

Managed Retreat Roadmap: Y'All Ready for This?

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A handwritten signature in dark blue ink that reads "Sarah Crowell". The signature is written in a cursive, flowing style.

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NOAA Coastal Management Fellowship Application for 2022 – 2024

Background and Introduction

The New York State Coastal Management Program (CMP) has operated under the auspices of the New York Department of State (DOS) since its federal approval in 1982. Although the DOS Division/Office name has undergone many changes over its 40 year history, the CMP responsibilities have remained constant. The CMP is now housed in the DOS Office of Planning, Development & Community Infrastructure (OPDCI) and healthy and resilient coastal ecosystems and economies are its primary focus.

OPDCI leads the State's coastal and offshore planning efforts by partnering with stakeholders and federal and state agencies to collect, analyze, and visualize spatial data which can help characterize natural resource and human use distribution. We integrate spatial data and stakeholder input to identify appropriate development opportunities in New York State's coastal area and in the Atlantic Ocean and Great Lakes of Erie and Ontario. To further this, OPDCI hosts and manages an online mapping application providing public access to all of the spatial data the Office uses, currently over 700 datasets.

OPDCI has a long and strong history of helping New York State respond to storm events, from ice storms to Hurricane Irene, Tropical Storm Lee, Superstorm Sandy, increasing extreme summer rain events and high water events on Lake Ontario in 2017 and 2019. The Office provides recovery and resilience planning expertise to communities affected by those events. We will continue to be called upon by state agency partners, such as the Governor's Office of Storm Recovery, NYS Department of Homeland Security and Emergency Services (DHSES) and their Office of Emergency Management, to provide technical and planning support.

To advance the resilience capacity of coastal communities OPDCI is developing programs and materials for resilience planning to help increase the State's coastal communities' resilience to coastal hazards. Managed Retreat is one tool that a coastal community can use in preparing for the eventuality of rising seas. New York State does not currently have a managed retreat program or plan. The overarching goals of this initiative are to: 1) begin building the framework for a State-sponsored managed retreat program that can be added to a community's box of tools to increase resilience; and, 2) build local capacity, empowering coastal communities to take the lead in local and regional implementation of identified resilience actions, including managed retreat. OPDCI will use the outcomes of this Coastal Fellow project to build on in development of a State-sponsored Managed Retreat Program.

Goals and Objectives

Develop elements of a framework for a State-supported Managed Retreat program that will meet three goals: assessment of successful managed retreat programs and identification of indicators of success; development of a checklist/assessment to determine community readiness to participate in a state-supported managed retreat program; and, develop communication best practices to support community conversations about managed retreat.

- **Goal 1 – Assessment of Successful Managed Retreat Programs and Identification of Indicators of Success:** Conduct an assessment by analyzing other managed retreat programs (both successes as well as lessons learned), including resultant adaptive reuse plans and case studies, and identify indicators of success that can inform a State-supported program.
 - Objective - Definition of a successful managed retreat program based on assessment and NYS values – e.g., reduction in long-term vulnerability, maintenance of community

function, environmental connectivity, economic and social health, just and inclusive process.

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- Objective – Identify elements of programs that were successful and those that were not, documenting lessons learned/pitfalls to avoid;
- Objective – Identify the key indicators of a successful program and factors that determine whether a community is likely to achieve a successful managed retreat outcome (e.g. economic, diversity, equity, inclusion, justness,(DEIJ) geographic, other factors);
 - Objective – determine how identified indicators can be translated into an assessment of other communities and their likelihood for a successful managed retreat program.
- **Goal 2 – Develop a Checklist/Assessment to Determine Community Readiness to Participate in a state-supported Managed Retreat Program** Using the knowledge gained in meeting Goal 1, develop an assessment/checklist for use by the State’s Coastal Management Program to help determine a community’s readiness to participate in a state-supported retreat program.
 - Objective – develop a “checklist” or assessment of what a community needs to participate in a state-supported retreat program;
 - Objective – Identify indicators as a means to prioritize community participation in a state-supported managed retreat program (e.g., level of current/predicted vulnerability to hazards (OPDCI’s Risk Areas and Assessment Tool can inform this), past/current level of community engagement on adaptation, availability of open space, ability of additional natural or hard infrastructure to reduce risk and at what scale; and
 - Objective – Pilot the assessment in select communities known by OPDCI staff.
- **Goal 3 – Create a Communication and Outreach Process and Visualization Materials** Concurrent with Goals 1 & 2, develop a communication and outreach process to support community conversations about managed retreat.
 - Objective- Identify best practices for just and inclusive community engagement and outreach relative to the concept of managed retreat
 - Objective – Determine what terminology/language resonates with different types of communities, with careful consideration of DEIJ principles;
 - Objective- Identify methods of communication and outreach that focus on earning trust, considering culture, acknowledging trauma and fear related to prior hazardous events, and recognizing power structures;
 - Objective - Determine the best means of communicating with communities (e.g. – print, radio, television, social media, etc.); and
 - Objective – Identify and/or create post-retreat waterfront land use visualizations that represent both the diversity of NYS waterfront communities and range of possibilities for future post-retreat waterfront uses

