2023 Climate Strategy Report

Department of Environmental Quality

Submitted October 1, 2023; Covers July 1, 2022 – June 30, 2023

Introduction

About Department of Environmental Quality

The North Carolina Department of Environmental Quality (DEQ) is the lead stewardship agency for the protection of North Carolina's environmental resources. The mission of DEQ is to provide science-based environmental stewardship for the health and prosperity of all North Carolinians. The organization, which has offices from the mountains to the coast, administers regulatory programs designed to protect air quality, water quality, and the public's health, and also works to advance an all-of-the-above energy strategy that fits North Carolina's needs. DEQ also offers technical assistance to businesses, farmers, local governments, and the public and encourages responsible behavior with respect to the environment through education programs provided at DEQ facilities and through the state's school system.

DEQ's vision is to be a leader in using collaborative, inclusive processes to solve pressing environmental issues.

Department of Environmental Quality's Vulnerabilities to Climate Change

DEQ is a unique state agency in that it responds to climate hazards facing North Carolina, especially sea level rise, increased likelihood of annual total precipitation, increased likelihood of hurricane intensity, increased likelihood of severe droughts, and increased likelihood of precipitation and inland flooding. These climate hazards impact permitted facilities, activities and infrastructure and can result in increases in harmful algae blooms, increased stormwater runoff, wastewater treatment plant failures, and loss of marine and shellfish habitat. As a result, the Department is continuously reevaluating its approach to research, planning, and funding priorities, as well as various projects and procedures to better adapt to the challenges of climate change across all areas of work. Climate change impacts and resiliency planning are being incorporated into Department actions ranging from the drafting of new stormwater rules to the building of living shorelines and other nature-based infrastructure. Every division at DEQ is confronting challenges presented by climate change, and each one is actively working to mitigate the risks to the Department, its staff and the state at large. DEQ is also addressing energy efficiency, electric charging and other climate related needs at its facilities across the state.

Department of Environmental Quality's Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan

In the Climate Risk Assessment and Resilience Plan, DEQ had direct recommendations spanning multiple sectors: Coastal Resources and Infrastructure; Health and Human Services; Agriculture and Forestry; Water and Land Resources; and Energy, among other cross-sector impacts. The Department has continued to pursue the recommended actions to the extent possible and as agreed upon in September of 2022. Among these actions, DEQ is collaborating with NCORR, who is leading implementation of the

Plan, through the Interagency Resilience Team and on the development and implementation of the North Carolina Resilience Exchange. Additionally, DEQ plays a key role in the NC Resilient Communities Program as the agency in charge of the NC Resilient Coastal Communities Program working with local governments and communities. This document identifies additional strategies across the Department that have been initiated or continued in 2022-2023.

Reducing Energy Use

DEQ is committed to reducing energy use in DEQ's operations and across state agencies. The Utility Savings Initiative is housed within the Department's State Energy Office (SEO). The program advises the Department, cabinet agencies, and schools on how to reduce energy use.

From utility data collection efforts by the State Energy Office, state-owned buildings collectively reduced their Energy Use Intensity (EUI) by 32% in FY22 compared to the baseline of FY03. This is an avoidance of $177M in utility costs in FY22 alone, and a collective avoidance of $1.75B since FY03. Roughly 9.1 $MMTCO_{2e}$ of greenhouse gas emissions have been avoided since FY03, the equivalent of approximately two coal-fired power plants. Utility data is actively being collected and analyzed for FY23 and will be available at the end of calendar year 2023.

As an agency, DEQ has continued to take steps to reduce energy use in its facilities through renovations, HVAC improvements and lighting upgrades. For example, DEQ's work to improve the building envelope at the Reedy Creek Lab Campus received a U.S. Department of Energy award and resulted in annual CO2 reductions of 147,600 lbs.

Addressing Environmental Injustices and Inequities

With historic amounts of federal grant funding available in 2022 and 2023, DEQ has prioritized investments in North Carolina communities that need it most and those that have been historically bypassed for water and wastewater services. DEQ has evaluated grant processes to encourage projects in underserved and disadvantaged communities and is tracking compliance with federal Justice40 requirements.

During the Fall 2022 and Spring 2023 water, wastewater and stormwater infrastructure funding rounds, 104 applications for projects serving disadvantaged areas were awarded a combined $456,141,200. DEQ continues to increase outreach related to grant funding and provide technical assistance to small, rural and disadvantaged communities. All grant opportunities have been consolidated online to provide information to local governments and residents in a single user-friendly location.

DEQ continues to ensure opportunities for meaningful involvement in Department actions by conducting environmental justice analysis of permit applications and hosting meetings, hearings, and other engagement activities. The agency has also contracted with a vendor to provide increased capacity for translation of documents and to offer on-demand interpretation services for staff

interactions with residents. DEQ has increased the use of onsite interpretation at public meetings and hearings for Spanish-speaking residents to further improve accessibility and engagement.

Public Participation Plan

Last updated in August of 2023, DEQ's Public Participation Plan lays out the Department's strategy for engaging in public participation and providing clear and accessible information to all stakeholders. Many of the Department's actions include public notice, comment, or hearing requirements. As a standard practice, such notices are published on the website, included as a press release, sent to email lists, and/or posted on social media. Additionally, the Department works through its Language Access Plan to ensure that publications are available in languages other than English and engagement is conducted through bilingual public outreach with its Internal Translation Team where appropriate. DEQ also ensures public involvement through board meetings, such as the Secretary's Environmental Justice and Equity Advisory Board, that are accessible to the public and through the incorporation of extended public engagement in certain projects, such as within the Flood Resiliency Blueprint's Technical Advisory Groups.

Climate Council Updates

The Climate Change Interagency Council met in December of 2022 to hear the recommendations of the Climate Change Workforce Diversity Workgroup established by Executive Order 246. The Council also heard presentations on the 2022 Climate Strategy Reports, as well as updates on Executive Order 271: Growing North Carolina's Zero-Emission Vehicle Market and the Volkswagen Settlement Program Phase 2 Awards.

Council members continue to work towards their agency goals, providing interagency support as needed on climate and resilience related initiatives.

1.0. Reduce greenhouse gas emissions

1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels

1.1.1 Collect and Evaluate Greenhouse Gas Reduction Data

Status: Ongoing
Expected Completion Date: Ongoing

From utility data collection efforts by the State Energy Office, state-owned buildings collectively reduced their energy use intensity by 32% in FY22 compared to the baseline of FY03. This is an avoidance of $177M in utility costs in FY22 alone, and a collective avoidance of $1.75B since FY03. Roughly 9.1 $MMTCO_{2e}$ of greenhouse gas emissions have been avoided since FY03, the equivalent of approximately two coal-fired power plants.

Utility data is actively being collected and analyzed for FY23 and will be available at the end of calendar year 2023.

1.1.2 Release RFP for Utility Management Software

Status: Underway
Expected Completion Date: June 30th, 2024

The State Energy Office, with our Utility Savings Initiative (USI) partners, is drafting and releasing an RFP to select a vendor to provide utility accounting and dashboard services to North Carolina state agencies, universities, community colleges, local governments, and K-12 schools. This is expanding on the current contract between Capturis and the Department of Adult Corrections, which will expire June 30th, 2024. The State Energy Office recognizes that monitoring and managing utility use reduces energy costs and is a critical tool for fiscal and facility management sections to achieve a balance between energy efficiency and cost. The State Energy Office will administer the new contract and have each participant opt-in to the program and issue their own purchase order to the successful vendor.

RFP will be released for bid on January 15th, 2024, with the vendor being selected April 1st, 2024. The vendor system will be live June 30th, 2024.

1.1.3 Provide Training and Technical Assistance

Status: Ongoing
Expected Completion Date: Ongoing

The USI program provides preliminary audits, project evaluations, and implements strategy assistance to meet the EO80 goals. The program also reviews utility bills for clients in all sectors and encourages participants to engage in current programs to reduce energy consumption.

This training includes items such as creating a Utility Management Plan, analyses of utility bills, and various building systems and programs to increase energy efficiency. The USI program also conducts regularly scheduled meetings with energy managers to share best practices and opportunities for energy savings. Various subject-matter experts from the public and private sectors are invited to discuss tested approaches that may assist in meeting EO80 goals. These meetings provide the necessary tools and training foundation to improve energy efficiency, promote sustainability, increase resiliency, and reduce operating costs within current State budgetary constraints.

In the coming 12 months, we plan to focus our efforts more on targeting our USI entities and partners residing in low-income and disadvantaged communities within North Carolina.

1.1.4 DEQ Facility Upgrades

Status: Ongoing
Expected Completion Date: Ongoing

DEQ's Division of Facilities Health & Safety prioritizes energy efficiency in renovation and upgrade projects. Completed projects include installation of new evaporators and condensers for four walk-in coolers/freezers at the Reedy Creek Lab Campus, installation of a standalone HVAC system for DMF Morehead City Shellfish lab to allow for night and weekend temperature setbacks of the building's main HVAC system, installation of LED parking lot lighting at the Asheville Regional Office, and restoration of the Green Square living roof and living walls. Additionally, a building envelope sealing project at the Reedy Creek Biochemistry earned a U.S. Department of Energy award and combined with additional energy saving upgrades, reduced energy usage by over 30% with a C02 reduction of 147,600 lbs.

1.2 Support the use and expansion of energy efficient and clean energy resources

1.2.1 Energy Toolkit

Status: Ongoing
Expected Completion Date: Ongoing

In January of 2023, the Environmental Stewardship Initiative (ESI) introduced the Energy Toolkit program. Available upon request and free of charge, this program loans energy monitoring equipment (FLIR Infrared Camera, Ultrasonic Leak Detector, etc.) to ESI members and has to date been used by three organizations. By monitoring energy consumption, it allows organizations to identify target areas for energy reduction projects.

