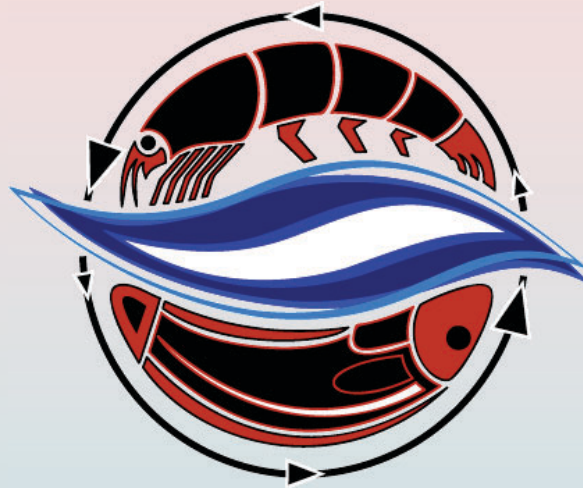


ALASKA MARINE ECOSYSTEM RESEARCH

Ecosystems & Fisheries-Oceanography Coordinated Investigations



Working toward

- Healthy and productive coastal and marine ecosystems that benefit society
- A well-informed public that acts as a steward of coastal and marine ecosystems

Linkage to NOAA's Strategic and Research Plans

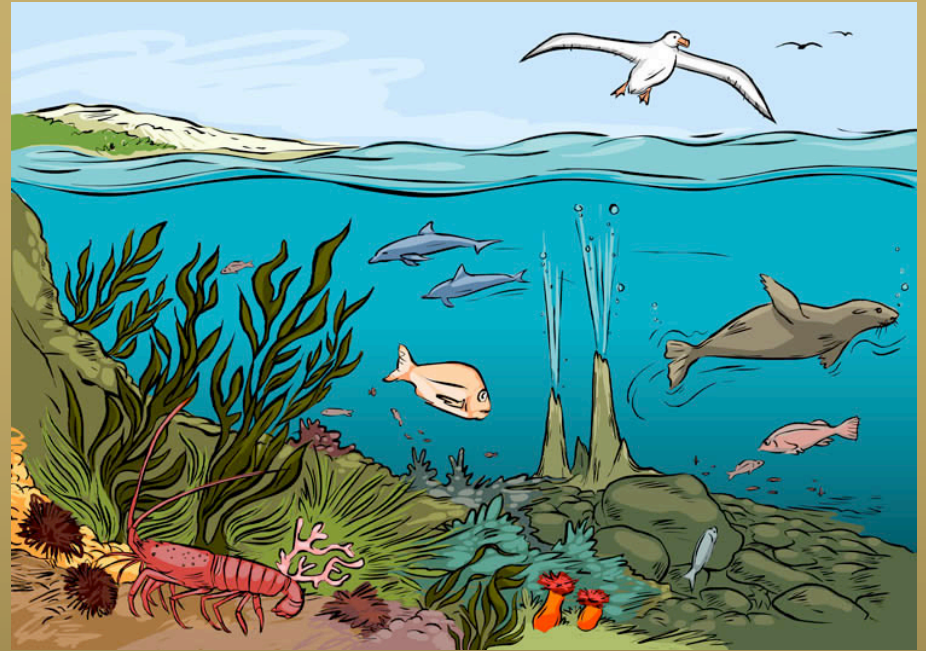
NOAA Strategic Plan - Performance Objectives

- Increase number of regional coastal and marine eco-systems delineated with indicators of ecological health
- Understand and predict consequences of climate variability on marine ecosystems