Milestones and Outcomes

The following milestones and outcomes have been developed to provide a general timeline and outcome schedule for the Coastal Fellow (Fellow) project. Based on the Fellow’s skill set, training needs and meetings with their core advisory group, the milestones, outcomes and anticipated completion dates may be modified as the project develops.

Certain activities, such as participating in meetings and planning sessions and providing feedback to groups charged with managed retreat planning, will occur throughout the fellowship. Thus, the Fellow will have the opportunity to develop long-term working relationships with a wide array of groups and industry professionals. The Fellow's supervisor and mentor will work with the Fellow in developing a project plan, which will generally follow the milestone outcome schedule below:

- August – September 2022: Begin fellowship. Orientation at the Department of State.
- September 2022 – Jan 2023: Begin background research and assessment of existing managed retreat programs, case studies, etc.
- January 2023-March 2023: Identify factors of success for managed retreat programs, focusing on background research and NYS values relevant to a retreat program
- March 2023-June 2023: Draft guidance document
- June 2023- September 2023: Research and identify factors related to community readiness to participate and succeed in a state-support managed retreat program
- September 2023: Develop checklist/assessment to determine community readiness
- September 2023 - January 2024: Work with OPDCI staff to identify pilot community(ies) to test the community readiness checklist/assessment
- January 2024-July 2024: Research and identify communication strategies that represent inclusive and just processes for discussing managed retreat, including exploration of terminology that best resonates with communities. Identify/develop post-retreat waterfront land use visualizations
- August 2024: Prepare presentation for OPDCI staff on project, close fellowship and transition to next opportunity.

Project Description

OPDCI is responsible for managing the State's federally approved Coastal Management Program and as the State's planning agency is instrumental in helping communities plan for their future. This includes development of resources, tools, and programs to help communities better understand their options to respond and adapt to impacts from climate change. Managed retreat is the coordinated and intentional action to move people and development away from hazardous areas. NYS does not currently have a state-supported managed retreat program. This project focuses on the development of framework elements for the NYS Coastal Management Program to support successful community-driven managed retreat. By analyzing other programs and case studies, the fellow will identify indicators of success (as well as pitfalls to avoid) that can inform a state-supported program. Indicators of a successful program that are of high value to NYS include, but are not limited to, a long-term reduction in vulnerability, a just and inclusive process, maintenance of community functions, economic, social, and cultural values, and overall satisfaction in the process by those that relocated. The anticipated deliverable of this project element is a guidance document that will be used to inform a framework for a state-supported managed retreat program.

Community readiness to begin not only discussions about managed retreat, but implementation of managed retreat, is a critical component of a state-support retreat program. The fellow will develop a checklist that can be used by the coastal program to assess a communities' readiness to participate in a retreat program. This could include factors related to levels of past/current engagement with stakeholders, existing/predicted vulnerability to recurrent hazard impacts, existing legal barriers, and/or identification of locations that are suitable to receive development and people. The anticipated deliverable of this project element is a checklist/assessment that can be used by the Coastal Program to assess a communities' level of readiness to participate in a state-supported retreat program. Rather than keep a community from participating, the checklist would be used to identify where State or external resources should be focused to aid the community.