ESI staff will continue to promote the availability of this toolkit and will monitor the impact on member organizations' energy usage and progress towards energy conservation goals.

1.2.2 DEQ Offshore Wind Coordinator and Interagency Wind Working Group

Status: Underway
Expected Completion Date: Ongoing

DEQ's offshore wind coordinator has been convening an interagency offshore wind working group (OWWG) with members comprised of staff from DCM, Wildlife Resources Commission (WRC), and DMF. The goal of the OWWG is to coordinate and share information pertaining to environmental resource-related topics, identify necessary data and data gaps, and identify additional research needed to review proposed wind energy projects. The group also determines strategies to engage with regional/national efforts and identify relevant data held by other state and federal agencies, researchers, and stakeholders.

1.2.3 Federal Consistency Review

Status: Underway
Expected Completion Date: Ongoing

The federal Coastal Zone Management Act (CZMA; 16 USC 1451 et seq.) provides states with a strong voice in federal agency actions through what are known as "federal consistency" provisions. While federal agencies are exempt from permitting requirements, the CZMA requires that federal actions that could have reasonably foreseeable coastal effects within and outside the coastal zone must be found consistent with the enforceable policies of a state's federally approved coastal management program. Under the CZMA, federal actions that trigger the federal consistency review process fall into four categories: federal agency activities, federal licenses or permits, outer continental shelf (OCS) plans, and federal assistance to state and local governments (15 CFR 930).

Since the federal Bureau of Ocean Energy Management (BOEM) is authorizing offshore wind projects, a federal consistency review is applied. DCM is the lead agency reviewing federal consistency determinations for offshore wind off the North Carolina coast. DCM will review the submitted information pursuant to the management objectives and enforceable policies of Subchapters 7H and 7M of Chapter 7 in Title 15A of the North Carolina Administrative Code and will either find the proposals consistent, consistent with conditions or inconsistent with North Carolina's approved coastal management program.

1.3 Increase the number of registered Zero Emission Vehicles to at least 1,250,000 by 2030 so that 50% of in-state sales of new vehicles are zero-emission by 2030

This section is not applicable to the activities of DEQ.

1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel

1.4.1 Transition to Zero Emission Vehicles (ZEVs)

Status: Underway
Expected Completion Date: Ongoing

DCM is working with the State's motor fleet to implement a transition to ZEVs to replace our current gas-powered state vehicles. As of Summer 2023, DCM has received one electric vehicle, which is currently utilized whenever feasible. As a state-owned vehicle available for all DCM staff, this provides an effective and sustainable means of transportation for interaction with local CAMA communities to increase their resilience to coastal hazards. In particular, the Resilient Coastal Communities program (RCCP) is committed to incorporating environmental justice and equity considerations in each program phase. By meeting with community leaders in their communities, the RCCP staff can conduct outreach and build trust within communities.

1.4.2 Promote Use of EVs for Business Travel

Status: Ongoing
Expected Completion Date: Ongoing

DEQ has built out an EV charging network with 28 chargers at our regional offices connecting our Department across the state and has 5 fully electric vehicles available for staff use. The network was created through partnerships with our landlords, including specifications in the lease RFPs, negotiating early lease renewals, and SEO grants. DEQ has been able to reduce our fleet and its underutilized vehicles by creating an unassigned pool of hybrid/EV fleet vehicles based at our Reedy Creek Lab Campus in Raleigh. Vehicles are available through an online reservation system; in the first eight months of 2023, 220 reservations were made.

The agency has also implemented a vehicle need and interview vehicle selection process for each new or updated vehicle requested to ensure that the most efficient vehicle is selected to meet the requesting division's needs.

1.5 Initiate other initiatives to decarbonize the transportation sector

1.5.1 Volkswagen Settlement – Phase 2

Status: Ongoing
Expected Completion Date: Ongoing

The Volkswagen Settlement project provides funding to promote the purchase of medium- and heavy-duty (MHD) vehicles that replace older diesel vehicles, with the priority given to purchases of ZEVs. Additionally, the project provides funding to install or expand existing charging infrastructure to support ZEVs. Special consideration is given to projects in areas that are historically underserved.

In the next twelve months the Department anticipates awarding funds to grantees and developing success stories, especially showcasing ZEV purchases.

1.5.2 Advanced Clean Trucks (ACT) Adoption

Status: Proposed
Expected Completion Date: unknown

The ACT is a California regulation that requires a certain percentage of MHD vehicle sales to be ZEV. The sales targets increase overtime by vehicle class. North Carolina Exec. Order 271 requires the adoption of this regulation, and draft rulemaking and fiscal analysis have been completed following several public listening sessions. The listening sessions included promoting environmental justice and equity.

In the next twelve months, it is anticipated that the rulemaking process will be completed, given the required regulatory approvals.

1.5.3 Support EPA Electric Buses Funding

Status: Underway
Expected Completion Date: 2024

The State Energy Office is providing State Energy Program funding to support EPA's EV School Buses and bus charging station opportunities. For three NC school systems that were awarded buses and charging stations, SEO provided additional funding to cover the cost of charging station installation.

Funding has been awarded; awaiting installation completion.

1.6 Initiate other projects aimed at reducing statewide greenhouse emissions

1.6.1 Develop Climate Pollution Reduction Grant Planning

Status: Underway
Expected Completion Date: 2028

As a part of the Inflation Reduction Act, the Climate Pollution Reduction Grant (CPRG) program provides states, local governments, territories and tribes with funds to develop and implement plans for achieving these objectives. North Carolina received a $3 million award this year for planning activities and is eligible to compete for the $4.6 billion that EPA will award starting next year. Two North Carolina metro areas also received $1M CPRG planning grants.

As part of the CPRG program, North Carolina is developing a Priority Climate Action Plan (PCAP) and a Comprehensive Climate Action Plan (CCAP). The PCAP will identify North Carolina's highest priority greenhouse gas reduction measures and determine the method for ensuring equitable implementation of these measures for the benefit all North Carolinians and is due March 1, 2024. The CCAP will update and expand upon North Carolina's existing climate strategies, ensuring that these documents align with the latest available science, modeling, and best practices.

The PCAP and CCAP will be used to prioritize project funding through the CPR Implementation Grants which will be announced in September 2023. In FY24, NC will complete and submit the PCAP, work on developing the CCAP, receive guidance on the available implementation funding for NC, and develop an application for the first round of CPRG implementation grants based on the PCAP priorities.

1.6.2 Contract for Guaranteed Energy Savings

Status: Underway
Expected Completion Date: June 30, 2024

Both the Department of Adult Corrections (DAC) and the Department of Natural and Cultural Resources (DNCR) are expected to enter into Guaranteed Energy Savings Performance Contracts within the next fiscal year assuming all necessary approvals take place. These contracts are expected to save a total of more than $70M in energy savings over the life of the projects, a significant contributor to the progress of Executive Order 80's goal of reducing energy usage in state-owned facilities 40% by 2025.

1.6.3 Support Local Government Recycling Programs

Status: Ongoing
Expected Completion Date: Ongoing

DEACS' Recycling and Materials Management Section (RMMS) staff provides technical assistance, education and outreach, and financial support through grants focused on maintaining and expanding local government recycling programs. DEQ awarded 15 local governments a total of $280,000 to improve recycling efforts across the state during the 2022-2023 Community Waste Reduction and Recycling (CRWAR) grant round. These projects are expected to divert nearly 2,200 tons of material from landfills equating to reducing carbon dioxide emissions by 6,277 metric tons, according to the EPA WARM Model.

In addition to managing current grants and planning for future grant opportunities, staff will continue to provide technical and outreach services to all municipalities and counties to support recycling and waste diversion efforts. In fiscal year 2021-22, local government programs recycled 430,212 tons of traditional household recyclables, resulting in the reduction of 1,136,754 metric tons of carbon dioxide-equivalent emissions according to the EPA WARM Model.

1.6.4 Promote a Circular Economy

Status: Ongoing
Expected Completion Date: Ongoing

RMMS staff continues to provide technical assistance, outreach, and financial support through grants focused on developing North Carolina recycling businesses and infrastructure. During the 2022-2023 grant cycle, DEQ awarded grants to 10 recycling businesses, resulting in a total investment of $1.66 million in recycling infrastructure in the state. The funded projects will also create an estimated 135 jobs and divert approximately 48,308 tons of material from landfills per year, reducing carbon dioxide emissions by 137,836 metric tons per year, according to the EPA WARM Model. In addition to managing development grants, DEQ commenced the first year of the Secretary's North Carolina Circular Economy Council (CEC), consisting of businesses engaging in the circular economy.

DEQ staff continues to research and promote reuse and recycling markets for renewable energy technologies including solar panels, electric vehicles, and utility storage batteries. One 2023 grant project, awarded to an existing electronics recycler, will help build infrastructure to collect, transport, and recycle solar panels in the state. The CEC will continue to meet to find and establish opportunities to promote the circular economy state-wide.

1.6.5 Provide Technical Assistance on Reducing Energy Consumption and Minimizing Carbon Footprints to NC Organizations

Status: Ongoing
Expected Completion Date: Ongoing

DEQ's Waste Reduction Partner (WRP) program uses its unique team of retired engineers to provide no-cost, on-site energy efficiency assessments and clean energy assistance to businesses and institutions across NC. For FY23, WRP provided 57 energy assessments, saving organizations a projected $4.7 million in utility costs with a predicted carbon emission reduction of 20,483 metric tons of CO_{2e}. annually. Fifty-six percent of organizations served in FY23 were in disadvantaged counties. With support from the State Energy Office, four energy assessments were performed for large state agencies' sites including NCDOT, NCDOA, and NCDPS to identify energy saving projects toward E.O. 80 objectives (goal 1.1).

