

2019 CCMP Tracking Results

Emily Baumbach, Partnership for the Delaware Estuary
Joint STAC-EIC Meeting, October 21st



Photo Credit: Mark Houlday, Lewes, DE

Photo Credit: Sandi Bisgood, Broadkill Beach

Photo Credit: Andrea Rose Photography

2019 CCMP TRACKING TIMELINE

- **May:** Sent out tracking tool to EIC, some STAC, and other confirmed partners assisting with CCMP activity tracking (*Project reporting period for both NEPORT and CCMP was October 1, 2019 – September 30, 2019*)
- **Early June – Early August:** Pilot tracking tool (via excel workbook) and assist partners as needed/requested
- **August (to September):** Deadline for partners to provide tracking data
- **September:** PDE coordinates with EPA to upload associated habitat & leveraging data to NEPORT and reviews other CCMP strategy data reported
- **October:** Review results/gather feedback on CCMP tracking process, post results on PDE website and send to out to participating partners



WHAT'S IN THE CCMP TRACKING TOOL?

Reference Sheets

- Instructions for reporting
- 2018 Approved Habitat & Leveraging Projects
- Tracking Template
- List of CCMP Strategies, Performance Measures, and Strategy Leads

General Project Information

- Project Name
- Associated CCMP Strategies
- Project Contact Information

Spatial Data & Project Notes

- Lat, Long
- Location Type & Description
- Project Type & Description
- Measure/Scale (e.g., acres, linear feet, participants, event)

Project Benefits & Restoration

- **Project Benefits** (e.g., improve/protect water quality, protect/preserve open space, research, education/outreach)
- **Restoration Technique (*if applicable*)** (e.g., erosion control, land acquisition, rain garden creation)

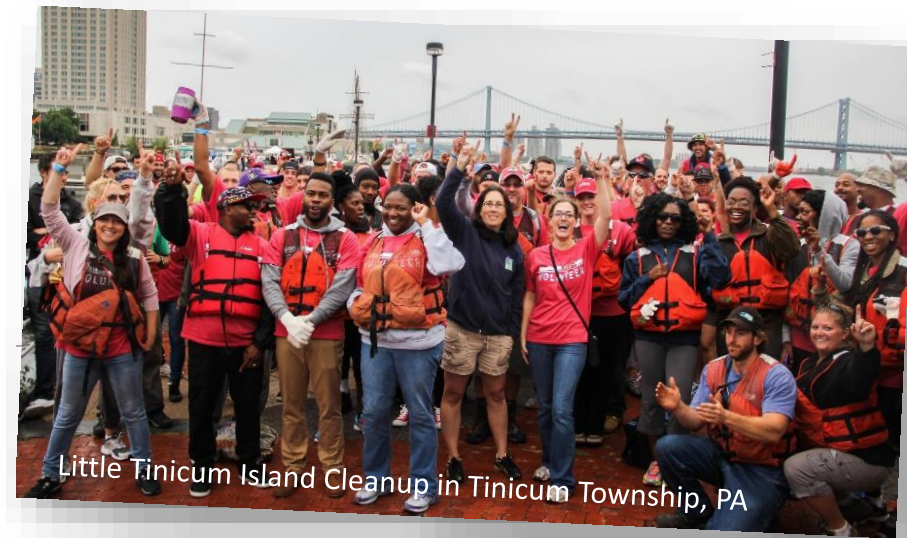
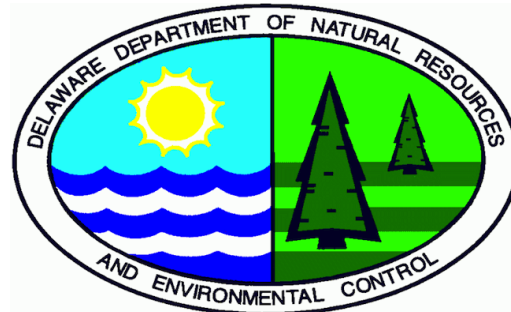
Funding & Partners

- Total Project Cost
- Primary Funding Source
- Lead Partner/Implementer, other partners involved in project
- Site Ownership

Additional Information (for Leveraging Projects only)

- Federal Cash & In-Kind
- State Cash & In-Kind
- Local cash & In-Kind
- Private Cash & In-Kind

THANK YOU DELEP partners (and many others)!



CCMP Tracking Contributors

Organizations/Departments

Association of New Jersey Environmental Commissions (ANJEC)

Camden County Municipal Utilities Authority (CCMUA)

Christina Conservancy

Delaware Department of Agriculture - Forest Service

Delaware Department of Natural Resources and Environmental Control (DNREC)

Delaware Nature Society (DNS)

Delaware River Basin Commission (DRBC)

Delaware Valley Regional Planning Commission (DVRPC)

Fairmount Waterworks (FWW)

National Fish and Wildlife Federation (NFWF)

New Jersey Department of Environmental Protection (NJDEP)

Partnership for the Delaware Estuary (PDE)

Penn State - Master Watershed Steward Program

Pennsylvania Department of Environmental Protection (PADEP)

Pennsylvania Environmental Council (PEC)

Philadelphia Water Department (PWD)

Rutgers Haskin Shellfish Research Lab (HSRL)

Schuylkill Action Network (SAN)

TreePennsylvania - TreeVitalize Watersheds Grants Program

United States Army Corps of Engineers (USACE) - Philadelphia District

United States Fish and Wildlife Service (USFWS)

University of Delaware Water Resources Center (UD WRC)

Partner Type

Key

Key

Key

Key

Core

Key

Core

Key

Key

Key

Core

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Key

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Key/Contributing

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n/a

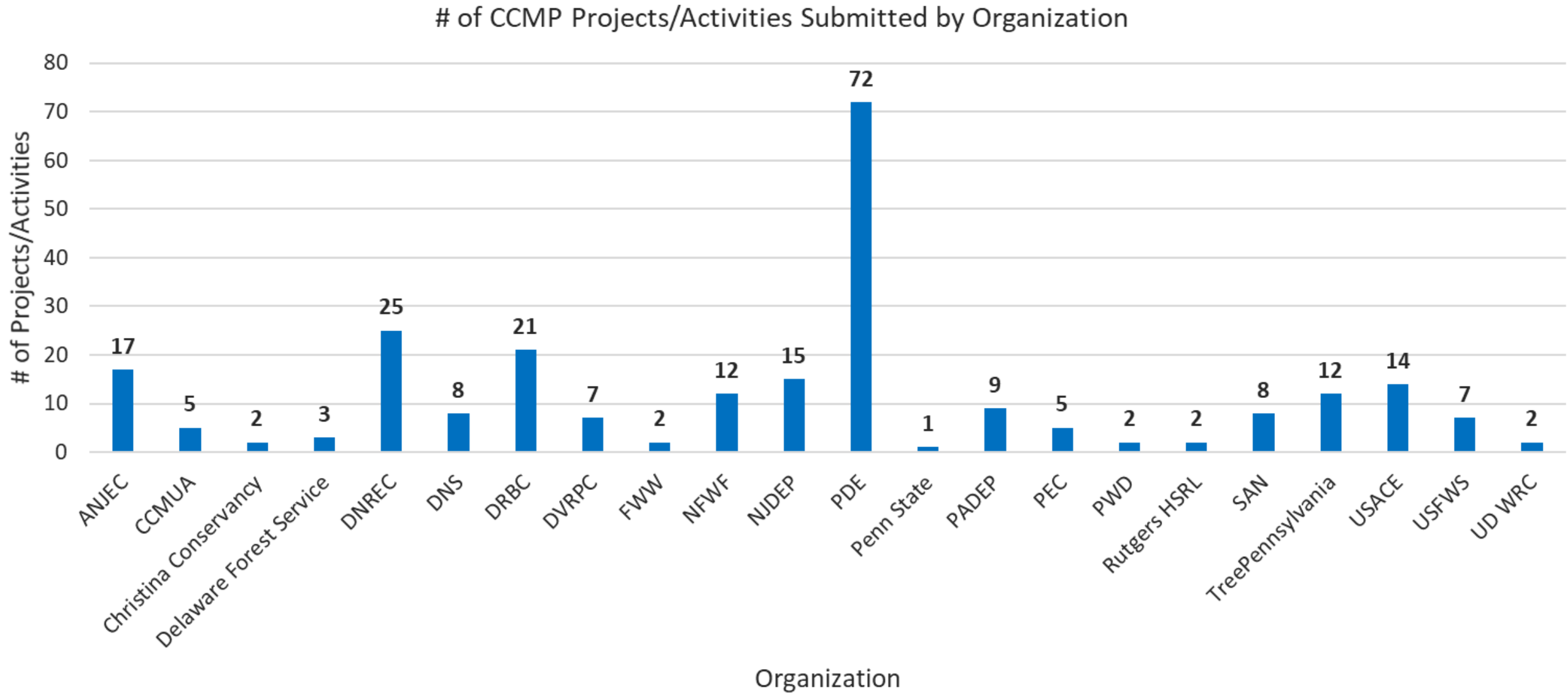
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CCMP Tracking Contributors



