Liberty State Park Ecosystem Restoration

District Commander's Briefing
31 October 2005

HUDSON-RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY

U.S. Army
Corps of Engineers
New York District

new jersey department of environmental protection

THE PORT AUTHORITY OF NY & NJ

Hudson-Raritan Estuary Liberty State Park

- Introduction
- Authority
- Study Area
- Existing Conditions – Problem ID
- Plan Formulation/Alternatives
- Selected Plan
- Benefits
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- PGM Compliance
- ITR
- Public Review
- EOP
- Lessons Learned
- Sponsor

Introduction

Background Information

- Overall HRE Reconnaissance Report approved July 2000
- FCSA signed July 2001 w/ sponsor, PANYNJ
  - Representative sites (including LSP)
  - Comprehensive Restoration Implementation Plan
  - World Class Estuary

- PANYNJ - study phase sponsor
- NJDEP - implementation phase sponsor for LSP

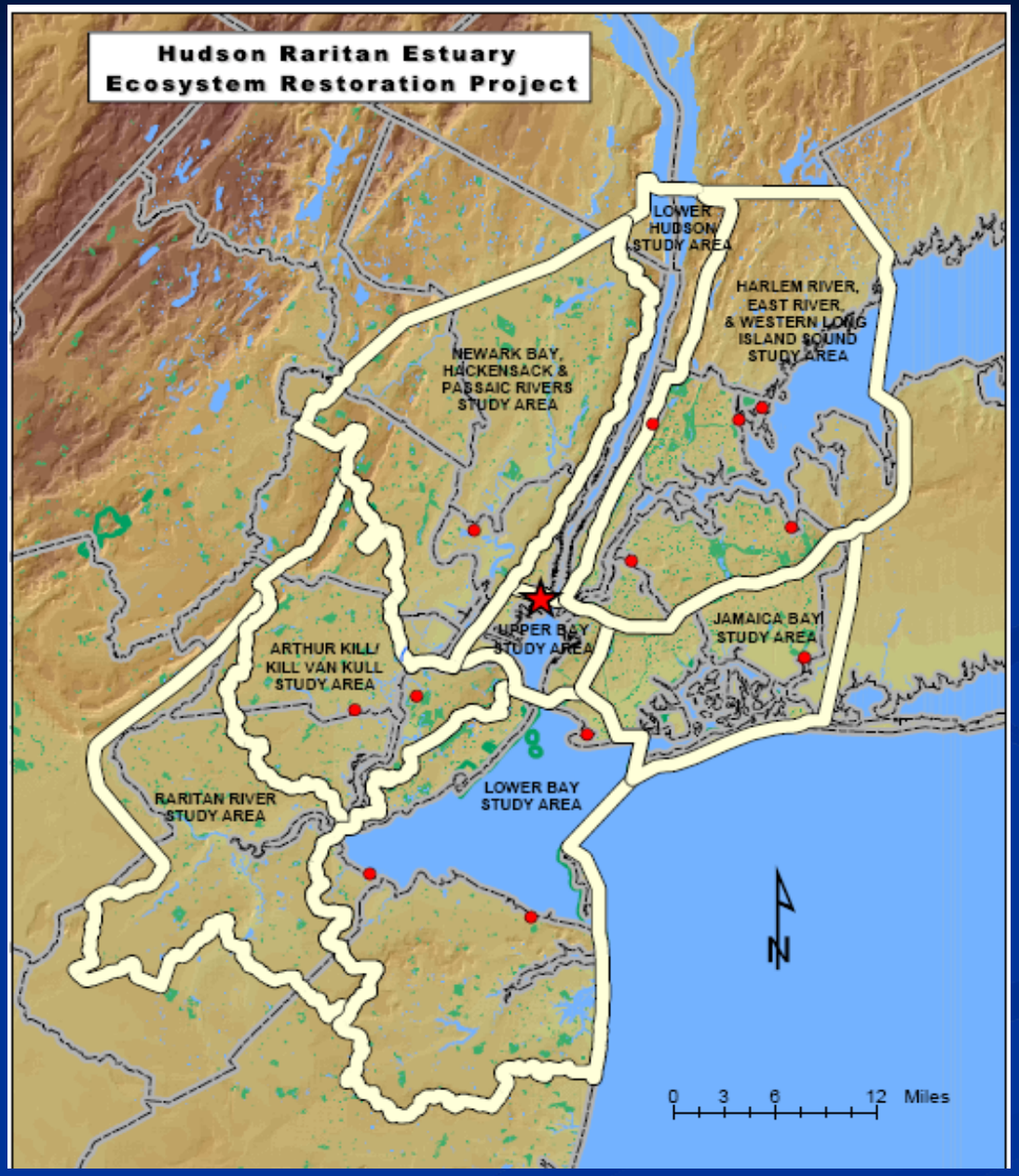
Hudson-Raritan Estuary Authority

- **Authorization-** "HRE-Overall", authorized by HR (T&I) 15 April 1999

  The study was authorized by a resolution of the Committee on Transportation and Infrastructure of the U.S. House of Representatives, docket # 2596, dated 15 April 1999, which reads:

  "***Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That, the Secretary of the Army is requested to review the reports of the Chief of Engineers on the New York and New Jersey Channels, published as House Document 133, 74th Congress, 1st Session; the New York and New Jersey Harbor Entrance Channels and Anchorage Areas, published as Senate Document 45, 84th Congress, 1st Session ; and the New York Harbor, NY Anchorage Channel, published as House Document 18, 71st Congress, 2nd Session, as well as other related reports with a view to determining the feasibility of environmental restoration and protection relating to water resources and sediment quality within the New York and New Jersey Port District, including but not limited to creation, enhancement, and restoration of aquatic, wetland, and adjacent upland habitats."***

