SOVEREIGN CONSULTING INC.
AN ENVIRONMENTAL SERVICES FIRM

Restoring the Maryland Coastal Bays

Focus: Marsh Restoration

Maryland Coastal Bays Salt Marsh Restoration Program

Primary Partners

- U.S. Fish and Wildlife Service
  - Delmarva Restoration & Conservation Network
  - Maryland Fish and Wildlife Conservation Office
  - Ecological Services, Restoration Division
- Maryland Coastal Bays Program

Other Critical Regional Partners

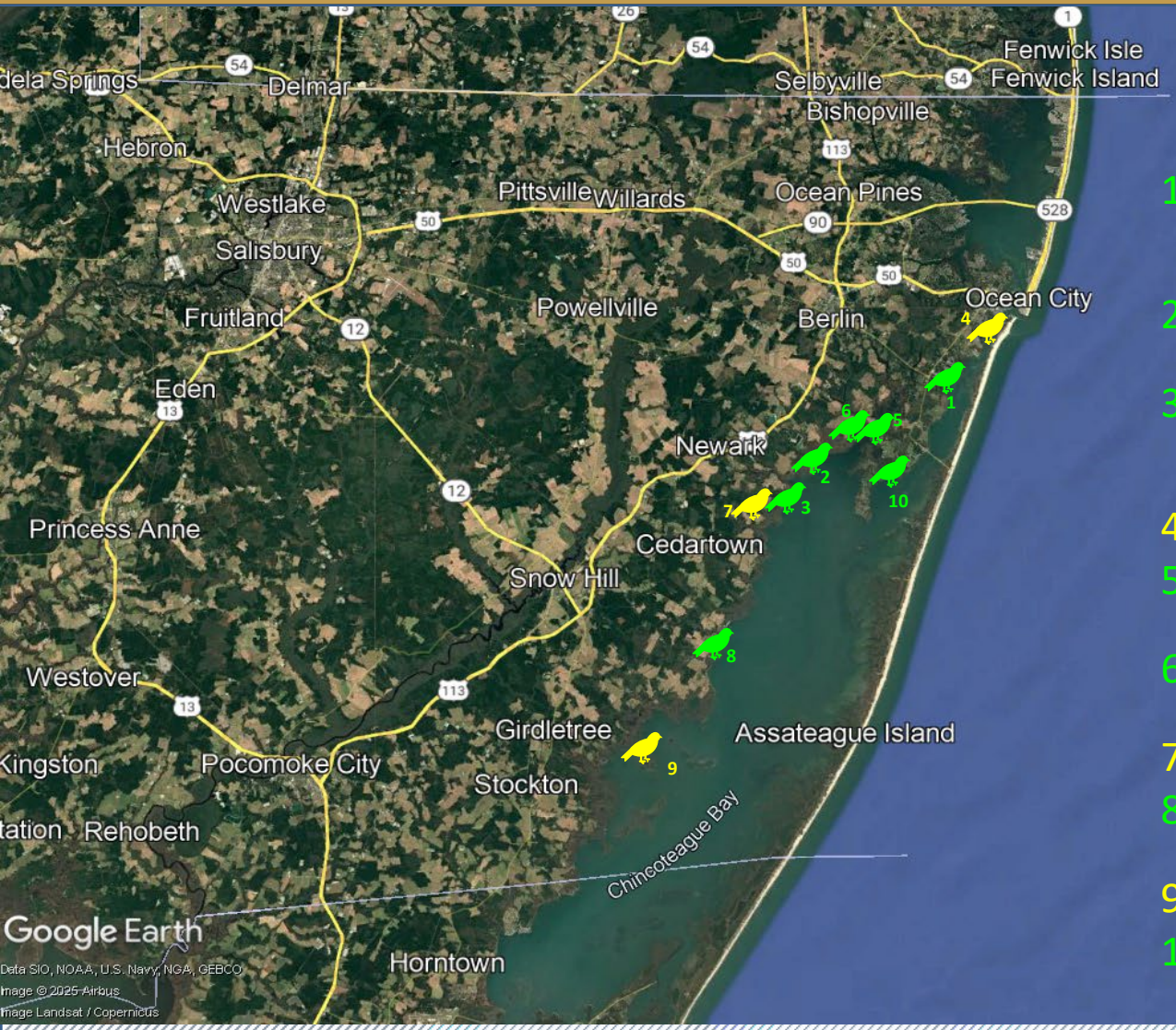
- Western Maryland Resource Conservation and Development Council
- Delmarva Resource Conservation and Development Council

