

COASTAL & HEARTLAND NATIONAL ESTUARY PARTNERSHIP

FISCAL YEAR 2023 WORK PLAN



CHNEP staff collecting groundwater data with its contractor for the Lower Charlotte Harbor Flatwoods Preserve Hydrological Restoration project.

May 26, 2022
Amended September 22, 2022



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www.CHNEP.org

The Coastal & Heartland National Estuary Partnership (CHNEP) is comprised of citizens, elected officials, resource managers and commercial and recreational resource users working to improve water quality and ecological integrity of other natural resources in its boundaries. A cooperative decision-making process is used to address diverse resource management concerns in its 5,416-square-mile area. Many of these partners also financially support the Partnership. The governmental entities in the CHNEP and its service area include:

U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service
U.S. Army Corps of Engineers
U.S. Geological Survey
U.S. Department of Agriculture
National Oceanic & Atmospheric Administration
Florida Department of Environmental Protection
Florida Fish & Wildlife Conservation Commission
Florida Department of Economic Opportunity
Florida Department of Agriculture
Central Florida Regional Planning Council
Southwest Florida Regional Planning Council
Southwest Florida Water Management District
South Florida Water Management District
West Coast Inland Navigation District
Peace River/Manasota Regional Water Supply Authority
Florida Gulf Coast University
University of South Florida
University of Florida
Polk, Sarasota, Manatee, Lee, Charlotte, DeSoto, Hardee, Hendry, Highlands and Glades Counties
and the incorporated Cities and Towns of Dundee, Haines City, Auburndale, Lake Alfred, Lake Wales,
Lake Hamilton, Lakeland, Winter Haven, Eagle Lake, Bartow, Fort Meade, Bowling Green, Wauchula,
Zolfo Springs, Arcadia, Venice, North Port, Punta Gorda, Fort Myers, Fort Myers Beach, Cape Coral,
Sanibel, Estero, Bonita Springs, LaBelle, Moore Haven, and Clewiston.

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Mr. Harry Phillips & Ms. Debi Osborne

CHNEP Executive Director

Ms. Jennifer Hecker

PREVIOUS YEAR – FY2022 - PROGRAM ACCOMPLISHMENTS

WQ-1: Support a comprehensive and coordinated water quality monitoring and assessment strategy

- CHNEP continued to support the Coastal Charlotte Harbor Monitoring Network (CCHMN), providing funding and staff support including conducting the annual auditing and convening the various sampling entities to hold an annual meeting.
- CHNEP staff continued to support the Florida Department of Environmental Protection’s Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network (CHEVWQMN) this included updating the Water Atlas Aquatic Preserve pages and CHEVWQMN biannual data updates.
- CHNEP staff worked with USF to revise and update the CHNEP Water Atlas as well as ensure all publicly available water quality data is being uploaded. New features and tools have been added including the Water Quality Dashboard and Habitat Resiliency to Climate Change Story Map.
- CHNEP staff presented on Citizen Opportunities for Action at the Charlotte County Water Quality Summit, as well as presentations to Seagrass and Macroalgae regional forums.
- CHNEP staff worked with the Suncoast Waterkeeper to support expansion of the water quality monitoring for bacteria program to include sampling within areas covered by the CHNEP. This program continues to fill in water quality monitoring gaps at many of the region’s most popular recreational areas, sharing this data and educating the public about water quality via the Swim Guide and the Suncoast Waterkeeper website and social media.

WQ-2: Develop water quality standards, pollutant limits, and clean-up plans

- CHNEP continued to review and provide comments as appropriate on water quality standards (including tidal creeks numeric nutrient targets), Total Maximum Daily Load pollutant limits and Basin Management Action Plan clean-up plans within the CHNEP area.

WQ-4: Reduce wastewater pollution

- CHNEP continued to support its partners, including Charlotte County and the city of Cape Coral, in their septic to sewer conversions of those areas that were determined to be high priority.

WQ-5: Reduce harmful algal blooms

- CHNEP’s website was updated to provide more information about harmful algal blooms and their relationship to nutrient pollution.

HR-1: Conduct data collection, modeling, and analyses to support hydrologic restoration

- CHNEP continued to project-manage the Charlotte Harbor Flatwoods Initiative (CHFI) hydrologic restoration project, completing extensive surface and ground water data collection in the Yucca Pens Wildlife Management Area in Charlotte County. This data is vital to the current project underway, which is collecting additional data and then using all of it to conduct integrated surface groundwater modeling to determine how and where flow restoration can occur on a large regional scale.
- CHNEP completed the South Lee County Watershed Initiative (SLCWI) in the hydrological restoration of that area through a science-based, data-driven, strategic hydrological planning tool being developed. This tool will provide guidance to resource management agencies related to the appropriate restoration and management of surface waters currently flowing from the South Lee County Watershed (SLCW) comprised of the Estero River, Spring Creek and Imperial River watersheds, and discharging into the Estero Bay Aquatic Preserve.

HR-2: Increase fresh surface water and groundwater availability to support healthy natural systems

- CHNEP and its partners continued to support the implementation of recovery strategies and projects related to upholding the Minimum Flows and Levels and Minimum Aquifer Levels in the CHNEP area.
- CHNEP continued to use its educational outreach materials and events to reinforce water conservation and the need of sufficient freshwater for healthy natural wetlands, rivers and estuaries.

HR-3: Preserve and restore natural flow regimes

- CHNEP continues to collect and analyze data to preserve and restore more natural flow regimes, including creating a Lake Okeechobee levels and Caloosahatchee River flows tracker on the CHNEP Water Atlas to provide partners and the public quick analysis of those in regards to established ecological minimum and maximum level and flow targets.

FW-1: Protect, restore, and monitor estuarine habitats

- CHNEP continued to support the Southwest Ecosystem Restoration Team (SWERT). SWERT partners focus on the restoration and enhancement of estuarine habitat including coastal marsh, mangroves, oyster reefs and seagrass. This is done by: identification of information gaps, restoration techniques, planning needs and regional priorities; development of maps of completed and planned restoration projects in the region; partner workshops to gather input on partner priorities and associated programs, and gain concurrence on implementation strategy; and to coordinate with partners to direct future habitat restoration funding priorities.
- CHNEP staff worked with USF to revise and update the Seagrass Pages and to create an interactive mapper on the CHNEP Water Atlas with recent seagrass data and analyses.

FW-2: Protect, restore, and monitor environmentally sensitive lands and waterways including critical habitat areas

- CHNEP project-managed the creation of a Habitat Restoration Needs Plan Interactive Mapper on the CHNEP Water Atlas. This comprehensive science-based GIS map tool shows exactly where different habitats should be preserved, conserved, reserved, restored, and managed in the original CHNEP area. This Plan includes critical habitats for listed species, upland and wetland environmentally sensitive lands, as well as areas that are important to keep open to facilitate habitat migration.

FW-3: Assess and promote the benefits of land, waterway, and estuary protection and habitat restoration

- CHNEP continues to disseminate the results of its recently completed Economic Valuation Study project at ANEP and CERF, which assesses the economic benefits derived from natural resource protection with regards to Florida industries such as tourism, agriculture, and real estate.

PE-1: Promote environmental literacy, awareness, and stewardship through expanded education and engagement opportunities for the general public

- CHNEP designed, published, and distributed 26,000 copies of the 2021 Calendar, which included an educational Harbor Happenings insert on Seagrass Loss and Harmful Algae Bloom data in the CHNEP area study by basin.
- CHNEP also designed, published, and distributed other educational publications including CHNEP's Harbor Happenings magazine, with more than 5,000 mailed directly to subscribers and another 2,000 being distributed through partners. One special issue was a Kids Activity Book, that provides age-

appropriate explanations and hands-on activities for elementary through middle school children to undertake to learn about the water cycle, aquifers, watersheds and other water resource management topics.

- CHNEP continued to support projects that engage citizens in natural resource protection, including hosting a Vertical Oyster Garden Workshop with over 40 participants. CHNEP staff worked with the local Boy Scout Troop to drill oyster shells to create the hanging gardens, participants made their own as well as donated VOG's to be deployed around the CHNEP area to improve local water quality.
- CHNEP hosted the public Responding to Rising Waters: A Climate Resiliency Webinar and provided the proceedings and a Citizen Climate Change Action Guide on the CHNEP website.
- CHNEP provides Conservation Grants, as well in organizing monthly volunteer events to educate and provide citizens with hands-on opportunities to be involved in research, monitoring and restoration activities.

PE-2: Expand reach of education and engagement opportunities to new target audiences

- CHNEP has expanded its outreach to attend non-traditional events such as the Swamp Cabbage Festival, and the Chalo Nitka Rodeo in Hendry and Glades counties. Outreach activities and lesson plans have been tailored to address concerns in specific communities.
- CHNEP worked with the Bailey-Matthews National Shell Museum to support the Virtual Mollusks on the Move program, which provided local, underserved students with an interactive STEM-based education experience all about mollusks and their shells and the interconnectedness of aquatic ecosystems and the need to protect them.

PE-3: Strengthen non-profit partner collaboration in education and engagement programs

- CHNEP worked with multiple non-profit organizations to present and provide education and engagement programs including the Southwest Florida Regional Planning Council, Suncoast Waterkeeper, Bailey-Matthews National Shell Museum, Calusa Land Trust and Nature Preserve of Pine Island, Inc., Environmental Conservancy of North Port, Inc., Myakka River Management Coordinating Council (MRMCC), Sanibel Captiva Conservation Foundation, Cat Chase Media, Janicki Environmental, Country Club Estates, Lee County Hyacinth Control District, and the Manchester Waterway Civic Association.
- CHNEP worked with the Myakka River Management Coordinating Council (MRMCC) to support updates to the MRMCC website, an educational resource about the watershed.
- CHNEP worked with the Sanibel Captiva Conservation Foundation to support the use of weekly aerial drone photos to illustrate the negative effects of Lake Okeechobee regulatory releases to the public and policy makers and to make recommendations to US Army Corps of Engineers on behalf of the environment to protect important indicator species including oysters and seagrass.