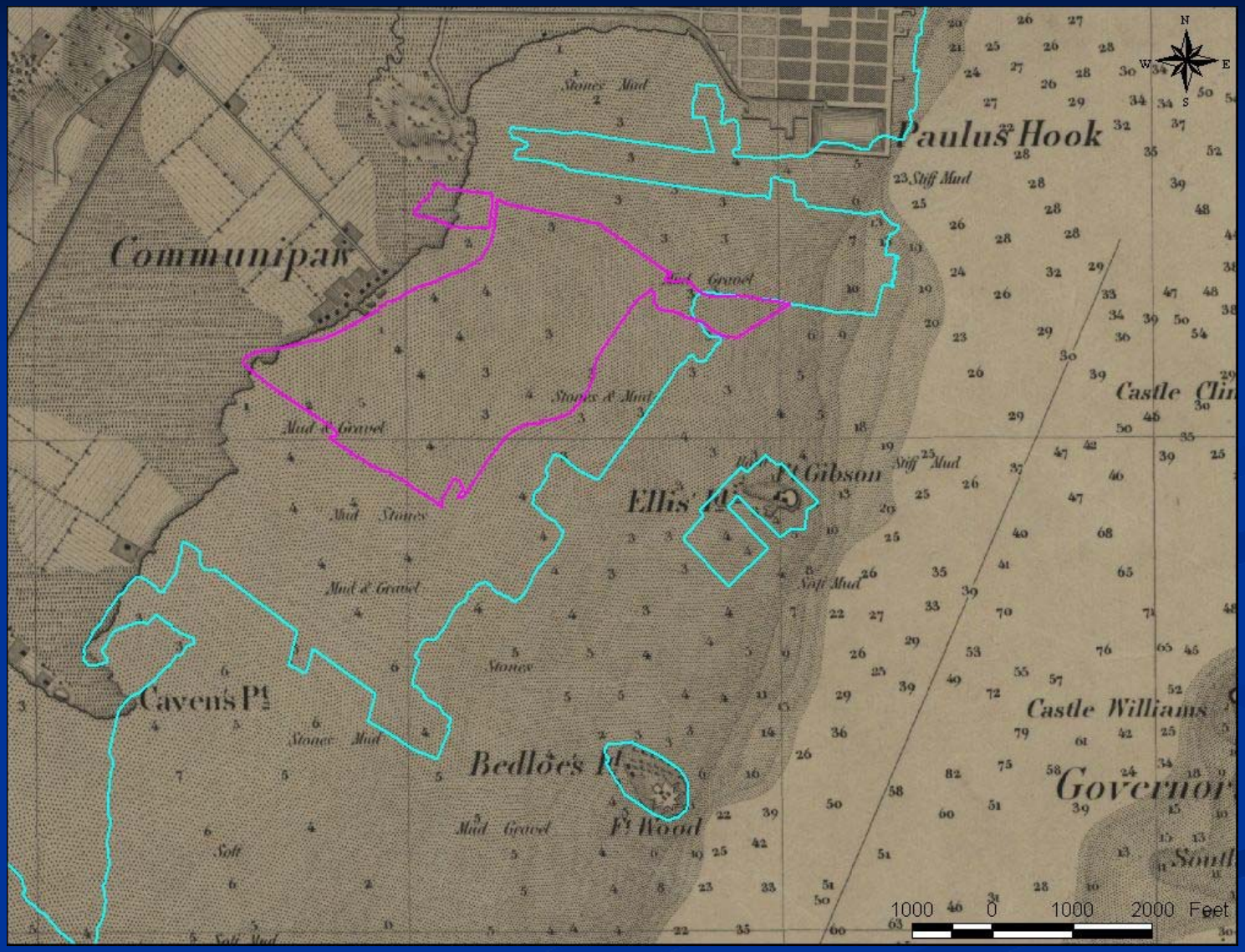
HRE Study Area



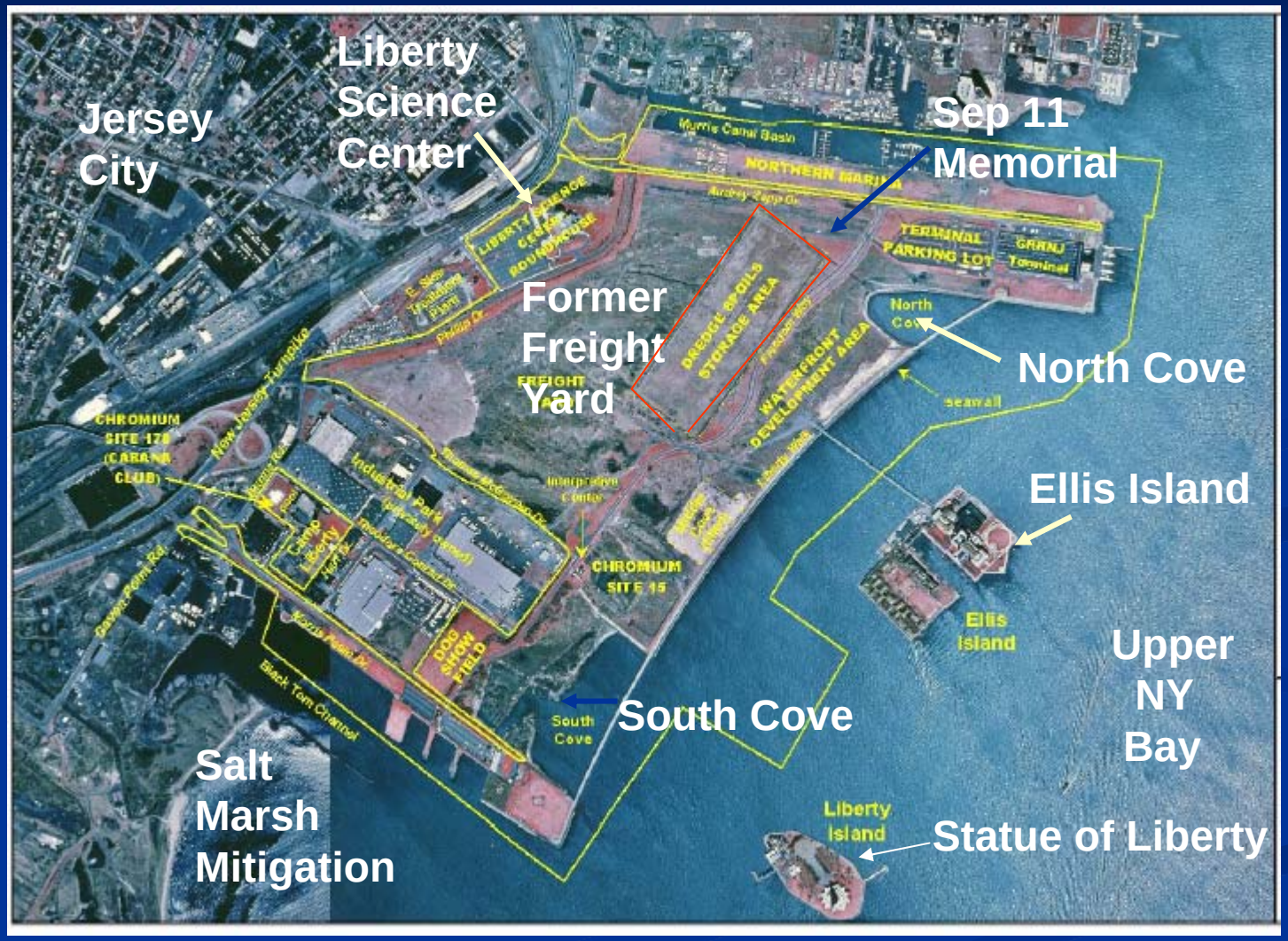
Hudson-Raritan Estuary (HRE) Ecosystem Restoration Study Area

- 8 Sub-Watersheds
- 13 sites as fast-track elements that could be implemented prior to completion of the HRE.
- ★LSP will serve as an interim response to HRE Study Authority.
- LSP affords a unique opportunity for restoration in an urban environment.