CCMP Tracking – ~250 Activities Submitted

□ Clean Waters (133 activities)

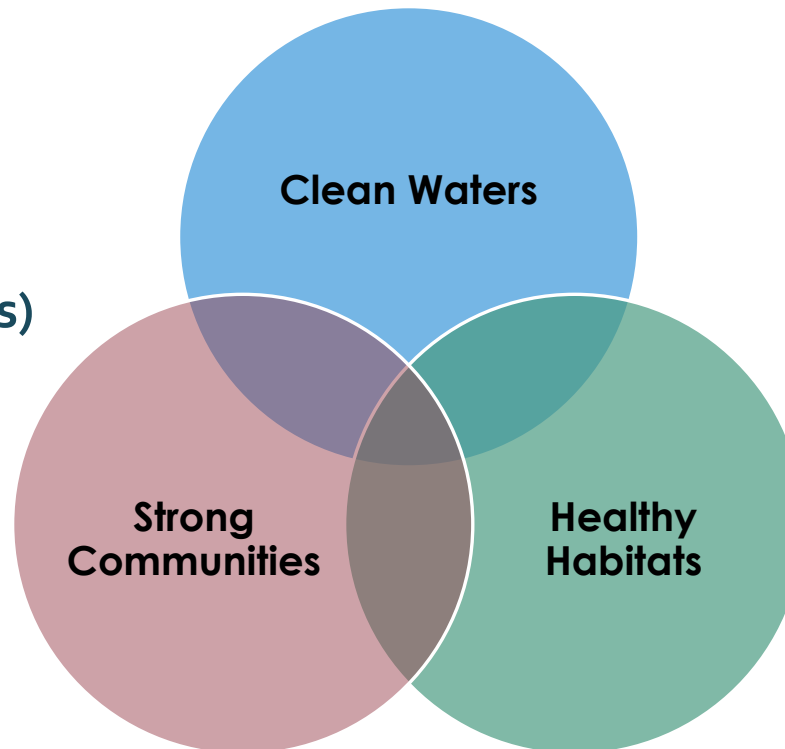
- Nutrient Pollutants
- Other Pollutants
- Sustain Flow

▣ Strong Communities (73 activities)

- ▣ Resilience and Access
- ▣ Engagement

▣ Healthy Habitats (101 activities)

- ▣ Wetlands
- ▣ Forests
- ▣ Fish & Shellfish

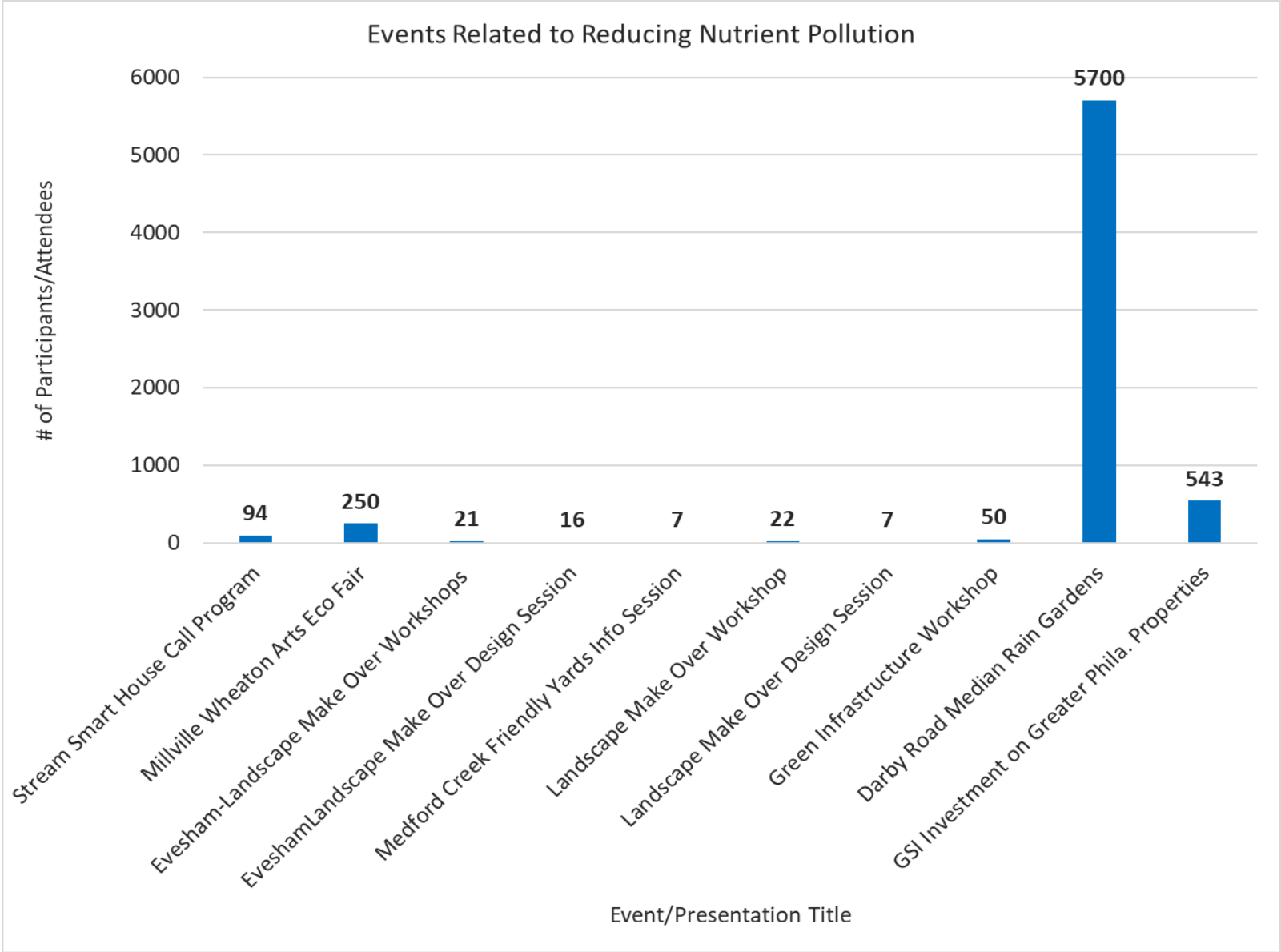


CLEAN WATERS

W₁: Reduce Nutrient Pollution and Its Impacts

Erosion Control and Water Quality Improvements	
Project Name	Acres
Watershed Restoration in Brandywine Headwaters	6
Middle Schuylkill Collaborative Ag. Restoration	2113
Save the Source Landscape Program for Water Quality	50
GI to Reduce Ag. and Stormwater Impact in Cumberland County	2.5
Neshaminy Creek Tributary Sediment Reduction	12.4
Jenkintown School District Water Harvest Irrigation System	2.5
Pennypack Creek Headwaters Stormwater Management	3.8
Alverthorpe Park Stormwater Control Measures	20
Schuylkill Banks North End Vegetated Bioswale	0.29

DRBC Monitoring/Research	
Engineering Evaluation and Cost Estimate for Nutrient Reduction	Top 12 point discharges to Del Est (primarily within urbanized portion)
Light Extinction Monitoring	Random multiple sites
Primary Productivity Monitoring	15 sites
Tributary Nutrient Monitoring	25 tributaries
Delaware Estuary Eutrophication Model Development	1 tool