NOAA Research Plan - Research Area

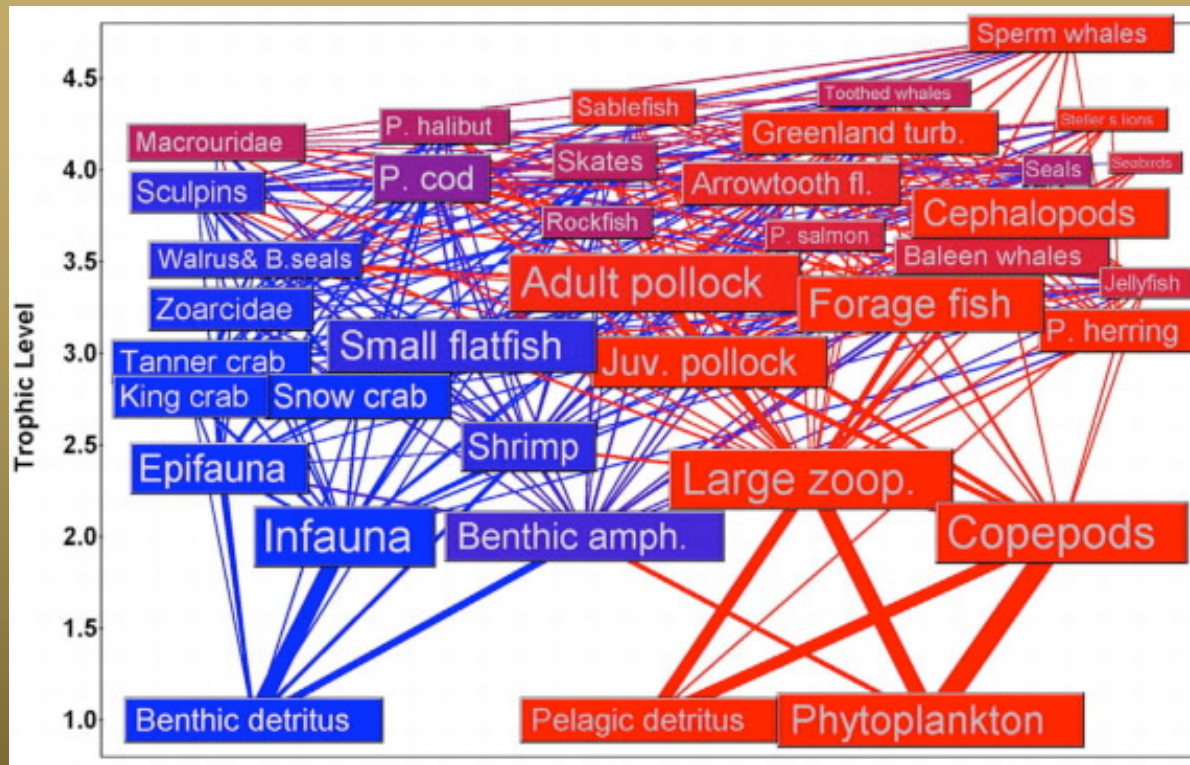
- Advance understanding of ecosystems to improve resource management
- Understand impacts of climate variability on marine ecosystems to improve management of marine ecosystems

What is an ecosystem?



An ecosystem is a geographically specified system of organisms, the environment, and the processes that control its dynamics.

Ecosystems are complex.

