

Economic Analysis of the Delaware Bay Shoreline Management Alternatives



April 8, 2011



Approach

OVERVIEW -AGENDA

- DNREC Actions Since Last Workgroup Meeting
- Coordination with the Delaware Bay Working Group – Communications
- Presenters
- JMT Presentation
 - JMT Team
 - Study Area
 - Approach
 - Schedule/Status
- Discussion



**Contract Management, Data Collection, Shoreline
Protection Design, FEMA BCA**

Jim Eisenhardt, CFM, PWS – Contract Manager

Baker

**Coastal Modeling, FEMA/USACE BCA, Data
Support - Surveying**

Doug Plasencia, PE

**Economic Analyses (Natural/Water Resources,
Tourism, Recreation, Coastal Management Property
– Economic Development)**



Joshua Duke, PhD



Ari Michelsen, PhD

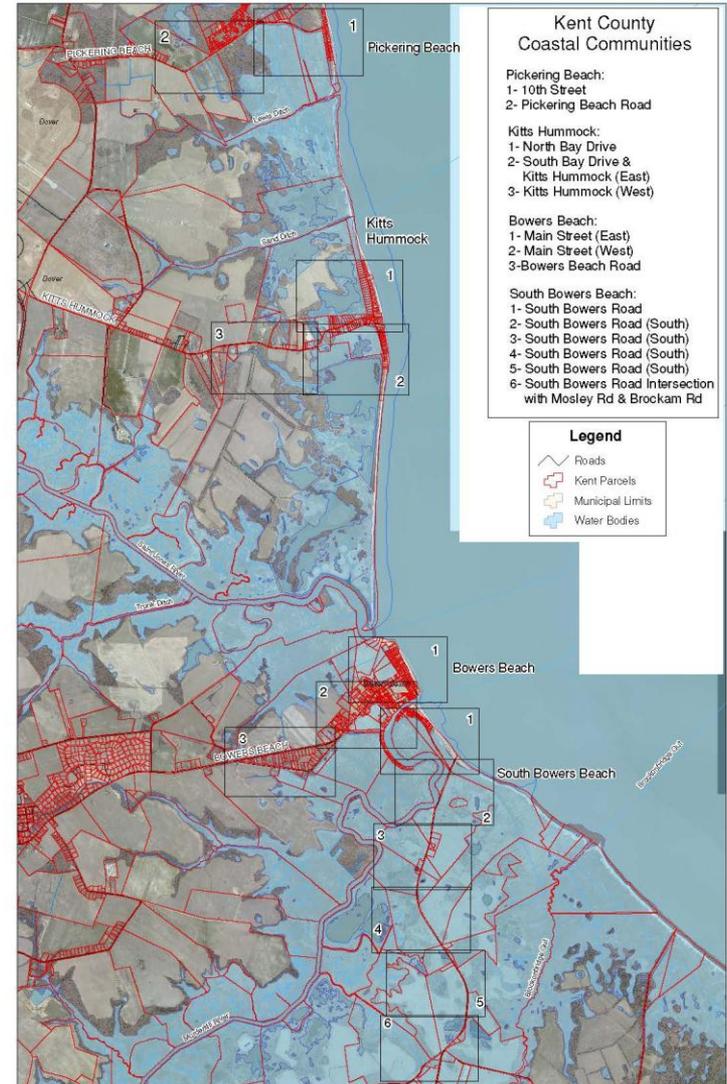
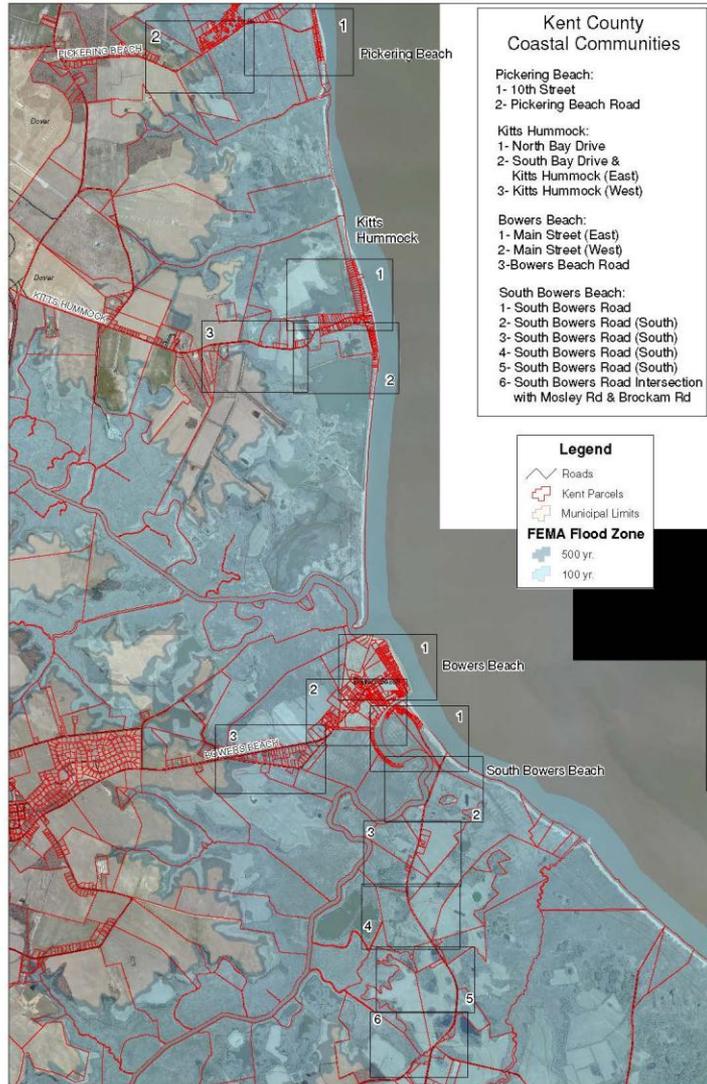


