Kids and the Coast
Teaching Environmental Restoration at the Delaware Bayshore

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Delaware Bay Resiliency Restoration Project Partners & Funders

- Core Partners
  - Conserve Wildlife Foundation of New Jersey
  - Stockton University Coastal Research Center
  - LJNiles and Associates

- Funding provided by
  - National Fish & Wildlife Foundation
  - Department of Interior (US Fish and Wildlife Service)
  - William Penn Foundation
  - Geraldine R. Dodge Foundation
Outreach Focus

- Beach restoration
  - Beachcombing field trips
- Horseshoe crabs
  - Live horseshoe crabs
  - Survey & tagging service learning field trips
  - Arts & crafts, children's book “High Tide for Horseshoe Crabs”
- Salt marsh restoration
  - “Marsh Grasses in Classes” program
- Oyster reefs
  - Biological sampling
  - Shell bagging volunteer events
Delaware Bay Restoration Projects

- Three separate grants starting in 2013 from National Fish and Wildlife Foundation (2013 and 2014) and USFWS (2014)
- 2013 team led by the American Littoral Society and the Conserve Wildlife Foundation of New Jersey restored just over a mile of damaged beach successfully in spring 2013 (39,000 cubic yards)
- 2016
  - 8 beaches, 2.74 miles
  - 200,996 cy of sand
  - 2,051 tons of rubble removed
- Current work
  - Oyster reef creation
  - marsh restoration
  - Horseshoe crab tagging
  - Sand movement study
  - Educational outreach
Our restoration began within months after Hurricane Sandy at 5 beaches.
Delaware Bay has the largest population of spawning horseshoe crabs in the world
Ruddy Turnstones, Semipalmated Sandpipers, Sanderling, Red Knot rely on Delaware Bay Crabs to breed
Long migrations leave birds emaciated and in need of easily digestible fat-producing horseshoe crab eggs.

**Fig. 4.** Geolocator output for Red Knot Y0Y: periods when the bird remained in the same location are shown in white; the great circle distances of movements are shown in yellow.

Location key:
1. Delaware Bay, United States
2. James Bay, Canada
3. Western Hudson Bay, Canada
4. Baker Lake, Canada
5. Churchill, Canada
6. Lesser Antilles
7. Maranhão, Brazil
8. Lagoa do Peixe, Brazil
9. San Antonio Oeste, Argentina
10. Uruguay–Brazil border
11. Ocracoke, North Carolina, United States
These kids live right near the bay, but most don’t know what is really there

- Over 100 presentations in the last year
- Reached over 2,100 students
- All ages, pre-K – High School
Horseshoe crabs: anatomy & conservation lessons
Survey & Tagging Field Trips
Horseshoe crabs: field trips
Horseshoe crab craft & children’s book
Salt Marsh Restoration
Mixed Results

- Most grass stayed small and wispy, even after several months
- Only a few plots at one school grew to a significant height
On the other hand...

- My *Spartina* grass at home did quite well
  - Differences:
    - Larger container
    - Kept outside
    - Infrequent watering
“Adaptive Management”

- Compare larger and smaller containers
- Bring some containers outside at least some of the time
- Water some grass more infrequently, to periodically simulate low tide conditions
- May need to wait until later in the season, closer to early spring
Living Shorelines: Oyster Reefs

- 3 oyster reefs built so far at Reeds Beach, Moores Beach, and Dyers Cove
- 2 more planned. One at Thompsons Beach and a second at Dyers Cove
“Shell-a-Bration”
Biological Sampling
Volunteer shell bagging
“New Jersey’s Hidden Coast”

- Wednesday from 1:30-3:00pm
- Newberry Room, 3rd floor