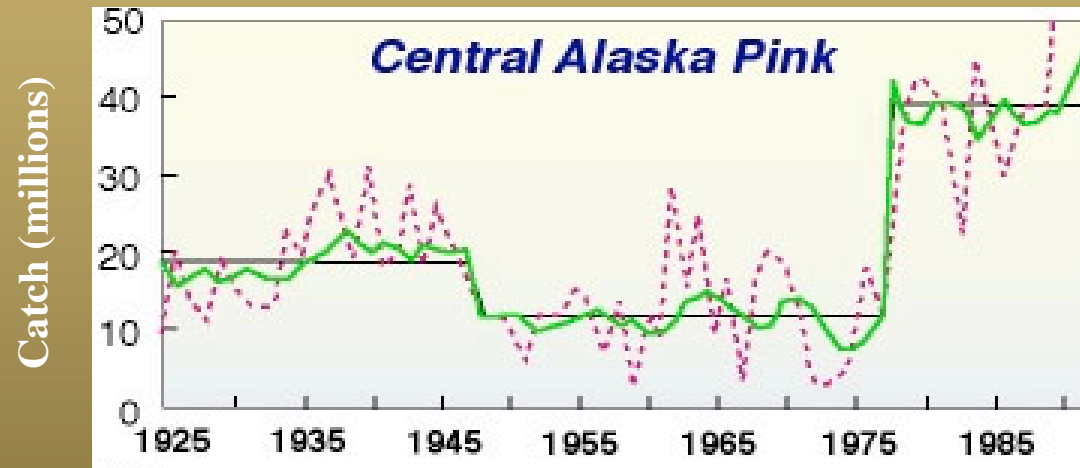


Eastern Bering Sea food web

K. Aydin

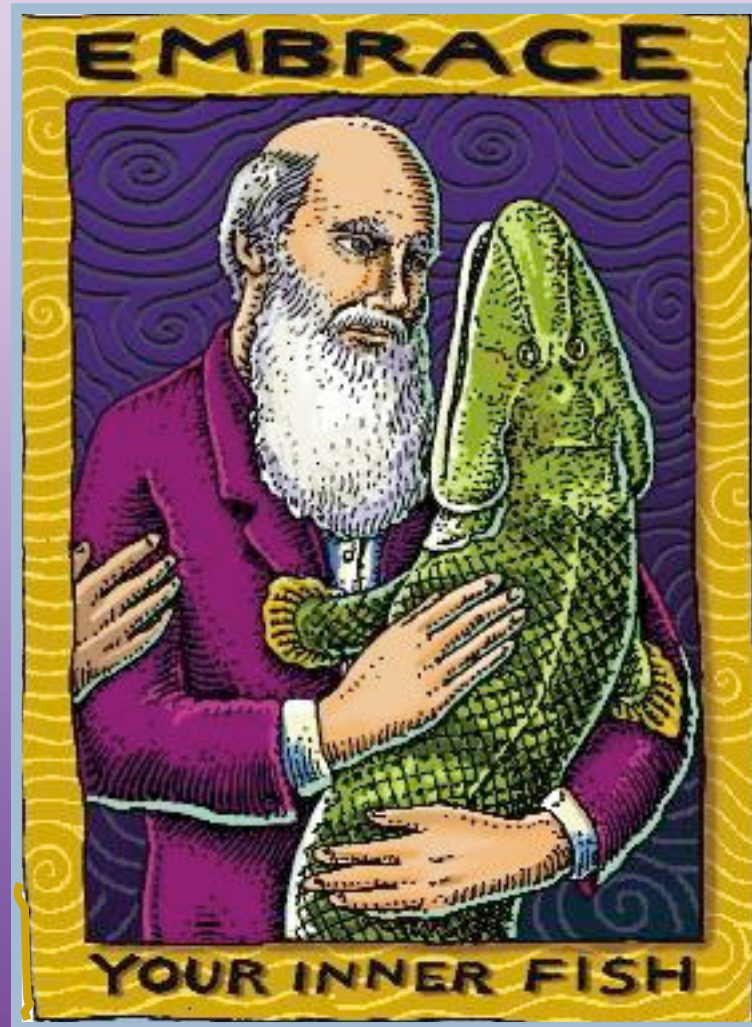
Because of the many nonlinearities governing interactions, changes to one species can have rippling, profound effects on other species.

Ecosystems are dynamic.



They change on time scales from daily to seasonal to annual to decadal and longer. Decadal and longer dynamics are forced by climate change and often establish “regimes”. Regimes are long-term, stable ecosystem states that favor certain species assemblages.

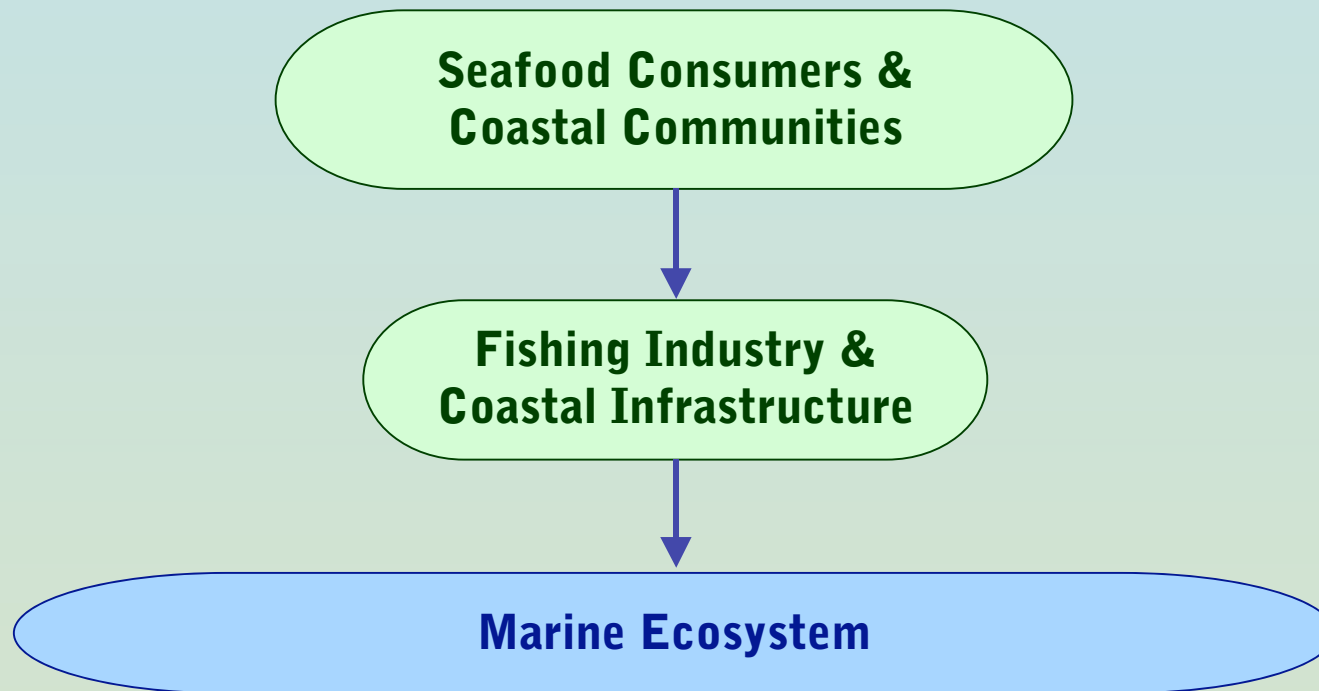
Think ecosystems!