The last element of this project will focus on communication about the concept of managed retreat in a way that acknowledges the range of emotions related to managed retreat and that resonates with people. A major focus of this communication and outreach process is the inclusion of underserved and socially vulnerable populations- those typically on the front lines of climate change impacts. An important component of a communication and outreach process is understanding the makeup of the community and the range of affected community members; a communication and outreach process will only be successful if those that are impacted are engaged and feel heard. Another critical element is determining which language resonates with people. Sometimes the term "managed retreat" can make it feel like a forced, top-down approach that means defeat. Other important pieces of a communication and outreach process include earning trust, considering culture, acknowledging trauma and fear related to prior hazardous events, and recognizing power structures. Finally, visualizations can be a valuable part of communicating long-term benefits of a managed retreat approach. The fellow will either identify existing visualizations of post-retreat waterfront uses or develop their own designs based on specific NYS community characteristics and options for post-retreat waterfronts. The range of possibilities for post-retreat waterfront land is not limited to indefinite open-space, but should consider uses that bring economic, social, and/or cultural values back into the community. The anticipated deliverable(s) of this project element is a communication best practices guidance document and visualizations for post-retreat waterfronts.

Throughout the entire project, the Fellow will work closely with and be supported by OPDCI Ocean & Great Lakes staff, planning staff, and federal consistency review staff with significant opportunities for project management.

Work to be Built On

Over the past decade New York has experienced a number of significant, extreme flooding events in communities across the State. In addition, anticipated sea level rise due to climate change poses an increasing and ongoing threat to coastal communities along the Hudson, Long Island Sound, and Atlantic coasts. These flooding impacts have stressed the State's ability to respond in the short-term, and in some instances have challenged the viability of existing community development patterns in the long term. In response to these events and in preparation for trends showing a climate change-induced increase in severe weather and flooding, New York State has undertaken a series of projects and initiatives to improve resiliency and address vulnerabilities. Identifying community readiness for managed retreat is a direct, complementary activity that will help satisfy New York's overall goals and objectives and support community capacity for change.

In 2011 and 2012, communities across New York were devastated by three named storms – Hurricanes Irene and Lee and Superstorm Sandy. Other communities were impacted by isolated, unassociated but no

less extreme rainfall events in places as geographically distant as Long Island and Niagara County. In response and in an effort to focus and prioritize federal and state resources to areas in most need of resiliency measures, the State created a Governor's Office of Storm Recovery (GOSR) to marshal State resources. The GOSR worked in close coordination with the Department of State's Local Waterfront Revitalization Program (LWRP) unit and other agency partners to identify community vulnerabilities, responsive strategies and actions, and opportunities for appropriate resiliency project development.

Part of New York's longer-term response included the passage of the Community Risk and Resiliency Act (CRRRA), a State law requiring consideration of climate change into State decision-making processes. The CRRRA also required DOS to draft a set of model local laws that could address some of the broader land use challenges that cannot be addressed solely by new infrastructure.

While these efforts were successful in advancing hundreds of projects across the State, it became clear that more needed to be done, especially in areas most vulnerable to flooding. In the most extreme cases, in communities like Sidney (Delaware County) and Oakwood Beach (Staten Island), local support for buyouts prompted a discussion of appropriate methods for drastically altering existing land use to retreat from areas prone to flooding. The lack of a thoughtful, ready-made approach for facilitating managed retreat posed a nearly insurmountable obstacle to engaging communities and identifying practical and effective pathways forward.

More recently, the need for an effective managed retreat program was further sharpened into focus by two long-term flooding events along the coast of Lake Ontario. Cyclic variations in water levels – driven by climactic conditions like winter ice cover and springtime precipitation - produce periodic annual highs and lows that can occasionally cause prolonged flooding. In 2017 and again in 2019, communities along Lake Ontario experienced record-breaking high water levels that caused millions of dollars in damage, effectively shutting down the coastal tourism economy and threatening private and commercial properties around the Lake. The State response included a similar approach to the Sandy, Irene and Lee project identification efforts – engaging at the local level through LWRP staff and other agencies to identify projects that can improve resiliency to extreme water levels. Additionally, the State has engaged in a long-term planning approach with communities that is intended to identify land-use patterns that create continued vulnerabilities despite infrastructure improvements. This effort will identify some of these patterns and vulnerabilities, but the State lacks a program to engage - where desired by communities and appropriate - in a meaningful and effective process for managed retreat.

