

(Potential) Overarching objectives:

- Maximize community protection
- Minimize up front cost
- Minimize maintenance costs; maximize sustainability
- Maximize trust resource habitat
- Maximize recreational use

Restoration Alternatives:

1. Re-establish freshwater impoundment management capability in both Units

- How do we meet our objectives through this scenario?
 - Extensive dune line; rolling or static
 - Engineered storm protection along the dune
 - Re-engineer WCS
 - Add sediment to increase elevation
 - Raise roads
 - Limit nutrient loading from non-point source
 - Flushing regime to address existing salinity

2. Restore both Units to salt marsh (a gradient within Unit III)

- How do we meet our objectives through this scenario?
 - Direct tidal flow in Unit II (bring Slaughter Creek back to the bay)
 - Remove WCS at Slaughter Canal
 - Raise marsh elevation in both units
 - Initial temporary dune system for sediment containment, dewatering; then natural dynamics
 - Remove/alter Fowler Beach Rd to maximize flow
 - Remove/alter Prime Hook Rd to maximize flow
 - Perhaps series of bridges, elevated portions
 - “Fair weather” road solutions, improved early warning system
 - Remove WCSs from Petersfield and PMH Creek, may enhance overall drainage
 - Fill in Slaughter Canal
 - Encourage natural deposition of sediment through use of living shoreline techniques or similar strategies
 - Engineered storm surge solution

3. Unit II restoration to salt marsh & Maintain impoundment management capability, to some extent, in Unit III

- How do we meet our objectives through this scenario?
 - Direct tidal flow in Unit II (bring Slaughter Creek back to the bay)
 - Remove WCS at Slaughter Canal
 - Raise marsh elevation in both units
 - Initial temporary dune system for sediment containment, dewatering; then natural dynamics
 - Remove/alter Fowler Beach Rd to maximize flow
 - Modify WCSs from Petersfield and PMH Creek, may enhance overall drainage
 - Fill in Slaughter Canal
 - Reestablish watershed divide b/t Units I & II
 - Encourage natural deposition of sediment through use of living shoreline techniques or similar strategies
 - Engineered storm surge solution
 - WCS along PMH Rd, control flow between II & III
 - Raise/improve/relocate road to properly serve as dike
 - Possibly remove culverts
 - Build separate dike on north side of PMH Rd
 - Build dike along west side of community
 - Subdivide Unit III to manage portions separately

4. Brackish Impoundment with tidal exchange (may be transitional, toward long-term conversion; more resilient)

- How do we meet our objectives through this scenario?
 - Modify WCS, e.g. unidirectional tide gate
 - Lower level dune repair that allows some overwash
 - Conversely, may need substantial dune for max control
 - Elevation restoration with sediment
 - Encourage natural deposition of sediment through use of living shoreline techniques or similar strategies
 - Lessons to be learned from state impoundment mgmt

5. Do nothing

- How do we meet our objectives through this scenario?
 - We do nothing and hope for the best...

Restoration options / scenarios for further evaluation:

- Water control capability between Units II and III;
Modifications to Petersfield Ditch WCS (preserve Unit III as freshwater at least in part)
- Dredge material to bring Unit II up to elevation (would help slow water movement from II to III)
- Take Slaughter Creek flow back to the Bay
- Remove Fowlers Beach Rd (prev 3 in combination, ideally)
- Any way to isolate III from II and protect the road?
- Dredge material from within a unit/cell to elevate other portions of the unit
- Subdivide Unit III to manage portions independently
- Immediate management strategies with current infrastructure and capability
- Closure of breaches... at least temporarily, possibly incorporating structures,
- Engineer system to allow for tidal exchange but prevent storm surge (like a hurricane barrier)