PE-4: Increase outreach to policymakers to enhance understanding and support for CCMP implementation

- CHNEP staff met with numerous local, state and federal policymakers to educate them about CHNEP, its CCMP, and the current research and project funding needs of our partners.
- CHNET staff drafted 2022 state and federal legislative priorities, which were approved by the CHNEP Policy Committee, and were sent to all local, state, and federal elected leaders.

CCMP FOCUS IN FY 2023

The Fiscal Year 2023 Work Plan and Budget reflects the approved 2019 CCMP, which outlines the 5-year organizational strategic plan and has the following visions, goals, objectives, and strategies:

WATER QUALITY

VISION: Waters that meet their designated human uses for drinking, shellfish harvesting, or swimming and fishing, while supporting appropriate and healthy aquatic life.

GOAL: Water Quality Improvement.

OBJECTIVE: Meet or exceed water quality standards for designated uses of natural waterbodies and waterways with no degradation of Outstanding Florida Waters.

STRATEGY: Support comprehensive and coordinated water quality monitoring programs and projects and programs that reduce pollutants entering waterways.

WQ-1: Support a comprehensive and coordinated water quality monitoring and assessment strategy

- CHNEP will continue working with partners to collect water quality monitoring data and uploading it to the CHNEP Water Atlas for access by interested parties and the public.
- CHNEP will work with our partners to develop new information pages on the Water Atlas as needed.
- CHNEP will continue to fund and support the Coastal Charlotte Harbor Monitoring Network (CCHMN).

WQ-2: Develop water quality standards, pollutant limits, and clean-up plans

- CHNEP will continue to support, providing technical comment as appropriate, the development and implementation of water quality standards, pollutant limits and clean-up plans.

WQ-3: Reduce urban stormwater and agricultural runoff pollution

- CHNEP will continue to provide public presentations and information on urban stormwater and agricultural runoff pollution.
- CHNEP will continue to support partners in the implementation of stormwater and agricultural runoff reduction projects.

WQ-4: Reduce wastewater pollution

- CHNEP will continue to support partners in the implementation of wastewater discharge reduction and reuse projects, as well as septic to sewer conversion projects.

WQ-5: Reduce harmful algal blooms

- CHNEP will continue to provide public presentations and information on harmful algae blooms and nutrient pollution, as well as research algae bloom remediation techniques.

HYDROLOGIC RESTORATION

VISION: Natural freshwater flow across the landscape to the estuaries.

GOAL: Enhanced and improved waterbodies with more natural hydrologic conditions.

OBJECTIVE: Adequate aquifer recharge and freshwater volume and timing of flow to support healthy natural systems.

STRATEGY: Support data-driven watershed planning and hydrological restoration projects to preserve or restore natural flow regimes and provide sufficient fresh surface and groundwater to natural systems.

HR-1: Conduct data collection, modeling, and analyses to support hydrologic restoration

- CHNEP will continue to actively participate in gathering data and supporting modeling and analyses as well as fund integrated ground and surface water models to improve decision-making with regards to hydrological restoration projects. Currently, these include the South Lee County Watershed Initiative and the Charlotte Harbor Flatwoods Initiative projects.

HR-2: Increase fresh surface water and groundwater availability to support healthy natural systems

- CHNEP will continue to promote water conservation and sufficient flows and levels of freshwater to support natural systems.

HR-3: Preserve and restore natural flow regimes

- CHNEP will work with partners to identify funding sources to facilitate capital programs that coordinate water storage, flood control, water quality and disaster planning.
- CHNEP will continue participating and providing technical assistance in Everglades' restoration through project review, meeting participation and technical comment.

FISH & WILDLIFE HABITAT PROTECTION

VISION: A diverse environment of interconnected, healthy habitats that support natural processes and viable, resilient native plant and animal communities.

GOAL: Natural habitat protection and restoration.

OBJECTIVE: Permanently acquire, connect, protect, manage, and restore natural terrestrial and aquatic habitats.

STRATEGY: Promote and facilitate permanent acquisition and effective protection and management of critical natural habitats including wildlife dispersal areas, movement and habitat migration corridors, wetlands, flowways, and environmentally sensitive lands and estuarine habitats.

FW-1: Protect, restore, and monitor estuarine habitats

- CHNEP will continue to work with Southwest Florida Estuarine Restoration Team (SWERT) partners on designing, permitting and constructing seagrass, oyster, and other estuarine restoration projects in CHNEP area.

FW-2: Protect, restore, and monitor environmentally sensitive lands and waterways including critical habitat areas.

- CHNEP will continue to share the Habitat Restoration Needs report and maps to support the conservation, management and enhancement of environmentally sensitive lands and critical habitat areas necessary for habitat resilience and migration.
- CHNEP will continue to offer grants to assist engaged citizens that promote the protection and management of public environmental lands and waterways.
- CHNEP will continue to directly engage in funding and project managing habitat restoration projects.

FW-3: Assess and promote the benefits of land, waterway, and estuary protection and habitat restoration

- CHNEP will continue to use its comprehensive regional Economic Valuation study to promote the economic return on investment from land, water and estuarine protection and restoration investments.

PUBLIC ENGAGEMENT

VISION: An informed, engaged public making choices and taking actions that increase protection and restoration of estuaries and watersheds.

GOAL: Public education and engagement.

OBJECTIVE: Increase the proportion of the population that supports and participates in actions to protect and restore estuaries and watersheds.

STRATEGY: Promote environmental awareness, understanding, and stewardship to the general public, new target audiences, and policy-makers; and strengthen non-profit partner collaboration in education and engagement programs.

PE-1: Promote environmental literacy, awareness, and stewardship through expanded education and engagement opportunities for the general public

- CHNEP will continue to host routine volunteer events, as well as routinely host and participate in community events to provide environmental education and public engagement opportunities.
- CHNEP will continue to produce free educational materials and distribute them throughout the CHNEP area.
- CHNEP will continue to disseminate information about public engagement opportunities through Constant Contact, on social media, and on the www.chnep.org website.

PE-2: Expand reach of education and engagement opportunities to new target audiences

- CHNEP will continue to conduct educational workshops and events, including in underserved communities, as a way to introduce natural resource protection information to new target audiences in that area.

PE-3: Strengthen non-profit partner collaboration in education and engagement programs

- CHNEP will continue to administer a Conservation Grant program to foster community natural resource protection projects and initiatives that support CCMP implementation, including with non-profit partners.
- CHNEP will continue to seek and work with non-profit organizations on collaborative initiatives.
- CHNEP will continue to sponsor events that foster non-profit partner collaboration to educate and engage the public on issues relating to CCMP implementation.

PE-4: Increase outreach to policymakers to enhance understanding and support for CCMP implementation

- CHNEP will continue to meet and send information to local, state and federal policymakers, explaining CHNEP's role in supporting CCMP implementation.

FISCAL YEAR 2023 ANNUAL BUDGET

Table 1: Fiscal Year 2023 Budget Overview

Revenue	
Federal (EPA FY23 Programmatic 320 Funding)	\$ 750,000
Federal (EPA FY23 Bipartisan Infrastructure Law (BIL) Funding)	\$ 909,800
Partner Contributions (Local)	\$ 135,500
Partner Contributions (State)	\$ 205,000
Total Revenue	\$ 2,000,300
Expenditures	
Personnel	\$ 604,708
Overhead Administrative	\$ 264,939
Public Outreach	\$ 95,782
Research and Restoration (FY23 EPA 320 Funding)	\$ 118,000
Research and Restoration (FY22 & FY23 BIL Funding)	\$ 876,758
Policymaker Education	\$ 14,500
Added Reserves	\$ 25,613
Total Expenditures	\$ 2,000,300

Note: The Federal BIL funding is also further detailed in a separate BIL Work Plan and Budget per EPA BIL Funding Guidance.

Table 2: Fiscal Year 2023 Overhead Administrative Costs Budget

Code	Funder	Title	Amount
CH1OAD, CH1ORN, CH1OCP	EPA 320	Host Fees	\$200,290
CH1MAT	Local	Materials and Supplies	\$25,000
CH1TRA	EPA 320	Staff Travel	\$25,000
CHFOOD	Local	Meeting Support	\$5,649
CH1COM	Local	Communication Software & Fees	\$9,000
Total			\$264,939

Table 3: Fiscal Year 2023 Cooperative Funding Table

Funding Source	2023 Budget	Type
Federal:		
EPA Section 320 Funding	\$ 750,000	Clean Water Act Section 320 Grant
EPA Bipartisan Infrastructure Law	\$ 909,800	EPA Bipartisan Infrastructure Grant (FY22 & FY23)
Total Federal:	\$ 1,659,800	
Local Government:		
Sarasota County	\$ 25,000	County Appropriation
Charlotte County	\$ 25,000	County Appropriation
Lee County	\$ 25,000	County Appropriation
Polk County	\$ 15,000	County Appropriation
Manatee County	\$ 5,000	County Appropriation
DeSoto County	\$ 500	County Appropriation
Hardee County	\$ 500	County Appropriation
City of Cape Coral	\$ 7,500	City Appropriation
City of Fort Myers	\$ 5,000	City Appropriation
City of Punta Gorda	\$ 5,000	City Appropriation
City of Sanibel	\$ 2,500	City Appropriation
City of Bonita Springs	\$ 2,500	City Appropriation
City of Fort Myers Beach	\$ 2,500	City Appropriation
City of Venice	\$ 2,500	City Appropriation
City of North Port	\$ 1,000	City Appropriation
City of Winter Haven	\$ 1,500	City Appropriation
Village of Estero	\$ 5,000	Village Appropriation
City of Arcadia	\$ 500	City Appropriation
City of Bartow	\$ 500	City Appropriation
Peace Manasota Water Supply Authority	\$ 3,500	District Appropriation
Total Local Government	\$ 135,500	
State/District:		
FDEP	\$ 75,000	District Appropriation
SWFWMD	\$ 130,000	District Appropriation
Total State/District	\$ 205,000	
Non-Federal Fund Total	\$ 340,500	
Total Cooperative Funding	\$ 2,000,300	
Non-Federal Match Requirement	\$ 750,000	SFWMD-funded project(s)