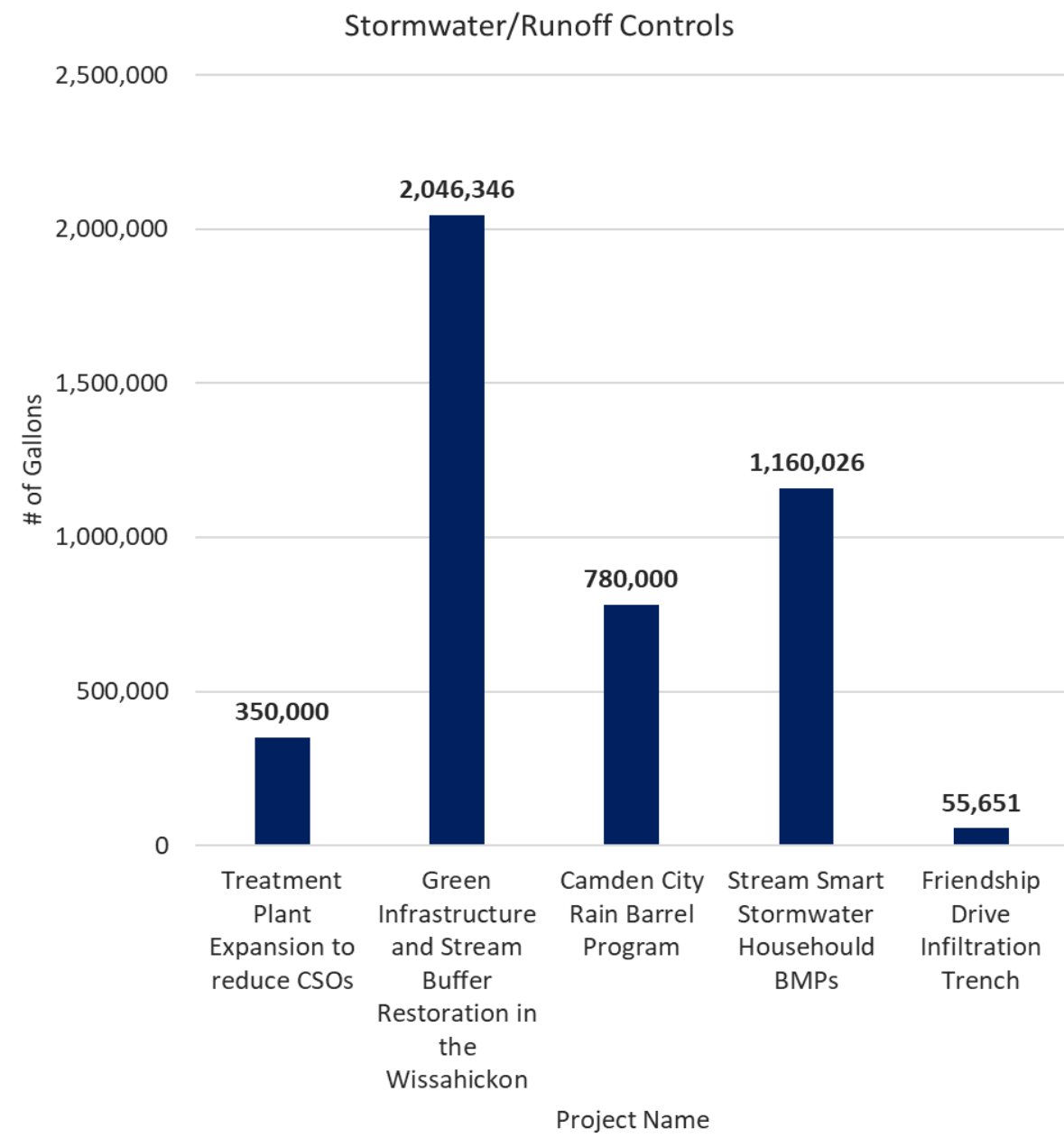


CLEAN WATERS

W1: Reduce Nutrient Pollution and Its Impacts

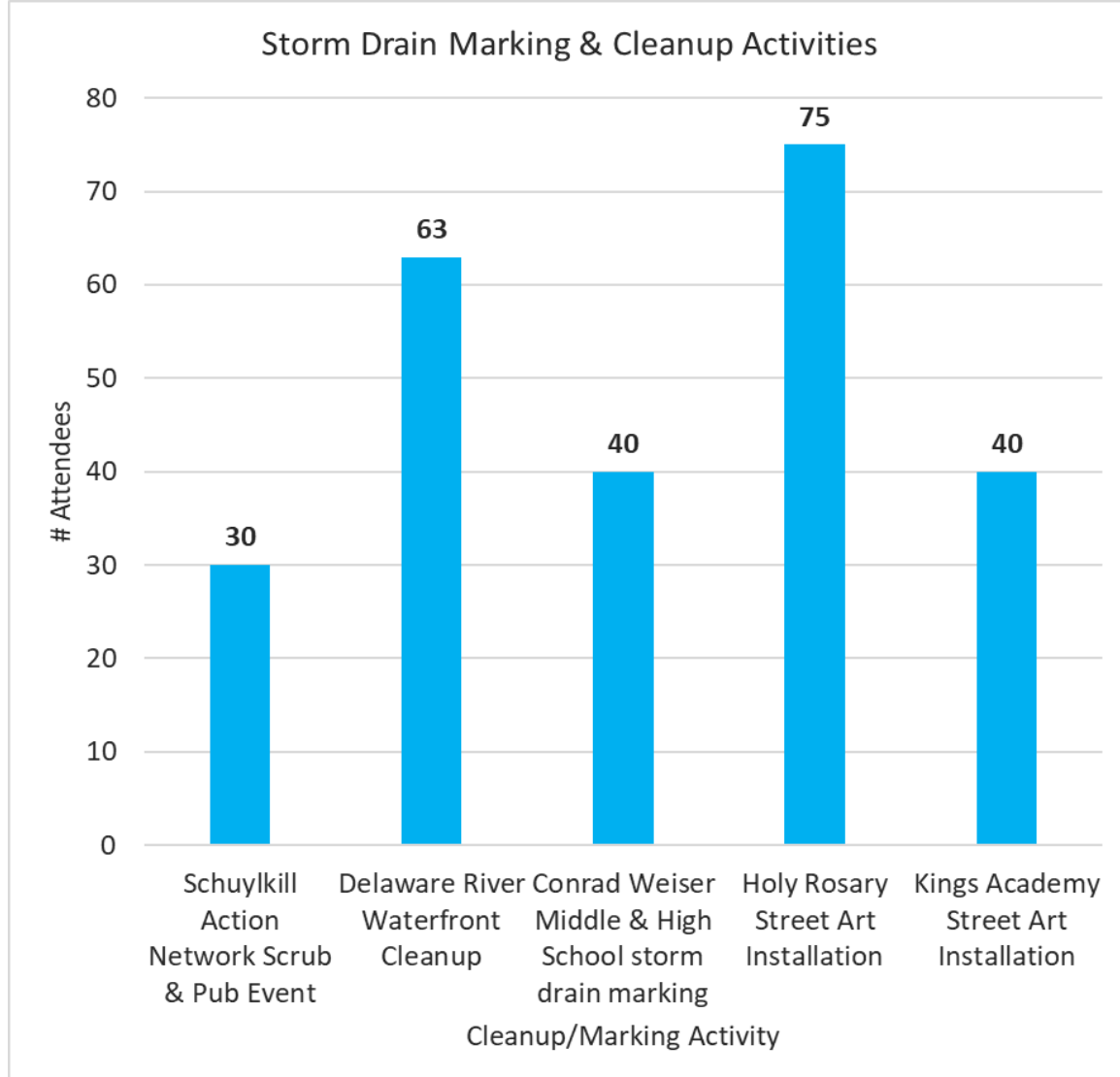


Assessments related to Water Quality Improvements	# of Assessments
Investigation to utilize brownfield sites for green infrastructure in Cramer Hill, Camden, NJ (CCMUA)	1
Comprehensive green infrastructure plan for the Waterfront South neighborhood of Camden, NJ (CCMUA)	1
Menantico (Municipal review of stormwater/riparian buffer/septic ordinances) (ANJEC)	2
Rancocas (Municipal review of stormwater/riparian buffer/septic ordinances) (ANJEC)	3
Upper Salem (Municipal review of stormwater/riparian buffer/septic ordinances) (ANJEC)	6
Lower Salem (Municipal review of stormwater/riparian buffer/septic ordinances) (ANJEC)	3
Cohansey (Municipal review of stormwater/riparian buffer/septic ordinances) (ANJEC)	10
Algal Speciation Study / Dissolved Oxygen Survey (DRBC)	1