LSP Study Area – Historical



LSP Study Area – Existing Use

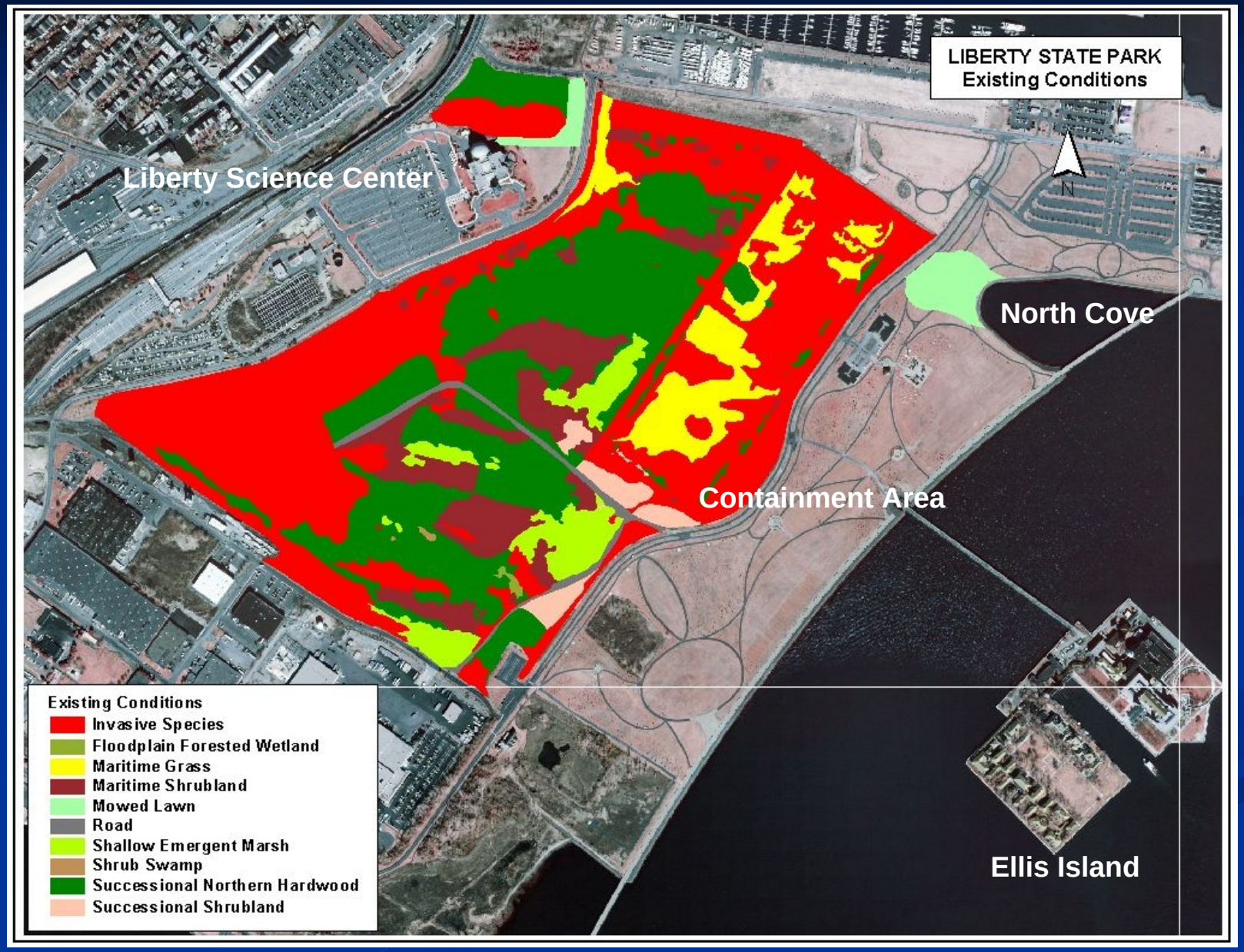


LSP Study Area – Current

Study Goals/Objectives

- Address the study authority by first developing an interim response for LSP in accord with the certified 905b
- Utilize LSP as a model for adaptive management in advancing the overall HRE effort
- Reestablish attributes of a more natural, functioning and self regulating system in the estuary
- Facilitate and foster watershed based partnerships for environmental improvements through collaboration in accord with the EOP
- Foster a world class estuary

Existing Vegetative Conditions



Existing Conditions - Problem ID