Critical Partner

- Private Landowners

Maryland Coastal Bays Salt Marsh Restoration Program

– Sites for today's talk



Sovereign Prime Consultant

Non-Sovereign

1 Stark Bliss Happens Ln
Evaluation, Design, Permitting Support, Implementation

2 Croppers Island
Evaluation, Design, Permitting Support

3 Stark Langmaid Rd
Evaluation, Design, Permitting Support, Implementation

4 Marsh Harbor

5 Horner Property
Evaluation, Design, Permitting Support

6 Bay Creek LLC
Evaluation, Design, Permitting Support

7 Worcester Co. Langmaid Rd

8 Smithson
Evaluation, Design, Permitting Support

9 Tizzard Island

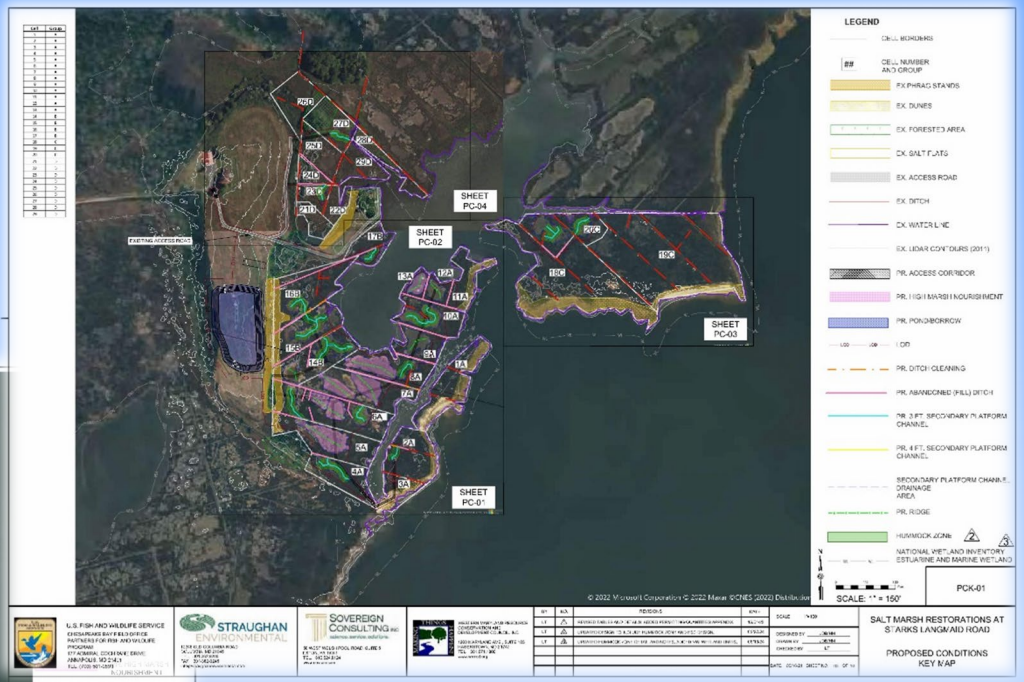
10 Rum Pointe
Evaluation, Design, Permitting Support