Table 4: Fiscal Year 2023 Travel Budget

Date	Purpose	# Staff	Location	Length of Stay	Travel Mode	Reg. Fee	Estimated Cost
Dec. 2022	Restore America's Estuaries / ANEP Fall Tech Transfer	3	New Orleans, LA	5	Air	\$ 595	\$ 3,900
Jan. 2023	Everglades Coalition	1	TBD	4	Auto	\$ 150	\$ 1,300
Feb. 2023	American Water Resources	4	Fort Myers, FL	1	Auto	\$ 300	\$ 200
Mar. 2023	NEP/EPA Spring Mtg.	1	Washington, DC	4	Air	\$ 300	\$ 2,500
Spring 2023	Gulf of Mexico Alliance	2	TBD	4	Air	\$ 625	\$ 2,400
Spring 2023	PFLCC/Estuarine	1	Florida	3	Auto	\$ 75	\$ 750
Spring 2023	Meet with Region 4 Staff	1	Atlanta, GA	3	Air	\$ 0	\$ 1,105
Oct. 2022 - Sep. 2023	Local Meetings/ Mileage	6	Various Florida Locations	1 to 2	Auto	\$ 300	\$ 10,500
Subtotal						\$ 2,345	\$ 22,655
Total							\$ 25,000

Table 5: Fiscal Year 2023 Public Outreach Budget

Code	Funder	Title	Amount
CH2SPO	Local	CHNEP Sponsorships	\$ 6,500
CH2POG	Local	CHNEP Conservation Grants	\$ 30,000
CH2CAL	EPA 320	CHNEP Calendar	\$ 27,181
CH2CAS	Local	CHNEP Calendar Support (Contractor)	\$ 5,000*
CH2HH	EPA 320	CHNEP Harbor Happenings	\$ 22,863
CH2EVE	Local	CHNEP Events	\$ 4,238
Total			\$ 95,782

*Note: Calendar Support is funded by targeted audience outreach funding from Manatee County.

Table 6: Fiscal Year 2023 Research and Restoration Projects Budget (incl. projects that are still active)

FY	Code	Funder	Project Title	Amount
2019	CH4MHP	SWFWMD	Myakka Headwaters Project	\$25,000
Non-EPA FY19 Total				\$25,000
2020	CH4TPP	EPA 320	Tiki Point Living Shoreline Project	\$66,061
Non-EPA and EPA (320) FY20 Total				\$66,061
2021	CH4TPP	EPA 320	Tiki Point Living Shoreline Project	\$96,000
2021	CH4MHP	SWFWMD	Myakka Headwaters Project	\$31,000
Non-EPA and EPA (320) FY21 Total				\$127,000
2022	CH3CMN	SWFWMD	CCHMN - Upper Charlotte Harbor	\$74,000
2022	CH3LCH	EPA 320	CCHMN - Lower Charlotte Harbor	\$13,000
2022	CH3LCH	EPA 320	CCHMN - Assistance	\$3,240
2022	CH3WA	EPA 320	CHNEP Water Atlas Maintenance & Improvements	\$88,038
2022	CH3WA	EPA 320	CHNEP Water Atlas Updating & Expanding Water Quality Analysis Trends	\$49,959
2022	CH3WA	FWFF	Place-based Fisheries Conservation in Charlotte Harbor on Water Atlas	\$5,000
2022	CH4TPP	EPA 320	Tiki Point Living Shoreline Project	\$17,450
2022	CH4TPP	EPA 320	Tiki Point Living Shoreline Project	\$113,222
2022	CH4TPP	EPA 320 Transfers	Tiki Point Living Shoreline Project	\$23,710
2022	CH4TPP	Local	Tiki Point Living Shoreline Project	\$3,068
2022	TBD	Local	TBD Project money to cover unanticipated costs	\$6,932
Non-EPA and EPA 320 FY22 Total				\$394,379
2022	CH4PIF	EPA BIL	Pine Island Restoration Project	\$113,450
2022	CH4TBD	EPA BIL	Charlotte County Climate Change Vulnerability Assessment	\$200,000
2022	TBD	EPA BIL	Polk County Climate Change Vulnerability Assessment	\$200,000
2022	TBD	EPA BIL	FY22 Restoration Project(s) TBD	\$396,350
EPA-BIL FY22 Total				\$909,800
2023	CH3WA	EPA 320	Water Atlas Enhancement	\$21,000
2023	CH3CMN	SWFWMD	Upper CCHMN Water Quality Monitoring	\$74,000
2023	CH3LCH	EPA 320	Lower CCHMN Water Quality Monitoring	\$13,000
2023	TBD	Local	TBD Project money to cover unanticipated costs	\$10,000
Non-EPA and EPA FY23 Total				\$118,000
2023	CH3WA	EPA BIL	CHNEP Water Atlas Maintenance & Improvements	\$130,588
2023	TBD	EPA BIL	Climate Change Vulnerability Assessment - TBD	\$400,000
2023	TBD	EPA BIL	FY23 Restoration Project(s) TBD	\$340,170
EPA BIL FY23 Total				\$876,758
FY23 Total Research & Restoration Project Budget				\$994,758

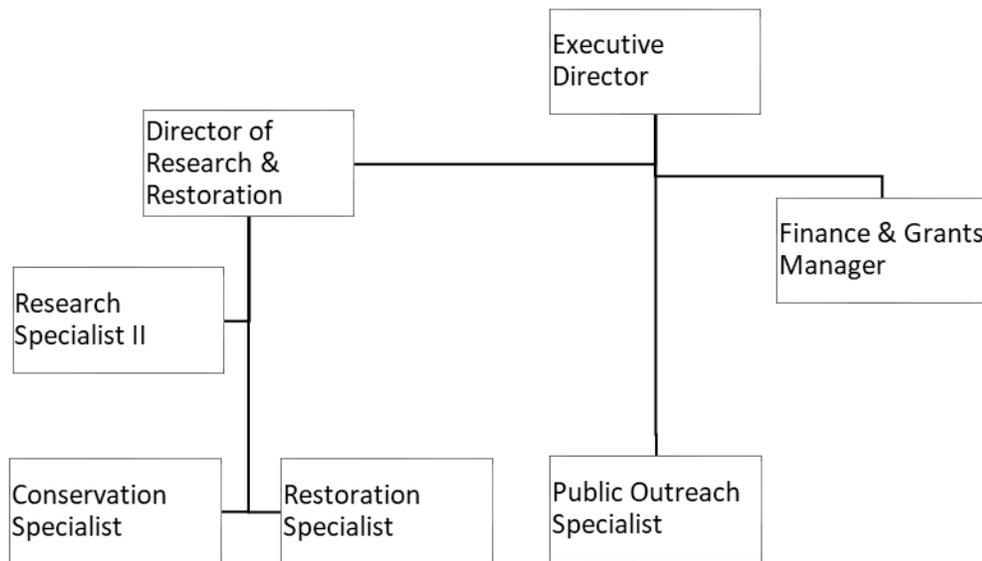
* These are EPA-320 FY22 carryover funds that are being planned for use in FY23

Table 7: Fiscal Year 2023 SWFWMD Funding by Task

Task	Project	SWFWMD	Project Total
1 (Work Plan Task 3.1)	CCHMN - Upper Charlotte Harbor	\$ 74,000	\$ 74,000
2 (Work Plan Tasks 3 & 4)	Staff Support	\$ 56,000	\$ 112,000
Total		\$ 130,000	\$ 186,000

STAFF ORGANIZATION CHART AND RESPONSIBILITIES

The FY23 CHNEP staffing plan includes seven full-time professionals, including the following positions:



Executive Director: Responsible for overall program management including cultivating and strengthening partnerships and soliciting funding, as well as is the liaison to Policy and Management Committees.

Director of Research & Restoration: Responsible for management of research and restoration projects and initiatives, as well as is the staff liaison to Technical and Citizens Advisory Committees.

Finance & Grants Manager: Responsible for finance, grants and contracts administration.

Public Outreach Specialist: Responsible for organizing and conducting public engagement and education initiatives, as well as overseeing volunteer management.

Research Specialist II: Responsible for assisting project management of scientific research projects and initiatives, as well as drafting the technical content for articles, grant proposals and reports.

Restoration Specialist: Responsible for providing assistance with restoration projects and initiatives, as well as drafting the technical content for articles, grant proposals and reports.

Conservation Specialist: Responsible for providing a variety of program support functions including administrative support, outreach, marketing, research, etc.

