Delaware Direct Watershed Partnership Meeting

- **Theme: Ecological Restoration and the Urban Waterfront**

- **9:00 Welcome and Introductions**
- Paul Racette, Pennsylvania Environmental Council (PEC)

- **9:10-9:30 Report on Monitoring Along the River Front; Ecological Communities Focusing on Fish Findings**
- Lance Butler, Philadelphia Water Department

- **9:30-10:05 Ecological Restoration Opportunities along the North Delaware River Greenway**
- Paul Racette, PEC
- Paul Lonie, Delaware River City Corporation

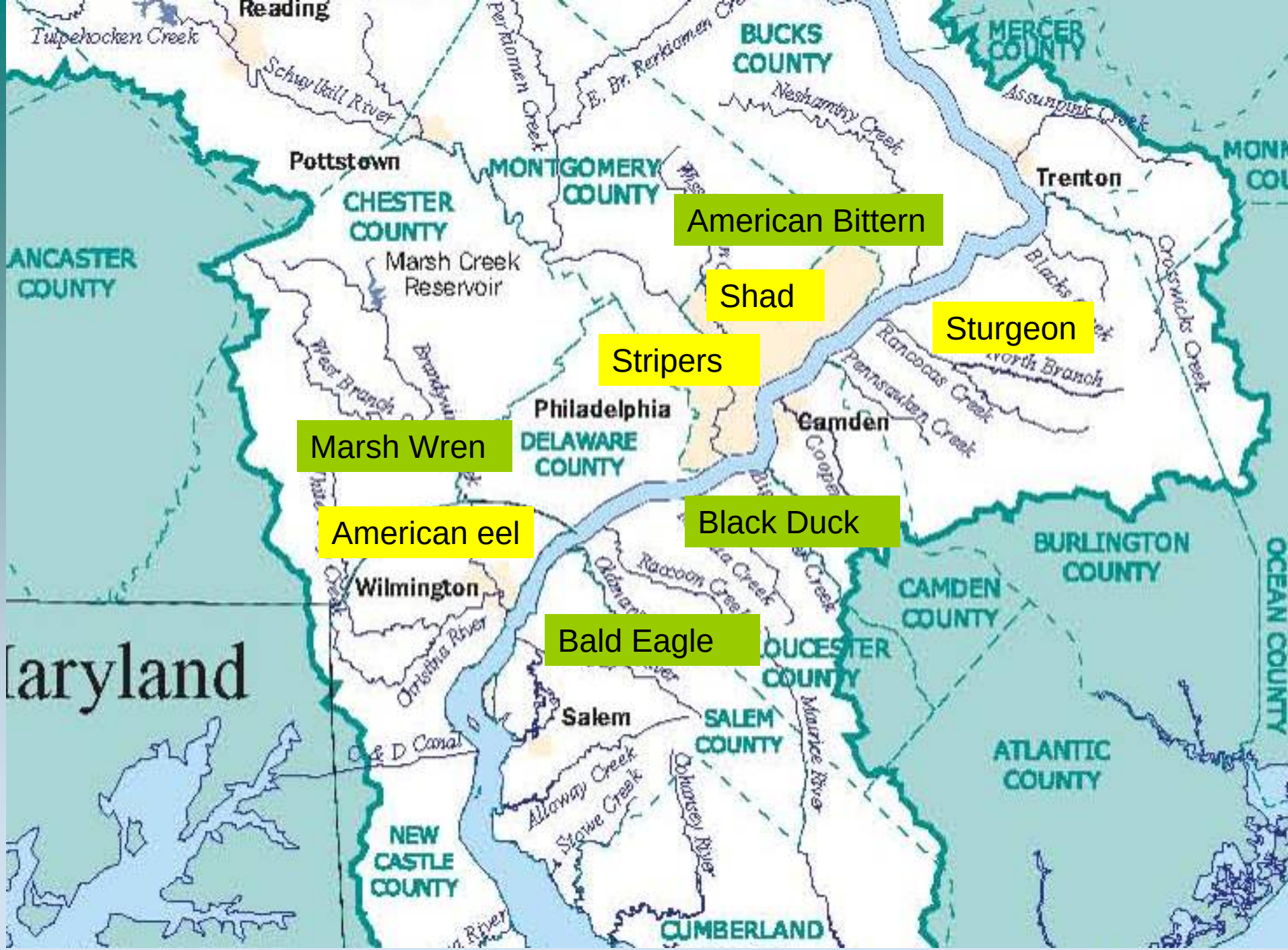
- **10:05-10:35 Update on Assessment of Ecological Restoration Opportunities and Other Public Realm Spaces along the Central Delaware River**
- Sarah Thorp, Delaware River Waterfront Corporation

