

# Hydrography Major Project

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# Hydrography Major Project

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# Hydrography Major Project

## Process Overview

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### Requirements Management

- New NOAA Administrative Order established (NAO 216-108) in late 2005.
- Established requirements validation authorities.
- Established major projects process.
- 13 major projects identified via NOAA Decision Memorandum.
- Councils & project managers assigned.

<b>Major Project</b>	<b>Planned Funding FY07 DOC Submit</b>	<b>Council/Board</b>	<b>Project Manager</b>
Hydrography (data collection, research, and development)	\$245M (FY 07 – FY 11)	Ocean	Rich Edwing



# Hydrography Major Project

## Process Overview

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### Characteristics of major projects

- Require significant resources, high risk, external visibility.
- Follow applicable DOC & NOAA acquisition and management guidelines.
- Be approved by the NOAA Deputy Under Secretary.
- Have an assigned single manager.
- Be assigned to a Council for review at Key Decision Points.



# Hydrography Major Project

## Process Overview

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### **NOAA's Project Managers will:**

- Assemble a project team.
- Address all functional & operational requirements over the project life cycle.
- Ensure the project satisfies the customer & NOAA.
- Communicate project status internally and externally.
- Schedule Key Decision Point project reviews.



# Key Decision Points

## KDP 1: Needs Identification and Definition

- What is the need? -- Description
- What are our existing capabilities and what is the gap?
- Where did this need come from? How well is it documented?
- Who are key customers and stakeholders?
- How does need link to the NOAA mission and strategic plan and other validated requirements?
- Benefits and performance impacts of meeting this need?
- Recommended priority
- Rough Order of Magnitude Cost
- Program and Funding Objectives
- Policy and Budget Constraints

## KDP 2: Solution Alternatives Identification

- How will alternatives for meeting requirement be investigated
- What alternatives were evaluated developed and analyzed?
- How were alternatives evaluated?
- Provide cost/benefit analysis of alternatives
- Cost, Schedule, Performance
- How much will alternative investigation, development and analysis cost?
- What is proposed solution? Success criteria?
- What is the Concept of Operations?
- Identify risks and mitigations
- Was solution coordinated internal and external to NOAA?
- Is this solution compliant with NOAA policies and standards?
- How will solution impact current Programs?
- How does solution leverage existing investments?
- How will it be managed – who is accountable?
- Investment Strategy

## KDP 3: Solution Selection

- Investment Strategy
- Life Cycle Cost Estimates
- User Impact Assessments
- Tradeoff Analyses
- Investment Budgets

## KDP 4: Acquisition/Implementation Approval

- Cost
- Schedule
- Performance
- Configuration Management

# Hydrography Major Project

## Project Status

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### Key Decision Point 1:

- Needs Identification and Definition:
  - requirements validation;
  - project scoping;
  - context.
- Endorsed by NOAA Ocean Council:
  - Technical oversight group established.
- Presented to NOAA Executive Panel:
  - Approval pending.

# Hydrography Major Project

## Project Status

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### Key Decision Point 1 Highlights:

- Mission requirement validation:
  - 3.4M snm, Exclusive Economic Zone;
  - 510K snm, navigationally significant areas;
  - 10,000 snm, annual target.
- Mission shortfall identified:
  - ~ 7,000 snm annually.
- Rough Order of Magnitude (ROM) cost provided for one scenario:
  - mixed asset approach.



# Hydrography Major Project

## Project Status

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### Key Decision Point 2 Approach

- Alternatives
- Building blocks
- Economic analyses
- Proposed investment strategy

# Hydrography Major Project

## Project Status

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### **1 – Identify KDP 2 alternatives to address shortfall (gap)**

Foundation: Core expertise must be maintained.

- a) Shortfall addressed through expanded contract services.
- b) Shortfall addressed through mix of expanded inhouse capacity and contract services.
- c) Technology infusion efficiencies impact on inhouse capacity and contract services.

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## Project Status

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### 2 - Establish KDP 2 Building Blocks

- Assumptions/constraints – document all major assumptions used to establish and project cost and performance.
- Cost Basis – establish average per unit (square nautical mile) cost.
- Performance – establish average level of production associated with a specific capacity.
- Schedule – projected on an executable basis.



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### 3 - Conduct KDP 2 Economic Analyses

- US Navy Economic Handbook.
- OMB Circular A-76 (direct and indirect costs).
- Five year (FY10-14) window for operational cost projections, ten year (FY10-19) for capital costs/life cycle requirements.
- Cost, schedule, performance for technology infusion possible within FY10-FY14, risk mitigation for five year over the horizon technology.
- Risk mitigation for Integrated Ocean and Coastal Mapping impacts.

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## Project Status

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### 4 - Identify proposed KDP 2 NOAA Investment Strategy

- Cost effective.
- Executable.
- Minimize risk.
- Maximize Administration, Congressional and Stakeholder support.

# Hydrography Major Project

## Project Status

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### Building blocks - Direct Data Acquisition

- Contract services:
  - variable cost/performance by survey type;
  - variable cost/performance by survey location;
  - includes LiDAR.
- In-house data acquisition with existing vessels:
  - four in-house: variable costs/performance;
  - required to maintain core expertise.
- In-house data acquisition with new vessels:
  - NOAA survey vessel proposed in FY09 PPBES;
  - additional vessels have variable costs/performance.

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### **Building blocks - Direct Data Acquisition**

Technology infusion:

- Autonomous Underwater Vehicles: CTD, sidescan, multibeam;
- Moving vessel profilers.

### **Building blocks - Data Acquisition Support**

Survey planning/contract management/data management.

Tide control (tidal zoning/tide gaging).

### **Building blocks – Human Capital**

Complementary component to building blocks.

Cuts across all building blocks.



# Hydrography Major Project

## HSRP Role

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- External review required by Major Project process
- HSRP has already provided some foundational work
- Draft KDP 2 review requested.