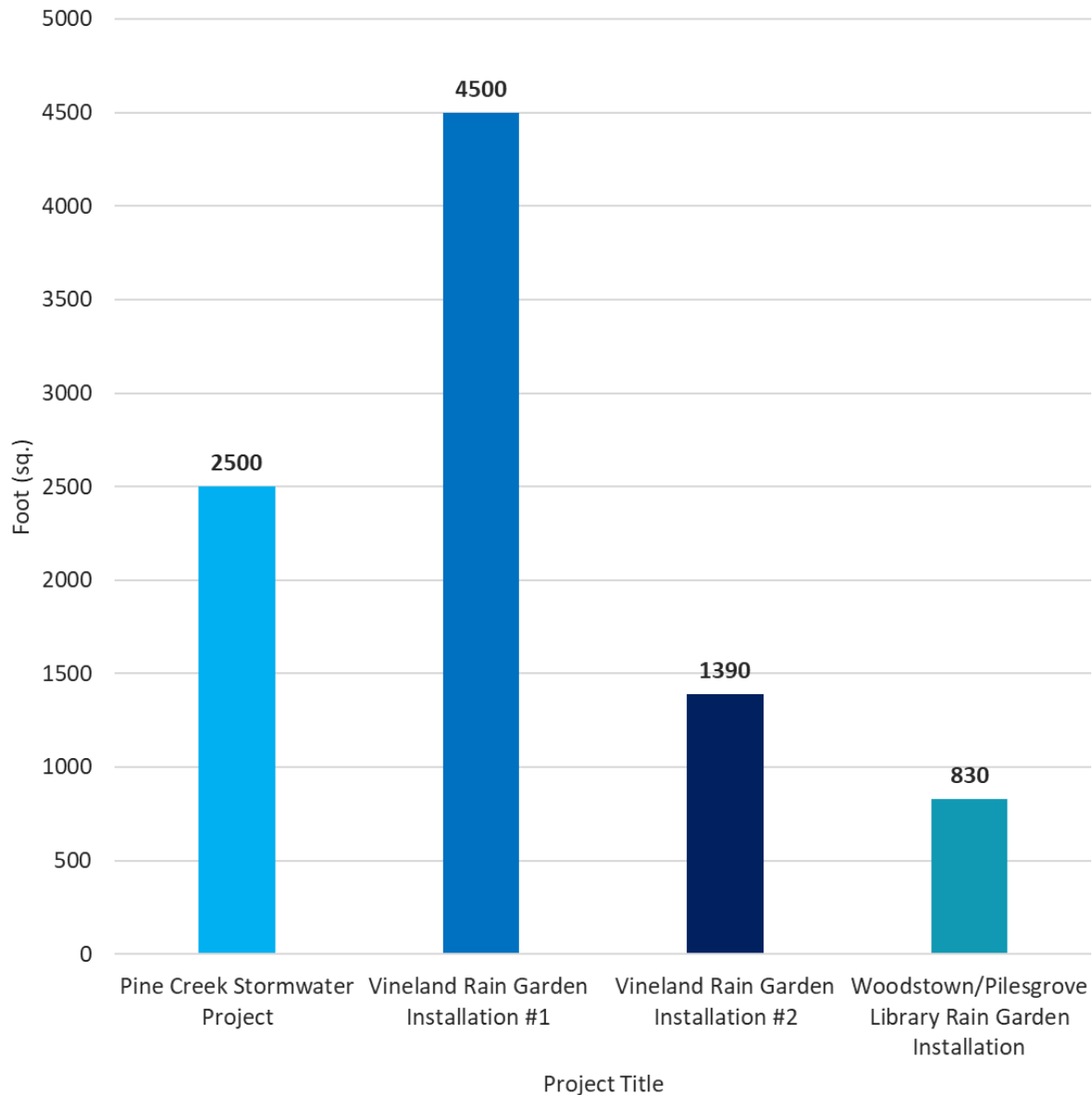
CLEAN WATERS

W2: Reduce Other Pollutants and Their Impacts



Other Clean Waters Goal 2 Activities	
Christina River Watershed Cleanup (14 sites) (Christina Conservancy)	13 tons of trash removed
Enhanced bacterial monitoring in high recreation areas of the Delaware Estuary to assess feasibility of upgrading recreational criteria (DRBC)	8 sites in urbanized portion of the Delaware Estuary
Trash Free Waters Program - Sites in Philadelphia to install trash cans in the Juniata Park neighborhood (PDE)	20 trash cans
Lower Christina River Benthic Mapping to identify substrates to target future efforts to cleanup legacy contamination (Christina Conservancy)	1 benthic mapping project
Watershed Approach to Toxics Assessment and Restoration Program 2018 Progress Report (progress toward implementing TMDLs for PCBs) (DNREC)	19 completed/ongoing activities
Maintaining a database of PCB loadings to Delaware Estuary and assisting co-regulators (member States) in implementing minimization programs for regulated sources (DRBC)	Database maintenance

Rain Garden Installations



Other Clean Waters Goal 3 Activities

Dredge material studies and dam operations/maintenance for water flow (USACE)	10 Projects
Regulated Flow Advisory Committee & Subcommittee on Ecological Flows (DRBC)	6 Meetings
Outreach material distributed related to yard care, stream side care, meadows, and rain gardens (PEC)	1,000 Copies
Rain Garden Projects in New Castle County (PDE)	3 sites, \$4,000 leveraged
Beneficial Use of material to reestablish former tidal wetlands	15 Acres
Wissahickon Sustainability Council Schoolyard Greening (porous playground surface, planting trees/shrubs) (SAN)	1 Acre
Water Audit Reviews for the Delaware River Basin (DRBC)	300 Water Audits