- **10:35-11:05 Discussion on Setting Ecological Restoration Priorities Within Overall Plans for Waterfront Development, Trails, Parks, Recreation, and other Public/Private Spaces.**
- All

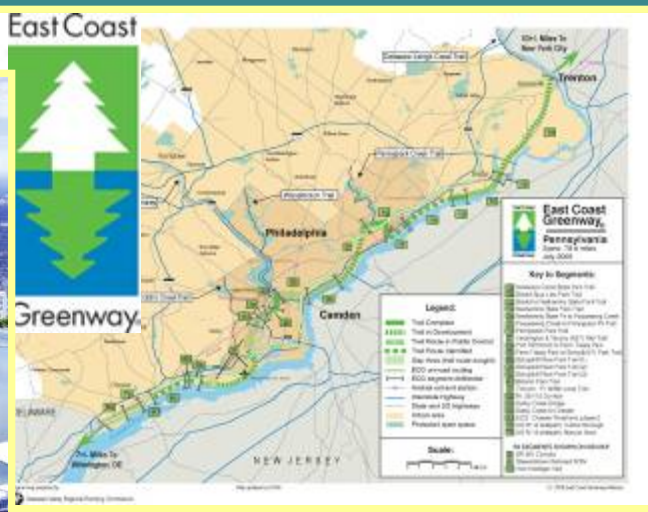
- **11:05-11:30 Updates from Other Partnership Stakeholders**

Ecological Restoration Topics

- Brief Regional Perspective
- Philadelphia North Delaware Riverfront
- Ecosystem Services
- Bridesburg Preliminary Design
- Next Steps


Reading
Tulpehocken Creek
Schuylkill River
Perkiomen Creek
E. Br. Perkiomen Creek
BUCKS COUNTY
Neshaminy Creek
MERCER COUNTY
Assunpink Creek
Pottstown
MONTGOMERY COUNTY
CHESTER COUNTY
Trenton
American Bittern
ANCASTER COUNTY
Marsh Creek Reservoir
Shad
Blacks Creek
Crosswicks Creek
Sturgeon
Stripers
Rancocas Creek
North Branch
Pennsauken Creek
West Branch
Philadelphia
Camden
Marsh Wren
DELAWARE COUNTY
Cooper
American eel
Black Duck
BURLINGTON COUNTY
Raccoon Creek
Wilmington
CAMDEN COUNTY
Christina River
Bald Eagle
Maryland
GLOUCESTER COUNTY
Salem
SALEM COUNTY
Maurice River
C & D Canal
Alloway Creek
Stowe Creek
Cohansey River
ATLANTIC COUNTY
OCEAN COUNTY
NEW CASTLE COUNTY
CUMBERLAND

Ecological Restoration - Upper Delaware River Estuary Connections to Greenway and Land/Water Trails



Tidal Delaware
Water trail

Partnerships and Resources

Urban eco-restoration
Brownfield redevelopment
Database and mapping project
$$ support through DNREC

DuPont:
$$ support
Partner network
Ecosystem services

Brownfield's and land revitalization
Eco-restoration
$$ support (GIS maps)