For FY2024, WRP, through its Land of Sky Regional Council partner, expects to deliver more than 40 energy assessments to businesses and institutions across the state including underserved communities.

1.6.6 Reduce Food Waste

Status: Ongoing
Expected Completion Date: Ongoing

Since wasted food consumes valuable resources and contributes to greenhouse gas emissions from landfills, DEQ launched Use the Food NC, a state-wide food waste reduction campaign. Staff developed outreach materials including a website, social media toolkit, food storage guide, and food recovery map as well as hosted a series of stakeholder events. DEQ also initiated a Food Waste Reduction (FWR) grant open to communities, businesses, and non-profit organizations and awarded 11 entities $393,500 to expand food waste reduction and recovery infrastructure. These projects will divert approximately 20,292 tons of food waste from landfills, reducing carbon dioxide emissions by 74,264 metric tons, according to the EPA WARM Model.

Staff will continue to develop materials and host events focused on food recovery and donation, manage and award FWR grants, improve waste reduction strategies in state and regional entities, including the Department of Adult Corrections and farmers markets, and publish a comprehensive organics report, entailing the status of food waste efforts in North Carolina.

1.6.7 Support Environmental Stewardship Initiative Members

Status: Ongoing
Expected Completion Date: Ongoing

The Environmental Stewardship Initiative (ESI) is committed to helping ESI members achieve their sustainability endeavors through mentoring, networking, and training events. ESI members strive to establish environmental management systems and achieve water, energy, and hazardous waste reduction goals. ESI members are a diverse group that includes businesses, industries, municipalities, and other government agencies. ESI staff provide education and outreach efforts to members including hosting webinar series which highlight carbon emission management strategies within the industrial setting, other educational opportunities designed to enhance sustainable business strategies, and events like the ESI Annual Conference and the Environmental Benchmarking Series.

In 2022, ESI members reported setting 85 energy reduction goals to work towards, demonstrating a strong focus on energy efficiency and consumption reductions.

2.0. Increase statewide resilience to the impacts of climate change

2.1 Evaluate the impacts of climate change on Department of Environmental Quality's programs and operations

2.1.1 Reassess Streamflow Statistics

Status: Underway
Expected Completion Date: September 2025

Low flow statistics are key information for numerous programs including NPDES permitting and water supply assessments. DWR is working with the US Geological Survey (USGS) to update the state's low flow statistics which were last comprehensively calculated in the early 1990's. To date, historic streamflow data for NC, SC, VA, and GA have been compiled and processing scripts have been developed.

USGS will begin using the scripts to calculate test statistics and will compare those to historic and non-automated results to verify accuracy of the script calculations.

2.1.2 Study Hydrologic and Hydraulic Dam Capacity in Cape Fear River Basin

Status: Complete
Expected Completion Date: March 2023

This included the study of hydrologic and hydraulic (H&H) capacity of large and very large dams identified in the Neuse and Lumber River basins. The DEMLR Dam Safety Program developed H&H models to determine the differing amounts of rain that would cause over 301 large and very large dams to overtop. Dam overtopping is a sign of inadequate spillway capacity but more importantly is a characteristic of dams in stress which could lead to failure of the dam and possibly cause public health, loss of life, flooding and property impacts.

The information gained in this study will allow state and local governments to prioritize emergency response to dam threats (overtopping or failure) given limited personnel resources as well as monitor the need for dam modifications in the future. This information will also go into the DamWatch system employed by NC Emergency Management (NCEM) and DEQ to provide real-time alerts to possible issues at dams. There is a possibility that we will be able to continue with additional studies moving into the new fiscal year.

2.1.3 Develop Dam Breach Models

Status: Underway
Expected Completion Date: Ongoing

DEMLR will continue to perform and develop dam breach models of Intermediate and High Hazard dams to confirm hazard classifications and determine the impacts if failure were to occur. Breach model development is in partnership with NCDPS/NCEM's efforts in developing dam breach models throughout the state.

Breach models are used by DEQ, NCDPS, NCDOT, local Emergency Management staff, and dam owners to identify property, lives, and infrastructure subject to impact. This information assists in the development of access and evacuation routes.

2.1.4 Administer High Hazard Dam Rehabilitation Grant (HHPD)

Status: Ongoing
Expected Completion Date: Ongoing

The DEMLR Dam Safety Program administers a FEMA grant program for the rehabilitation of High Hazard dams. This grant provided $1,000,000 to local government dam owners and DEQ over the last two years and an additional $1 to $2 million for the upcoming year for local government dam owners and DEQ to develop plans to determine dam risk and repair needs to address deficiencies to ensure improved infrastructure, reduce risk, and increase resilience within their communities. This grant strategy targets owners of publicly owned dams to rehabilitate, repair or modify their deficient dams thus removing the increased risk and threat to downstream properties due to safety deficiencies.

It is DEMLR's duty to identify qualifying "at-risk" dams and to work with the owners through the repair approval process to improve safety and future resilience of these qualifying dams.

2.1.5 Develop Risk-Informed Prioritization of NC High Hazard Dams

Status: Ongoing
Expected Completion Date: Ongoing

The DEMLR Dam Safety Program continues to develop risk-informed Assessment Prioritization of the High Hazard Dams in North Carolina. This study assessment of over 75 dams developed a screening level risk assessment protocol for all High Hazard Dams in North Carolina. These assessments will allow our program, other state agencies including NCEM and NCDOT, local governments and dam owners to set priorities for these dams and the areas in breach inundation zones in setting repair/maintenance/ resilience plans and identifying resource needs for risk, resilience and emergency response.

This study is continuing into 2023 and beyond in order to qualify North Carolina and more of its dam owners for future FEMA grants such as the HHPD grant. It is also anticipated that the study process developed will be applicable to all dam hazard classifications and be used upon every dam that is inspected to improve consistency and provide updated dam condition assessments annually.

2.1.6 Study Probable Maximum Precipitation

Status: Underway
Expected Completion Date: June, 2025

DEMLR is supporting NCDOT, NCORR, and NC State University in their efforts to update NOAA's Atlas 14 and develop a pilot project to use climate scenarios to establish future projected rainfall statistics. DEMLR is also planning to update the Probable Maximum Precipitation (PMP) Model for NC. These projects are resilience tools identified in the 2020 RARP as being fundamental tools to be used by all government entities, planners, developers and emergency response agencies to design, develop and build a resilient infrastructure for all public and private efforts.

DEMLR has obtained funding through NCORR and HUD CDBG-MIT for this effort and has just recently contracted this work. The project is expected to begin in August of 2023.

2.1.7 Map and Model Landslides

Status: Ongoing
Expected Completion Date: Ongoing

The Landslide Mapping Program is implemented by NC Geological Survey's (NCGS) Landslide Mapping Unit in the Asheville Regional Office with contracted partners Appalachian Landslide Consultants, PLLC, and UNC-Asheville's National Environmental Modeling and Analysis Center (NEMAC). The NCGS updates and maintains a landslide geodatabase, and this data is accessible in a public interactive web map viewer. The GS has implemented Unmanned Aerial Systems (UAS) technology for routine use in landslide mapping and analysis. This information and response capability is and will remain important to the people of western North Carolina for planning, infrastructure, emergency response and life and property safety.

The landslide program will continue to collect landslide data and conduct landslide modeling on a county-wide basis to identify areas vulnerable to landslides, especially those triggered by excessive rainfall events and seismic activity. The NCGS continues to respond to requests for technical assistance on landslides from emergency managers, NCDOT, local government agencies, the private sector, and the public.

2.1.8 Design/Developer and Local Program Education Workshops – Sedimentation Program

Status: Ongoing
Expected Completion Date: Ongoing

The DEMLR Sedimentation Control Program continues the annual production of workshops for design professionals, developers, contractors, local government programs, universities, and interested parties to address a wide range of erosion and sedimentation control (E&SC) issues in North Carolina. This capability will improve resilience throughout the state on construction sites during and after construction. These workshops educate and provide technical assistance to stakeholders on topics such as innovative design, ongoing research, regulatory updates, consistency between jurisdictions, benefit-cost analysis, use of natural systems, and native vegetation.

Over the next twelve months, at least one E&SC workshop will be produced.

2.1.9 Design/Developer Education Workshops – Stormwater Program

Status: Ongoing
Expected Completion Date: Ongoing

The DEMLR Stormwater Program continues to produce monthly workshops for design professionals, developers, contractors, local governments, universities, and interested parties to address wide ranging stormwater quality and control issues in multiple programs which include Post-Construction, NPDES Construction, NPDES Industrial, Water Supply-Watershed and MS4 components of the agency. This capability will improve resilience and impacts to water quality throughout the state on development and re-development sites. These workshops educate and provide technical assistance to all stakeholders on topics such as updates in innovative design, ongoing research, regulatory updates, consistency between jurisdictions, benefit-cost analysis, and use of natural systems.

Over the next twelve months, monthly stormwater program workshops will be produced.

2.1.10 Albemarle-Pamlico National Estuary Partnership (APNEP) Air Resources Monitoring & Assessment Team (AR-MAT)

Status: Underway
Expected Completion Date: Ongoing

The APNEP AR-MAT includes two working groups (chemical deposition and climate) who are developing monitoring and assessment strategies for their respective indicator metrics, all within the Albemarle-Pamlico region. The chemical deposition group has developed their initial APNEP metric (assessment) report on “total nitrogen deposition”, and the climate group is completing their initial metric report on “annual and seasonal series of daily precipitation maxima”, the latter to be assessed at two scales: region/basin-wide and individual basins or sub-basins.
Both working groups will be contributing to an Air Resources monitoring strategy during fall 2023.