NEW AND ONGOING PROJECTS

The CHNEP projects are organized according to task. There are five tasks, as follows:

Task 1: Management Conference

- 1.1 Sponsorships
- 1.2 Materials and Supplies

Task 2: Public Engagement

- 2.1 Conservation Grants
- 2.2 2023 Calendar and Harbor Happenings Magazines
- 2.3 Public Engagement Events

Task 3: Research Coordination

- 3.1 Water Quality and Seagrass Monitoring and Mapping Programs
- 3.2 CHNEP Water Atlas
- 3.3 Charlotte County Comprehensive Vulnerability Assessment
- 3.4 Polk County Comprehensive Vulnerability Assessment
- 3.5 Climate Change Vulnerability Assessment - 2 Counties TBD

Task 4: Watershed Coordination

- 4.1 Submerged Aquatic Vegetation Restoration
- 4.2 Pine Island Flatwoods Preserve Wetland Habitat Enhancement
- 4.3 Myakka Headwaters Project
- 4.4 Cyanobacteria Rapid Response Pilot
- 4.5 Wild Turkey Strand Preserve Restoration
- 4.6 Tiki Point Harborwalk Living Shoreline Pilot Project
- 4.7 Restoration/Research Project(s) TBD

Task 5: Policymaker Education

CLEAN WATER ACT (CWA) CORE PROGRAM GOALS TASKS & PROJECTS ARE DESIGNED TO ADDRESS:

- 1) Establishing water quality standards
- 2) Identifying polluted waters and developing restoration plans
- 3) Permitting discharges of pollutants from point
- 4) Addressing diffuse, nonpoint sources of pollution
- 5) Protecting wetlands
- 6) Protecting coastal waters through the National Estuary Program
- 7) Protecting large aquatic ecosystems

Task 1 Management Conference: Administration, Finance, Operations

Objective: Provide committee structure that supports the implementation of the CCMP; support administration of CHNEP; ensure compliance with grant and agreement requirements as awardee and awarder; and seek additional funding support for identified projects.

Description: The CHNEP office provides staff support to the Management Conference, furnishes operations and finance support, ensures compliance with Host Agency procedures, secures funding from partners, and assists partners seeking grants and contracts to implement the CCMP.

CCMP Elements Implemented: All

Outputs/Deliverables

- Management Conference committee meetings for 4 committees, 3x/yr.
- Management Conference adoption of Annual Work Plan before June 1, 2023
- GPRR Reporting through EPA's NEPORT, by September 14, 2023

Milestones

- Administration of Program Office operations and finances, ongoing
- Collaborate with partners on CCMP implementation, ongoing
- Compliance with Host Agency finance and procurement requirements, ongoing
- Compliance with Funders' grant reporting requirements, ongoing

FY 23 Budget

EPA 320 Funds (FY23):	
Personnel Staff Time: (\$440,665.85)	\$440,666
Staff Travel:	\$ 25,000
Overhead Host Administrative Fees:	\$200,290
EPA BIL Funds (FY23)	\$ 33,042
SWFWMD (Personnel)	\$ 56,000
FDEP (Personnel)	\$ 75,000

Note: Total personnel costs are \$604,707.72

Local:	
Meeting Support	\$ 5,649
Communications Software and Fees	\$ 9,000
Estimated Task 1 Total Budget	\$844,647

Outcomes

- Fully informed and engaged CHNEP Management Conference
- Other federal, state and non-profit grants obtained to funding CCMP implementation
- Increased participation, understanding and support of NEP mission by partners
- Continued commitment from partners to fund CHNEP and CCMP activities
- Funding opportunities and assistance provided to partners to implement initiatives and projects that further CCMP implementation

CWA Core Program addressed: potentially all

Task 1.1 Materials and Supplies

Project Objective: To provide the necessary supplies for the program office to function

Project Description: CHNEP the development and purchase of the needed materials and supplies to operate the CHNEP program office.

CCMP Elements Implemented: All

Outputs/Deliverables/Estimated Milestones

- Supplies obtained necessary to maintain effective and efficient CHNEP office operations

FY 23 Budget

Local Funds:	\$25,000
Estimated Total Budget:	\$25,000

Outcomes

- Increased awareness of CHNEP and CHNEP's CCMP
- Expanded CHNEP partnerships
- Engaged decision-makers and citizens in CHNEP activities

CWA Core Program addressed: (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands and (6) protecting coastal waters through the National Estuary Program.

Task 2 Public Engagement

Work Plan Objective: Provide essential ongoing communications so CHNEP can address specific requirements and issues associated with the CCMP; as well as to support the CHNEP Management Conference and partners' public outreach initiatives to further CCMP implementation.

Description: Tools used to provide continuous support of the overall program include website, social media and media. They range from events (workshops, festivals and trainings), to publications (magazines, calendars and books), to videos and target audience initiatives.

CHNEP Staff create all the public education and engagement content for the following:

- YouTube: Videos and talks (PDF files with linked with audio) posted share presentations online
- Facebook: Routine posts promote CHNEP projects
- Constant Contact: Notices of Management Conference meetings and events are sent to subscribers
- CHNEP website: The CHNEP.org website provides current information about projects, meetings, grant opportunities, and volunteer activities

CCMP Elements Implemented: PE-1, PE-2, PE-3, and PE-4.

Partners and their roles: CHNEP is lead in conducting its public outreach activities, doing so in cooperation with and in support of its partners

Outputs/Deliverables

- Updated website for Management Conference meetings and activities
- Routine posts on Facebook social media
- EventBrite messages to promote and handle registrations for events
- Constant Contact messages to announce Management Conference meetings
- Citizen science workshops and events

Estimated Milestones

- 10+ public education and engagement events per year

FY 23 Budget

EPA 320 Funds:	Staff Time
FDEP Funds:	Staff Time
Estimated Total Budget:	Staff Time

Outcomes

- Educated and engaged citizenry who are knowledgeable about the CHNEP and the natural environment of southwest Florida.
- Educational resources and events that enhance protection of natural resources and CCMP implementation
- New partnerships and strengthened existing partnerships through funding opportunities for projects that implement the CCMP

CWA Core Program addressed: (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 2.1 Conservation Grants

Objective: To implement the CCMP through award of funding to community partners for CCMP-related community projects and initiatives.

Description: Conservation grant proposals are solicited and awarded in the \$500 to \$3,000 range to selected citizens, organizations, businesses, government agencies, schools or universities that are undertaking activities outlined in the CHNEP CCMP.

CCMP Elements Implemented: All

Outputs/Deliverables

- Outputs vary with project, but all projects submit a final project report with supporting documentation

Estimated Milestones

- All proposals reviewed and recommendations for funding completed according to the cycle schedule:
- Summer Deadline is August 1, 2022 for October 2023 award notice
- Winter Deadline is December 1, 2023 for February 2023 award notice
- Spring Deadline is April 1, 2023 for June 2023 award notice
- All payments are expected to be processed by September 30, 2023

FY 23 Budget

Local Funds:	\$30,000
Estimated Total Budget:	\$30,000 + Staff Time

Outcomes

- Strengthened and expanded partnerships to protect and restore the CHNEP area
- Engaged citizens assisting in environmental education, research, monitoring, and restoration activities
- Expanded CHNEP outreach and education
- Enhanced natural resource protection

CWA Core Program addressed: potentially all

Task 2.2 2024 Calendar and 2023 Harbor Happenings Magazines

Project Objective: Educate, motivate and engage the public and partners through creating an annual nature calendar and periodic magazines that showcase the importance and diversity of the native, natural environment, as well as raise awareness of CHNEP and its efforts to implement the CHNEP CCMP.

Project Description: CHNEP designs, publishes and distributes an annual calendar with an educational insert section, with images donated by citizens. Additionally, the CHNEP also produces periodic Harbor Happenings magazines to report on environmental “happenings,” including watershed issues, events and updates on CHNEP activities and progress towards implementing the CCMP.

CCMP Elements Implemented: PE-1, PE-2, PE-3, and PE-4.

Partners and their roles: Articles and images are donated by interested citizens and Management Conference partners. The calendars are distributed in multiple ways, including U.S. Mail to individual citizens and in bulk to 200+ partners that volunteer to redistribute in their area and at events.

Outputs/Deliverables: The Harbor Happenings magazine (one of which is included in the calendar) and annual CHNEP Calendar.

Estimated Milestones

- Magazine printed seasonally
- Calendar published and distributed annually

FY 23 Budget

EPA 320 Funds:

Calendar Printing/Mailing	\$27,181
Magazine Printing/Mailing	\$22,863 (\$22,863.15 exact total)

Local Funds:

Calendar Support Contractor	\$ 5,000
<small>(from \$5,000 Manatee County contribution)</small>	

Estimated Total Budget: (\$50,044.15) \$55,044 + Staff Time

Outcome: Informed public and CHNEP partners all become more knowledgeable and engaged in the stewardship of the natural environment in which they live.

CWA Core Program addressed: (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 2.3 Public Engagement Events

Project Objective: Support projects, initiatives, and workshops that educate and engage people about the issues that affect the natural environment in the CHNEP area, so they become better stewards.

Project Description: Events provide information and activities for various audiences, ranging from citizens to environmental professionals to decision-makers. Events also provide opportunities for partners to network, collaborate and learn about projects and solutions to environmental issues. CHNEP organizes and hosts routine citizen science and volunteer events that involve presentations followed by resource-protection activities.

CCMP Elements Implemented: PE-1, PE-2, PE-3, and PE-4.

Partners and their roles: CHNEP Management Conference members, other partners and the public participate in all of these events. Local nonprofit and government partners provide support.

Outputs/Deliverables

- 10 volunteer events

Estimated Milestone

- Plan, promote and facilitate at least 10 citizen science and volunteer events annually

FY 23 Budget

Local:	\$4,238
Estimated Total Budget:	\$4,238 + Staff Time

Outcomes

- Increased understanding of how personal actions affect the environment
- Enhanced sense of stewardship in natural resource protection
- Increased numbers of partners conducting activities that help fulfill the CCMP
- Professional exchange and technological information transfer amongst partners

CWA Core Program addressed: (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, and (6) protecting coastal waters through the National Estuary Program.

Task 2.4 Sponsorships

Project Objective: Implement of CCMP through support of CCMP-related conferences, workshops and events.