Robert Johnston, PhD

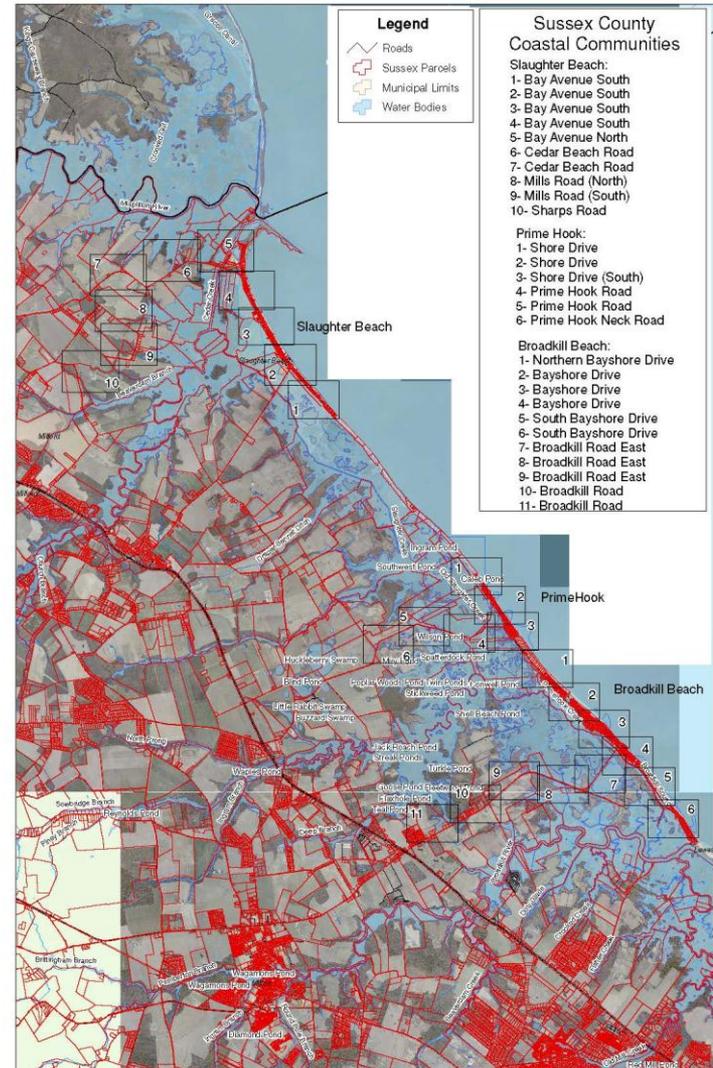
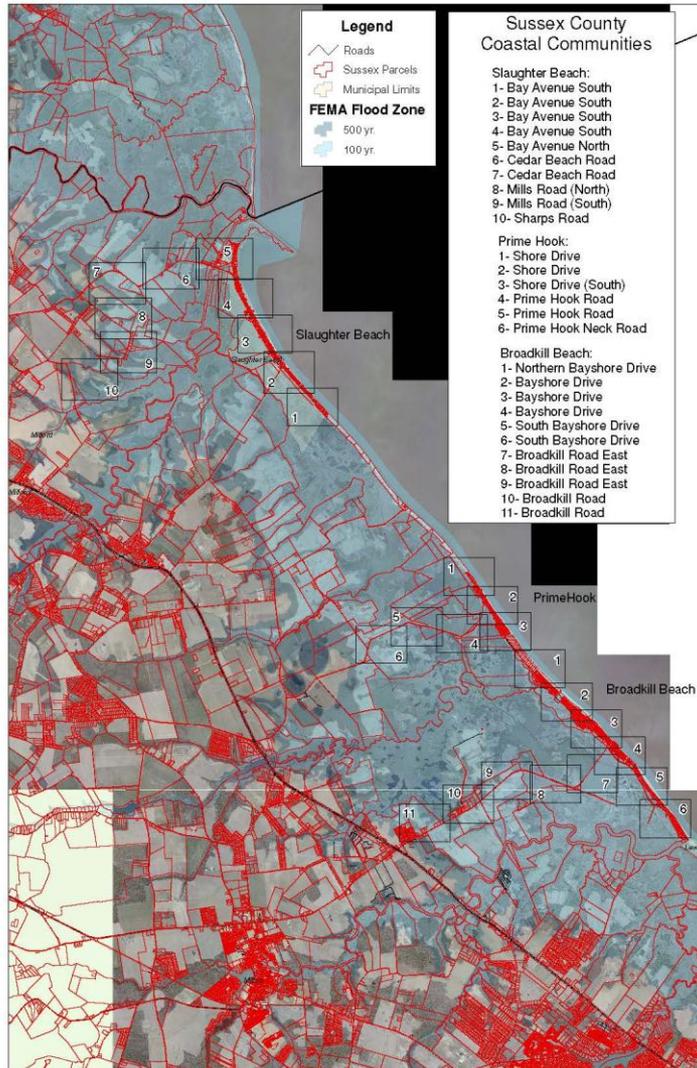
Study Area/Communities