To begin addressing this need, DOS is working with the Division of Homeland Security and Emergency Services on a proposal to the Federal Emergency Management Administration (FEMA) to develop a managed retreat roadmap for communities. The proposal has been selected for further review and funding would be expected to begin within the timing of the Fellowship. While this funding opportunity will help communities determine whether retreat is an appropriate adaptation response, New York would still have no clear process for identifying community readiness to follow the State's roadmap or participate in a future state-supported managed retreat program.

The diversity of New York's communities and its coastal areas – from densely urban neighborhoods facing sea level rise along the ocean coast, to rural communities with sparse development facing extreme high and low water levels along the Great Lakes coast – creates an immense challenge in instituting a one-size program or in establishing a clear entry point for community participation. This challenge is compounded by the presence of economic hardship, environmental justice concerns, and other disadvantages that reduce community capacity for engagement and disincentivize or even prohibit participation. And, to reflect

community needs and maintain local support, effective approaches for managed retreat cannot be seen as an economic loss, instead providing new opportunities for development and growth in a more sustainable manner.

This Fellow project will dovetail with other ongoing State efforts to develop a managed retreat approach to address flooding vulnerabilities in communities around New York State. The Fellow will concentrate on using their technical skills to identify aspects of managed retreat programs in other places beyond New York that could be effective in our communities. Working in coordination with other members of the OPDCI team, the Fellow will identify a method for assessing community readiness based on available data on risk, resilience objectives, and community capacity. The Fellow will also assist in developing communications approaches that can help transition communities to a more ready state, depending on their unique needs and position.

The Fellow will gain applied skills and insight on a cutting-edge policy field, crossing multiple disciplines to achieve the most effective and appropriate outcomes for communities in diverse settings. The Fellow will have the opportunity to learn and apply their knowledge in fields such as: climate change modeling, project development, risk assessment, community engagement, economic development, natural resource protection, and land use planning. The Fellow will have the opportunity to interface with community members, State agencies, and non-governmental organizations active in the resilience space.

Diversity, Equity, Inclusion and Justice

New York is home to twenty million people and the State's population is one of the nation's most racially and ethnically diverse. Approximately a third of New Yorkers speak a language other than English at home, and community demographics span a wide range of incomes, cultures, and values. Coastal areas reflect a complex mix not only of social diversity but also economic, and the State's coastline is home to areas of mixed economic resources.

The need for an inclusive and equitable approach to resilience is absolutely essential for New York, as its coastal communities reflect the broad diversity of the State as a whole. An effective and appropriate methodology for assessing community readiness for managed retreat will necessarily identify capacity needs and reflect community perspectives on relocation, economic hardship, and property rights.

New York is a leader in developing strategies that are inclusive, and the Fellow will focus on communication strategies that are accessible to all New Yorkers. Resultant strategies and the community assessment will incorporate principles of environmental justice and equity, ensuring that managed retreat opportunities are available to all New Yorkers and do not result in an undue or disproportionate burden or benefit to any one group.

Office Environment

Work in the Office is exciting and varied, the Fellow can also expect to work on or be involved with other projects and initiatives such as: assist with the Mid-Atlantic Ocean Data Portal management;; Mid-Atlantic Regional Council on the Ocean (MARCO) and Ocean and Great Lakes priority projects; participate in development of a New York-centric Environmental Justice online mapping application. There is a friendly, team atmosphere that is evidenced by monthly birthday celebrations and periodic after hours get-togethers. The Office is currently operating under a 50:50 In-Office work from home environment which may or may not be in effect when the Fellow starts in August 2022.

The ideal Fellow will have excellent organizational skills; proficiency in key resilience concepts and coastal processes; understanding and interest in coastal community planning, a multi-disciplinary approach; excellent visual design aesthetic, flexibility and ability to learn quickly; and, an interest in working through a stakeholder-based processes. The Fellow should also possess a strong sense of creativity and self-direction. While the Fellow's primary responsibility will be to address the goals outlined in this proposed project, she/he will work closely and collectively with her/his supervisor and mentor, members of OPDCI staff, and various others to ensure that adequate support and feedback is provided.

The Fellow will work closely with staff whose specialties range from planning to science to landscape architecture to modeling, providing the Fellow with an opportunity to consider resilience planning from a diversity of perspectives. The Fellow will benefit from being in the unique position of acting as a bridge between these perspectives.