2.2 Integrate climate change adaptation practices and resiliency planning into Department of Environmental Quality's policies and operations

2.2.1 Implement 2021 Coastal Habitat Protection Plan (CHPP) Amendment

Status: Ongoing
Expected Completion Date: Ongoing

DMF staff, in conjunction with APNEP and other DEQ divisions, are continuing to work to implement recommendations from the 2021 CHPP Amendment to address water quality impacts on SAV due to changes in salinity, water temperature, and water clarity; wetland loss due to sea level rise and development impacts (e.g., wetland migration, fisheries, water quality, stormwater buffering capacity); water quality impacts from inflow and infiltration associated with wastewater infrastructure; and water quality degradation due to nonpoint source pollution from environmental rule compliance. This includes the formation of a private public partnership for further community engagement.

In the next 12 months, DMF will work with APNEP to hold multiple CHPP Team and CHPP Steering Committee meetings. DMF will also continue working with other agencies and organizations to incorporate the recommendations from the Amendment into existing and future programs/efforts.

2.2.2 Develop and Implement CHPP Outreach Plan

Status: Ongoing
Expected Completion Date: Ongoing

DMF staff, in conjunction with APNEP, drafted the CHPP Outreach Plan with strategies for increased public understanding of North Carolina's important coastal habitats, community engagement, and habitat protection and restoration benefits including enhancing ecosystem and community resilience. DMF helped form a private public partnership for further community engagement pertaining to water quality and held the NC Water Quality Summit in October 2022.

In the next 12 months, DMF will continue working with the private public partnership to address water quality concerns through CHPP recommendations. DMF will work with the CHPP Team to determine other outreach strategies.

2.2.3 Develop Database for Restoration and Water Quality Trend Evaluation

Status: Ongoing
Expected Completion Date: Ongoing

The development of a geodatabase and paired SQL database was initiated prior to the implementation of statewide climate change actions, and DMS has been updating the schema to reflect the additional requirements since 2021. The paired databases will function to track and evaluate project performance and the potential effects of climate change. These evaluations will also allow DMS to more easily analyze data to identify anomalies and trends, allowing the division to implement data-driven corrections readily and accurately.

The next step will include creating and populating data tables and maps targeted explicitly for water quality analysis and tracking. DMS and NCDIT agreed to work with an on-call consultant to bridge some of the gaps in technical expertise until NCDIT can fill the vacant NCDIT embedded position assigned to this project.

2.2.4 Implement DMF Headquarters Campus Resilience Plan project

Status: Underway
Expected Completion Date: Ongoing

DMF drafted the “DMF HQ Campus Resilience Plan” that includes recommendations to enhance community and ecosystem resilience through building a living shoreline, rain gardens, and other Nature-Based Solutions to help mitigate impacts of storms, floods, and other natural hazards to state property/infrastructure and the surrounding environment. Initial phases of the Plan were approved through the Office of State Construction and funding was confirmed spring 2023. DMF is in the process of applying for state and federal funding for the other portions of the project.

In the next 12 months, DMF will construct a living shoreline (Phase 1) and find out the final funding decisions for the proposal submitted to the National Fish and Wildlife Foundation for funding phases of the project (November 2023).

2.2.5 Develop Wastewater Assessment Training Program

Status: Ongoing

Expected Completion Date: Ongoing

DMF continues to pursue improved assessment of the impacts of wastewater treatment plant failures on surrounding shellfish harvesting and recreational swimming areas through a Wastewater Assessment Training Program. DMF will develop protocols for integrating its drone fleet into pollution source assessments to provide improved data collection and more effective visual representation of impacts for public education purposes.

The planned training of a new wastewater assessment method by FDA engineers via the ISSC Growing Areas Review Board system was rescheduled from 2023 to 2024. This training will depend on FDA schedule availability and funding.

2.2.6 Pursue Acquisition of Northern Laboratory

Status: Ongoing
Expected Completion Date: December 2023

DMF continues the process to lease a facility to house the northern regional Shellfish Sanitation and Recreational Water Quality laboratory. The State Properties Office secured a lease for a facility in Manteo and construction began in summer 2023. The acquisition of lab space will help to increase DMF's ability to respond to water quality issues that may impact the suitability of shellfish for harvest, particularly following storm impacts.

Construction of the laboratory in Manteo is projected to be complete in August 2023. Once complete, staff will prepare prerequisite sampling and laboratory side by side studies in preparation for certification of the lab by FDA. Full operational use of the laboratory for regulatory use is projected to be December 2023.

2.2.7 Address Stormwater Impacts on Shellfish Growing Areas

Status: Ongoing
Expected Completion Date: Ongoing

DMF continued collaborative projects with federal and academic partners to further management plans. This continued to enhance DMF's ability to address potential public health impacts of increased stormwater runoff through research and development of updated shellfish growing area management plans. Staff have also worked with local municipalities to help develop town- and city-wide stormwater management plans that effectively balance public health considerations alongside concerns about safety and property damage due to flooding.

Staff plan to continue participation on stormwater projects such as the Stump Sound and Newport River watershed planning committees during the next year.

2.2.8 Continue Coastal Habitat Restoration at Cedar Island

Status: Ongoing
Expected Completion Date: Fall 2023

Continued oyster restorations at Cedar Island Oyster Sanctuary (6.3 acres built with approximately 18,500 tons of material) will help offset habitat loss and water quality degradation expected from climate change, increase ecosystem and community resilience, and improve water quality. DMF continues maintaining and restoring oyster reefs that increase coastal resiliency by helping protect critical wetlands and other coastal habitats while providing other beneficial ecosystem services.

In the next 12 months, DMF will finish deployments and complete the project.

2.2.9 Implement Fisheries Management Resilience Strategies

Status: Ongoing
Expected Completion Date: Ongoing

DMF prepares fishery management plans for adoption by the N.C. Marine Fisheries Commission for all commercially and recreationally significant species or fisheries that comprise state marine or estuarine resources. In 2022 the Commission gave final approval to amendment 2 of the Estuarine Striped Bass Fishery Management Plan, which contains management measures to address the overfished and overfishing status of Albemarle Sound striped bass, continue fishery and environmental monitoring of the Central-Southern Management Area striped bass stocks, and address bycatch and discards in the striped bass fisheries. Climate change increases the variability of ecosystem factors by impacting the distribution, abundance, and productivity of fish populations and resulting management. DMF addresses climate change impacts as fishery management opportunities through the development of fishery management strategies that are flexible and support easier entry and exit into new fisheries and out of those that are declining to prevent overfishing.

DMF continues to support interstate and federal cooperative management, stock assessments, and fishery management plan guidelines by incorporating climate change in vision statements and/or strategic plans and fishery management plans.

2.2.10 Create Resiliency for DEQ Locations During Power Interruptions

Status: Ongoing
Expected Completion Date: Spring, 2024

Information Technology (IT) has identified networking and computing equipment that do not have a battery back-up. These batteries are commonly referred to as Uninterruptable Power Sources (UPS) and are meant to provide key equipment with power during a power outage of 30 minutes or less. This can keep key equipment powered on for a seamless transition to a back-up power source with minimal loss to operations or data.

IT has purchased and installed approximately 95 percent of identified assets. IT added additional equipment for this effort and purchasing and installing additional UPS units.

2.2.11 Coordinate Water Resources Rules Revisions That Support EO80

Status: Planned
Expected Completion Date: March, 2026

DWR Planning staff held a number of meetings with NC State University stormwater researchers and subject matter expert practitioners over the last year on revising stormwater post-construction control standards to incorporate projected climate change effects on rainfall to better protect receiving streams. Draft stormwater rules will address new development post-construction standards (per above) as well as existing development stormwater runoff, providing flexibility to local governments to implement multi-benefit practices that help with flooding, carbon storage, ecosystem enhancement and community needs in addition to nutrient loading.

DWR intends to complete draft stormwater rules content for public review for High Rock Lake watershed by June 2024. Similar rules for Jordan and Falls Lakes will follow.

2.2.12 Incorporate Information About Climate Resiliency into the Cape Fear River Basinwide Water Resources Management Plan (Basin Plan)

Status: Underway
Expected Completion Date: Spring/Summer, 2024

Basin plans report on changes and impacts to surface and ground water resources on a watershed and river basin scale. They identify areas that may be impacted by point and nonpoint sources of pollution, provide recommendations for reducing impacts to water quality and quantity, and recognize nature-based solutions as ways to reduce impacts to our natural resources and build resiliency. While developing the Cape Fear River basin plan, basin planners worked with the Cape Fear River Assembly to develop and distribute a survey to communities who do not typically engage in the planning process. The survey asked respondents to identify their concerns within the river basin as it relates to protecting and managing water resources within their community.

Over the next 12 months, basin planners will be completing the Cape Fear River basin plan. Once a draft is complete, the basin plan will be available for public comment before it is presented to the Environmental Management Commission.

2.2.13 Incorporate Climate Resiliency into Watershed Action Plans

Status: Ongoing
Expected Completion Date: Ongoing

Watershed action plans (WAP) are dynamic and focused on identifying project areas, prioritizing projects, developing implementation plans, and tracking water resource improvements. They take into account underserved communities, education needs, technical capacity, and funding sources and opportunities. All restoration and protection projects in Walnut Creek WAP area should include components for carbon sequestration and resilient communities. The Watershed Restoration Improvement Team is constantly refining online tools, identifying what questions need to be asked and answered, and how best to engage with underserved communities or communities that typically don't participate in planning processes to protect natural resources. As new tools are developed or updated, they are made available online on DWR's Watershed Action Plans webpage under Water Education Programs.