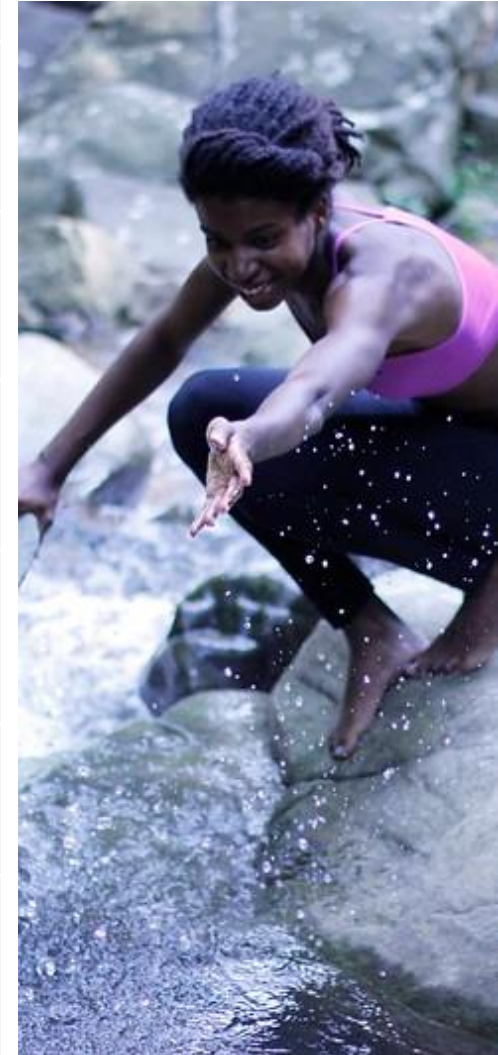


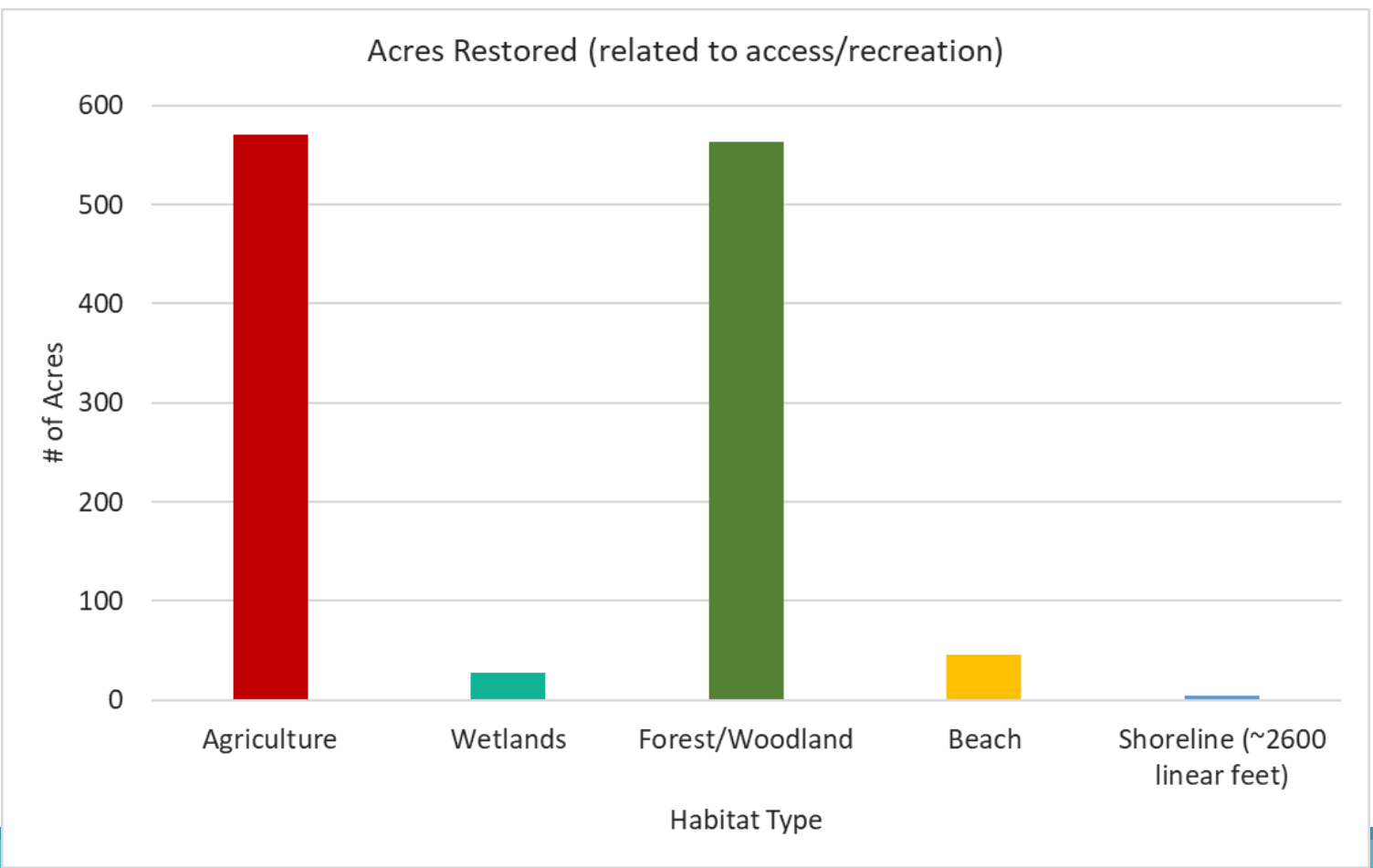
Photo Credit: Kristen Neal

31 CW2 activities submitted

STRONG COMMUNITIES

C1: Increase community resilience and access

Resilient and Sustainable Communities League (RASCL) Events	# Attendees
Annual Summit Attendees	150
Other meeting attendees (e.g., coffee hours)	27



Other Strong Communities Goal 1 Activities

Interactive web-based story map on climate vulnerability and planning that addresses vulnerabilities, flood hazard zones, and adaptive steps to reduce flooding and coastal hazard risks (DVRPC)

Upgrades of Water Pollution Control Facility in Camden to increase energy self-sufficiency/resilient to power outages from extreme weather (CCMUA)

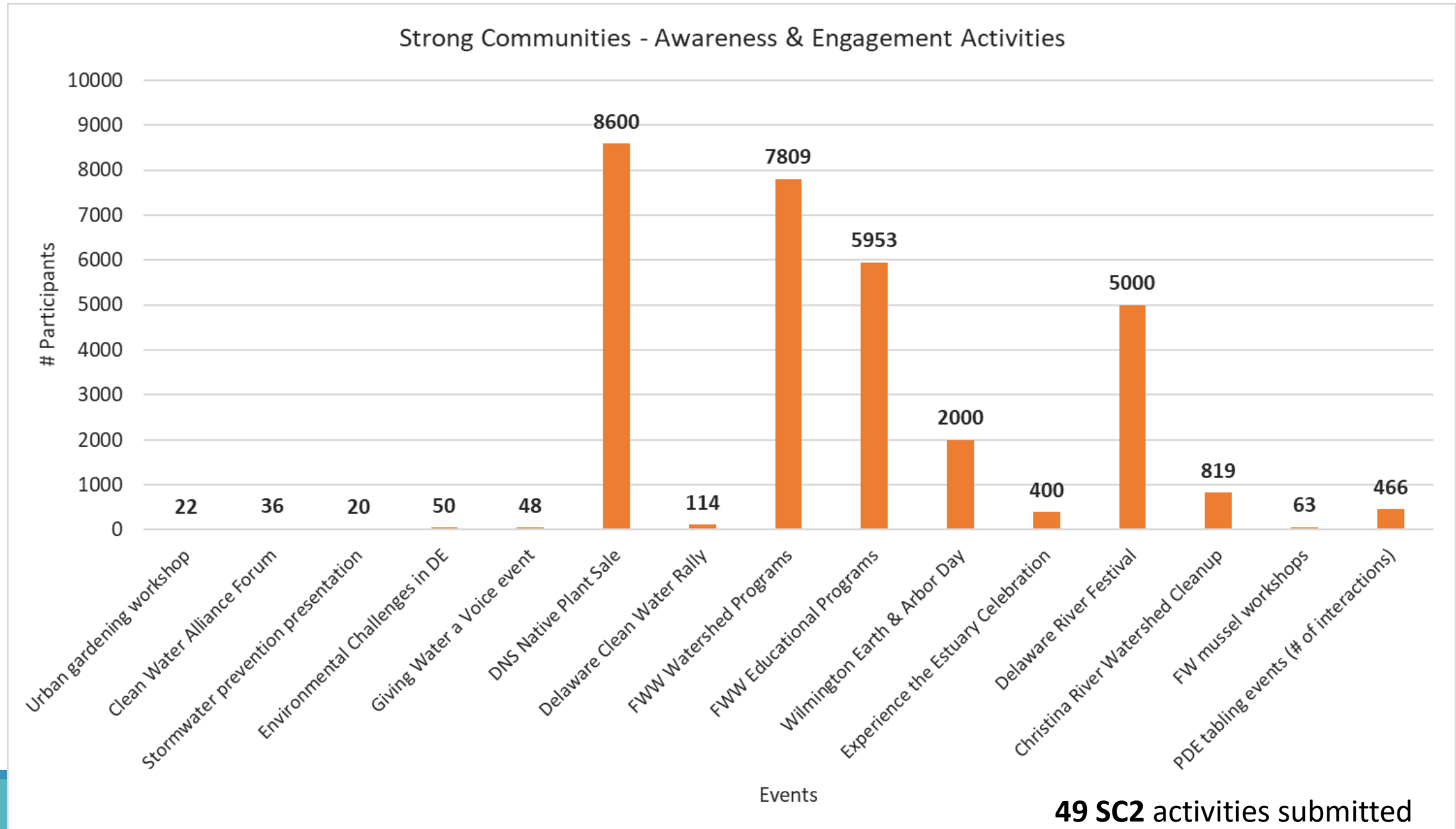
2 Climate Adaptation Forums on climate change preparedness and adaptation (DVRPC)

8 community hours towards Urban Waters Federal Partnership (greater philadelphia area) coordinating with urban communities (USFWS)

15 student participants for Wilmington Green Jobs (UD WRC)