Project Description: Support for environmental conference, workshops, symposia, etc. through sponsorships, which support implementation the CHNEP CCMP.

CCMP Elements Implemented: All

Outputs/Deliverables

- CHNEP acknowledged as event sponsor, with logo on event materials

Milestone: All funds awarded, obligated and payments processed by September 30, 2023

FY 23 Budget

Local:	\$6,500
Estimated Total Budget:	\$6,500

Outcomes

- Strengthened and expanded partnerships to implement the CCMP
- Engaged scientists, researchers, stakeholders and decision-makers in events that educate and inform about research, monitoring, and restoration activities relevant to CHNEP
- Informed general public, potential partners, and targeted audiences about CHNEP's mission

CWA Core Program addressed: (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3 Research Coordination

Work Plan Objective: To ensure collection, reporting and access to consistent region-wide, technically sound water quality and biological data throughout the CHNEP area. To identify and resolve gaps in scientific data and address emerging research needs through partnerships and innovative research.

Description: CHNEP coordinates some water quality sampling as well as works with partners to identify and resolve gaps in water quality and biological data, specifically through refinements to the Monitoring Strategy. In addition, CHNEP assists partners with compiling, analyzing, mapping and conveying complex technical information in an understandable manner so it can be used to implement effective resource protection and restoration projects. The resulting data is used to assess resource status and trends, to be incorporated into resource management plans.

CCMP Elements Implemented: WQ-1, WQ-2, HR-1, FW-2, and PE-1.

Partners and Roles: outlined below in the respective subtasks

Outputs/Deliverables, Milestones

- CHNEP Water Atlas: Review and assess uploaded water quality sampling data
- Water Quality Monitoring: Monthly water quality data, quarterly RAMP participation, and CCHMN annual field audits and meetings
- Seagrass Monitoring: Annual seagrass data
- Seagrass Aerial Mapping: Biennial and 6-year seagrass aerial mapping
- Data Management: Biannual up-dates of water quality data
- Data Access: Ongoing access to water quality data, graphing and analyses and response to data requests
- Data Analysis and Use: Annual up-dates of water quality contour maps and, and periodic refinement of Research Needs Inventory and environmental indicators

FY 23 Budget

EPA 320 Funds:	Staff Time
FDEP Funds (Staff Time):	Staff Time
SWFWMD Funds (Staff Time):	Staff Time
Estimated Total Budget:	Staff Time

Outcomes

- Consistent region-wide, technically sound water quality and biological data needed to assess resource status, trends and complex interactions
- Public access to water quality and seagrass data to partners via CHNEP Water Atlas
- Increased data analyses, maps and graphs to enhance and evaluate protection and restoration efforts
- Increased collaboration of monitoring, mapping and management among resource managers and agencies from throughout the CHNEP Area
- Expanded used of data by partners to assess resource conditions, manage resources and implement effective and efficient management programs and restoration projects

CWA Core Program addressed: (1) establishing water quality standards, (2) identifying polluted waters and developing restoration plans, (3) permitting discharges of pollutants from point, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3.1 Water Quality and Seagrass Monitoring and Mapping Programs

Project Objective: To ensure collection, reporting and mapping of consistent, technically sound long-term water quality and seagrass data throughout the CHNEP estuaries and tidal creeks. The resulting data is shared with partners to be used for assessing resource status and trends and implementing effective management programs and restoration projects.

Project Description: CHNEP participates in four coastal water quality and seagrass monitoring and mapping programs. CHNEP coordinates the Coastal Charlotte Harbor Monitoring Network (CCHMN), which is a partnership of agencies that provides monthly water quality data using a probabilistic sampling design. CCHMN field and laboratory partners collect and analyze water samples from 60 randomly selected field sites throughout 10 waterbodies each month, including: Lemon Bay, Cape Haze/Gasparilla Sound, Charlotte Harbor, Pine Island Sound, Matlacha Pass, San Carlos Bay, Estero Bay and the Tidal Myakka, Peace and Caloosahatchee Rivers. Water quality parameters include: depth, clarity, temperature, salinity, dissolved oxygen, pH, conductivity, photosynthetically active radiation (PAR), chlorophyll, color, nitrogen components, phosphorus components, turbidity, suspended solids, and organic Carbon. CHNEP coordination activities for the CCHMN include: developing and updating Standard Operating Procedures and field Quality Assurance Project Plan (QAPP), conducting annual field audits, hosting annual meetings, participating in quarterly Regional Ambient Monitoring Program (RAMP) quality assurance meetings, providing access to the data through the CHNEP Water Atlas, including data graphing, mapping and reporting, and assisting with field sampling and equipment repair as needed. Additionally, CHNEP supports activities for the Florida Department of Environmental Protection’s Aquatic Preserves water quality monitoring project known as the Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network (CHEVWQMN) this included uploading and analyzing data collected by on the CHNEP Water Atlas. CHNEP also supports the Aquatic Preserve seagrass monitoring program by providing access to the data through the CHNEP Water Atlas and assisting with monitoring as needed. CHNEP also supports activities for the seagrass aerial mapping including: reviewing draft results and providing maps of the seagrass results for each of the 13 CHNEP estuary sub-basins (strata).

CCMP Elements Implemented: WQ-1, WQ-2, HR-1, FW-1, FW-2, FW-3, PE-1, and PE-3.

Partners and Roles:

CCHMN:

Water Quality monitoring support:	\$13,000	EPA-320 (Lower CCHMN)
	\$74,000	SWFWMD (Upper CCHMN)
	In-kind	Charlotte County, Lee County, Cape Coral, FDEP
	In-house	CHNEP Staff (Primary)
RAMP WQ quality assurance:	In-kind	Charlotte County, Lee County, Cape Coral, FDEP, FWRI, SWFWMD
	In-house	CHNEP Staff (Primary)
CHEVWQMN:		
Water Quality monitoring support:	In-kind	FDEP CHAP, EBAP
	In-kind	Friends of CHAP and EBAP
	In-kind	Charlotte Harbor Environmental Center
Seagrass Transects:	In-kind	FDEP (CHAP, EBAP, & South District)
Seagrass Aerial Mapping:	In-kind	SWFWMD, SFWMD
	In-house	CHNEP Staff

Outputs/Deliverables

- CCHMN: Monthly water quality data, annual field audit results, annual meeting, and quarterly RAMP participation
- CHEVWQMN: Monthly water quality data and biannual quality assurance results
- Seagrass Monitoring: Annual seagrass transect data
- Seagrass Aerial Mapping: Seagrass aeriels and maps from SWFWMD every 2 years and from SFWMD every 6 years
- RAMP: participation in meetings

Estimated Milestones

- CCHMN and CHEVWQMN: Water quality samples collected monthly, analyzed within holding periods, reported quarterly and uploaded to state water quality data base within 6 months
- Seagrass Monitoring: Seagrass data collected annually and reported within 18 months
- Seagrass Aerial Mapping: Seagrass aerial mapping conducted every 2 years by SWFWMD and every 6 years by SFWMD and reported and maps provided within 18 months

FY 23 Budget

EPA 320 FY23 Funds:	\$13,000 + Staff Time
SWFWMD FY23 Funds:	\$74,000
Estimated Total Project Budget:	\$87,000 (~\$253,000 in kind from partners for CCHMN)

Outcomes

- Coordinate monthly water quality sampling and assist with seagrass monitoring each year and seagrass aerial mapping every 2-5 years
- Provide consistent region-wide, technically sound water quality and seagrass data needed to asses resource status, trends and complex interactions
- Provide consistent region-wide, technically sound water quality and seagrass data for resource management, regulatory programs, including TMDLs and water quality standards, and education of the public and elected officials throughout CHNEP
- Provide access to water quality and seagrass data to partners via CHNEP Water Atlas
- Provide data needed to asses effectiveness of protection and restoration efforts
- Increase collaboration on monitoring and mapping between SWFWMD and SWFWMD

CWA Core Program addressed: (1) establishing water quality standards, (2) Identifying polluted waters and developing restoration plans, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3.2 CHNEP Water Atlas

Project Objective: To ensure continuing access to technical information from throughout the CHNEP Study Area to scientists, resource managers and users, elected officials and the public through a user-friendly web-based tool. The resulting data, maps and graphs are easily accessible for use to evaluate resource conditions, answer site and topic specific questions, and convey scientific information in an understandable manner to support effective management programs and restoration projects.

Project Description: CHNEP maintains and enhances the CHNEP Water Atlas, a web-based, data management and mapping system that provides historical information, scientific data, water resource maps, resource management actions, volunteer opportunities and current events from throughout the CHNEP area. Tools are available to map, analyze and graph data related to specific locations and topics to assist partners with identifying, prioritizing and implementing projects that address CCMP water quality, habitat, hydrology and stewardship goals. CHNEP support includes maintenance, improvements and enhancements of all the CHNEP Water Atlas components, including home page design and database updates.

In addition to maintenance, the CHNEP works with USF to make upgrades and improvements on an annual basis. New Water Atlas Features/Improvements planned for 2023 include:

- *Implementation of Waterbody/Basin Page Modifications:* implement the new integrated waterbody and basin pages with the four interactive mappers (e.g., water quality, hydrology, fish and wildlife habitat, and climate change) that are reclassified and aligned with FDEP WBID boundaries and CHNEP basin boundaries as well as the flow chart provided by CHNEP which outlines the structure and hierarchy of watersheds, basins, and waterbodies
- *Conceptual Design and Implementation of Watershed Page Modifications:* design updated basin and watershed pages that include general information on watersheds, a summary and a map of the watershed, and integrated hotlinks to the appropriate associated basin (if watershed page) and waterbody pages (if watershed or basin page).
- *Updates for Water Quality Dashboard and Numeric Nutrient Criteria (NNC) Calculator Tool:* reclassify waterbody segments based on the updated waterbody (WBID) boundaries defined by the Florida Department of Environmental Protection (FDEP) to accommodate the use of waterbody segment water quality data and NNC/threshold values. The UNIVERSITY will make structural changes to the Water Atlas GIS and database to redefine the boundaries of CHNEP waterbodies into tidal, rivers/streams, and lakes. Waterbody specific NNC threshold values will be based on FDEP adopted NNCs or tidal creek NNCs. The Dashboard gauges will also be modified to display a notice indicating whether the latest value is good or poor based on the threshold.
- *Data Download Tool Update for Continuous Data Logger Data:* complete the data download and custom graphing system of the CHNEP Water Atlas so that it can handle all publicly available continuous data in the CHNEP area.