Over the next twelve months, we will continue to develop watershed specific objectives with local governments and community members for each strategy.

2.2.14 Streamline Approvals for Temporary Disaster Debris Sites

Status: Underway
Expected Completion Date: May 2024

DWM is developing an online Laserfiche forms process to streamline approvals for temporary disaster debris sites. DWM will continue to work with local, state, and federal partners to participate in and conduct training, and to provide guidance via division webpages. DWM field staff have continued to work with local governments on an individual basis to establish new disaster debris sites.

The Division anticipates that the online evaluation form will be available by May 1, 2024.

2.2.15 Update APNEP Comprehensive Conservation and Management Plan (CCMP)

Status: Underway
Expected Completion Date: 2024

APNEP continued strategic planning with its Leadership Council and Management Conference members to update its 2021-2022 CCMP. Consideration of climate actions are front and center when assessing actions needed to identify, protect, and restore the significant resources of the Albemarle-Pamlico region. APNEP has been working to ensure integration of recent actions recommended in the N.C. Climate Risk and Resilience Plan and Natural and Working Lands Action Plan, Virginia Coastal Resilience Master Plan, and numerous other regional resilience and related conservation plans into the CCMP Update. Community Resilience is one of five themes that have been identified as a focus area for the next five years for the updated 2023 CCMP, along with Water Quality, Submerged Aquatic Vegetation, Coastal Wetlands, and Oyster Habitats.

APNEP also spent significant time developing an initial Two-Year Bipartisan Infrastructure Law Workplan (submitted to EPA October 2022) and new Bipartisan Infrastructure Law Long Term Workplan and Equity Strategy which was submitted to EPA June 2023. The workplan and strategy are designed to accelerate CCMP implementation which includes Community Resilience as a focus area as described above. APNEP is also coordinating with NCORR to identify opportunities to utilize the BIL funding to assist with implementation of projects identified during the Regions Innovating for Strong Economies & Environment (RISE) program.

2.3 Assist the communities served by Department of Environmental Quality to implement climate change adaptation practices and resiliency planning

2.3.1 Utilize Infrastructure Funding to Support Projects that Improve Resiliency

Status: Underway
Expected Completion Date: Ongoing

In Fall 2022 and Spring 2023 water and wastewater infrastructure funding rounds, the State Water infrastructure Authority awarded $368,853,825 in funding to support 49 applications that addressed resiliency. Examples include water and wastewater projects to move lift stations or other equipment out of floodplains, add backup power generation or other action to improve continuity of service during storm events.

2.3.2 Implement Phases 1 & 2 of Resilient Coastal Communities Program (Round 1)

Status: Complete

In partnership with NCORR and others, DCM created the RCCP to improve the capacity of local governments to plan and prepare for intensifying climate-driven hazards. The RCCP incentivizes communities to meet defined standards for long-term planning, preparedness, and community engagement. It helps them plan shovel-ready projects to capitalize on federal and state funding opportunities, some of which are available through the latter phases of the RCCP itself. From 2020 to 2022, 26 communities received funding to complete Phase 1 (Community Engagement and Risk & Vulnerability Assessment) and Phase 2 (Planning, Project Selection, and Prioritization) of the program. They created resilience strategies comprised of community-specific goals, community engagement strategies, risk and vulnerability assessments, and a portfolio of prioritized resilience projects. In its first round, the RCCP program awarded 26 communities (8 counties and 18 municipalities) funding for Phases 1 & 2, totaling $775,000.

The RCCP incorporates environmental justice and equity considerations throughout its four phases, requiring communities to engage with and assess the vulnerability of their most disadvantaged populations and identify the best strategies to assist them. For example, the RCCP asks each community and its contractor(s) to identify and evaluate social vulnerability by implementing a risk and vulnerability assessment and using the results to identify and prioritize projects incorporating DEIJ principles. Additionally, one of the criteria for community applications was their economic Tier status, thus enabling to program to prioritize Tier 1/lower-capacity communities.

2.3.3 Implement Phases 3 & 4 of RCCP (Round 1)

Status: Underway
Expected Completion Date: August, 2024

Phase 3:
DCM began Phase 3 (Engineering and Design) of the RCCP in March of 2022 to improve local communities' resilience to climate-driven hazards. To be eligible for Phase 3, communities must have completed Phases 1 and 2 through the RCCP or the equivalent, as determined by DCM staff. For the 26 communities enrolled in the RCCP, which completed Phases 1 and 2, competitive grant funding was made available by the North Carolina General Assembly (NCGA) and the National Fish and Wildlife Foundation (NFWF).

By July 13th, 2022, DCM selected 20 projects representing 23 communities to move into Phase 3 and awarded $1.14 million in grant funding. Most of those projects included a natural or nature-based component. DCM initially planned for Phase 3 to last six months, with contracts ending in May 2023; however, some communities needed more time to finalize their engineering and design plans, extending the completion date to September 2023. Importantly, Phase 3 grant extensions do not preclude those communities from applying for Phase 4 funding, so long as their Phase 3 engineering and design plans show adequate progress toward completion.

Phase 4:

Once the communities showed they were close to completing Phase 3, DCM released Phase 4 applications in March of 2023. In response, DCM received 18 applications from communities that had either completed Phases 1-3, were close to completing Phase 3, or met the substitution requirements therein. From those applications, DCM selected 5 projects to move forward and awarded $1.16 million in grant funding. DCM expects Phase 4 to conclude in August 2024.

DCM expects Phase 4 and the second round of Phases 1 and 2 to run concurrently.

2.3.4 Implement Phases 1 & 2 of RCCP (Round 2)

Status: Underway
Expected Completion Date: May 2024

In January 2023, DCM initiated the second round of the Resilient Coastal Communities Program with requests for community and contractor applications. The Division received 15 applications representing 3 counties and 12 municipalities and received 11 applications from third-party contractors. All 15 communities were selected to participate in the 2023-2024 second round of Phases 1 and 2. DCM selected 8 contractors to provide direct technical assistance to the communities and matched them based on community preference, geographic location, and skillsets. The Division awarded $1.08 million in grant funding to these 8 contractors to complete Phases 1 and 2 of the RCCP.

DCM intends to use lessons learned from the first round of the RCCP program to improve the second round of the RCCP. For example, the RCCP Planning Handbook has been updated and will be re-released concurrently with Phase 1 this year. Work between the contractors and the communities on Phases 1 and 2 will begin in August 2023.

The RCCP incorporates environmental justice and equity considerations throughout its four phases, requiring communities to engage with and assess the vulnerability of their most disadvantaged populations and identify the best strategies to assist them. For example, the RCCP asks each community and its contractor(s) to identify and evaluate social vulnerability by implementing a risk and vulnerability assessment and using the results to identify and prioritize projects incorporating DEIJ principles. Additionally, one of the criteria for community applications was their economic Tier status, thus enabling to program to prioritize Tier 1/lower-capacity communities.

2.3.5 Expand Phase 2 of the RCCP to Improve Efficiency, Effectiveness and Equity in Final Design & Permitting

Status: Proposed
Expected Completion Date: Ongoing

In Phase 2 of the RCCP, communities and their contractors use multi-factor criteria in the project prioritization process to select the best projects to move forward. However, the analysis needs to be designed to analyze project alternatives comprehensively. As a result, the communities risk missing the best resilience alternatives and misdirecting resources into the final design, permitting, and implementation of less efficient, effective, and equitable projects that might underutilize nature-based solutions.

The purpose of the current proposal suggested by DCM will be to select the most efficient, effective, and equitable solutions among those that RCCP communities have identified or to identify better solutions that still need to be considered and then move those projects through final design and permitting. The proposed work would include feasibility and cost-benefit analyses and modeling to improve decision-making. Ultimately, communities will have greater capacity to apply for RCCP Phase 4 funding or alternative grant funding post-RCCP participation.

2.3.6 Support DMS Natural Infrastructure Flood Mitigation Program (NIFMP)

Status: Underway
Expected Completion Date: Ongoing

In December of 2022, DEQ executed a contract with Ecosystem Planning & Restoration for work on the pilot NIFMP site of Stoney Creek. Project coordination with stakeholders and local landowners is ongoing. DMS established an Advisory Board in 2022 comprised of local government, academics, resource professionals, mitigation bankers, and NGOs.

Currently, a scope of work is being created to contract the development of a strategic plan to act as a roadmap to NIFMP implementation.

2.3.7 Fund Stream Restoration Projects

Status: Ongoing
Expected Completion Date: Ongoing

The Division of Water Resources funds projects to restore degraded streams across North Carolina. Restoration improves resiliency by restoring a stream or river's ability to reduce stormwater flow and downstream flooding. It can also decrease instream temperatures and improve water quality by reducing pollutant loading reaching larger water bodies.

Approximately $1.5 million dollars in projects were completed in 2022. An additional $7.1 million dollars in projects are in the planning or construction phase.

2.3.8 Disseminate Outreach and Guidance Related to Approval, Operation, and Closure of Temporary Disaster Debris Sites

Status: Underway
Expected Completion Date: May 2024

DWM updated its website to announce new debris site rules. The Division is working with local governments on an individual basis to establish, activate, and close temporary sites for managing disaster debris from extreme weather events.

Work will continue with local governments over the next twelve months.