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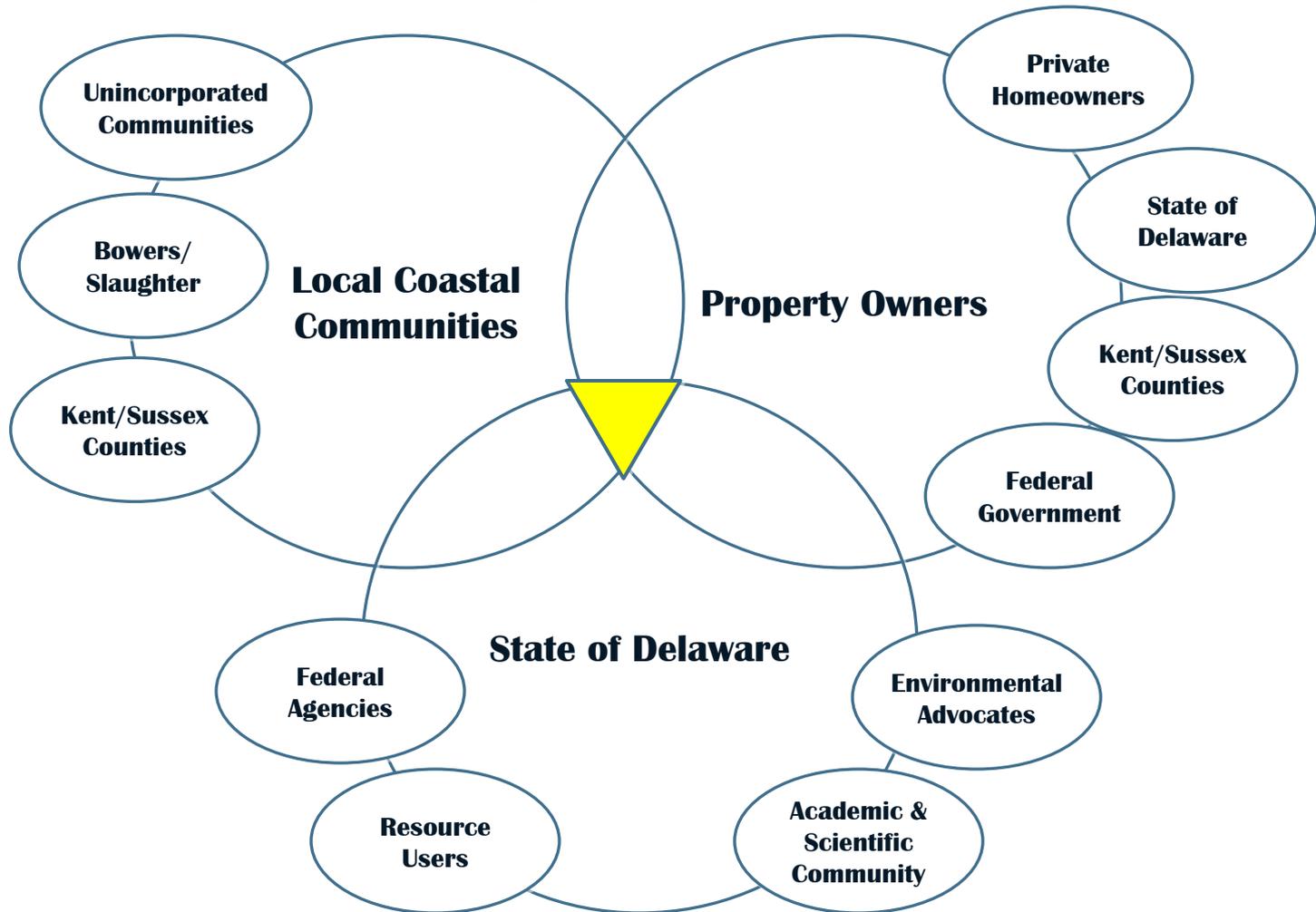