CCMP Elements Implemented: WQ-1, WQ-2, HR-1, FW-1, FW-2, FW-3, PE-1, and PE-3.

Partners and Roles: All entities creating publicly accessible water quality data

Outputs/Deliverables Milestones:

- Post and provide access to water quality data updates every 6 months
- Post and provide access to water quality contour map updates annually
- Post and provide access to data analyses, maps and graphs as requested
- Conducting trend analysis on water quality data annually and providing in user friendly format

- Conducting analysis on seagrass data annually and providing in user friendly format

FY 23 Budget:

EPA 320 FY23 Funds:	\$21,000 + Staff Time
EPA BIL FY23 Funds:	\$130,588
Estimated Total Budget:	\$151,588 + Staff Time

Outcomes

- Data publicly provided to public and resource managers to assess effectiveness of protection and restoration efforts
- Increased coordination on sampling and monitoring efforts amongst resource managers and agencies in the CHNEP area

CWA Core Program addressed: (2) identifying polluted waters and developing restoration plans, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3.3 Charlotte County Comprehensive Vulnerability Assessment

Project Objective: To identify local climate change impacts and vulnerabilities and present adaptation responses that can help reduce community vulnerability and/or increase resilience in Charlotte County, Florida.

Project Description: This project will use the climate adaptation planning process to conduct public workshops and data analysis to identify pre-existing conditions and climate stressors, including vulnerability modeling to develop recommended Adaptation Action Areas (AAA's) for Charlotte County. The Consultant will gather and update the County's vulnerability assessment utilizing new elevation data, updated sea level rise projections, shoreline information, capital project data, social vulnerability index, and stormwater management data. Vulnerability modeling with new elevation data will be used to determine infrastructure and habitat impacts as well as areas of increasing vulnerability for a 2030, 2060, and 2100 sea level rise assumption horizon. Using the best available data, the contractor will also incorporate an analysis of stormwater management and social vulnerability using best practices such as the Center for Disease Control's Social Vulnerability Index or other evaluation strategy (identifying vulnerable populations and potential public health risks). That information and input will be synthesized into a summary of current and projected climate changes for the community, with particular focus on addressing the needs of disadvantaged communities as defined by the US EPA. The contractor will then use these vulnerability assessments to develop proposed adaptation strategies. One of the foundational concepts of Fla Stat 380.093 and FEMA's CRS program is to assess the flood risk of a community using best available tools, data, and methodologies. The larger goal of both programs is to capture multiple types of weather-related scenarios to project and model how various flood risks would affect the community. This project will produce a final Climate Change Vulnerability Assessment for Charlotte County that meets all Florida Statutory requirements to create a final product that is acceptable to the Florida Department of Environmental Protection in order to qualify the County to access additional state funding sources, for which that is a prerequisite for.

CCMP Elements Implemented: potentially all CCMP elements

Partners and Roles: CHNEP (Funder), Charlotte County

Outputs/Deliverables Milestones

- Data Collection and Analysis
- Vulnerability Modeling and Analysis (including stormwater, social, etc.)
- Summary of Current and Project Climate Changes
- Summary of Proposed Adaptation Strategies and recommended Adaptation Action Areas

FY23 Budget (continuing into FY23): Remaining funds from below to be expended + Staff Time

Prior Funding:

EPA FY22 BIL Funds:	\$ 200,000
Estimated Total Budget:	\$ 200,000 + Staff Time

Outcomes

- Climate Change Vulnerability Assessment for Charlotte County that meets state Statutory requirements

CWA Core Program addressed: (2) identifying polluted waters and developing restoration plans to restore them, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3.4 Polk County Comprehensive Vulnerability Assessment

Project Objective: To identify local climate change impacts and vulnerabilities and present adaptation responses that can help reduce community vulnerability and/or increase resilience in Polk County, Florida.

Project Description: This project will use the climate adaptation planning process to conduct public workshops and data analysis to identify pre-existing conditions and climate stressors, including vulnerability modeling to develop recommended Adaptation Action Areas (AAA's) for Polk County. The Consultant will gather and update the County's vulnerability assessment utilizing new elevation data, updated sea level rise projections, shoreline information, capital project data, social vulnerability index, and stormwater management data. Vulnerability modeling with new elevation data will be used to determine infrastructure and habitat impacts as well as areas of increasing vulnerability for a 2030, 2060, and 2100 sea level rise assumption horizon. Using the best available data, the contractor will also incorporate an analysis of stormwater management and social vulnerability using best practices such as the Center for Disease Control's Social Vulnerability Index or other evaluation strategy (identifying vulnerable populations and potential public health risks). That information and input will be synthesized into a summary of current and projected climate changes for the community, with particular focus on addressing the needs of disadvantaged communities as defined by the US EPA. The contractor will then use these vulnerability assessments to develop proposed adaptation strategies. One of the foundational concepts of Fla Stat 380.093 and FEMA's CRS program is to assess the flood risk of a community using best available tools, data, and methodologies. The larger goal of both programs is to capture multiple types of weather-related scenarios to project and model how various flood risks would affect the community. This project will produce a final Climate Change Vulnerability Assessment for Polk County that meets all Florida Statutory requirements to create a final product that is acceptable to the Florida Department of Environmental Protection in order to qualify the County to access additional state funding sources, for which that is a prerequisite for.

CCMP Elements Implemented: potentially all CCMP elements

Partners and Roles: CHNEP (Funder), Polk County

Outputs/Deliverables Milestones

- Data Collection and Analysis
- Vulnerability Modeling and Analysis (including stormwater, social, etc.)
- Summary of Current and Project Climate Changes
- Summary of Proposed Adaption Strategies and recommended Adaptation Action Areas

FY23 Budget (continuing into FY23): Remaining funds from below to be expended + Staff Time

Prior Funding:

EPA FY22 BIL Funds:	\$ 200,000
Estimated Total Budget:	\$ 200,000 + Staff Time

Outcomes

- Climate Change Vulnerability Assessment for Polk County that meets state Statutory requirements
-

CWA Core Program addressed: (2) identifying polluted waters and developing restoration plans to restore them, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 3.5 Comprehensive Vulnerability Assessments - TBD

Project Objective: To identify local climate change impacts and vulnerabilities and present adaptation responses that can help reduce community vulnerability and/or increase resilience in a CHNEP County(ies) which presently does not have a Comprehensive Vulnerability Assessment to assess impacts from climate change.

Project Description: This project will use the climate adaptation planning process to conduct public workshops and data analysis to identify pre-existing conditions and climate stressors, including vulnerability modeling to develop recommended Adaptation Action Areas (AAA's) for two Counties in the CHNEP Area who do not have such presently. The Consultant will gather and update the County's vulnerability assessment utilizing new elevation data, updated sea level rise projections, shoreline information, capital project data, social vulnerability index, and stormwater management data. The updated vulnerability modeling with new elevation data will be used to determine infrastructure and habitat impacts as well as areas of increasing vulnerability for a 2030, 2060, and 2100 sea level rise assumption horizon. Using the best available data, the contractor will also incorporate an analysis of stormwater management and social vulnerability using best practices such as the Center for Disease Control's Social Vulnerability Index or other evaluation strategy (identifying vulnerable populations and potential public health risks). That information and input will be synthesized into a summary of current and projected climate changes for the community. The contractor will then use these vulnerability assessments to develop proposed adaptation strategies.

One of the foundational concepts of Fla Stat 380.093 and FEMA's CRS program is to assess the flood risk of a community using best available tools, data, and methodologies. The larger goal of both programs is to capture multiple types of weather-related scenarios to project and model how various flood risks would affect the community. This project will produce a final Climate Change Vulnerability Assessment for Charlotte County that meets all Florida Statutory requirements to create a final product that is acceptable to the Florida Department of Environmental Protection in order to qualify the County to access additional state funding sources, for which that is a prerequisite for.

CCMP Elements Implemented: potentially all CCMP elements

Partners and Roles: CHNEP (Funder), CHNEP County/Counties TBD

Outputs/Deliverables Milestones

- Data Collection and Analysis
- Vulnerability Modeling and Analysis (including stormwater, social, etc.)
- Summary of Current and Project Climate Changes
- Summary of Proposed Adaptation Strategies and recommended Adaptation Action Areas

FY23 Budget

EPA FY23 BIL Fund	\$ 400,000
Estimated Total Budget:	\$ 400,000 + Staff Time

Outcomes

- Climate Change Vulnerability Assessment for Charlotte County that meets state Statutory requirements

CWA Core Program addressed: (2) identifying polluted waters and developing restoration plans to restore them, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 4 Watershed Coordination

Work Plan Objective: To coordinate partner efforts around protection and restoration on a watershed scale.