The Ecosystem Approach to Marine Resource Management

When the world's population was smaller, our impact on the world's marine ecosystems was also smaller. We applied directly to ecosystems for our benefit. We worked under the following principle...

Original Paradigm



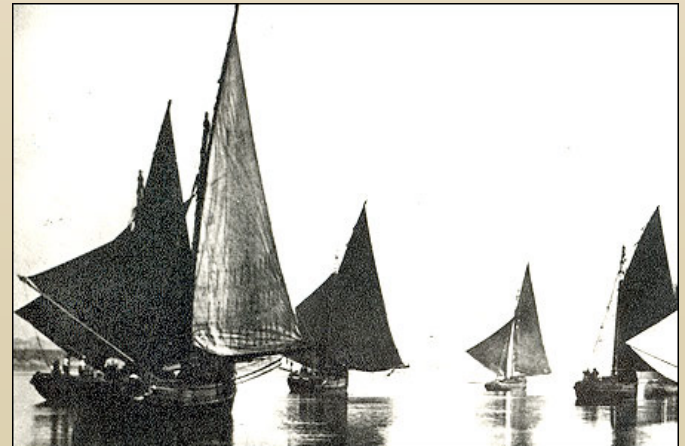
We had fishmarkets ...



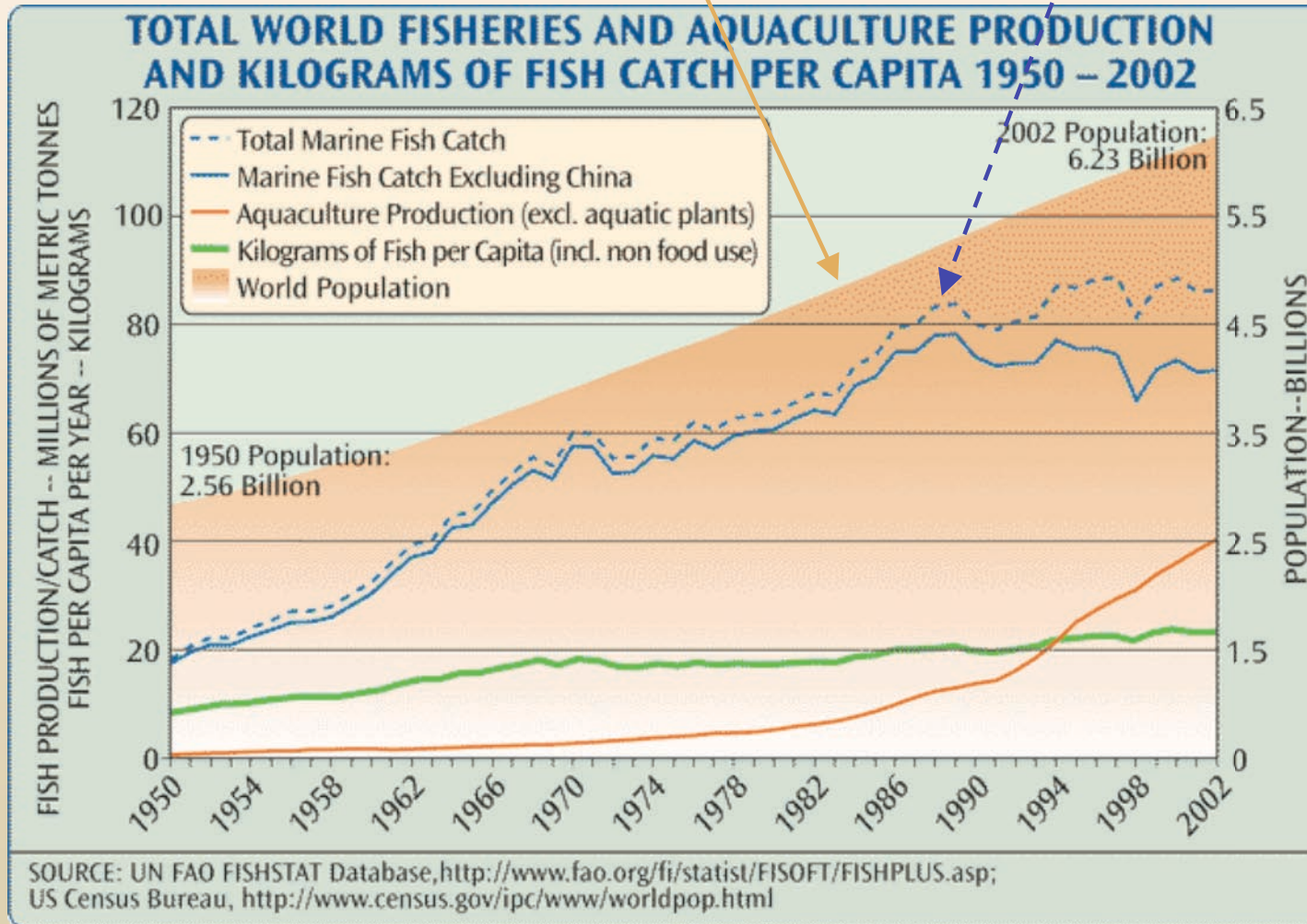
... served by fishing fleets.