Natural heritage inventory
Delaware shoreline

Greenway Trail

USFWS
Habitat maps

Estuary restoration
Technical support
$$ support

DNREC
Benthic-Bathymetric Survey

PA Fish and Boat Commission

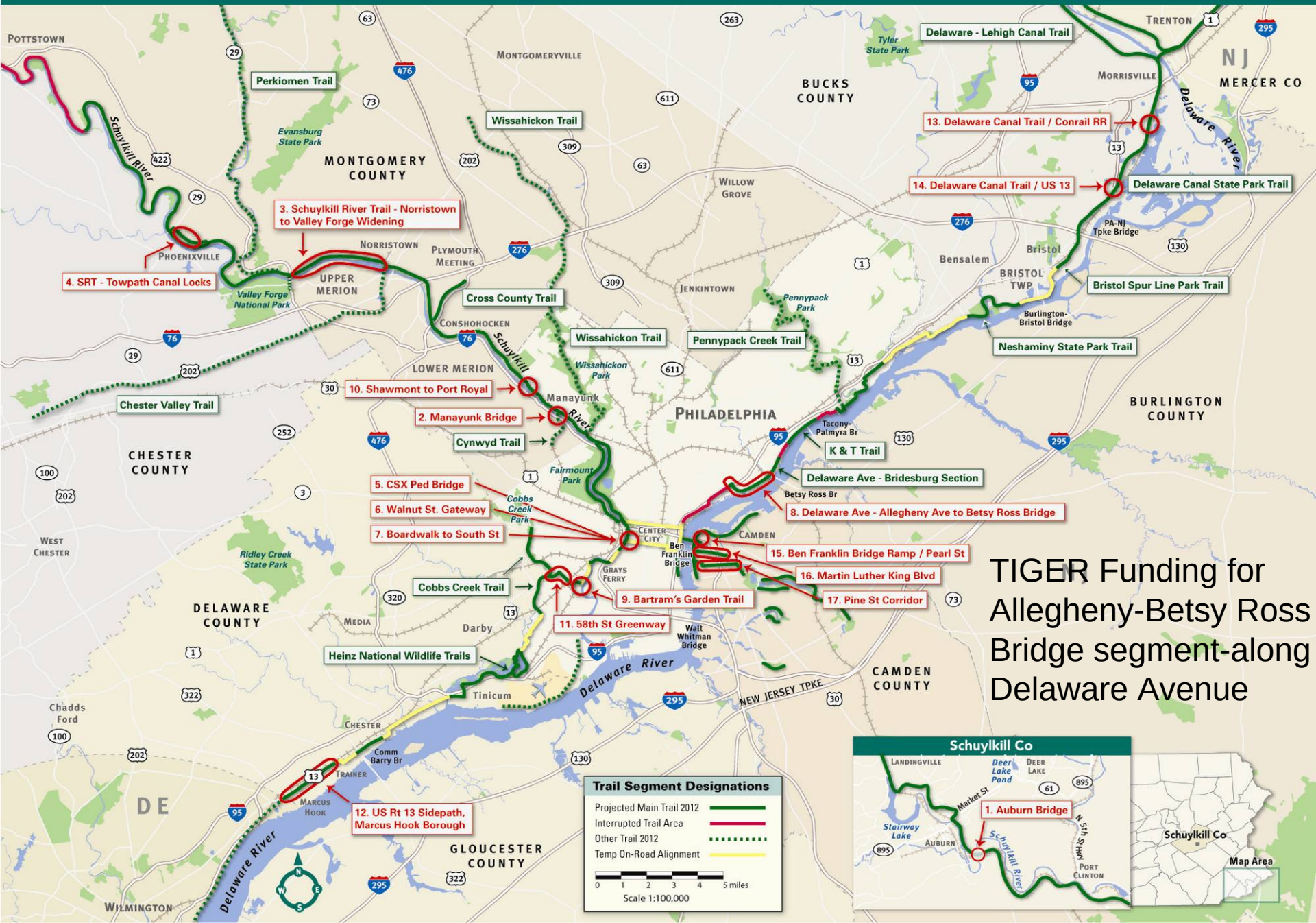
$-PA CZM Program
$-William Penn Foundation
$-National Fish and Wildlife Foundation

Technical support
GIS Layers
Wetland assessment
Boat for survey

Delaware Estuary Regional Restoration Blueprint

- Cross-sector coordination
- Best scientific principals
- Develop decision tools - bank of high value projects
- Comprehensive, ecosystem-based approaches
- Science Track
  - Case studies: Urban waterfront. Tidal wetlands. Shellfish. Headwaters.
- Policy and Investment Track