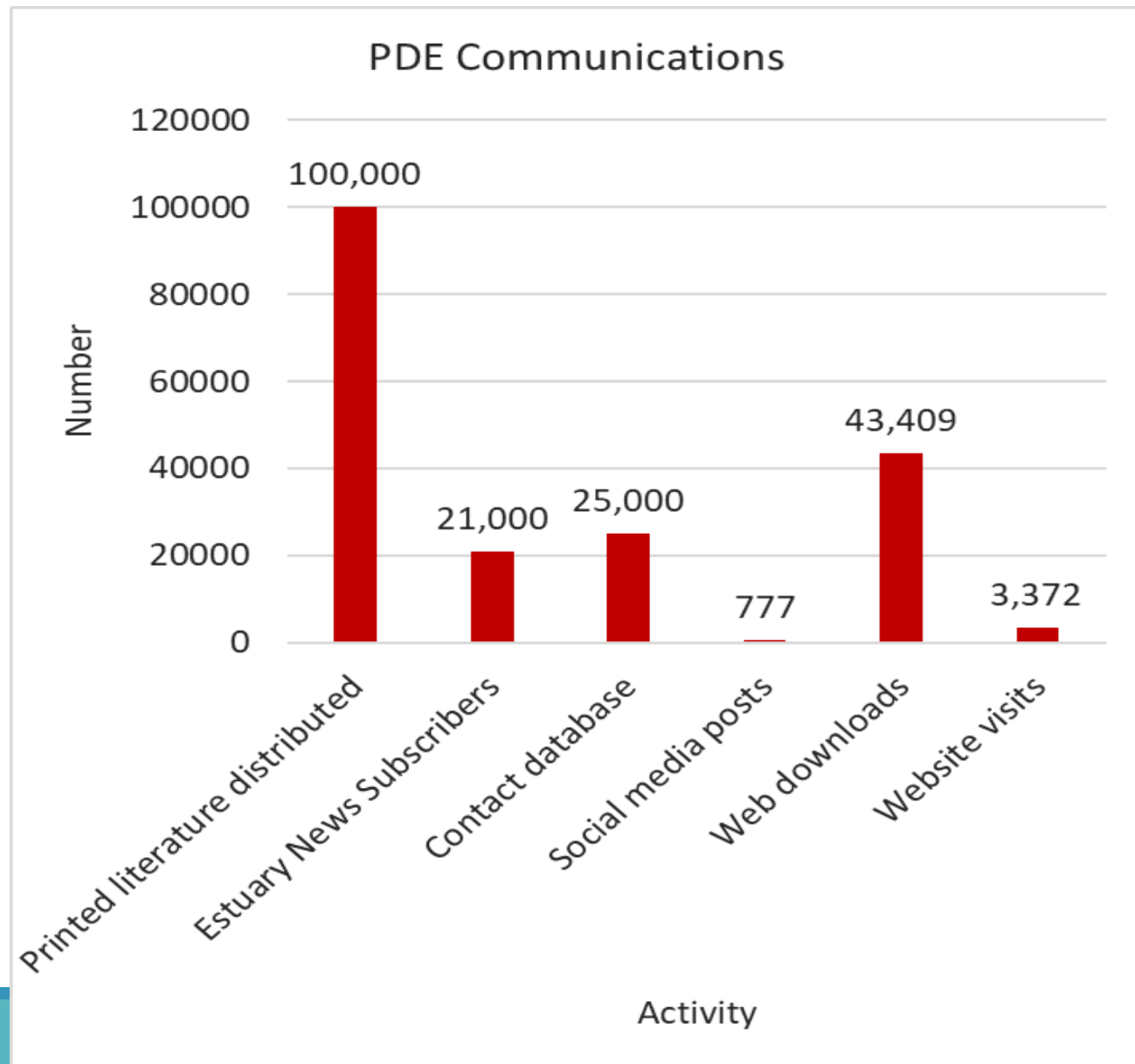
STRONG COMMUNITIES

C2: Improve public awareness
and stakeholder engagement



STRONG COMMUNITIES

C2: Improve public awareness and stakeholder engagement

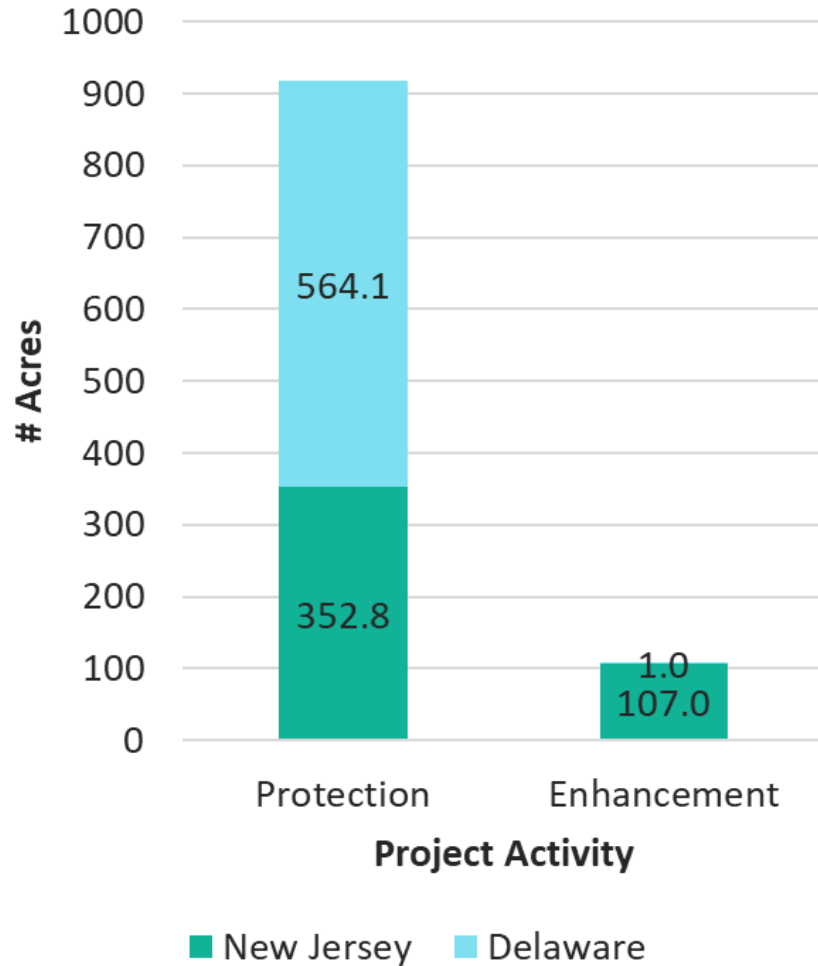


Other Strong Communities Goal 2 Activities	
Clean Water Delaware pledge cards signed (DNS)	15,986
Scientific Presentations (seminars, conferences) (PDE)	30
Participants removing trash during Christina River Cleanup (Christina Conservancy)	819
Volunteer Hours in Delaware Estuary (Master Watershed Stewardship Program)	4,758
Regional Resiliency: Adaptation Tool White Paper (DVRPC)	1
Science & Outreach Reports (PDE)	20
Board Member/Committee Meetings (PDE)	10
DELEP-related calls/meetings (PDE)	20

HEALTHY HABITATS

H1: Prevent Wetland Loss

Wetland Acres by Activity



Other Healthy Habitats Goal 1 Activities

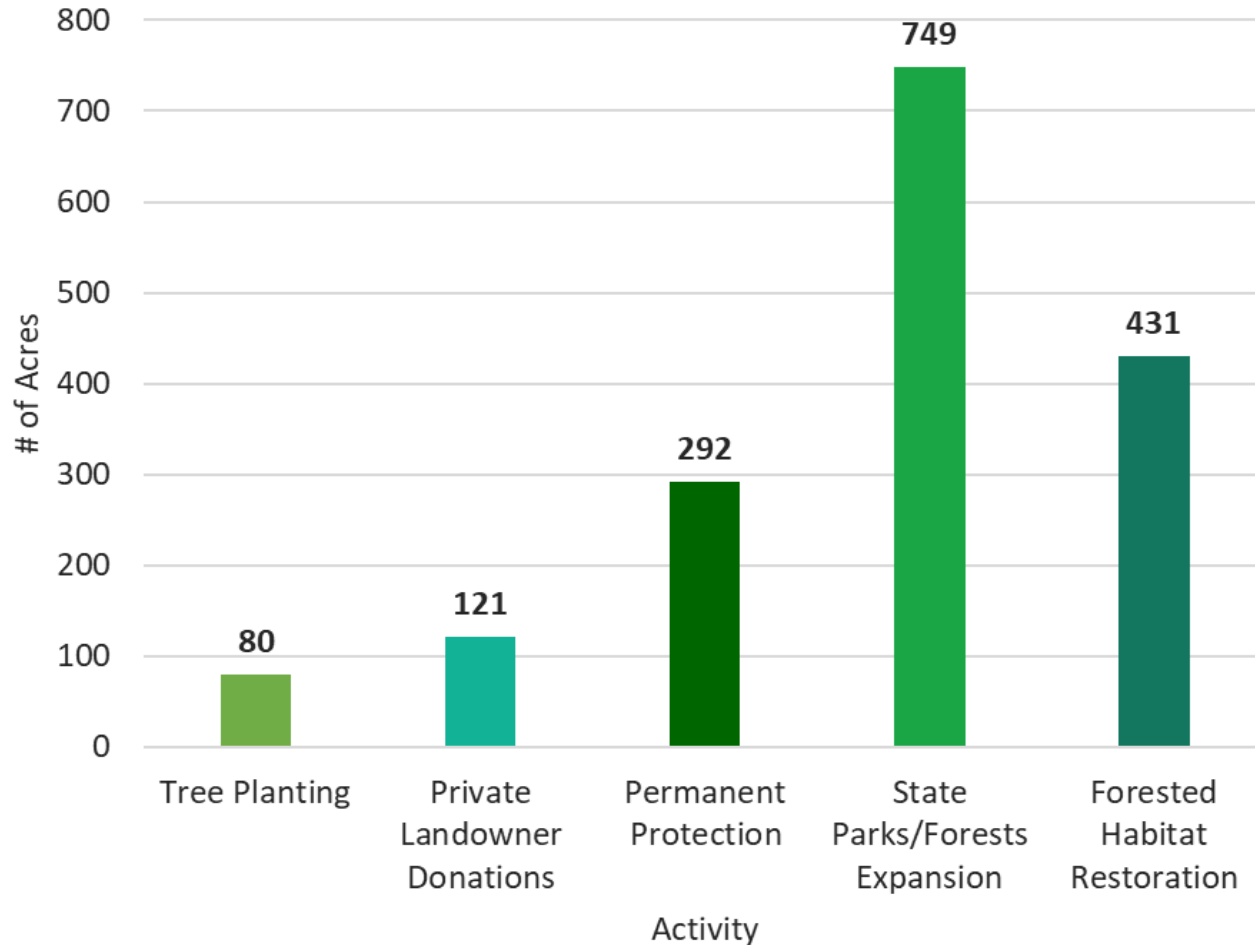
Living shoreline installed at Sedge Island (PDE)	1 LS Installation
10-year update of wetlands and analysis of change (DNREC)	1 Inventory
Conducted vegetation monitoring at long-term plots (Nantuxent, Matt's Landing, Mispillion) (PDE)	3 Sites
Hosting biannual meetings and coordinating ongoing Living Shoreline work (DNREC)	2 Meetings/Year
Level 2 rapid assessments at freshwater wetland sites using DE Rapid Assessment Procedure (DNREC)	75 Assessments
Incorporating wetland condition assessment grades/results into the Watershed Resources Registry (DNREC WMAP 3)	1500 Assessments
Installation of tencate sand-filled geotube revetment buried in beach sand to create sand dunes and also included the construction of upland concrete revetment (NJDEP)	570 Linear Feet
Monitoring of New Jersey Pilot Beneficial Use of Dredged Material (with ongoing monitoring of the salt marsh enhancement portion of project) (NJDEP)	Enhanced 6.6 acres of salt marsh, restored 1.6 acres of beach, and restored 2.25 acres of dune