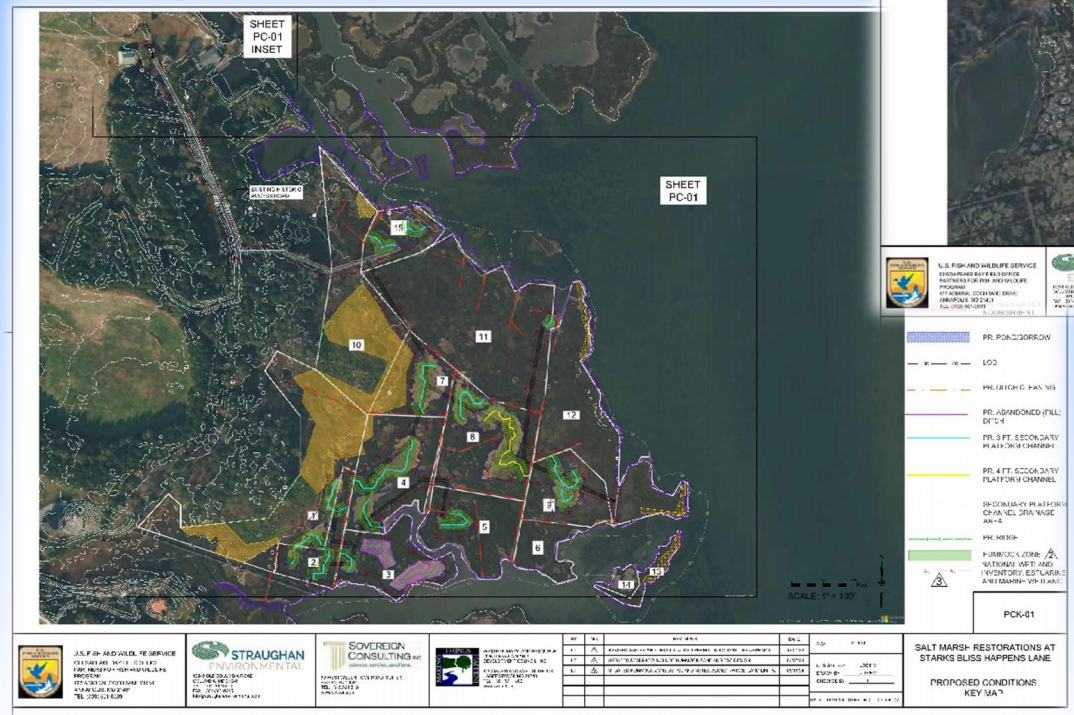
Today's Implementation Topics

- Elevated Platform Waterlogging
- Do No Harm (temporary impacts: focus on access)
- Hummocks
- Learning Opportunities
- Challenges

Design

During winter of 2024/2025:
Implemented the low marsh hydrologic reconnection work (i.e., secondary platform channel work)





Cumulatively:

- Nearly 1 mile of secondary platform channels were created
- 425 hummocks (nearly 2/10 acre) for nesting habitat
- All work done by hand