Fellow Mentoring

The Fellow will be a member of the New York State Department of State, Office of Planning and Development and Community Infrastructure (Office). Staff within this Office are responsible for administering the state's federally approved Coastal Management Program and have a variety of expertise related to coastal management and can offer support and advice based on years of experience. Office staff are currently engaged in a number of activities within the following program areas: local and regional planning, resilience planning, federal coastal consistency, watershed planning, Regional Economic Development, climate change & resilience, offshore planning, Brownfield Opportunity Areas and Downtown Revitalization. While interacting with all Office staff, the Fellow will primarily be working with Office staff in the Ocean & Great Lakes program and the Climate Change and Resilience Unit and will be supervised by the Supervisor of the Climate Change and Resilience Unit, Carolyn Fraioli.

The mentor for the Fellow will be the Office's Deputy Director for Development, Jeffrey Herter. With guidance and direction from the supervisor and mentor, a project plan will be developed for accomplishing the goals and objectives of the fellowship. However, goals and objectives set forth for this effort will require a team-based approach to guide and provide feedback to the Fellow on this project. Therefore, from commencement of work through the project completion, the Fellow will work in a networked manner. In addition to the supervisor and mentor, the Fellow will have the opportunity to work with staff throughout the Office.

The Fellow will participate in and represent the New York Coastal Management Program at various meetings, conferences and workshops, including but not limited to: interagency meetings, office staff meetings, and regional resilience planning sessions. This will allow the Fellow to build a broad understanding of how coastal management is implemented at the state and regional level, while focusing on the specific issues of managed retreat and planning tools. The Fellow will become involved in activities, which will further his/her professional development (e.g. special short-term coastal projects) depending on desire and project progress.

Project Partners

Throughout this project, the Fellow will have opportunities to develop professional working relationships with a variety of groups and individuals currently engaged in resilience and offshore planning and adaptive shoreline management and living shorelines, community planners and federal consistency

review professionals in New York. In addition to the Office, the Fellow will have opportunities to work with local waterfront communities, other state agencies including the Department of Homeland Security and Emergency Services, Department of Environmental Conservation (DEC), the Office of General Services (OGS – responsible New York-owned lands), New York State Energy and Research Development Authority (NYSERDA), Governor’s Office of Storm Recovery (GOSR), Office of Parks Recreation & Historic Preservation OPR&HP) etc.; federal agencies other than NOAA, such as the US Army Corps of Engineers, BOEM, FEMA, and USGS, and; non-governmental organizations such as the Climigration Network and The Nature Conservancy.

Cost Share

The New York State Department of State, Office of Planning & Development & Community Infrastructure (OPDCI) will provide the Fellow with a work area complete with a laptop loaded with Microsoft Office software suite, a docking station and a telephone. If additional software is required for the Fellow to conduct work on their project, it will be acquired. The Fellow will be set up with a State ID to gain access to state buildings, a State e-mail account, and access to network data drives. The Fellow will also have access to shared printers, office supplies, mailing, secretarial support, necessary training and pool resources that include Office laptops and projectors, and other specialty software for presentation and document design needs.

The Office has received approval of its 309 5 year strategy from NOAA Office of Coastal Management. OPDCI’s 5 year strategy which calls for a more proactive managed retreat plan. Therefore, taking advantage of the updated rules, OPDCI will use funds from its 309 grant as match for the Coastal Fellow.

Strategic Focus Area

This project has components that relate to all three focus areas. The proposed project incorporates the following goals and objectives identified by NOAA for the coastal fellowship:

Healthy Coastal Ecosystems – some solutions for adaptive reuse of coastal lands resulting from managed retreat will include restoration of coastal ecosystems to benefit from the reduced impacts from severe storms and flooding

Resilient Coastal Communities - the work proposed will build on a State-sponsored managed retreat program that will help communities plan for moving at risk populations out of harms way. The communication goal will result in increased public awareness of coastal hazards and actions that can be taken, such as managed retreat, to reduce the loss of life and property. The work completed for this Coastal Fellow project will help build capacity for our coastal communities to pursue strategies such as hazard preparedness, managed retreat and post-hazard redevelopment planning by providing technical assistance, and policy tools to coastal communities. It will also lead to identifying and engaging stakeholders in maximizing the understanding, visualization, and application of risk-wise strategies.

Vibrant and Sustainable Coastal Economies - Identifying businesses that should be moved or businesses that can be moved into adaptive reuse areas made available by managed retreat will help keep coastal communities economically viable.