1. Lack of salt marsh habitat (scarce Harbor-wide)
2. Low habitat biodiversity
3. Existing scarce freshwater wetlands threatened
   - Invasive species
   - Inadequate water supply

Without Project Conditions

- Long-term decrease in on-site ecological value
  - invasive species spread
  - less dependable water supply

Plan Formulation
Alternatives Considered

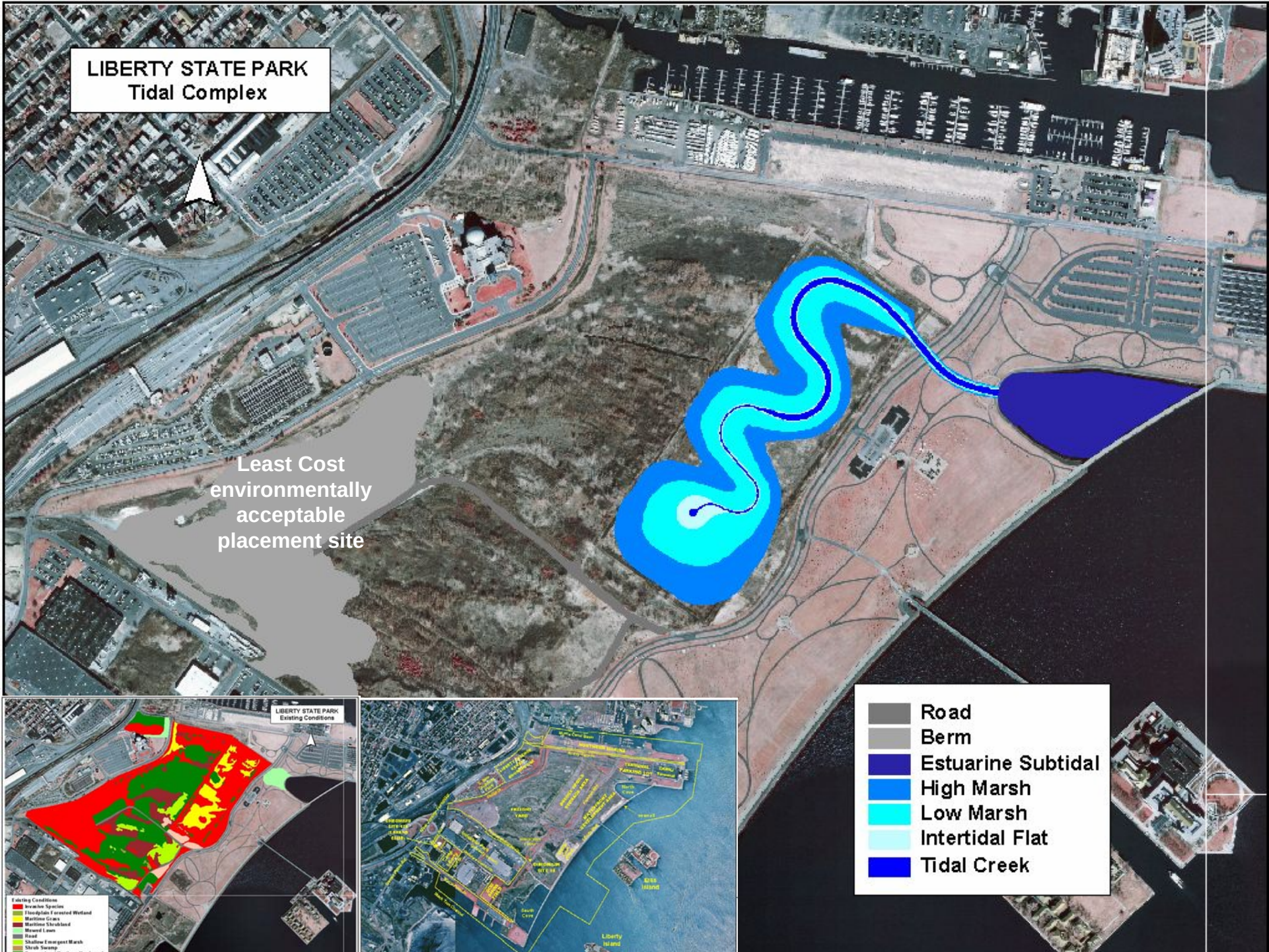
- Creation of Salt Marsh
  - Tidal Creek system with adjacent marsh
    - with on-site & off-site disposal
- Freshwater wetlands
  - Four incremental alternatives to create or enhance
  - Drainage features
- Upland buffers to support tidal and freshwater wetlands
  - Four incremental levels of management