Description: CHNEP to coordinate protection and restoration efforts including mapping, monitoring, reporting (including in the annual development of the Government Performance and Review Act (GPRA) report). Additionally, CHNEP staff will provide technical support in watershed initiatives such as: Southern Water Use Caution Area (SWUCA) Recovery Strategy, Minimum Flows and Levels, Reasonable Assurance Plans, Basin Management Action Plans, Southwest Florida Comprehensive Watershed Management Plan, Charlotte Harbor Flatwoods Initiative, Lehigh Watershed Initiative, South Lee County Watershed Initiative, and Caloosahatchee River Watershed Protection Plan. Southwest Florida Estuarine Restoration Team (SWERT) facilitates region-wide estuarine habitat restoration that addresses endangered smalltooth sawfish critical habitat. CHNEP also participates in state and federal processes to identify landscape scale conservation corridors with public and private partnerships to provide habitat and species migration and climate change adaptation. Additionally, CHNEP participates in Everglades Restoration projects relevant to the CHNEP Study Area; this includes participating on the Science Coordination Group on behalf of Southwest Florida. As opportunities arise, CHNEP also assists partners in conducting restoration activities.

CCMP Elements Implemented: All

Partners: CHNEP, Florida Gulf Coast University, Florida SeaGrant, Coastal Wildlife Club, Lee County Parks and Recreation Department, Lee County Department of Natural Resources, Charlotte Harbor Environmental Center, Sanibel-Captiva Conservation Foundation, Friends of Charlotte Harbor Aquatic Preserves, Lee County Conservation 2020 Program, Calusa Land Trust, City of Fort Myers, Mote Marine Lab, Sarasota Estuary Program, and Tampa Bay Estuary Program.

Outputs/Deliverables Milestones

- GPRA Report
- Technical support for Charlotte Harbor Flatwoods Initiative, Lehigh Watershed Initiative, & South Lee County Watershed Initiative

FY 23 Budget

EPA 320 Funds:	Staff Time
FDEP Funds:	Staff Time
SWFWMD Funds:	Staff Time
Estimated Total Budget:	Staff Time

Outcomes

- Improved resource management
- Annual summaries of partners' restoration activities through the GPRA report
- Increased number and effectiveness of Best Management Practices (BMPs), plans and restoration activities

CWA Core Program addressed: (2) identifying polluted waters and developing restoration plans to restore them, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 4.1 Submerged Aquatic Vegetation Restoration

Project Objective: To ensure development of technically sound Submerged Aquatic Vegetation (SAV) restoration targets; implement restoration initiatives and projects which restore and protect SAV throughout the CHNEP estuaries and tidal rivers.

Project Description: CHNEP coordinates and participates in collaborations to develop technically sound SAV restoration targets and implement restoration projects throughout the Study Area. The CHNEP Management Conference adopted SAV targets in 2005 and refined targets in 2009, with the understanding that additional field assessment is needed to capture full extent of SAV distribution in the tidal rivers due to naturally highly colored river water. CHNEP convened the Caloosahatchee River SAV Targets Working Group (CRSAVTWG) in 2013 to begin developing sound SAV targets for the tidal and some oligohaline reaches of the Caloosahatchee River and has been working since to assist with the implementation of activities to assist meeting those targets. CHNEP also participates in the Southwest FL Seagrass Working Group and FWC Seagrass Integrated Monitoring and Mapping (SIMM) technical team.

CCMP Elements Implemented: FW-1, FW-2, PE-1, PE-2, and PE-3.

Partners and Roles: CHNEP coordinates the TAC subcommittees and CRSAVTWG. Together these collaborative groups include: FDEP Charlotte Harbor and Aquatic Preserves, Florida Sea Grant, FWC, SWFWMD, SFWMD, Lee County, Charlotte County, Sarasota County, SCCF, FGCU and Johnson Engineering.

Outputs/Deliverables:

- Exchange technical information, monitoring and mapping methods, and emerging SAV issues
- Reporting and showcasing success of SAV restoration projects

Estimated Milestone

- Exchange of SAV information ongoing

FY 23 Budget

EPA 320 Funds:	Staff time
Estimated Total Budget:	Staff time

Outcomes

- Increased protection and restoration of natural systems
- More region-wide water quality, biological and physical data
- Advancement on the development of SAV Targets
- Adaptation of SAV restoration projects based on lessons learned

CWA Core Program addressed: (5) protecting wetlands and (6) protecting coastal waters through the National Estuary Program.

Task 4.2 Pine Island Flatwoods Preserve Wetland Habitat Enhancement

Project Objective: This project will increase the area of restored wetland habitat through hydrological restoration. Wetlands naturally filter out pollutants and provide freshwater base flow to maintain healthy salinity levels in tidal creeks and estuaries. As a result of increasing wetlands on-site, cleaner and more appropriate flows of freshwater will be flowing across and off-site — supporting healthier and more abundant aquatic life downstream

Project Description: Pine Island Flatwoods Preserve (part of the Lee County Conservation 20/20 Program) is a 919-acre passive area which supports 134 wildlife species. This project is identified in the Pine Island Flatwoods Preserve Land Stewardship Plan, to control exotic plant species, provide freshwater to wildlife outside of the wet season, and restore hydrology of the site. The proposed 1.27-acre project area presently includes four abandoned shrimp farm ponds surrounded by multiple earthen spoil berms. The planned construction activities include the removal of these berms, construction of 100 feet of new berm to ensure wetland water retention, and re-contouring of the current shrimp pond area to create two distinctive water management areas for habitat enhancement purposes. Following construction, the enhanced freshwater marsh will be approximately 2 to 2.5 feet deeper and will connect to the Pine Island Sound estuary through an estuarine pond and outfall. Restoration of these old shrimp ponds will provide wetland habitat and a freshwater source to wildlife year-round. The project will also improve water quality and flows downstream.

CCMP Elements Implemented: HR-3, FW-1, FW-2, FW-3

Partners and Roles: Lee County is the site owner manager as well as permit applicant, FWC will serve as a project consultant, and CHNEP is the restoration project funder and manager.

Outputs/Deliverables

- CEI (construction engineering and inspection) support services for construction
- Site construction plans, mobilization, earthwork, and demobilization tech memo
- Native planting and maintenance technical memo

Estimated Milestone

- Completed hydrological restoration and wetland habitat creation project with positive impacts on downstream estuary water quality

FY23 Budget

Remaining funds from below to be expended + Staff Time

Prior Funding:

EPA FY22 BIL Funds:	\$113,450
Estimated Total Budget:	\$113,450 + Staff Time

Outcomes

- Increased protection and restoration of natural systems and habitats
- Restoration and success monitoring methods will be available to designing and implementing future restoration project
- Collaboration and technical information exchange will be enhanced between partners.
- Identified CHNEP Habitat Restoration Needs plan activities for the area will be addressed

CWA Core Program addressed: (5) protecting wetlands and (6) protecting coastal waters through the National Estuary Program.

Task 4.3 Myakka Headwaters Project

Project Objective: This project will increase the area of restored wetland habitat through exotic invasive plant removal and strategic native plantings, this work will restore the natural balance of this area. Wetlands naturally filter out pollutants and provide freshwater base flow to maintain healthy salinity levels in tidal creeks and estuaries.

Project Description: Myakka Headwaters Preserve is part of both the Myakka River and the greater Gulf Coast ecosystem. Located within a larger protected area, Myakka Headwater Preserve forms an important part of Flatford Swamp, the River’s largest forested wetland. Surrounding the preserve are an additional 2,457 acres of Flatford Swamp, preserved by Southwest Florida Water Management District (SWFWMD). The purchase of Myakka Headwaters Preserve further protected this rare treasure. The enhancement and protection of this crucial floodplain forest protects part of the natural flow regime of the Myakka River. At the same time, restoration work is necessary to realize the property’s full environmental potential.

CCMP Elements Implemented: FW-1, FW-2, FW-3

Partners and Roles: Conservation Foundation of the Gulf Coast is the site owner manager. SWFWMD will serve as a project consultant and funder and CHNEP is the restoration project manager.

Outputs/Deliverables

- Native Planting & Exotic Removals technical memo
- Site Management Plan to maintain and expand on the restoration work

Estimated Milestone: Completed native planting & exotic removal that will create a positive impact on downstream waters

FY 23 Budget

Remaining funds from below to be expended + Staff Time

Prior Funding:

SWFWMD FY19 Funds:	\$25,000
SWFWMD FY21 Funds:	\$31,000
Estimated Total Budget:	\$56,000 + Staff Time

Outcomes:

- Increased protection and restoration of natural systems and habitats
- Restoration and success management methods will be available to designing and implementing future restoration project
- Collaboration and technical information exchange will be enhanced between partners.
- Implements CHNEP Habitat Restoration Needs activities for the area

CWA Core Program addressed: (5) protecting wetlands and (6) protecting coastal waters through the National Estuary Program.

Task 4.4 Tiki Point Harborwalk Living Shoreline Pilot Project

Project Objective: Create the Tiki Point Harborwalk (TPH) living shoreline project, working with the City of Punta Gorda. The project will increase resilience and mitigate the risks of flooding and SLR using a hybrid nature-based solution to improve habitat and water quality, reduce erosion, and buffer storm effects as outlined in the. It will include data collection, final design and permitting, and construction. CHNEP will also assist in raising public awareness and engage and educate local partners and citizens on the benefits of living shorelines, using this project as an example.

Project Description: The project aims to further develop solutions to mitigate/adapt to the risks of flooding along the Charlotte Harbor shoreline by implementing nature-based features. Application of these nature-based solutions will decrease wave energy along the shorefront and assist in providing a buffer to SLR and flooding for the historic downtown district of Punta Gorda and US 41, a primary evacuation route for the region which is susceptible to flooding. CHNEP will work alongside the City of Punta Gorda, who will be procuring both CEI (construction engineering and inspection) support services for construction and the construction contractor, to educate and hold public workshops for the citizens of Punta Gorda. This will allow education as to why living shorelines are so important in the region. The Vulnerability Assessment (VA), included in the 2019 City of Punta Gorda Adaptation Plan, implemented a GIS-based analysis of the City's public infrastructure using SLR projections and tropical storm surge elevations. The project site is within the VA's Historic Downtown Focus Area and is identified as a low-lying flood prone area (54% flooded with 3 ft. of SLR). This shoreline includes a waterfront promenade connecting two City parks.