Elevated Platform Waterlogging

Elevated Platform Waterlogging - Before

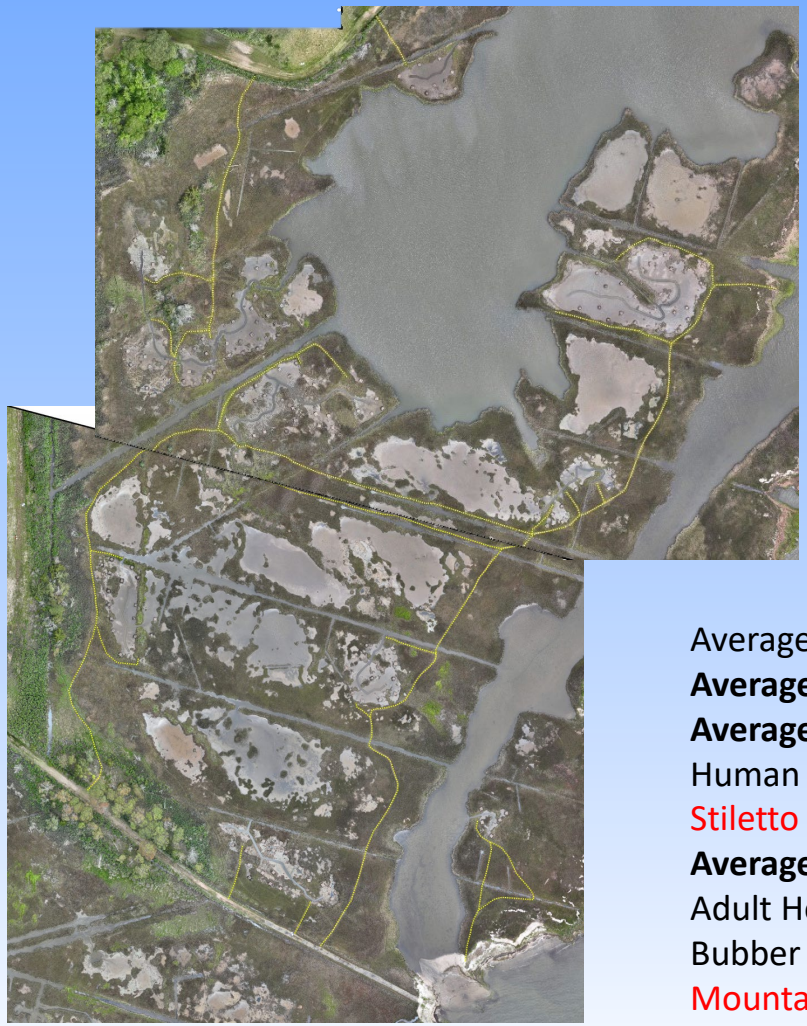
Photo curtesy: Sophia Seufert, USFWS

Elevated Platform Waterlogging - During

Elevated Platform Waterlogging - First Summer

Photo curtesy: Sophia Seufert, USFWS

Do No Harm - Access – Langmaid Road Access Trails



Food for Thought

1) Work foot trails have 1/3 the pressure on the soil profile compared to deer trails.
2) High heels and mountain bikes should be banned from marshes.

Relative psi Table

Average human on snowshoes ~ 0.5
Average human walking in waders ~ 3.4
Average human standing in waders < 1.7
Human (205 lb.) standing in flat shoes ~ 2.5
Stiletto Heel ~ 471
Average walking deer ~ +10
Adult Horse ~ 25
Bubber track ATV ~ 0.75
Mountain bike ~ 40
M1 Abrams Tank ~ 15

Do No Harm - Access – Materials

2’ x 8‘ x $^{3}/_{8}$” – $^{1}/_{2}$” plywood planks
With 4 – $2^{1}/_{2}$ to $3^{1}/_{2}$ diameter holes
We made 30 to 40 of these

Used on:
Trail access (in wet spots)
Platform staging
All platform channel creation

Do No Harm - Access – Cell Work

Do No Harm - Access – Cell Work

Do No Harm - Access – Ditch Crossings

Hummocks – Permitting Driven Tactic - Frames

Hummocks - Revegetation

Photo curtesy: Sophia Seufert, USFWS

Hummocks – Capillary Action (pore space, cohesion, adhesion)

Hummocks – consider all ecological functions created or enhanced by microtopography

Learning: Soil/Sediment Profiles – General Thick vs Thin (relative to tides)