Plan Formulation Alternatives

- Arrays of alternatives were screened, compared and evaluated based on an approach consistent with IWR Plan
  - Minimize average costs
  - Maximize net outputs
  - Selection of best buy plan
- Key assumptions
  - No freshwater and salt water mixing
  - No additional pollutant loadings on site
  - No commercial development

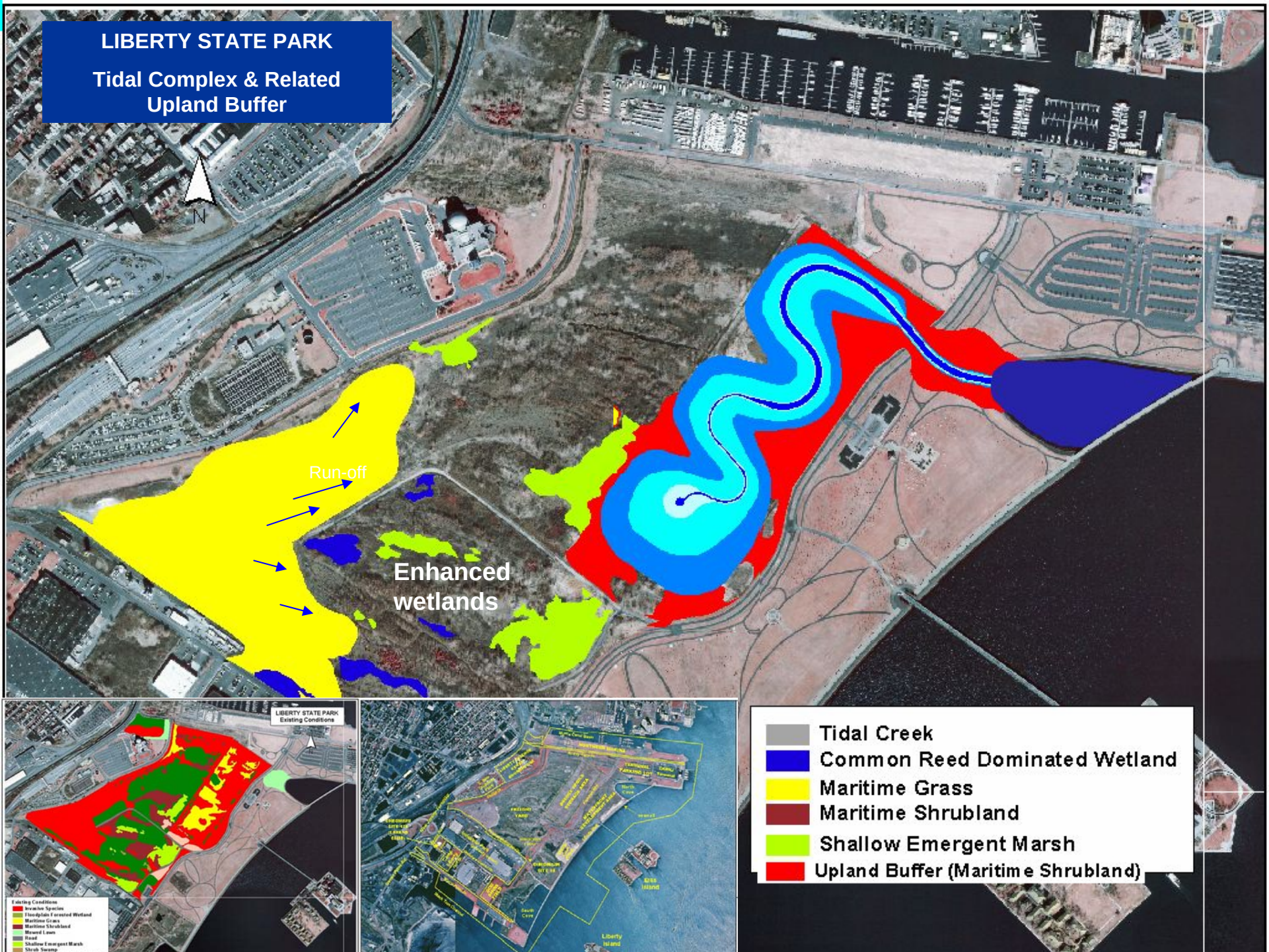
Selected Plan

- Creation of salt marsh
  - Excavation of fenced-in dredged materials
  - Connection to North Cove
  - On site use of excavated materials in berm
- Creation/enhancement of freshwater wetlands outside salt marsh
  - Contour berm to provide additional water
  - Remove existing invasive species
  - Drainage swales to improve hydrology
- Upland buffers
- Beneficial Use of Clean Sand from Harbor Deepening Project as cap