Grant Application Regional Trail Projects - GREAT - PA/NJ



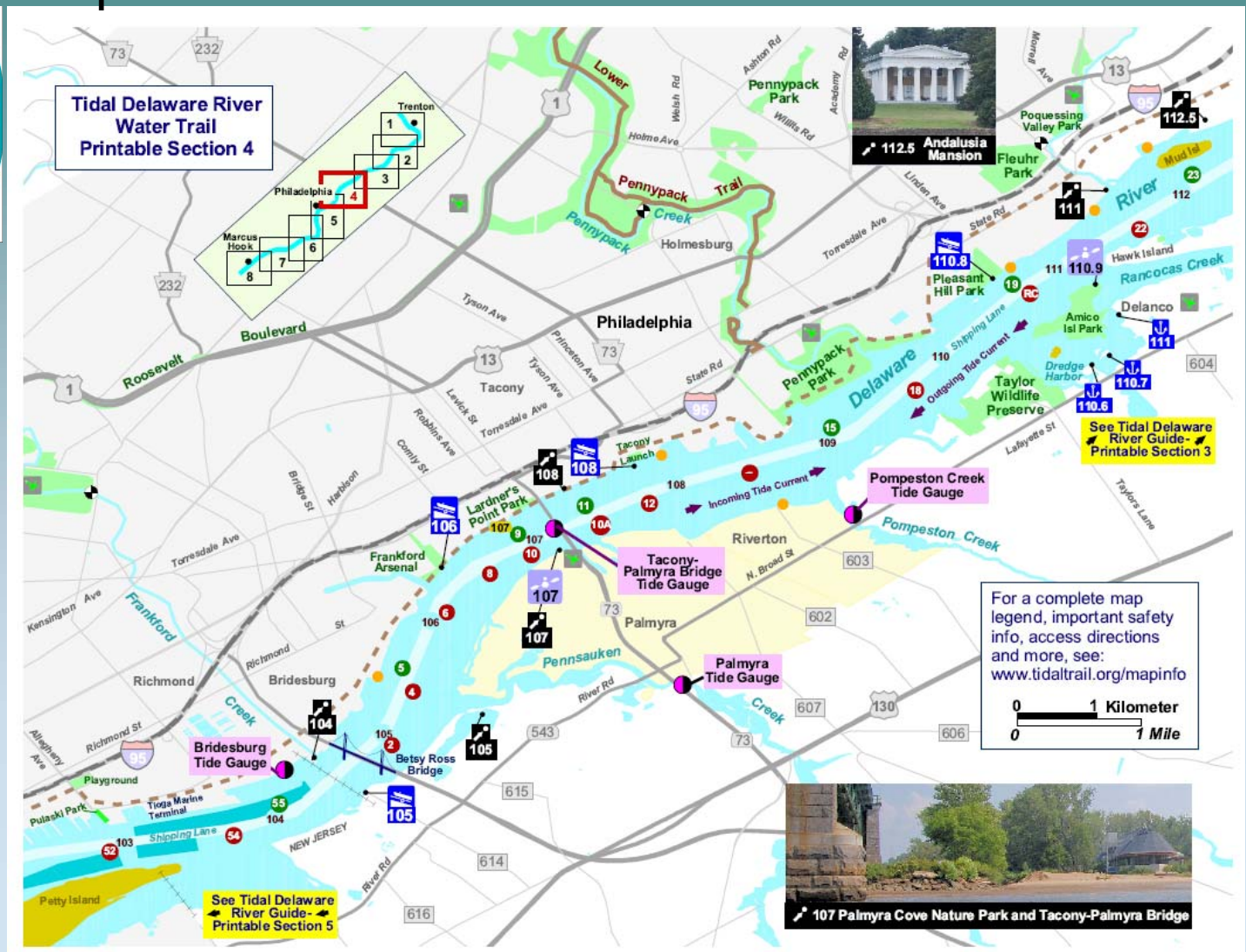
TIGER Funding for Allegheny-Betsy Ross Bridge segment-along Delaware Avenue

Three-section map

How to access.

What to see.

How to stay safe.




Tidal
DELAWARE WATER TRAIL

Philadelphia North Delaware River Greenway
Ecological Assessment and Prioritization Report

November 2009

Final Report for Pennsylvania Coastal Zone Management Program,
Grant Number 2007PS.05

Includes Additional Assessment Work Underway for Partnership for
Delaware Estuary's *Blue Print for Delaware Estuary* Urban Water Front Case Study

Ecological Restoration Assessment Study Area: Betsy Ross Bridge to Poquessing Creek

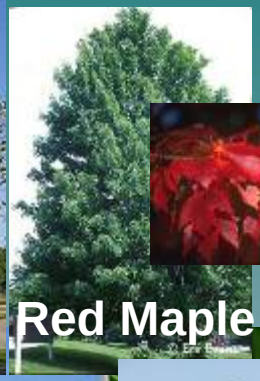
Urban waterfront with mixture of active commercial-industrial operations, vacant brown fields, public parks and access points, highway (I-95), and close-by neighborhoods