HEALTHY HABITATS

H2: Stem Forest Loss

Forest Acres by Activity



Partners Involved in Forest Projects

American Littoral Society
 Berks Nature
 Brandywine Conservancy & Museum of Art
 Brandywine Red Clay Alliance
 DNREC, Division of Fish and Wildlife
 Delaware Forest Service
 DelDOT
 DVRPC
 Hopewell Township
 Maiden Creek Township
 NJDEP
 Pennsylvania Growing Greener (PADEP)
 Princeton Hydro
 Private landowners
 Stroud Water Research Center
 TreePennsylvania - TreeVitalize
 Wissahickon Valley Watershed Association
 US Fish & Wildlife Service



DVRPC is updating community forestry management plans in three NJ cities of Trenton, Camden, and Gloucester City and includes new tree inventory data & outreach (municipalities were chosen because they contain low-income populations and combined sewer overflow areas)

HEALTHY HABITATS

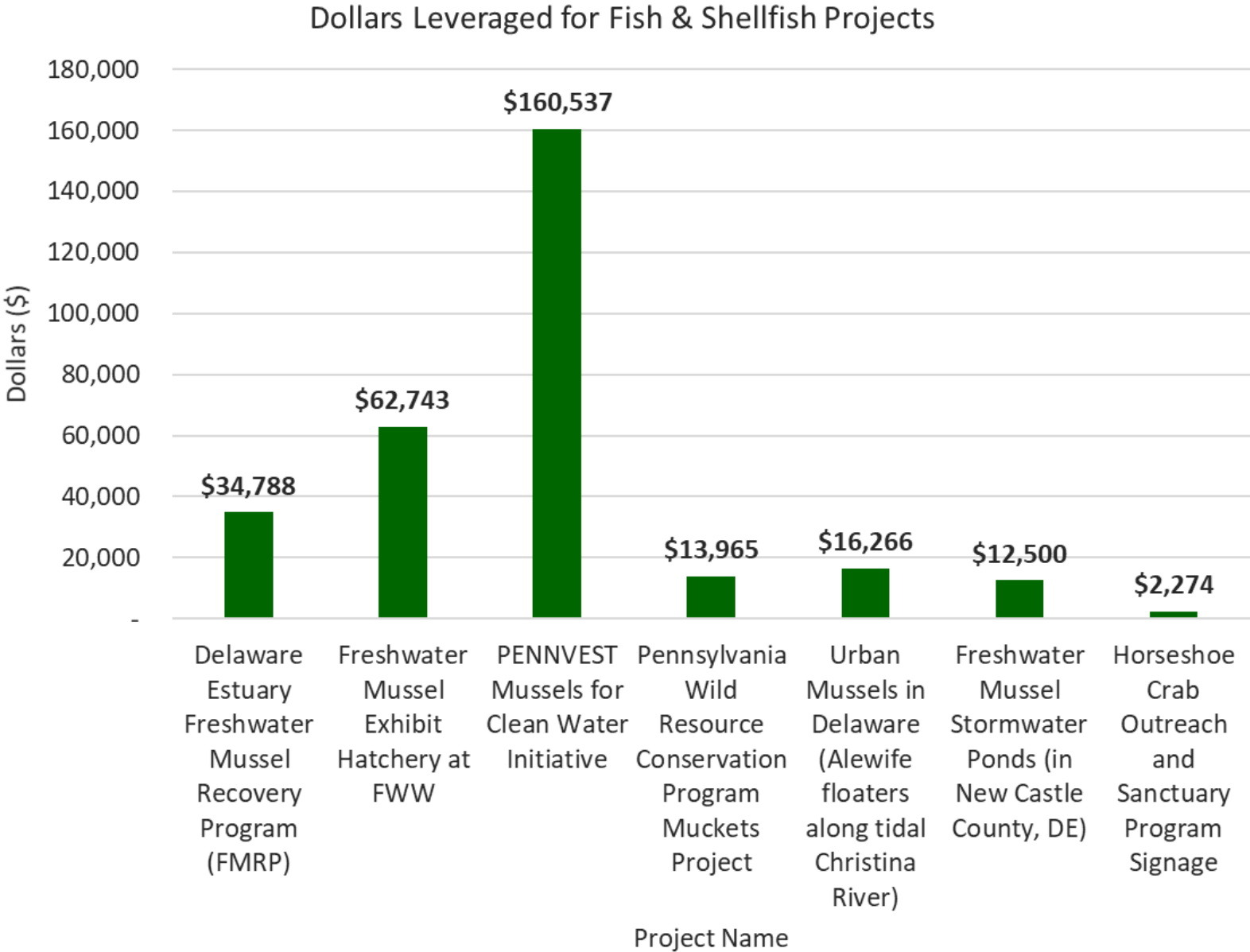
H3: Increase and Improve Fish and Shellfish Habitat

Species Removal/Control Projects	
City of Newark Bamboo Removal (DNREC)	135 Linear Feet
Tree-of-Heaven Eradication in Delaware Wildlands managed areas (DNREC)	6,000 Acres