Study Area/Communities



Communications

Key Partners/Affected Parties...



Approach

OVERVIEW

- Developing Strategy with DNREC – Integrated Partner Throughout
- Determine desired range of outcomes and economic assessments
- Collect Data in support of selected scenarios and economic assessments
- Complete coastal engineering modeling and alternative protection concept development and model scenarios
- Complete economic models
- Develop presentation materials for policy makers, agencies and public

Approach

General Scope Outline

Data Collection/Assessment – Strategy Development (PHASE 1)

Economic Analyses following FEMA/USACE standard protocols (PHASE 1)

Flood Damage Assessment

Affected Property Inventories – Surveys (PHASE 1A)

Coastal Hazard Modeling – Flood/Surge Elevations (PHASE 1B)

Shoreline Adaptation Alternatives Development (PHASE 1C)

Storm Damage Reduction

Cost Estimates

FEMA BCA models (PHASE 1D)

Economic Analyses determining regional benefits from proposed actions (PHASE 2)

Tourism/Recreation

Property Valuation

Ecosystem Benefits – Natural Resources Valuation

Public Outreach/Education/Expert Testimony (PHASE 3 - throughout)

General Public

Stakeholder Coordination

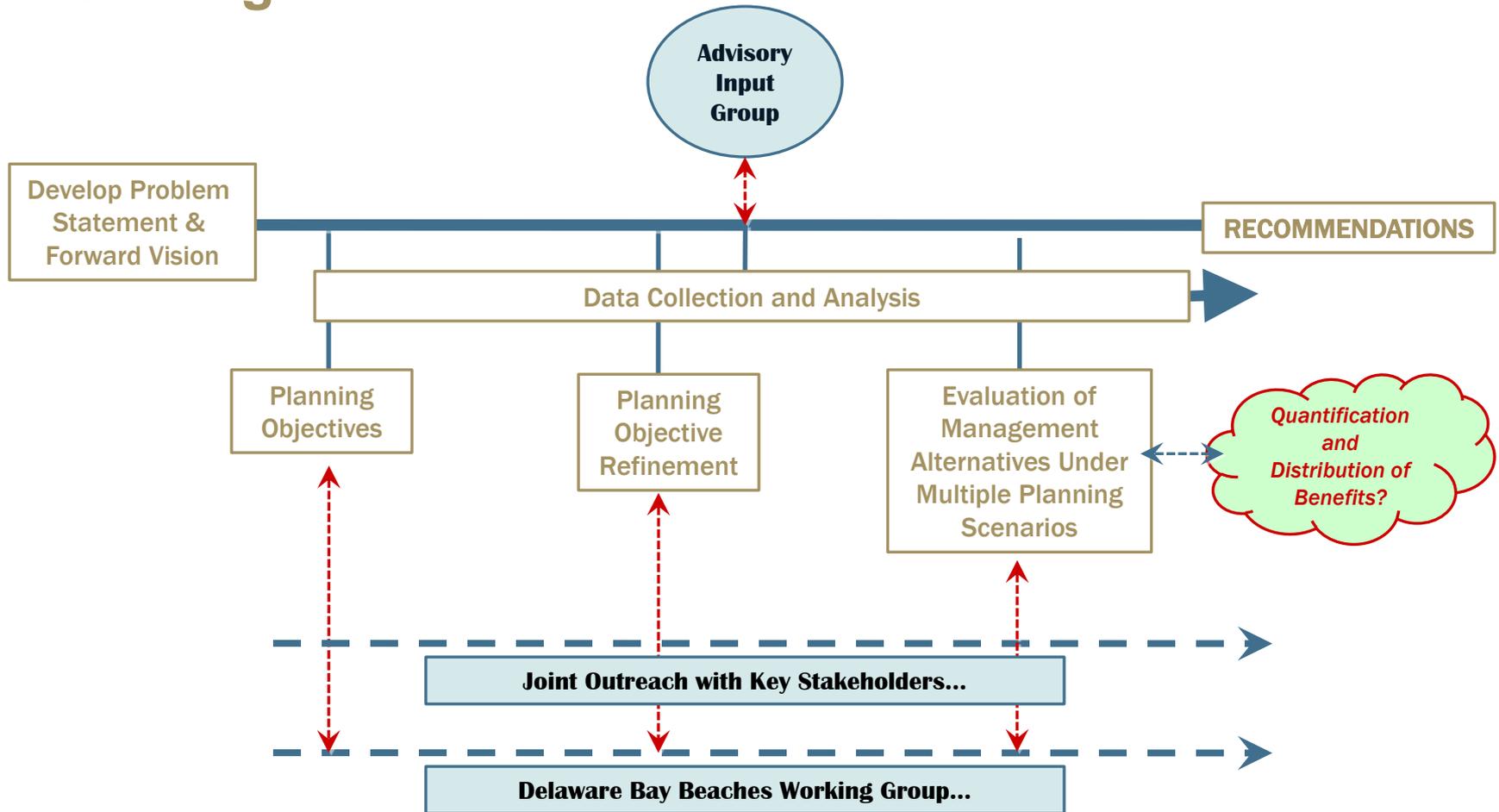
Delaware Bay Shore Task Force

