlife, Fisheries, Planning & Finance, Law Enforcement, Outreach, Human Resources, and Executive Director's Office) to support its mission. The DWR manages public access and wildlife habitats on 78 Wildlife Management Areas and Wildlife Conservation Sites totaling nearly 250,000 acres and provides access to Virginia's waters at approximately 230 boating access sites. The agency also provides technical assistance to public and private landowners associated with the restoration, enhancement, and protection of a variety of priority habitats, particularly wetlands.

Proposed Project Title:

Building Virginia's Voluntary Wetlands Restoration Workforce

Proposed Location of Work:

The selected Fellow will be located at the DWR's headquarters office in Henrico County.

Proposed Project Description, Activities and Goals:

Wetlands provide vital habitat for fish and wildlife, protect shorelines and coastal communities from erosion and storm surge, and improve water quality by trapping excess sediment and pollution. Unfortunately, over 40% of Virginia's wetland habitats have been drained or filled in to support agriculture and development, as these practices were common into the 1970s when several federal and state policies were enacted to protect wetlands and waterways.

To offset some of the historic losses, the 2014 Chesapeake Bay Agreement identified a Wetlands Outcome of creating or re-establishing 85,000 acres of tidal and non-tidal wetlands and enhancing the function of an additional 150,000 acres of degraded wetlands by 2025. This Outcome speaks directly to voluntary wetland restoration and enhance-

VIRGINIA SEA GRANT PARTNER UNIVERSITIES



ment efforts which aim to increase wetland acreage and/or function, separate from mitigation banking. Progress towards the outcome has been slow due to a lack of capacity and available funding, but several recent efforts by the Chesapeake Bay Program and partners have been initiated to address these gaps and begin making substantial gains. As part of a larger Bay-wide effort, the DWR recently led the development of the **Virginia Wetlands Action Plan** (2023, pg. A-21 to A-24), which highlights several actions and strategies to advance Wetland Outcome efforts in the state. This project will place strategic focus on one of the most immediate needs outlined in the Plan, increasing program outreach and training opportunities to build capacity for voluntary wetland project implementation.

The participating Fellow will work across the organization to accomplish five main initiatives:

1. Develop training programs and outreach materials for regionally specific workshops that cover the history and types of wetland impacts, strategies for identifying impacted wetlands, and available wetland restoration and enhancement practices.
2. Organize and lead regionally specific wetland training workshops for staff who frequently work on public lands or with private landowners (e.g., DWR, Natural Resource Conservation Service (NRSC), Soil & Water Conservation Districts, Department of Forestry, and more), so that they are equipped to identify potential project opportunities and are aware of available funding programs and service providers.
3. Identify target areas and create landowner outreach material to support three ongoing NRCS initiatives: 1) the **Working Lands for Wildlife American Black Duck initiative** in Virginia, 2) efforts to expand the delivery of wetland and wildlife conservation practices on private lands within the Western Shore of the Chesapeake Bay, and 3) **Bog Turtle Conservation**.
4. Aid in field-based technical assistance activities under the supervision of DWR or partner staff members to gain on-the-ground experience in various aspects of voluntary wetland restoration and enhancement project design and implementation.
5. Participate in field-based wildlife activities, such as American Black Duck trapping and tagging, duck and goose banding, and prescribed burning, to experience and develop a greater understanding of several techniques used to monitor and manage wetland habitats and associated species.

The Fellow will also have opportunities to participate in meetings with key elected officials and senior leaders across Virginia government and other sectors to gain experience in public policy.

Project Contact:

Becky Gwynn, Deputy Director

Virginia Department of Wildlife Resources

7870 Villa Park Dr., Henrico, VA 23228

becky.gwynn@dwr.virginia.gov

804.389.3953

Principal Mentor:

- **Ben Sagara**, Statewide Wetland Project Leader, ben.sagara@dwr.virginia.gov

VIRGINIA SEA GRANT PARTNER UNIVERSITIES



Additional Mentors:

- **Ryan Brown**, Executive Director, ryan.brown@dwr.virginia.gov
- **Becky Gwynn**, Deputy Executive Director, becky.gwynn@dwr.virginia.gov
- **David Norris**, Regional Wildlife Manager, david.norris@dwr.virginia.gov
- **Ruth Boettcher**, Coastal Wildlife Biologist, ruth.boettcher@dwr.virginia.gov
- **Steve Living**, Habitat Education Coordinator, stephen.living@dwr.virginia.gov

VIRGINIA SEA GRANT PARTNER UNIVERSITIES





AGENCY SCOPING COMMENTS REVIEW COORDINATOR & HABITAT MANAGEMENT DIVISION PERMIT TRACKING DATABASE FELLOW

HOST AGENCY & PROGRAM:

Virginia Marine Resources Commission (VMRC)
Habitat Management Division

LOCATION:

380 Fenwick Road, Bld. 96
Fort Monroe, VA 23651

OVERVIEW OF AGENCY :

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.

PROJECT TITLE:

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

POTENTIAL FELLOWSHIP PROJECT:

The Commonwealth Coastal and Marine Policy Fellow will assist VMRC's Habitat Management Division with coordinating 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.

Additionally, the fellow will conduct field investigations with the Division's eight Environmental Engineers to gain insight on VMRC's administration of its regulatory program governing proposed activities impacting the Commonwealth's state-owned submerged lands, tidal wetlands, coastal primary sand dunes and beaches.

VIRGINIA SEA GRANT PARTNER UNIVERSITIES