2.3.9 Improve Recycling and Reuse Strategies for Disaster Debris

Status: Underway
Expected Completion Date: Ongoing

DWM will work with local, state, and federal entities, and waste and recycling facilities to improve and/or develop and implement strategies that promote the proper management of storm debris and its impacts to statewide communities. Strategies include increasing waste segregation efforts that facilitate reuse, recycling, and proper disposal of the various waste streams; expediting the removal of disaster-related waste from impacted communities; maximizing reuse and recycling opportunities available to impacted communities; growing waste reduction programs to maintain landfill capacity to withstand periodic influx of storm related debris; promoting local ordinances in building practices that eliminate exposure risks resulting in less waste being generated during storm events; and working with public and private waste management facilities to ensure their acceptance of disaster-related waste.

Over the next twelve months, the Division will continue working with listed entities to pursue applicable strategies.

2.3.10 Maintain Local Government Debris Management Planning

Status: Planned
Expected Completion Date: TBD

While many local governments have debris management plans in place, the efforts are primarily voluntary in nature. A recommendation would be for a statutory requirement that all city and county governments, either individually or jointly in resolution with one another, be required to develop and maintain a debris management plan as part of their Emergency Operations Plan in support of the NCEOP. This would also assist in their compliance with existing Statute 130A-309.09A for solid waste planning purposes, which includes debris management.

2.3.11 Provide Outreach and Guidance Related to Spill Prevention from Underground Storage Tanks (USTs) and Aboveground Storage Tanks (ASTs)

Status: Ongoing
Expected Completion Date: Ongoing

DWM will participate in and conduct training and provide current guidance on Division webpages to prevent releases of petroleum to the environment. To improve and/or implement strategies to properly manage petroleum storage, we have been engaged in the following: attend training events and Area Contingency Plan meetings with US Coast Guard; collaborate with US EPA, NCEM, DWR, and DAQ to improve notification and response time to spills reported to the National Response Center and/or NCEM; and identify unpermitted petroleum ASTs, focusing within flood zones, but including all of North Carolina facilities, in an outreach program consisting of awareness and preparation prior to hurricane season.

DWM will continue to work with local, state, and federal partners to prevent spills from aboveground and underground storage tanks.

2.3.12 Continue State and Local Partnerships

Status: Ongoing
Expected Completion Date: Ongoing

DWM will continue to collaborate with County Emergency Management Coordinators and Local Emergency Planning Committee through meetings and listening sessions to identify areas where DEQ/DWM and Counties can create partnerships and assist in training.

2.3.13 Mitigate Erosion Through Beach Planning

Status: Complete
Expected Completion Date: June 2023

To mitigate the impacts of erosion and sedimentation, DCM worked with the Coastal Resources Commission and adopted rules that encourage and incentivize long-term beach planning, development siting, and beneficial use of dredged material. DCM released a Request for Proposal under the planning grant management program which provides funding for communities to develop beach management plans and water management projects in accordance with 15A NCAC 07J.1200; and local ordinances covering estuarine and navigable waters. The Division awarded $117,750 to six communities and engaged with the Army Corps of Engineers, NOAA, the Bureau of Ocean Energy Management, and other agencies to identify sources of sand for beach nourishment, and strategies for managing the sand for maximum benefit.

2.3.14 Incorporate Resilience into Land Use Planning

Status: Underway
Expected Completion Date: Ongoing

DCM provides matching grants to local governments for projects to improve pedestrian access to the state's beaches and waterways through the Beach and Waterfront Access Grants Program. DCM is currently working to integrate resilience-based projects and components into the program. This includes an emphasis on natural and nature-based infrastructure which makes waterfront and beach access projects more sustainable and resilience to coastal hazards.

Additionally, DCM has completed the Land-Use Planning Guide. Land use plans include a collection of policies and maps that serves as a community's blueprint for growth. These plans are a fundamental element of coastal management in North Carolina and resilience planning is a key component of this process. With specific guidance from DCM, communities working towards new land-use plans can better incorporate disaster recovery and resiliency, hazard mitigation, environmental sustainability, and diversity and equity.

2.3.15 Rachel Carson NERR Habitat Resilience Plan

Status: Underway
Expected Completion Date: June 2024

The Coastal Reserve is developing a habitat resilience plan for its Rachel Carson National Estuarine Research Reserve (NERR) that identifies and prioritizes areas for resilience projects based on known vulnerabilities and hazards. The reserve will also complete engineering and design for two shovel-ready projects. The plan is funded by the National Fish & Wildlife Foundation with a match from the NC General Assembly.

2.3.16 Study Conditions at Bird Shoal

Status: Underway
Expected Completion Date: June 2024

The Reserve continues to work with N.C. State's Biological and Agricultural Engineering Department and Kris Bass Engineering on a feasibility study to assess conditions at the Bird Shoal future project implementation site. Baseline site conditions data were gathered to include elevations, soil typing, water levels, shoreline position, and vegetation surveys.

A meeting will be held in August 2023 to review the initial feasibility study findings and begin discussions on the next steps towards developing a conceptual project plan for west Bird Shoal. By June 2024, both the feasibility study and Rachel Carson Habitat Resilience Plan will be complete.

2.3.17 Implement Phase 2 of the Tribal Coastal Resilience Connections Project

Status: Underway
Expected Completion Date: Ongoing

APNEP has directly hired a part-time coordinator to implement Phase 2 of the Tribal Coastal Resilience Connections project, which aims to build capacity to work with tribal communities in the Albemarle-Pamlico region to develop a strategy for incorporating resilience into tribal planning and community engagement processes. The Phase I Report documents engagement, partnership building, lessons learned, and includes the results of the Tribal coastal adaptation plans analysis conducted by NCSU. It is anticipated to be available in fall 2023.

Phase 2 will focus on best practices for agency, university, and private "resilience practitioners" to engage with Tribal communities, targeted engagement with tribal communities in the shared waterways of the APNEP region between Virginia and North Carolina, and development of the Tribal Resilience Toolbox envisioned and recommended as a next step in Phase I. The toolbox includes the development of regional climate adaptation frameworks and geospatial mapping platforms to collect water stories and share climate threats and vulnerabilities identified by local communities. APNEP has included expansion of this project in its Bipartisan Infrastructure Law Long-Term Strategy with Equity Strategy and is actively seeking grant funding to further build capacity to implement the project.

2.3.18 Natural and Nature-Based Features Resilience Project

Status: Underway
Expected Completion Date: Fall 2023

APNEP continued to work with Wetlands Watch to develop tools and outreach materials to assist local governments in increasing the use of natural and nature-based features (NNBFs) to increase resilience of coastal communities to flooding caused by storms and extreme weather events. This project is an extension of a NOAA-funded project led by the Virginia Institute of Marine Sciences. The project team developed a spatial analysis tool for Virginia local governments released on ADAPTVA in 2021, and APNEP contracted with Wetlands Watch evaluate the tool's applicability in North Carolina.

The project involved conducting a needs assessment of NC local governments, resilience practitioners, and groups such as the Outer Banks CRS Users Group and NCDEQ Water Resources Interagency Team and building a template resilience tool database tailored to meet identified needs. The project also includes development of outreach materials that promote the use of coastal habitats and natural infrastructure to build community and ecosystem resilience.

2.4 Help complete initiatives in the Natural and Working Lands Action Plan

2.4.1 Develop Greenhouse Gas (GHG) Inventory for Submerged Aquatic Vegetation (SAV)

Status: Ongoing
Expected Completion Date: January 2024

Natural and Working Lands Stakeholder Group's Coastal Habitats Subcommittee works towards determining carbon sequestration rates for developing a GHG inventory for submerged aquatic vegetation and subaerial wetlands in the state to be included in the updated 2024 NC GHG Inventory.

In the next 12 months, the information will be provided for the 2024 NC GHG Inventory update.

2.4.2 SAV Monitoring and Assessment

Status: Ongoing
Expected Completion Date: Ongoing

APNEP and its partners have made significant contributions towards implementing strategies including mapping and monitoring, water quality improvement and protection, and protection from physical disturbance to promote SAV resilience along the entire coast of North Carolina and southeastern Virginia. The group initially focused on monitoring trends in overall extent and density in both low- and high-salinity waterscapes and has since included metrics such as relative abundance and species presence have been included to gain a more robust tracking of SAV condition. In addition, high-salinity monitoring frequency increased from semi-decadal to bi-seasonal albeit for one of four subregions annually on a rotating basis.

An updated assessment report for high-salinity SAV is expected by late 2023. Current restoration efforts are focused on those SAV stressors associated with water clarity.

2.4.3 Coastal Training Program

Status: Underway
Expected Completion Date: Ongoing

DCM's Coastal Training Program continues to deliver resilience-related training to coastal decision-makers on nature-based strategies to reduce coastal hazards, barrier island development, and low-impact development basics for water quality protection. Over the past 12 months, the program offered 7 trainings that attracted 650 participants total.

The Coastal Training Program is also the project lead on a NOAA Digital Coast Connects funded project focused on equitable community engagement for the Scuppernong River water management study, which focuses on Washington and Tyrrell Counties. In partnership with APNEP, NC Sea Grant, and The Nature Conservancy, a series of educational community events will teach about local flooding issues to inform the water management study. Funded by DEQ's Water Resources Development Grant Program, the water management study aims to characterize the hydrology of the region, update water management plans, and address recurrent flooding. Additionally, the Coastal Training Program and its partners will develop an engagement strategy, which we envision will be helpful in other resilience efforts occurring in the Albemarle Pamlico region. The Digital Coast Connect project has funding through September 2024.

A living shoreline training is scheduled for September 19 in partnership with Cape Fear Realtors. Additionally, a barrier island training is scheduled for October 4 in partnership with Brunswick County Association of Realtors. Work on the Scuppernong community engagement project will continue through September 2024.