Affected Communities

Documentation/Reporting (PHASE 4 – throughout)

Approach

Planning Process



Approach

Concurrent Regional Efforts - Considerations

- Sea Level Rise/Inundation Mapping/Projections
- Living Shorelines
- Regional Sediment Management
- TNC/NFWF Priority Restorations Shoreline
- State/Federal Lands Management
- Others

Approach

ECONOMIC ANALYSES -

- Categories of Economic Effects to be Analyzed
 - Structures/Assets Damages
 - Tourism Revenues
 - Recreation
 - Property values
 - Local/Statewide business revenues
 - Population demographics – shifts
 - Natural Resource Capital Valuation
Wetlands, Wildlife, Fisheries, Etc.
 - Others

Approach

ECONOMIC ANALYSES - INTEGRATED



- FEMA BCA, Data Support

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- FEMA/USACE BCA, Tax/Real Property, Data Support



- Environmental, Natural Resources, Tourism, Recreation, Property – Economic Development



- Environmental, Water Resources/Water, Coastal Management



- Environmental, Natural Resources, Tourism, Recreation, Coastal Management

Approach

ECONOMIC ANALYSES - INTEGRATED

- FEMA / USACE BCA/Risk Assessment – traditional flood damage reductions

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- Natural Resource Value Capital



