

*Marine Reserves, April 2000
Council Update and Initial
Presentation of Results*

- **Review of Council process**
- **Summary of technical analysis**

- **No Council action required at this meeting**
- **Reserve definition: no-take of relevant species**
- **Council authority: limited to FMP species**

Two Phase Process

- ***Phase I--Conceptual Evaluation***
 - **Ad hoc Committee work**
Identify objectives, alternatives, studies
 - **Technical staff**
 - Evaluate likelihood of meeting objectives
 - Evaluate design
 - Outline issues/elements/approach for Phase II analysis
 - **Council**
Select options for Phase II or end process
- ***Phase II--Full Specification and Siting***

Next Steps

- **April—no action, initial review and comment on analysis, heads up on main findings**
- **June—approve draft analyses for public review**
- **September—final Phase I decision**

Objectives--(priority order)

- **Accelerate stock rebuilding**
- **Enhance biological productivity**
- **Enhance economic productivity**
- **Provide insurance**
- **Conserve and protect habitat**
- **Improve opportunities for research and education**

Options

- 1 Status Quo
- 2 Heritage/Research Reserves (5%)
- 3a Rebuilding Reserves with Harvest Reduction (20%)
- 3b Rebuilding Reserves without Harvest Reduction (20%)
- 4 Alternative Management Reserves (20%-35%+)
- 5 No Reserves (Other Ways)

Objectives

- **Accelerate Stock Rebuilding**
 - Likely within reserve, uncertain outside
- **Enhance Biological Productivity**
 - Uncertain
- **Enhance Economic Productivity**
 - Uncertain
- **Provide Insurance**
 - Likely
- **Conserve and Protect Habitat**
 - Yes within reserve, uncertain outside reserve
- **Improve Opportunities for Research and Education**
 - Yes

General Conclusion

- Empirical evidence exists but is sparse
- Much uncertainty but probably some movement toward all objectives except with very large or very small reserves
- Information level on reserves not much different than most stock assessments

Enhance Econ Productivity

- **Short-term harvest productivity will depend on**
 - outside harvest policies and
 - alternative grounds (availability and CPUE)
- **Long-term harvest productivity will increase**
 - if biological productivity is enhanced
 - if presence of low productivity stocks in reserves allow higher prod stocks outside the reserve to be harvested at a higher rate
 - not if CPUE declines outside reserve
 - not if reserves are ineffective in protecting stock or habitat of concern
- **Could be more variability in harvest**

Other Impacts—Some Costs

- **Impact Study and Eval (baseline, control, complex, no instant result, errors can be costly)**
- **Enforcement (cooperation, planning and resources)**
- **Stock Assessment and Surveys (sampling stations in the reserve)**
- **Other restricted activities (e.g. non-fish resource mining)**

Other Impacts—Some Benefits

- **Information (biological parameters, uncertainty and value, process)**
- **Nonconsumptive Recreational Values**
- **Existence, Bequethal and Option Values**
- **Ecosystem Services**

Data Shortfalls for Socio-Economic Assessment

- **Fishing Ground & Rec Port Data: Scant**
 - Rec Data (What port? What catch area? CPUE? Site values? CA Charter, RecFIN)
 - Seafood Data (What catch area? CPUE? Trawl logs)
 - Processor Data (Where is raw product from?)
 - Nonconsumptive users (How many, what is activity, what is the value?)
- **Existence Bequethal and Option Values**
 - Need to identify studies
- **Local Key Informant and Anecdotal Information Will Be Important**

Considerations for Initiating Phase II

- **Involve all stakeholders early in the process**
 - (consider nonCouncil fisheries and nonfishing activities)
- **Integrate local and regional input**
- **Clearly identify goals and objectives**
- **Determine realistic expectations for levels of impacts**
- **Identify how monitoring and enforcement will be achieved**
- **Who will coordinate Phase II, in what forum(s), resources needed**
 - Council as lead
 - Council as participant

Next Steps

- **April—no action, initial review and comment on analysis**
- **June—approve draft analyses for public review**
- **September—final Phase I decision**
 - **If go ahead is given**
 - Which of the four reserve options should be developed?
 - How should Phase II process be organized?

Limitations To Management

Interdecadal Variability in Recruitment

Multi-species Assemblages

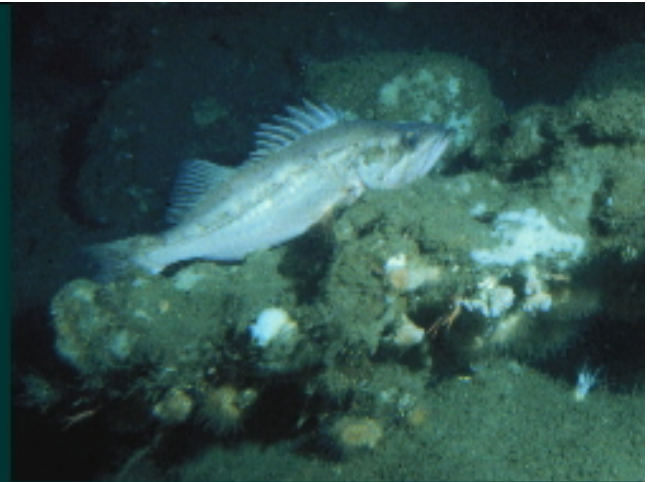
Lack of Baseline Information

No Reference Sites for Research/Monitoring



Current Circumstances:

- Total Fishing Mortality Needs To Be Reduced
- EFH Should Be Identified and Protected
- Undisturbed Areas Are Essential For Monitoring and Research
- Insurance Is Necessary To Hedge Against
 - management uncertainties
 - information deficits
 - longterm environmental change



Benefits of Establishing Marine Reserves:

- Might Be The Only Way To Rebuild The Overfished Component(s) of Multi-species Fisheries
- Protects Essential Fish Habitats
- Provides Undisturbed Reference Sites For Research and Monitoring
- Takes a Precautionary Approach To Management (Providing Insurance)
- Incorporates Ecosystem Principles Into Management (Enhancing Biological Productivity)

If Adopted:

**MARINE RESERVES NEED TO BE AN INTEGRATED PART
OF THE GROUND FISH MANAGEMENT PLAN**

New England's Experience

- **Failure of Several Groundfish Stocks**
- **Management Philosophy Changed**
(took direct control of fishing effort and mortality)
- **Established Large (17,000 km²) Year-Round Closures**
Days-at-Sea Reductions (effort reduced by 50%)
Minimum Mesh Sizes Increased
Moratorium on New Vessel Entrants
- **Objective: Protect Spawning Stocks of Haddock, Cod, Yellowtail Flounder**
Results:
 - **Significant Reduction In Exploitation Rate**
 - **Increased Spawning Biomass** (GB haddock, Yellowtail Flounder, Cod)
 - **Harvestable Biomass of Scallops Increased by 15X Inside Closures**
 - **Increased diversity, biomass, numbers of benthic fauna**
(will take 5-10 yrs for benthic communities to recover)
 - **Year-round protection of Shallow-water Sedentary Assemblage on Bank/Shelf**
(yellowtail, winter, and windowpane flounder, winter and little skate, etc.)
 - **Protected Important Nursery Areas for Juvenile Cod and Haddock (HAPC)**
(increased no. of recruits per unit spawning biomass)



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