Learning - Soil/Sediment Profiles – Bright vs Dark

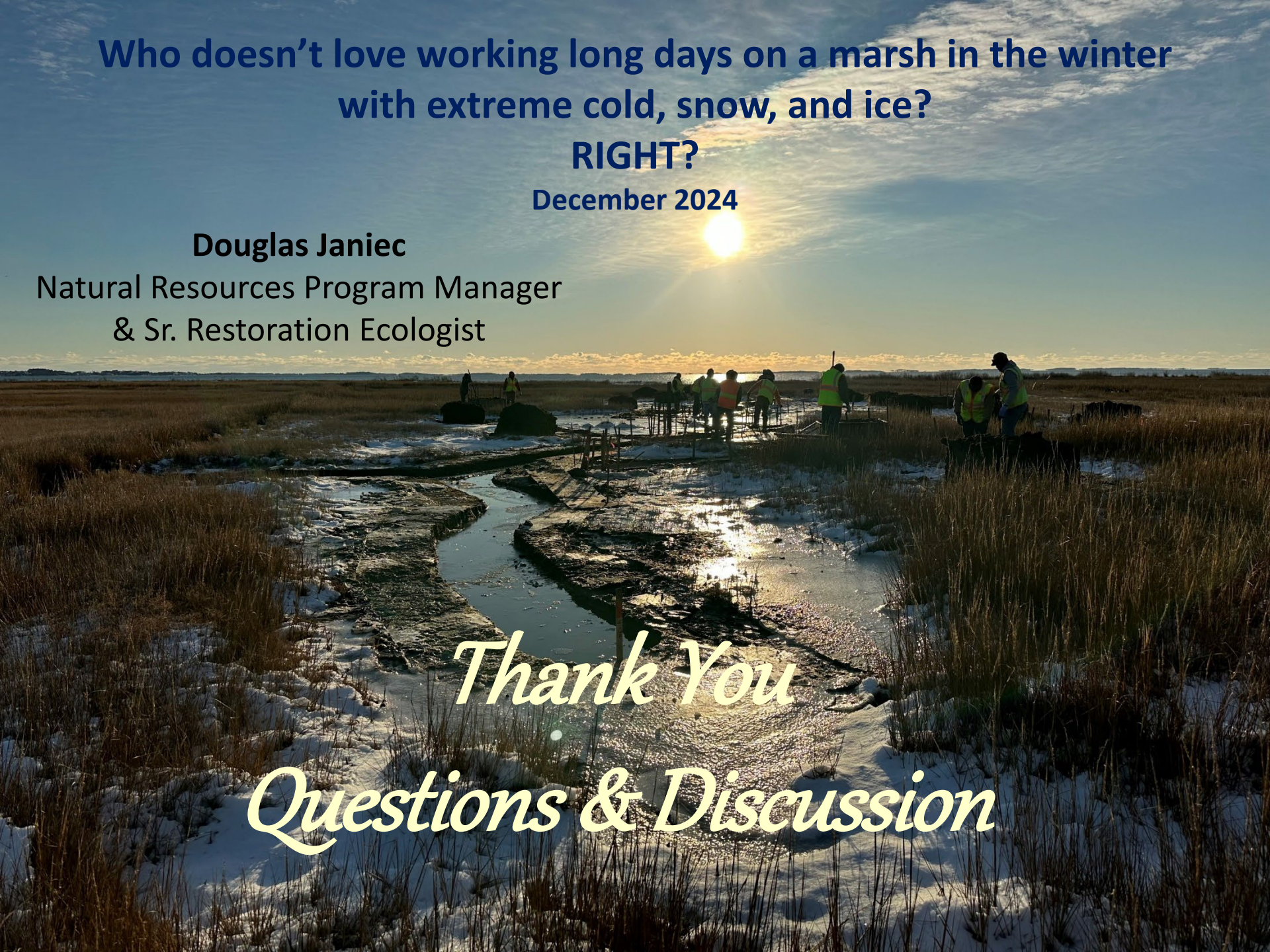
Learning - Soil/Sediment Profiles – Thickness of dark layers

Challenges – flooding/high water

Challenges – Precipitation (e.g., snow)

Silver lining: reduced mud and marsh disturbance

Challenges – ambient temperatures (e.g., extreme cold)



Who doesn't love working long days on a marsh in the winter with extreme cold, snow, and ice?

RIGHT?

December 2024

Douglas Janiec
Natural Resources Program Manager
& Sr. Restoration Ecologist

Thank You

Questions & Discussion