Finally, the K-12 resilience and climate change-focused curriculum was shared with educators during the Reserve's Spring/Summer 2023 programs. Educators were encouraged to use these activities in their classrooms this upcoming school year.

2.5 Initiate other projects aimed at increasing statewide resilience to the impacts of climate change

2.5.1 Develop the Flood Resiliency Blueprint

Status: Underway
Expected Completion Date: Ongoing

Development and implementation of the Flood Resiliency Blueprint covers three phases, two of which are underway. Phase I is supported by a robust vendor team and will result in a draft Blueprint, draft web-based Decision Support Tools (DST), and initiation of the Pilot Watershed (Neuse River Basin) Flood Resiliency Implementation Tool. The Phase II contract is in development. Phase II focuses on developing an online DST to help close the technical gap among communities.

Phase I is on track to make the December 2023 draft Blueprint deadline, while Phase II is due to be substantially completed by the same. Phase III will include the completion of the Blueprint and Online DSTs and developing action strategies for targeted other major river basins statewide and other river basins, as funds permit.

2.5.2 Create, Coordinate, and Lead Development of the NC Resilience Exchange

Status: Ongoing
Expected Completion Date: January 2024

DMF staff are working on a project in collaboration with DEQ and NCORR to develop the NC Resilience Exchange that will be an all-encompassing resilience resource guide for North Carolina with multiple components to help bring organizations/stakeholders together to coordinate parallel efforts to decrease redundancies. Staff have been working with NCORR and held multiple steering committee meetings in developing the wireframes and site content for the exchange. Staff have also brought upper management from DEQ and NCORR together to determine the next steps and draft an MOA.

A grant proposal was funded through the NWL US Climate Alliance Technical Assistance Fund in January 2022 to provide resources for the project. In the next 12 months, DEQ and NCORR will enter in the MOA, finish the exchange Scope of Work, identify resources to build the site, and begin construction of the site.

2.5.3 Enhance Resilience and Energy Security in North Carolina's Vulnerable Communities

Status: Underway
Expected Completion Date: 2024

The SEO applied for and has been awarded the Preventing Outages and Enhancing the Resilience of the Electric Grid grant under the Infrastructure Investment and Jobs Act (IIJA) Grid Resilience Formula Grant Program Section 40101(d). The Grid Resilience grant provides $9.2M annually for the next five years in funding support for the deployment of grid modernization technologies, diversification of distributed generation assets, and hardening and improving adaptivity of the transmission infrastructure to strengthen the resiliency of the electric grid against disruptions from extreme weather-related events and outages. Upon award receipt, projects will be prioritized based on enhancing resilience and adaptivity of the electric grid, benefits to customers in vulnerable and disadvantaged community locations and critical infrastructure such as emergency shelters and hospitals, with vulnerability to extreme weather-related energy disruptions.

In FY23-24, SEO will conduct outreach events with stakeholders and the public to determine stakeholder and community priorities, determine and share how project proposals will be evaluated and awarded, and release an RFP for proposals.

2.5.4 Conduct Microgrid Study

Status: Complete
Expected Completion Date: September 2022

The SEO funded a project to study potential deployment opportunities for microgrids in rural, low-income communities that are underserved and disproportionately impacted by prolonged power outages caused by natural disasters. This study can be leveraged by the state for mitigation planning purposes and other resilience-related efforts *(e.g., resilience toolkit, obtaining Infrastructure Investment and Jobs Act funds, etc.)* to identify potential critical sites for community resilience projects across North Carolina. The project team will coordinate with ongoing state efforts related to items such as energy storage, community solar, and energy resilience within low-income communities to maximize impacts. As an additional benefit, the Smart Electric Power Alliance conducted a microgrid feasibility study at a pre-selected site within North Carolina's Electric Cooperative territory to pilot activities based on the statewide assessment of rural low-income communities.

2.5.5 Monitor Programmatic Water Quality in Stream and Wetland Restorations

Status: Underway
Expected Completion Date: Ongoing

Data collected and analyzed in the program will support the efficacy of water quality improvements resulting from restoration activities. Automatic sampling across eleven sites began in February 2022. Also, the Science and Analysis (S&A) Unit of DMS is designing a project to capture the hydrologic effects of stream restoration through the direct measurement of transient storage.

Water quality parameters for automatic sampling are being quantified for data analysis. S&A will begin data collection for transient storage at three sites in August 2023 once a temporary employee begins work.

2.5.6 Educate Community Water Systems and Surface Water Systems on Risk Assessment and Emergency Response Requirements

Status: Ongoing
Expected Completion Date: Ongoing

Section 2013 of America's Water Infrastructure Act of 2018 (AWIA) requires community water systems serving greater than 3,300 people to develop or update risk assessments and emergency response plans, including for risks related to climate change. Per 15A NCAC 18C .1305 Source Water Protection Planning, public water systems in North Carolina that treat and furnish water from a surface water source are required to create and implement a Source Water Resiliency and Response Plan. Consistent and overlapping with the requirements of AWIA, the Source Water Resiliency and Response Plans require the identification of foreseeable natural emergency events and associated response strategies.

The Public Water Supply Section is actively working with water systems to make them aware of the requirements and putting them in touch with EPA to learn more about the required plans. The Section continues to communicate the requirements of Rule .1305 to the subject water systems and tracks certification of compliance as they are received.

2.5.7 Lead Scuppernong Regional Water Management Study

Status: Underway
Expected Completion Date: 2025

At the request of the NC Division of Parks and Recreation, APNEP has been leading development of the Scuppernong Regional Water Management Study since 2018, serving as a neutral, science-based convenor of a diverse group of stakeholders and local communities to address flooding and water management issues on the northern Albemarle-Pamlico peninsula surrounding Pettigrew State Park (Lake Phelps), Pocosin Lakes National Wildlife Refuge, and Buckridge Coastal Reserve. After multiple years of delays due to contracting and capacity issues, APNEP made significant progress during the past year, working closely with the Albemarle Commission to secure funding and a technical subcontractor for a hydrologic study.

- APNEP finalized securing in-kind match from grant partners including the NC Division of Parks and Recreation, NC Division of Soil and Water Conservation, U.S. Fish and Wildlife Service, and Washington and Tyrrell Counties.
- Worked closely with the Albemarle Commission and partners to resubmit previously awarded grant application, address new questions from grant administrator, with new local government applicant and secure a new contract, while maintaining relationships with original county applicants and retaining them as partners.
- A NCDEQ Water Resources Development Grant Program engineering/feasibility study (Scuppernong Study) grant/contract was awarded to the Albemarle Commission, the Regional Council of Government in February 2023.
- Participated in the RISE planning process and ensured coordination with NCORR and ACOG. The Study was included in the project portfolio.
- Awarded funding in November 2022 from the NOAA Digital Coasts Connects Partnership and the National Estuarine Research Reserve Association. Partnered with the NC Coastal Reserve, NC Sea Grant, and The Nature Conservancy to develop a collaborative engagement strategy to ensure equitable community engagement and input from regional stakeholders to inform the Study.
- The outcomes will be utilized to build a comprehensive regional plan to address water management issues on both privately and publicly owned land, build resilience to flooding and sea level rise, support natural and working lands, and improve coordination amongst stakeholders.

Frequent coordination is occurring to shape Study and Strategy development. The first Steering Committee meeting (grant partners) was held January 5, 2023, and the first Steering Committee workshop was held May 18. Stakeholder and public engagement workshops are being planned throughout the duration of 2023. The contractor has circulated the SOW for the Study to the partners for review and input at the next meeting.

2.5.8 Develop NC Stream Watch

Status: Underway
Expected Completion Date: Ongoing

DWR is currently developing and upgrading the NC Stream Watch program in collaboration with EENC and NC Sea Grant. The Water Education Cohort, supporting up to 40 educators statewide, is in the application phase. The Division is working to create material kits that will aid educators in promoting water education within their respective education settings.

Over the next year, DWR will conduct training sessions and provide guidance to the selected cohort members. DWR anticipates that this initiative will have a positive impact on water resiliency education across the state.

2.5.9 Participate in Albemarle-Pamlico Federal Interagency Partnership

Status: Underway
Expected Completion Date: Ongoing

APNEP has been participating in the Albemarle-Pamlico Federal Partnership initiated by the USFWS in 2022. This effort is geared towards increasing regional coordination amongst federally funded partners to promote national attention towards the Albemarle-Pamlico region; while also seeking to leverage and maximize the benefits of the significant federal investments being directed towards the region through BIL, IRA, ARPA, and others. As part of this regional coordination and with support and encouragement from the NC Governor's office, APNEP partnered with the USFWS and the NC Office of Recovery and Resilience in July 2022 to submit a grant application through the National Fish and Wildlife Foundation America the Beautiful Challenge. Though the grant application was unsuccessful there is interest in partnering for future funding opportunities and using the framework proposed to incorporate community engagement and research support in efforts to protect and restore natural and working lands.

The AP was also recently identified by the White House Council on Environmental Quality Coastal Resilience Interagency Working Group as one of three national focus areas for shared learning across different locations at varied stages of place-based collaborative resilience planning. APNEP continues to partner with the team mentioned above and is working to submit grant applications to build upon this recent national recognition, and over three decades of similar efforts, to elevate the status of the nation's second largest estuary.

3.0. Address the public health impacts of climate change

3.1 Increase understanding and awareness of the health impacts of climate change

3.1.1 Education and Outreach: Renewable Water Unit

Status: Ongoing
Expected Completion Date: Ongoing

The Renewable Water Unit, designed for middle school students, has been successfully implemented with the support of PBS NC and NC Sea Grant. DWR's team has ensured that the unit addresses the impact of human actions on water quantity and quality. The Division is also incorporating diverse perspectives to promote environmental justice awareness among students.

