

How is the Concept of “Risk”  
Relevant to  
Regional Fishery Management  
Council Members?

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# Risk and Uncertainty

- Risk: The expected value of one or more results of one or more future events
- Uncertainty: A state of having limited knowledge where it is impossible to exactly describe existing state or future outcome

# Ecosystem-based Marine Fisheries Policy and Management

- The management of human behaviors
- Towards specific objectives
- Through a specific governance system
- Which affect, or are affected by, a specific biophysical environment

# The Nature of Ecosystem-Based Marine Fisheries Policy and Management

ALL ecosystem-based marine fisheries policy and management decisions have

BIOPHYSICAL, SOCIAL AND ECONOMIC OBJECTIVES

AND

BIOPHYSICAL, SOCIAL AND ECONOMIC IMPACTS

There are RISKS associated with the estimation of all of these variables.

# The Nature of Ecosystem-Based Marine Fisheries Policy and Management

ALL ecosystem-based fisheries policy and management decisions involve

## TRADEOFFS

Among these objective and impact categories.

Judging these tradeoffs and their associated risks is

THE PROCESS OF POLICY AND MANAGEMENT

# Kinds of Risk

- Impact Risk
  - Biophysical (to the biophysical ecology)
  - Socio-economic (to the human ecology)
- Process Risk
  - Review (the NMFS/NOAA/DoC process)
  - Implementation (Achieving the desired result)
  - Legal (External lawsuits)
  - Community (within the fisheries community)

# Impact Risk

- Biophysical
  - How will the fish population be affected?
  - How will the biophysical ecosystem be affected?
- Socio-economic
  - How will the fishermen be affected?
  - How will the fishing community be affected?

# Process Risk

- Review
  - How will the DoC review process go?
  - Will Congress intercede?
- Implementation
  - Will the required measures produce the intended result?
  - Can we accurately measure those results?
- Legal
  - What is the threat/probability of lawsuit?
- Community
  - How will the Council's relationship with various constituencies be affected?
  - How will individual Council members' relationship with the constituencies be affected?



# Risk Matters!

All of these kinds of “risk” are involved in the marine fisheries policy and management process, and all require different kinds of information, analysis, and application.