- Tourism / Tax Base – Land Use Projections



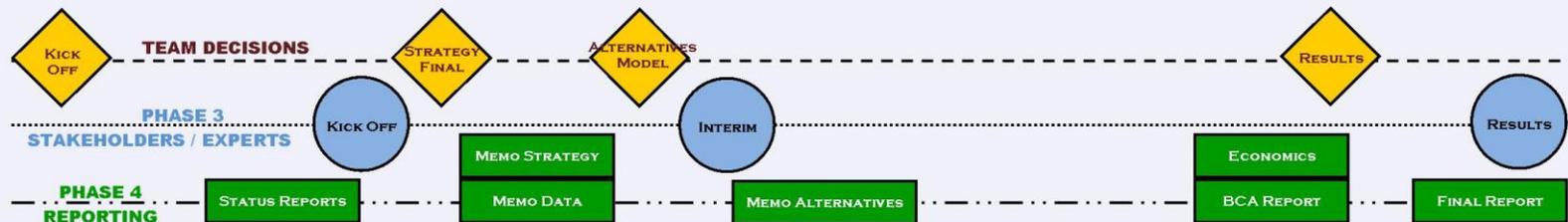
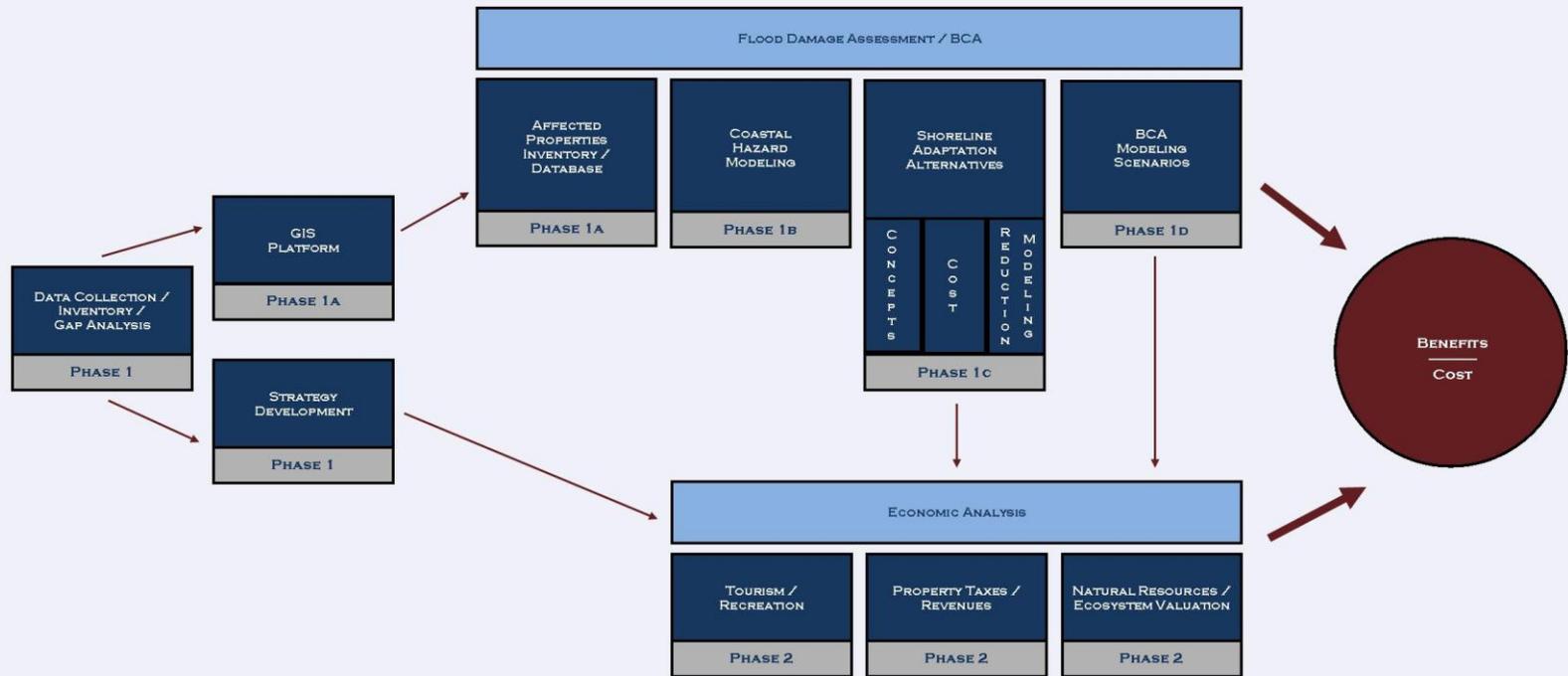
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Community / Benefactor Identification

Approach/Status

ECONOMIC ANALYSIS OF DELAWARE BAY SHORELINE ADAPTATION ALTERNATIVES

PROJECT APPROACH SUMMARY



Approach

Schedule: 12 Months

- Refer to Flow Diagram
 - NTP – March 1, 2011
 - Flood Damage Assessment Inventory complete – April 15
 - Management alternatives/projections selected – May
 - Phase 1 Data collection complete – May
 - Initiate FEMA BCA tasks – May 1
 - Complete FEMA BCA evaluations – August 1
 - Complete GIS/Database Reports/Images – September 1
 - Initiate development of economic models – May 1
 - Complete economic models – November 1
 - Vette results with DNREC – November
 - Present results to Workgroup – December/January, 2012
(February considering holidays)

Questions



JOHNSON, MIRMIRAN & THOMPSON

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