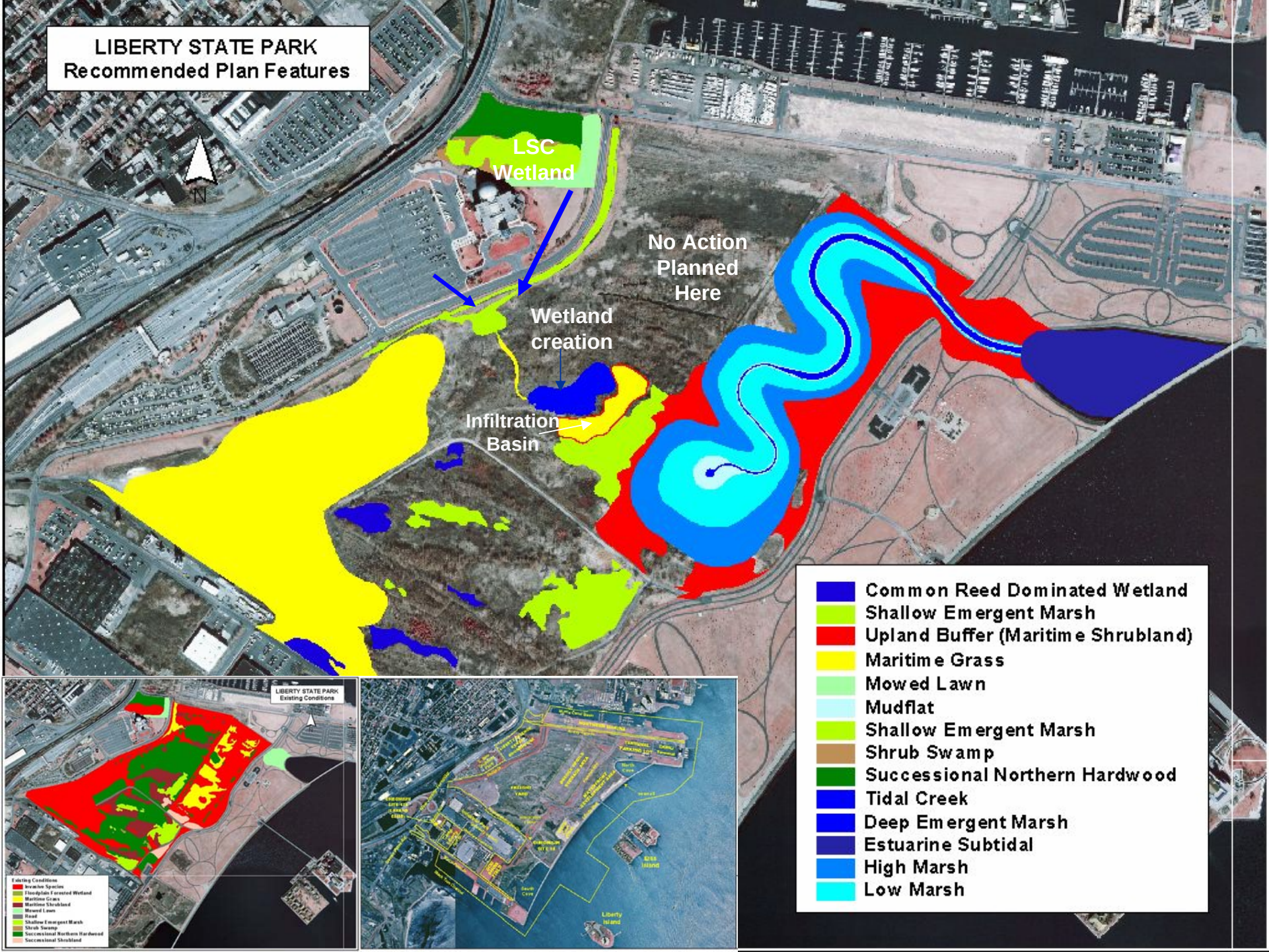

LIBERTY STATE PARK
Tidal Complex
N
Least Cost
environmentally
acceptable
placement site
Road
Berm
Estuarine Subtidal
High Marsh
Low Marsh
Intertidal Flat
Tidal Creek
LIBERTY STATE PARK
Existing Conditions
Existing Conditions
Invasive Species
Floodplain Forested Wetland
Maritime Grass
Maritime Shrubland
Mowed Lawn
Road
Shallow Emergent Marsh
Shrub Swamp
Liberty
Island

LIBERTY STATE PARK

Tidal Complex & Related Upland Buffer



LIBERTY STATE PARK
Recommended Plan Features



Selected Plan

Bridge
Trail
Road
Berm

Terrestrial Communities:
- Maritime Forest (MF)
- Maritime Grass (MG)
- Maritime Shrubland (MS)
- Mowed Lawn (ML)
- Successional Northern Hardwood (SNH)
- Successional Old Field (SOF)
- Successional Shrubland (SSB)

Palustrine Communities:
- Common Reed Dominated Wetland (CRW)
- Common Reed/Mugwort (CRM)
- Deep Emergent Marsh (DEM)
- Floodplain Forested Wetland (FFW)
- Shallow Emergent Marsh (SEM)
- Shrub Swamp (SSW)

Estuarine Communities:
- Estuarine Subtidal (ES)
- Tidal Creek (TC)
- Intertidal Flat (IF)
- Low Marsh (LM)
- High Marsh (HM)

Benefits

- Restoration of salt marsh will restore scarce habitat in harbor
- Protection of rare freshwater wetlands
- Restoration of bio-diversity to park habitat
- Treatment/infiltration of run-off helps clean water entering New York Harbor

NER Plan Summary

- Restoration Area 234 acres

- Create Tidal Marsh system	46 acres
Berm	50 acres
Buffer	15 acres
- Create Freshwater wetland system	26 acres
- Enhance Seasonal Wetlands	23 acres
Direct Construction Benefits	160 acres
Incidental Construction Benefits	*74 acres*
Total Area Improved	234 acres

- Estimated construction cost of $32.2 million (65% Federal, 35% Non-Federal)
  - $20,950,000 Federal
  - $11,250,000 Non-Federal

PGM Compliance Overview

- Terminology concerning site characterization
- Upland and terrestrial restoration
- Recreation
- Functional Assessment

ITR

- Internal ITR key items:
  - Systems context of the restoration incl. upland
  - RE LERRD and opportunity cost of lands
  - Consent decree and site characterization

Public Review

- Public meeting held 26 Sep 2005
  - Several earlier scoping meetings
  - Extensive coordination with Parks management and other agencies
  - Federal Register Notice August 19, 2005
- Broad support for the potential project
- Recognition of laudable collaboration
- No dissent in written or oral fashion

EOP

LSP is consistent with the EOPs in the following ways:

1. Potential project addresses watershed resource issues among Federal and state agencies, and other non-government organizations.
2. Reconnects a blend of habitat types that are fragmented throughout the watershed.
3. Consistent with the harbor/port development activities with the surrounding natural system found at the Liberty State Park as well as the Harbor Estuary and will maintain a healthy, diverse, and sustainable environment.
4. There will be educational opportunities in conjunction with the Liberty Science Center and historic Central New Jersey Rail Road Terminal within the Park.
5. Potentially incorporates the beneficial reuse of Harbor dredged material.
6. Allows for application of adaptive management principles.