Delaware Avenue Extension

Habitat Restoration Types

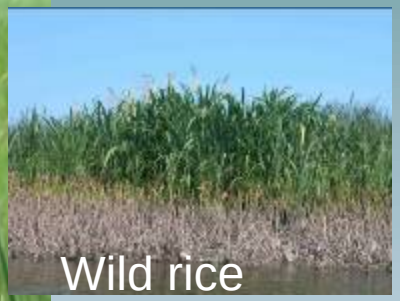
- Upland and river bank
  - Planting
  - Regrade and plant
- Off channel aquatic
  - Wetlands in upland matrix
  - Backchannels, floodplains and wetlands
- Intertidal shoreline
  - Enhance/create wetlands
  - Soften, regrade, or excavate bank
  - Marsh sill or breakwater
- Subtidal
  - Enhance structure and diversity

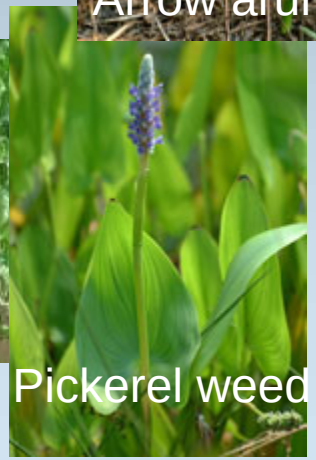
Upland and river bank: forests and meadows



PDE *Key to the Delaware Estuary Ecological Systems & Natural Communities:*
North Atlantic Coastal Plain Fresh and Oligohaline Tidal Marsh

High marsh plants





Low marsh plants

Photos from:

Center for Coastal Resources Management (ccrm.vims.edu/livingshorelines/photo_gallery.html), *Virginia Institute of Marine Science.*

