Environmental Windows as a Resource Protection Management Practice

DOUG CLARKE
US Army Engineer Research and Development Center
Topics for Discussion

1. How do environmental windows affect project planning and work schedules?
2. Do environmental windows provide optimal conservation benefits?
3. In what cases would monitoring provide more benefit than environmental windows?
**Environmental Window** - a period during which dredging may occur

**Seasonal Restriction** - a period during which dredging is not allowed
Chronology of Windows

• First appeared after passage of NEPA in 1969
• By 1980 > 80% of all Federal navigation projects complied with at least one window
• By 1996 > 90% of Federal projects were restricted, a majority by multiple windows
• The %age of restricted projects continues to rise in response to an expanding emphasis on environmental mandates such as the ESA and EFH
Frequency of Windows by Region (1996)
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# Environmental Windows in Chesapeake Bay

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## Recreational Fishery

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- Crab Season
Environmental Windows in Chesapeake Bay

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NOV TO FEB
AUTHORITIES

Federal Consistency Requirements

Clean Water Act

Endangered Species Act

Fish & Wildlife Coordination Act

Biological Opinions

Essential Fish Habitat

Section 401 Water Quality Certification
Issues That Lead to Windows

- Contaminated Sediments
- Sediment re-suspension effects
  - Turbidity
  - Total Suspended Solids
- Hydraulic entrainment
- Sedimentation effects
- Noise
- T&E species protection
CUMULATIVE WINDOWS

EXAMPLE: HYANNIS HARBOR, MA PROJECT FILE

RESTRICTION

Winter Flounder
Anadromous Fish
Shorebird Nesting
Bathing & Boating
Shellfish Spawning
Sea Turtles

WINDOW
The Problem from a Dredging Project Manager’s Perspective

- Windows have a “cumulative effect”
Consequences of Environmental Windows

- Protracted project schedules and delays
- Rising costs per cubic yard of sediment dredged
- Contentious coordination pitting the need to dredge against the Precautionary Principle
• The Precautionary Principle
  – When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.

(from the 1998 Wingspread Statement)
The Precautionary Principle in Practice

- The PP is intended to be a *risk-averse* and ideally an *adaptive* management practice.
- Under the PP precautions are intended to be *preliminary* measures pending completion of risk assessment.
- Precautions are *not an endpoint*, but a *starting point* in a search for alternatives.
- “The litmus test for knowing when to apply the PP is the combination of threat of harm and scientific uncertainty” (Tickner, 1999)
PROPORTIONALITY: THE APPLIED PRECAUTION SHOULD BE PROPORTIONAL TO THE DEGREE OF RISK
PRECAUTION
CONCERNS RELATED TO TURBIDITY

ENVIRONMENTAL WINDOW

- DEPLOY SILT CURTAIN
- USE CLOSED BUCKET
- SLOW HOIST SPEED
- NO RESTRICTION
An environmental window is an off switch, not a dimmer switch. By default it infers that no risk is acceptable.
Research obstacles: *Sea Turtle Entrainment Example*

- Major investment in research resulted in greatly reduced “take” by hydraulic dredges
- Reduced “take” did not lead to more flexible windows
- New dragarm and deflector designs would be extremely expensive to plan, evaluate, and implement
- Extensive interagency coordination and collaboration required to demonstrate that dredging outside of the existing windows can be done without additional “take”
ONE CONSEQUENCE OF 35 YEARS OF ENVIRONMENTAL WINDOWS:

Stagnation in the search for better, safer ways to conduct dredging while protecting environmental resources.
OBTAINING EXEMPTIONS FROM EXISTING WINDOWS TO ASSESS IMPACTS IS OFTEN A CHALLENGE
Informed Decisions Demand an Integrated Approach

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<tr>
<th>Biology</th>
<th>Dredging</th>
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National Research Council

A Process for Setting, Managing, and Monitoring Environmental Windows

2001
Regional Approach

Step 1: Make Commitments

Step 2: Convene Stakeholders

Step 3: Advisory Teams

Step 4: Stakeholders Set Window

Step 5: Dredge

Step 6: Refine Window
Pitfalls in the Present System

- Burden of proof lies on the dredging community, but targets are fuzzy
- Often weak documentation
- Few resource agencies have staff dedicated to the dredging process
- Resource agencies have no funds for dredging research or training
- Little incentive exists to change the status quo
Recommendations

• Consider all best management practices on an equal basis with windows (e.g., silt curtains, closed buckets, buffer zones, etc.)
• Accept windows as a potentially useful tool based on the merits of a given project and specific sources of risk
• Do not institutionalize windows, but invest in development of alternatives
Recommendations

• Seek science-based, adaptive approaches
• Obtain commitments to resolve major concerns
• Explore ecological risk-based methodologies to set windows
• Train regulators in the dredging process
• Increase awareness of conservation needs among dredgers
In Conclusion:

• Environmental windows are a non-adaptive management practice and represent an imperfect application of the precautionary principle

• Progress beyond a perfunctory acceptance of windows as the management practice of first resort requires commitment from all stakeholders
DREDGED SEDIMENT IS JUST THAT
- SEDIMENT -
NOT
SPOIL
1. How do environmental windows affect project planning and work schedules?

2. Do environmental windows provide optimal conservation benefits?

3. In what cases would monitoring provide more benefit than environmental windows?