Watershed Integration

- Consistent with NJDEP policies
- Study and project implementation mark a significant partnership model
- Expanded PDT facilitated a watershed approach

State of New Jersey Department of Environmental Protection

Mr. Frank Gallagher

NJDEP Administrator for Liberty State Park

Liberty State Park

Interdisciplinary Planning Committee

Liberty State Park

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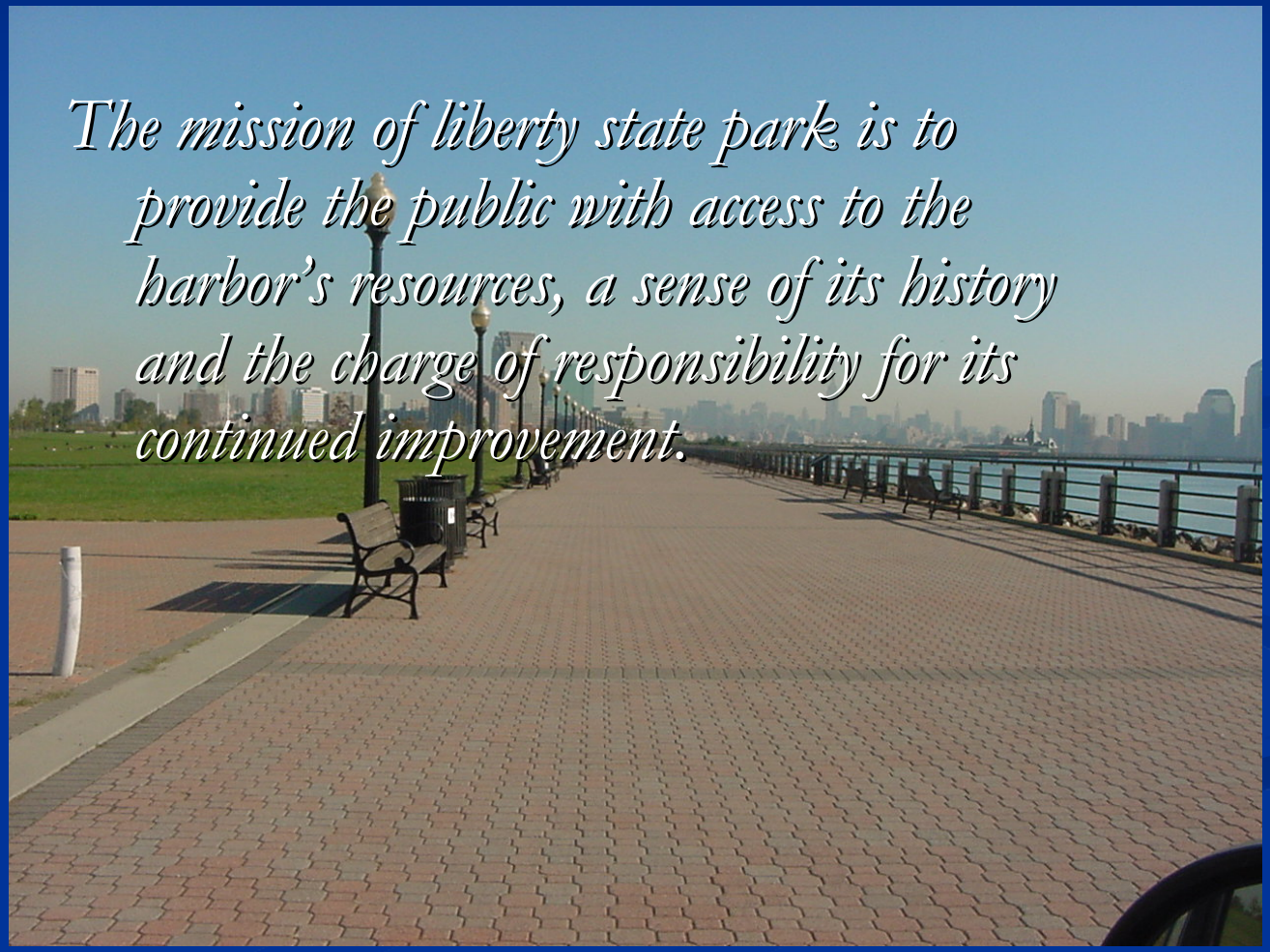
Interdisciplinary Planning Commit



Support for Liberty State Park Interior Restoration

Interior Planning Committee

NJDEP Parks and Forestry Liberty State Park Conservancy
Friends of Liberty State Park Liberty Science Center
NY/NJ Baykeeper NJ Audubon
Office of Congressman Robert Menendez
Jersey City Mayor's Office Hudson County

Overwhelming and Unprecedented Public Support

Over 1,000 citizens attended public meetings to support preservation and restoration of Interior of LSP

Over 5,000 cards and letters were sent by citizens in support of preserving and restoring the interior of LSP.

More than 40 conservation and civic groups from throughout New Jersey have signed on to a letter of support for LSP preservation and restoration initiatives.

Support of Elected Officials: Congressman Robert Menendez; Senator Bernard Kenny; Assemblyman Lou Manzo: Senator Joe Doria; JC Councilman & Hudson County Public Works Director, Marianno Vega& many other Hudson Cty, Jersey City, Freeholder Bill O'Dea, JC Councilman Steve Lipski, and many others.