In the upcoming months, DWR will assess the effectiveness of the Renewable Water Unit and make necessary updates based on feedback. The goal is to continually improve the program's content and reach more schools and educators. The Division also hopes to promote this unit at various trainings, conferences, and networks.

3.1.2 Education and Outreach: Water Education Coffee Talks

Status: Ongoing
Expected Completion Date: Ongoing

The Water Education Coffee Talks have proven to be a valuable resource, supporting over 120 educators throughout NC. DWR has been successful in fostering an informal network where educators can share ideas, seek assistance, and stay informed about water resource opportunities simply by joining a monthly online meeting.

Looking ahead, DWR aims to expand the network further, encouraging more educators to join and engage actively in these discussions. The Division will also explore opportunities to incorporate discussions on resiliency-related topics in these monthly Coffee Talks.

3.1.3 Develop Wastewater Energy Efficiency Training Program

Status: Planned
Expected Completion Date: June 30, 2024

The Wastewater Energy Efficiency Program is designed to provide wastewater system operators in North Carolina, ideally representing those systems that are designated distressed, a 6-week training program on energy efficiency concepts from basic measures such as lighting and HVAC to highly complex and specialized measures involving aeration, disinfection, and other site-specific wastewater processes. The Program will help identify low and potentially no-cost energy efficiency improvements that can have a significant impact on a system's bottom-line with short paybacks. The ultimate purpose of this Program is to empower attendees with the energy efficiency education, knowledge, and real-world applications to properly identify and optimize energy efficiency opportunities at their own systems both in the short and long term. Implementation assistance and follow-up/technical assistance will be provided by the State Energy Office to ensure operators are supported in their newfound energy efficiency knowledge and measure identification abilities.

3.2 Advance health equity

3.2.1 Action Strategy for PFAS

Status: Underway
Expected Completion Date: December 2024

In June 2022, DEQ announced the DEQ Action Strategy for PFAS detailing actions the department will take to address PFAS contamination in North Carolina. The strategy focuses on three primary objectives: protecting communities, protecting drinking water, and cleaning up contamination. With the publication of the strategy, DEQ announced the agency will propose groundwater and surface water standards for priority PFAS compounds and evaluate PFAS emissions and discharges in permitting decisions. Some of the activities associated with the action strategy include PFAS sampling of over 600 privately owned community and school and daycare public water systems in anticipation of coming federal drinking water standards.

Additionally, as economic development continues to expand in North Carolina increases, the Department is also examining the use of PFAS in new industries and facilities. DEQ is committed to a whole of Department approach to address potential impacts resulting from the advancement of clean energy production in the state.

3.3 Initiate other projects aimed at addressing the public health impacts of climate change

3.3.1 Enhance Harmful Algal Blooms (HAB) Rapid Response Protocols

Status: Ongoing
Expected Completion Date: Ongoing

DMF continued to enhance sentinel site monitoring, collection, and processing for harmful algae species in shellfish growing waters throughout the coast. Enhanced DMF monitoring capacity included equipment acquisition, staff training, and more formalized collaboration with other state and federal entities with responsibilities in this field. DMF also began development of standard protocol and contingency plans for HAB response to integrate not only Shellfish Sanitation and Recreational Water Quality staff, but also the DMF drone fleet to allow for more rapid response to reported issues. One staff member completed training during FY22-23 at Bigelow Laboratory in Maine in the identification of harmful marine algal species.

Staff plan to continue internal enhancements for algal monitoring such as training of regional staff and deployment of microscopes in regional offices for improved assessment capability. Staff also plan to work with GIS staff on developing a method to incorporate drones and chlorophyll sensors for use in assessments.

4.0. Invest in historically underserved communities

4.1 Increase affordability for low- and moderate-income households

4.1.1 Support Federal Funding Opportunities for Low- and Moderate-Income Households

Status: Underway
Expected Completion Date: Ongoing

The State Energy Office is in the process of standing up several significant federal funding opportunities geared toward providing clean energy and energy efficient solutions to low- and moderate-income households.

The 2022 Home Energy Rebates will provide more than $209M to the State to promote the installation of energy efficiency and efficient electric technologies to low- and moderate-income single- and multi-family homes.

Additionally, the State Energy Office, in partnership with the North Carolina Clean Energy Fund, intends to apply for $400M in funds through EPA's Solar for All (SFA) program; this program will enable thousands of North Carolina households to access, for the first time in many cases, clean, resilient, and affordable solar energy through the design and launch of a low-income and disadvantaged community solar program.

In FY23-24, SEO will develop a program structure working with external stakeholders and apply for the Home Energy Rebate Program Funds; North Carolina received a $3 million award in June 2023 for CPRG planning activities and will compete for the $4.6 billion in implementation funding that EPA will award starting in March 2024; and North Carolina will apply for SFA Funds as a coalition with external stakeholders and could receive up to $400M.

4.2 Create jobs and economic growth

This section is not applicable to the activities of DEQ.

4.3 Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities

4.3.1 DEQ Online Grants Hub

Status: Completed
Completion Date: January 2023

DEQ launched a new webpage that provides information on all DEQ funding programs in one place, along with a searchable list of currently open applications for grant opportunities. The new Grants page is a one-stop shop for everyone, including local governments, businesses, community and nonprofit organizations and others, looking for grant and loan funding information for a variety of environmental projects.
The page includes recurring and one-time funding sources across DEQ divisions, with links to additional information including eligibility, how to apply, and program contacts.

4.3.2 Mailing Lists for Federal and State Funding Opportunities

Status: Underway
Expected Completion Date: Ongoing

DCM staff, through the RCCP program, along with the DCM planners, regularly send out emails and correspondences to both the coastal communities and our list of contractors on available federal or state grant opportunities for funding.

4.3.3 North Carolina Resilient Communities Funding Forum

Status: Complete

In February 2023, DCM and NCORR hosted the first North Carolina Resilient Communities Funding Forum. This event was designed to introduce community leaders, natural resource managers, policymakers, and other NC stakeholders to federal, state, and nonprofit funding opportunities for resilience-related projects. The event centered around presentations from funders, such as the National Oceanic and Atmospheric Administration, the NC Division of Water Resources, the Golden LEAF Foundation, the NC Rural Center, and many more. Attendees had the opportunity to participate in a grant writing session to learn helpful skills to advance their projects and had a chance to meet directly with the funders to ask questions.

The event was designed to be inclusive, free to attend, and delivered alongside real-time Spanish translation. All presentations and materials were recorded, uploaded, and made freely available to the public (many of whom may not have been able to attend). These materials were also provided in Spanish.

4.4 Initiate other projects aimed at investing in underserved communities

4.4.1 Improve the Ability of Underserved Communities to Benefit from Grant-Funded Water Quality Improvement Actions

Status: Ongoing
Expected Completion Date: Ongoing

In 2023, enabled by EPA 319 grant guideline revisions, the NC 319 grant revised grant requirements to provide underserved communities the ability to develop watershed restoration plans using implementation funds, subject to the competitive pass-through process, and waived the local 40% match requirement for restoration projects proposed by underserved communities, both based on DEQ's mapping.

In the coming year, grant staff intend to focus next steps on improving outreach to underserved communities with surface water impairments and better understanding their needs relative to grant opportunities.

4.4.2 NC Climate Education Network

Status: Ongoing
Expected Completion Date: Ongoing

DWR continues to hold periodic online "open house" events for educators to stay updated on the latest research and teaching techniques related to climate education. The agency is actively incorporating environmental justice and equity considerations by ensuring these events are accessible to educators from diverse backgrounds and regions.

In the coming year, the Division plans to expand its network by reaching out to more educators and institutions across the state. Additionally, DWR aims to enhance the content offered during the events to address climate change's resiliency aspects more comprehensively.

4.4.3 Participate in Reviewing and Prioritizing Projects Identified in RISE Portfolios

Status: Complete
Expected Completion Date: 2023

Basin planners participated in community events held by NCORR to identify priority projects that strengthen regional resilience. Final reports for the priority projects identified by each region/Council of Governments (COG) were released in December 2022.

Projects are summarized in the Cape Fear River basinwide water resources management plan (basin plan) which is expected to be approved by the Environmental Management Commission in mid-2024.

4.4.4 Analyze Grant Distribution

Status: Underway
Expected Completion Date: Ongoing

RMMS staff created a map for internal use to better understand where DEQ awarded recycling grants (Community Waste Reduction and Recycling; Recycling Business Development; Food Waste Reduction, Abandoned Manufactured Homes, etc.) in relation to underserved communities.

By analyzing the distribution DEQ awarded past grants, staff can consider how to improve the grant decision-making process.

4.4.5 Integrate Potentially Underserved Community Layer into Grant Priority Rating Systems

Status: Ongoing
Expected Completion Date: 2028

Furthering its approach to energy resilience within vulnerable, low-income communities to ensure equitable energy access and resiliency, the State Energy Office grant application for the IIJA Grid Resilience Formula Grant Program Section 40101(d), will utilize a combination of resources and tools to identify disadvantaged communities. The tools will include the EPA's Environmental Justice Screening and Mapping Tool, the Department of Energy's Justice40 Guidance, Energy Justice Mapping Tool, Low-Income Energy Affordability Tool, and the Council on Environmental Quality Climate and Economic Justice Screening Tool. The SEO was awarded ~$9.2M/year for the next 5 years and has received the first two years of funding through the 40101(d) program.

In FY23-24, SEO will conduct outreach events with stakeholders and the public to determine stakeholder and community priorities, determine and share how project proposals will be evaluated and awarded, and release an RFP for proposals.