Credit Stacy Small-Lorenz

37 HH3 activities submitted

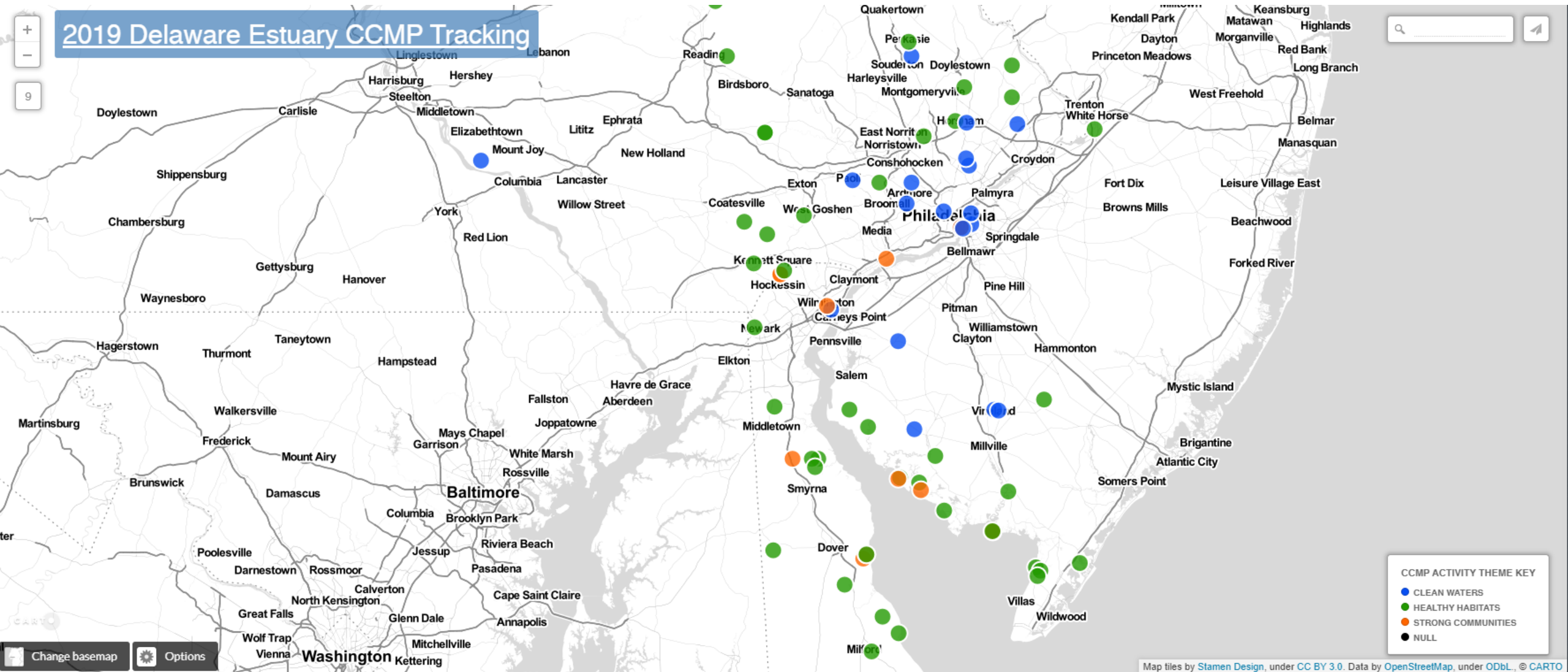


HEALTHY HABITATS

H3: Increase and Improve Fish and Shellfish Habitat

Other Healthy Habitats Goal 3 Activities	
Brandywine Shad 2020 - feasibility study on potential removal/alternatives for existing dams on the Brandywine in Delaware to restore fish passage (UD WRC)	10 Dam Inventory
Installment of overwash berm/construction of an oyster reef (to prevent shoreline degradation/restore habitat for shorebirds and horseshoe crabs) (NFWF)	0.1 Miles
Research on freshwater mussel growth (PDE)	15 FW Mussel Cages (Christina River), 15 FW Mussel Baskets (NCC)
Publications on results of surveys, research, or restoration projects related to oysters (Rutgers HSRL)	8 Publications
Delaware Bay Oyster Stock Assessment - 2019 Stock Assessment Workshop Final Report (Rutgers HSRL)	1 Report Annually
Plot surveys for freshwater mussels, sediment, and SAV at Bartram's Garden (PDE)	45 Plots
Oyster shell bagging (PDE)	81 volunteers, 5,159 bags of shell
Nantuxent Creek/Money Island living shoreline augmentation (PDE)	700 shell bags
Restaurants participating in oyster shell recycling program in Wilmington, DE (PDE)	13 Restaurants





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WHAT ARE WE MISSING? **CLEAN WATERS**

CCMP Strategy	# of entries	Core Partners	Key Partners	Contributing Partners	Performance Measures & Key Deliverables
W2.2: Promote the identification, cleanup, and revitalization of contaminated sites	3	DRBC, NJDEP, DNREC, PADEP, USEPA	UWFP		<ul style="list-style-type: none"> • Examples of successful outcomes in each state by tracking reductions • #/results of contaminated site cleanups
W2.6: Improve, sustain, and enhance spill communication and response with Delaware Estuary partner	0	DRBC, PDE, PWD, DNREC, NJDEP, PADEP, USEPA	Delaware Bay and River Co-Op, US Coast Guard, Sector Delaware Bay Local Area Committee, USFWS	Mariners' Advisory Committee for the Bay & River Delaware, NOAA	<ul style="list-style-type: none"> • Develop inventories or other tools • Track number and results of spill communication response projects and tools

WHAT ARE WE MISSING? **STRONG COMMUNITIES**

CCMP Strategy	# of entries	Core Partners	Key Partners	Contributing Partners	Performance Measures & Key Deliverables
C1.2: Provide tools and technical assistance to waterfront communities and partners to improve economic and environmental resilience	3	PDE, PWD, NJDEP, PADEP, DNREC, USEPA	UWFP, DVRPC	Circuit Trails	<ul style="list-style-type: none"> • Improve resilience and/or access in at least 5 communities, • Convene practitioners conducting outreach on climate adaptation annually • Update or redesign climate adaptation outreach materials • #/results of technical assistance projects on community access and resilience
C2.7: Monitor, develop, and promote opportunities to assess impacts of outreach	0	PDE, PWD, NJDEP, PADEP, DNREC		AWE	<ul style="list-style-type: none"> • Conduct focus groups and surveys • Identify and implement new performance measures for outreach • #/results of research projects on outreach

WHAT ARE WE MISSING?

HEALTHY HABITATS – *Non-tidal wetlands & forest resiliency/connectivity*

CCMP Strategy	# of entries	Core Partners	Key Partners	Contributing Partners	Performance Measures & Key Deliverables
H1.4: Protect, enhance, and improve non-tidal wetlands	2	PDE, PWD, NJDEP, PADEP, DNREC	NFWF, NOAA, Rutgers University, TNC, USFWS, USACE		<ul style="list-style-type: none"> Identify/plan/prioritize high-value non-tidal wetlands to protect in each state by 2025 Increase protection/restoration of non-tidal wetlands (at least one example in each state annually) Produce at least one outreach product annually to promote non-tidal wetlands' stewardship, protection, and restoration #/results of projects for non-tidal wetlands' restoration and protection
H2.1: Inventory, map, and increase connectivity and resilience of forests for water quality	1	PDE, NJDEP, DNREC, PADEP	DRWI partners, SAN, USDA - Forest Service, USFWS	Pinchot Institute for Conservation, NOAA, USACE, USGS	<ul style="list-style-type: none"> Inventory baseline forest acreage and conditions Identify strategies and begin measuring connectivity between forest patches compared to baselines Assess likely changes from baseline in forest acreage and conditions attributable to climate change Track baseline products/projects for forests

WHAT ARE WE MISSING?

HEALTHY HABITATS – *Fish/crab habitat & horseshoe crabs*

CCMP Strategy	# of entries	Core Partners	Key Partners	Contributing Partners	Performance Measures & Key Deliverables
H3.1: Inventory, map, protect, and enhance habitat critical for fish and crabs	2	DRBC, PDE, NJDEP, DNREC, PADEP	American Rivers, NOAA, USFWS, UD WRC	Atlantic Coastal Fish Habitat Partnership, NFWF, USDA	<ul style="list-style-type: none"> Complete baseline benthic map of vegetated and hard-bottom reef habitats throughout the tidal Estuary and develop a strategy to update benthic maps periodically Progress in restoring fish passage by alleviating at least one obstruction per state Develop a sustained propagation and restocking program for shad #/results of restoration, enhancement, and mapping projects for fish/crab habitat
H3.4: Protect and restore horseshoe crabs and their habitat	3	DNREC, NJDEP	Atlantic States Marine Fisheries Commission, ALS, ERDG, NFWF, USFWS, Wetlands Institute, Western Hemisphere Shorebird Reserve Network		<ul style="list-style-type: none"> Spawning and trawl surveys of horseshoe crabs and annual shorebird surveys w/ volunteers Participation in sanctuaries, volunteer activities, distribution of educational materials, # of beach restoration projects for horseshoe crab spawning and shorebird foraging and nesting habitat Conduct research and expand monitoring to understand the habitat needs of juvenile horseshoe crabs #/results of surveys, research, and restoration projects related to horseshoe crabs to increase protection and monitoring/research



Partnership for the
**DELAWARE
ESTUARY**

Let's Collaborate

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*Connecting people, science, and nature
for a healthy Delaware River and Bay*