Advancement of the Conceptual Restoration Plan for the Interior of LSP

Frank Gallagher, NJDEP
Marc Matsil, NJDEP
Dave Bean, NJDEP
John Sacco, NJDEP Dir. Natural Resource Damages
John Roebig, & restoration team, LMS Consulting
Bob Will and USACE Hudson Raritan Initiative Restoration Team
Carl Alderson, NOAA
Dr. Emlyn Koster, LSC
Greg Remaud, LSPC/Baykeeper
LSP Interpretive Center Staff
Rich Kane/Eric Stiles/Troy Eddle, NJ Audubon
Various expert input from NJDEP, other agencies, and Rutger's University

North Atlantic Division Position

- Concurrence with NAN District Commander's findings & recommendations.
- Confirm that the report complies with all applicable policy & laws in place at this time.
- Anticipate general public support in response to the draft Chief's Report recommendation.
- Liberty State Park is the first recommended ecosystem restoration site within the Hudson - Raritan Estuary (HRE). The opportunity to develop a comprehensive restoration plan for HRE has the potential to become a national showcase for restoration in an urban environment.

Quality Assurance Briefing:

North Atlantic Division

- QC Report dated October 2005.
- Review Certification Signatures for entire study team and QC team members are listed.
- Policy concerns include:
  - Terrestrial habitats.
  - Plan selection.
  - Real Estate.

Certification of Legal & Policy Compliance

- Legal certification of feasibility report made by NAN District Counsel on 17 October 2005.
- Policy Compliance: ITR certification includes signatures of review team. All comments have been resolved by NAN and are documented in QC Report.

- ITR comments included:
  - ✓ Upland habitat.
  - ✓ Interim response to authority.
  - ✓ Real Estate LERRD.
  - ✓ HTRW.

Civil Works Review Board

Significant Policy Review Concerns

Liberty State Park Ecosystem Restoration project

Mark Matusiak

Office of Water Project Review

Policy and Policy Compliance Division

Washington, DC – 31 October 2005

Significant Policy Issues for Liberty State Park Study

- HTRW Considerations
- Consent Decree/Compliance with Environmental Requirements
- Relationship of Aquatic and Upland Areas
- Plan Formulation and Calculation of Ecosystem Restoration Benefits

Policy Compliance Review – Significant Issue

Issue/Concern: Proposed project site contains HTRW.

Reason/Basis: HQUSACE requested additional justification for pursuing ecosystem restoration at LSP consistent with Corps policy that HTRW-contaminated areas should be avoided where practicable (ER 1165-2-132).

Significance: Potential liability issues and perception that the Corps would be implementing an HTRW remediation project under the Civil Works program.

Resolution: Report clarified that HTRW present at the site does not require a response or corrective action under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or the Resource Conservation and Recovery Act (RCRA) and that avoidance is not practicable.

Resolution Impact: The issue is resolved.

Policy Compliance Review – Significant Issue

Issue/Concern: Consent Decree/Compliance with Environmental Laws

Reason/Basis: The draft report indicated that CERCLA, SARA and RCRA are not applicable to the proposed project however the site of the proposed project is subject to a consent decree in a lawsuit brought under RCRA against the State of New Jersey.

Significance: The status of compliance with applicable environmental laws must be accurately set forth in the draft report.

Resolution: CENAN has clarified the draft report by indicating that LSP is not designated as a RCRA site and that project implementation will satisfy the consent decree and any requirements under RCRA.

Resolution Impact: The issue is resolved.

Policy Compliance Review – Significant Issue

Issue/Concern: Aquatic and Upland Restoration Areas

Reason/Basis: HQUSACE requested additional justification to support the inclusion of significant upland components in the plan (approximately 150 acres of the 234-acre study area).

Significance: Corps guidance stresses restoration of aquatic habitats. The OWPR supports the tidal marsh restoration described in the plan.

Resolution: CENAN clarified how the proposed upland features would support and enhance aquatic functions, especially, buffer zones and water supply. The feasibility report will be clarified concurrent with S & A review.

Resolution Impact: OWPR believes that the justification for upland buffers is adequate, and supports the recommended plan, subject to agreed-upon clarifications of the feasibility report.

Policy Compliance Review – Significant Issue

Issue/Concern: Issue/Concern: Plan Formulation and Calculation of Ecosystem Restoration Benefits

Reason/Basis: Selection of this site was not directly compared with other opportunities for critical restoration in the Study Area. The Functional Units contain non-ecosystem parameters. Measurement of without and with project effects primarily differentiated quantity rather than quality between the restoration alternatives.

Significance: Identification of the NER plan.

Resolution: CENAN clarified descriptions of ecosystem measurement, formulation, and rationale for selecting the recommended plan were included in report revisions. Selection of this critical restoration site over others is defended based on implementation priorities.

Resolution Impact: CENAN will verify functional assessments and clarify the plan formulation and selection process in feasibility report, concurrent with S & A review.

Liberty State Park Ecosystem Restoration project Review Team Recommendation

- Release the Report and FEIS for S & A review and filing with USEPA
- Remaining issues will be addressed by VTC cooperation concurrent with S & A review

NAN Lessons Learned

- Emphasis on "related" upland features
- Collaborative planning ensures broad buy-in
- An HTRW primer on RCRA/CERCLA is vital
- RIT should be engaged as early as possible on even potential policy issues
- RIT/HQ needs to be involved now in overall CRIP development so future interims are better understood and received

Lessons Learned:

North Atlantic Division

HQUSACE, NAD, NAN, sponsors and interested agencies need to form a PDT to collaborate and reach a common understanding on the ongoing formulation of the Comprehensive Restoration Implementation Plan (CRIP).