CCMP Elements Implemented: HR-3, FW-1, FW-2, FW-3.

Outputs/Deliverables Milestones

- Construction Plans
- Pictures/Videos of before and after construction
- Fact Sheet on benefits of nature-based solutions such as a hybrid living shoreline

FY23 Budget Remaining funds from below to be expended + Staff Time

Previous Years Funding

EPA FY22 Funding	\$17,450 EPA 320 FY22 Transfer from Pine Island project \$19,750 EPA 320 FY22 Transfer from Underutilized Non- Research/Restoration (e.g., Travel, Supplies, Tech Projects) \$113,222 EPA 320 FY20-21 Research/Restoration Allocated Carryover
Local FY22 Funding	\$ 3,068
EPA FY20 320 Funds:	\$ 66,061
EPA FY21 320 Funds:	\$ 96,000
Estimated Total Budget:	\$315,551 + Staff Time

Note: FDEP reimbursement funds for LCHFII may free up an additional \$33,250 of EPA 320 funds which would then also be reallocated to this project for a new total budget of \$348,801.

Outcomes

- Mitigate flooding, erosion, and sea level rise along a portion of the Charlotte Harbor waterfront
- Collect data needed for final design and permitting of a nature-based solution, such as a hybrid living shoreline outlined
- Create a more resilient public park space with flood protection, habitat and eco-tourism benefits

CWA Core Program addressed: (5) protecting wetlands and (6) protecting coastal waters through the National Estuary Program.

Task 4.5 Restoration/Research TBD Projects

Project Objective: To solicit and award funding for a restoration/research project that addresses the CCMP Priority Actions has long-term applicability and serves as a model for addressing habitat restoration and improvement and resource management challenges.

Project Description: CHNEP will fund a restoration/research project(s) that implements CCMP Priority Actions, has long-term applicability, and serves as a model for addressing habitat restoration and resource management challenges. Assurances of long-term conservation use of the area after restoration/research is completed is an essential component of the project, as are monitoring restoration success and informing and educating the public about habitat values and restoration/research methods. Proposed projects should address at least one Priority Problems and implement one Priority Action, be transferable, demonstrate value to the community, and include monitoring and educational components.

CCMP Elements Implemented: Will be determined upon award.

Partners and Roles: Will be determined upon award.

Outputs/Deliverables Milestones

- Habitats will be restored and protected within 2 years of project selection and remain in conservation use long term
- Restoration/research techniques will be transferable to other projects and locations following completion of the project
- Success monitoring methods, results and educational tools will be available to guide design and implementation of additional cost-effective restoration following completion of the project

FY 23 Budget

FY23 EPA BIL Funds:	\$346,170 + Staff Time
FY23 Local Funds:	\$ 10,000 for unanticipated project-related expenses
Estimated Total Budget:	\$356,170 + Staff Time

Previous Funding

FY22 EPA BIL Funds:	\$396,350
FY22 Local Funds:	\$ 6,932
Estimated FY22 Total Budget:	\$403,282 +Staff Time
Estimated FY22 & 23 Total Budget:	\$759,452 (\$742,520 EPA BIL + \$16,932 Local)

Outcomes

- Restoration and success monitoring methods will be available to designing and implementing future restoration project
- Collaboration and technical information exchange will be enhanced between partners.
- Identified CHNEP restoration needs will be filled

CWA Core Program addressed: (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting large aquatic ecosystems.

Task 5 Policymaker Education

Work Plan Objective: Support policymaker education and legislative action to support the implementation of the CCMP; implementing the Policy Review Procedures.

Description: This project is to support staff time to conduct policymaker education that implements the CCMP. Additionally, membership dues (\$4,500) in the Association of National Estuary Programs (ANEP) are included in this task as they are not eligible for EPA funding.

CCMP Elements Implemented: PE-4.

Outputs/Deliverables, Milestones

- Letters of support for legislation as directed
- Meetings with policymakers to educate them about CHNEP and its CCMP, as well as funding and support needed for its implementation
- Continue ANEP membership
- Provide input on CCMP topics as requested by policymakers on the Management Conference
- Legislative updates to Management Conference as appropriate
- Hire a contractor to assist with policy maker education

FY 23 Budget (all from local funding only):

ANEP Dues:	\$4,500
Contractor:	\$10,000
Estimated Total Budget:	\$14,500 (Local \$ only)

Outcomes

- Informed policymakers as the CHNEP and the CCMP recognized and utilized as a resource by legislators (local, state and Federal) and their staff
- Improved policies and funding that assist in implementing the CCMP

CWA Core Program addressed: (1) establishing water quality standards, (2) identifying polluted waters and developing restoration plans, (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, and (6) protecting coastal waters through the National Estuary Program.

CLEAN WATER ACT CORE PROGRAM SUPPORT

CHNEP supports the Clean Water Act (CWA) core programs through direct funding of projects, staff assistance to partners and partner activities. Provided below are representative activities of CHNEP support for CWA core programs during Fiscal Year 2022.

Water Quality Monitoring for Water Quality Standards

The CHNEP manages the Coastal Charlotte Harbor Monitoring Network (CCHMN), a regional partnership of agencies that collect monthly water quality data using consistent, technically-sound sampling design. The long-term random sampling of strategically located stations allows for the scientific assessment of water quality status and trends. The CCHMN was created to fill gaps in coastal water monitoring and initiate a unified sampling approach throughout the CHNEP area. CHNEP also contributes to this project by assisting in the monitoring of upper and lower Charlotte Harbor within the project area. CHNEP creates and maintain the EPA approved Quality Assurance Project Plan (QAPP) and Standard Operating Procedures for the CCHMN, conducts annual field audits and meetings, contracts and assists with field sampling, and compiles and analyzes collected water quality data through the CHNEP Water Atlas. CHNEP and CCHMN partners also participate in the Regional Ambient Monitoring Program (RAMP) which holds quarterly meetings. RAMP participants share current water quality field and laboratory issues and conduct quality assurance field sampling and laboratory analyses. CHNEP provides ongoing support to the CCHMN and the Charlotte Harbor Estuary Volunteer Water Quality Monitoring Network (CHEVWQMN), as their data is entered into the state Watershed Information Network (WIN) database and is used to evaluate status and trends of state, regional, and local estuarine conditions. The data is used locally by CHNEP to develop future water quality targets and numeric nutrient data. Charlotte Harbor is also a Southwest Florida Water Management District (SWFWMD) Surface Water Improvement and Management (SWIM) priority Water Body.

The continuation of consistent data collection throughout this project area will help to assess impairments, determine total maximum daily load limits (TMDL), and develop basin management action plans for the watershed. The gathering of water quality data results in valuable information that is used for guidance on the improvement of water quality based on records starting in 2000.

Controlling Non-Point Sources

CHNEP funds Conservation Grants, many of which are aimed at educating or implementing non-point source pollution reduction. Examples include fertilizer restriction brochures and signs, native landscaping workshops, marine debris reduction, rain gardens, etc.

The CHNEP hosts the Water Atlas site, a web-based resource center providing both technical users and interested community members and policy makers with a one-stop shop to find local data on water quality, flow, and habitat to information about educational events and volunteer resources in Central and Southwest Florida. The site includes: up to date and historical data, trend analysis, historical maps and studies, water resource maps, and much more. It is a readily accessible way to find more information about local waterways.

Protecting Wetlands and Coastal Waters

CHNEP undertakes Research and Restoration Projects that implement living shorelines, flowway and wetland restoration, oyster and seagrass restoration, and other measures aimed at up taking and reducing pollutants in waterways.

GLOSSARY OF ACRONYMS

BIL	Bipartisan Infrastructure Law
BMAP	Basin Management Action Plan
BMP	Best Management Practice
CAC	Citizens Advisory Committee
CAMA	Coastal and Aquatic Managed Areas
CCHMN	Coastal Charlotte Harbor Monitoring Network
CCMP	Comprehensive Conservation and Management Plan
CFRPC	Central Florida Regional Planning Council
CHEC	Charlotte Harbor Environmental Center
CHEVWQMN	Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network
CHNEP	Coastal & Heartland National Estuary Partnership
CWPRA	Coastal Wetlands Planning, Protection and Restoration Act
CWA	Clean Water Act
CZM	Coastal Zone Management
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FWC	Florida Fish & Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
GIS	Geographical Information System
GPRA	Government Performance and Results Act
HAS	Hydrological Alterations Subcommittee
HCS	Habitat Conservation Subcommittee
LID	Low Impact Development
MFL	Minimum Flows and Levels
NRCS	Natural Resources Conservation Service
NEP	National Estuary Program
NNC	Numeric Nutrient Criteria
NOAA	National Oceanic and Atmospheric Administration
NWR	National Wildlife Refuge
PR/MRWSA	Peace River/Manasota Regional Water Supply Authority
RAMP	Regional Ambient Monitoring Program
RPC	Regional Planning Council
SFWMD	South Florida Water Management District
SRPP	Strategic Regional Policy Plan
SWFWMD	Southwest Florida Water Management District
SWFRPC	Southwest Florida Regional Planning Council
SWIM	Surface Water Improvement Management
SWUCA	Southern Water Use Caution Area
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
USACOE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
VOHM	Volunteer Oyster Habitat Monitoring
WCIND	West Coast Inland Navigation District
WMD	Water Management District
WQ	Water Quality
WQQOS	Water Quality Quantifiable Objectives Subcommittee