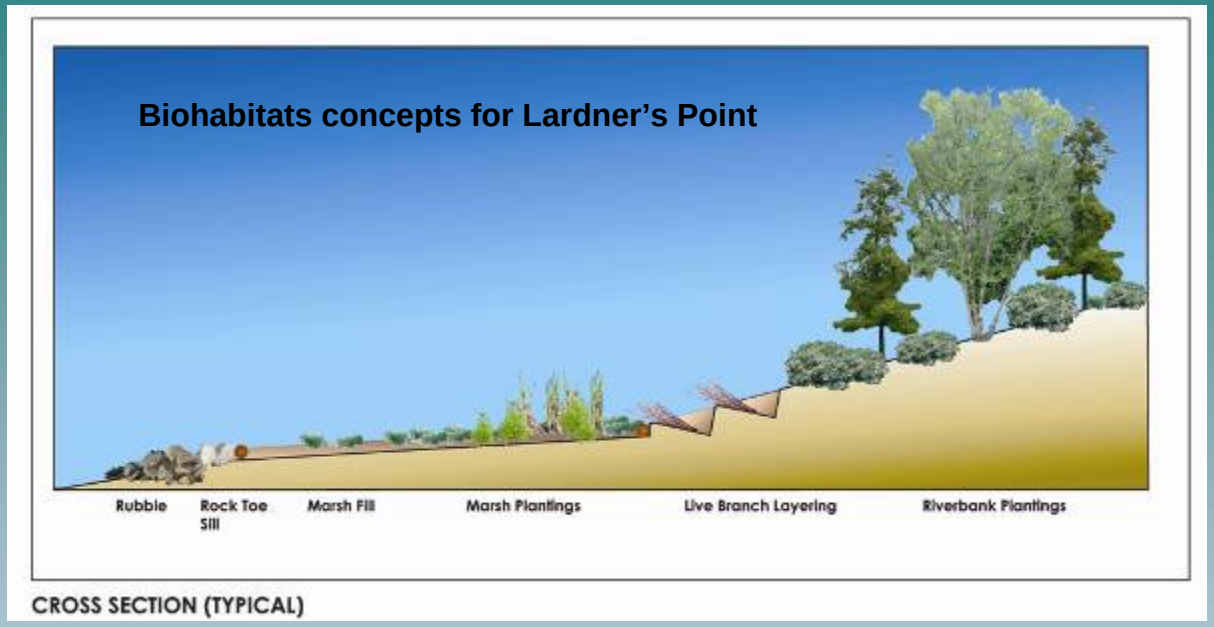
USDA: http://plants.usda.gov

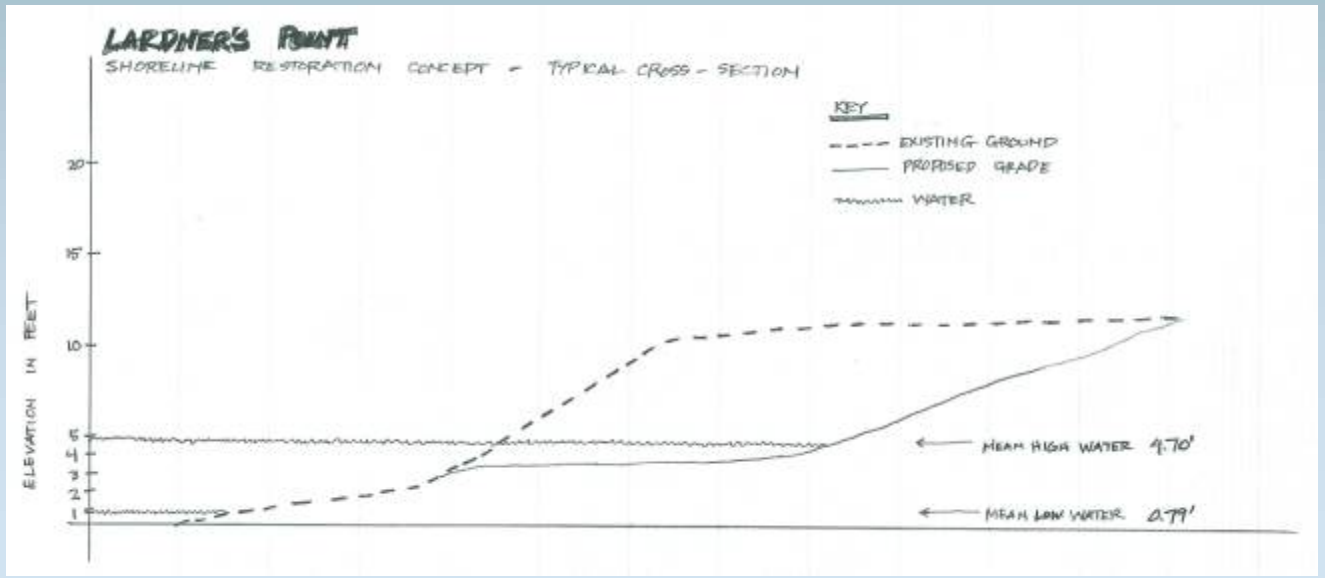
Ecological Restoration From Trail to River

Tidal fringe and back channel wetlands

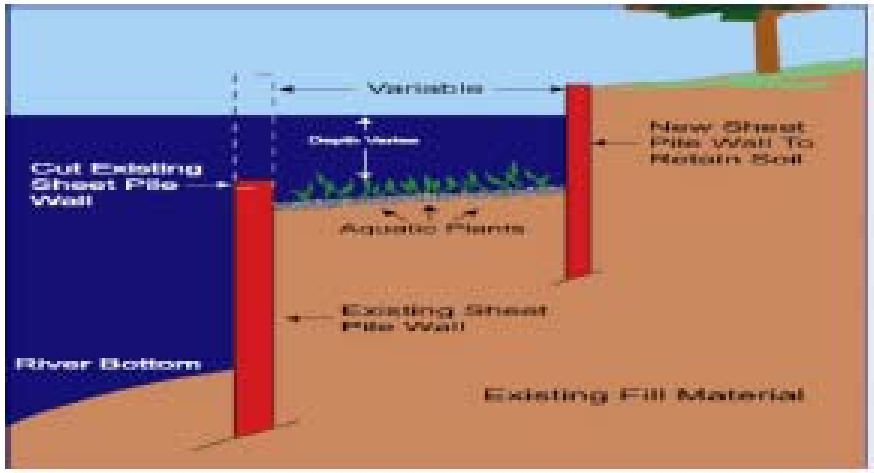
Enhance-restore fringe wetlands

Marsh sills, breakwaters, or other structures.





Shoreline and Bank Protection Options



Tiered Wall Configuration

Marsh Sill