Swordfishing fleet at anchor, Nails Harbour, Cape Breton.—13.



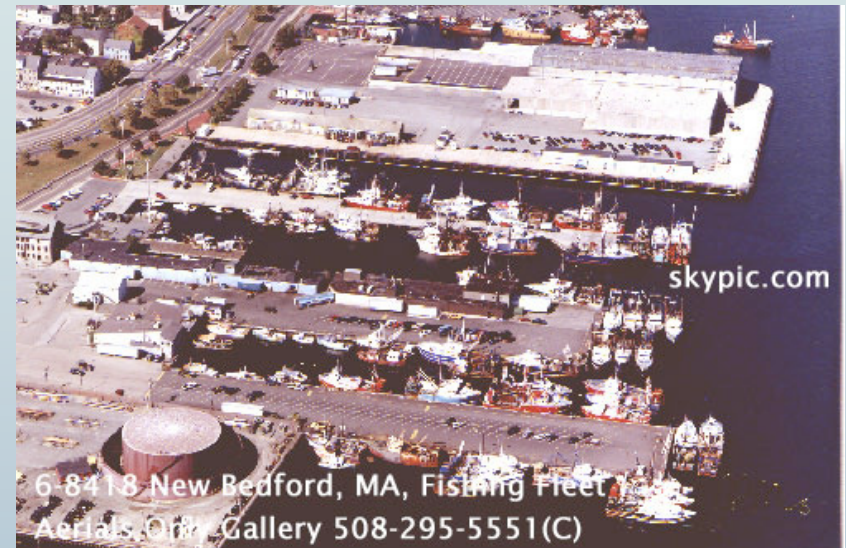
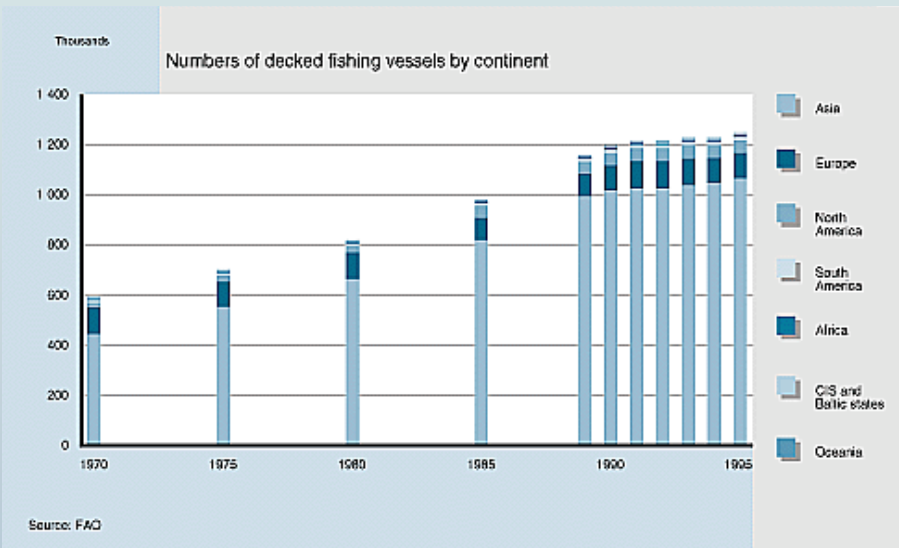
With time, the population and fish catch grew.



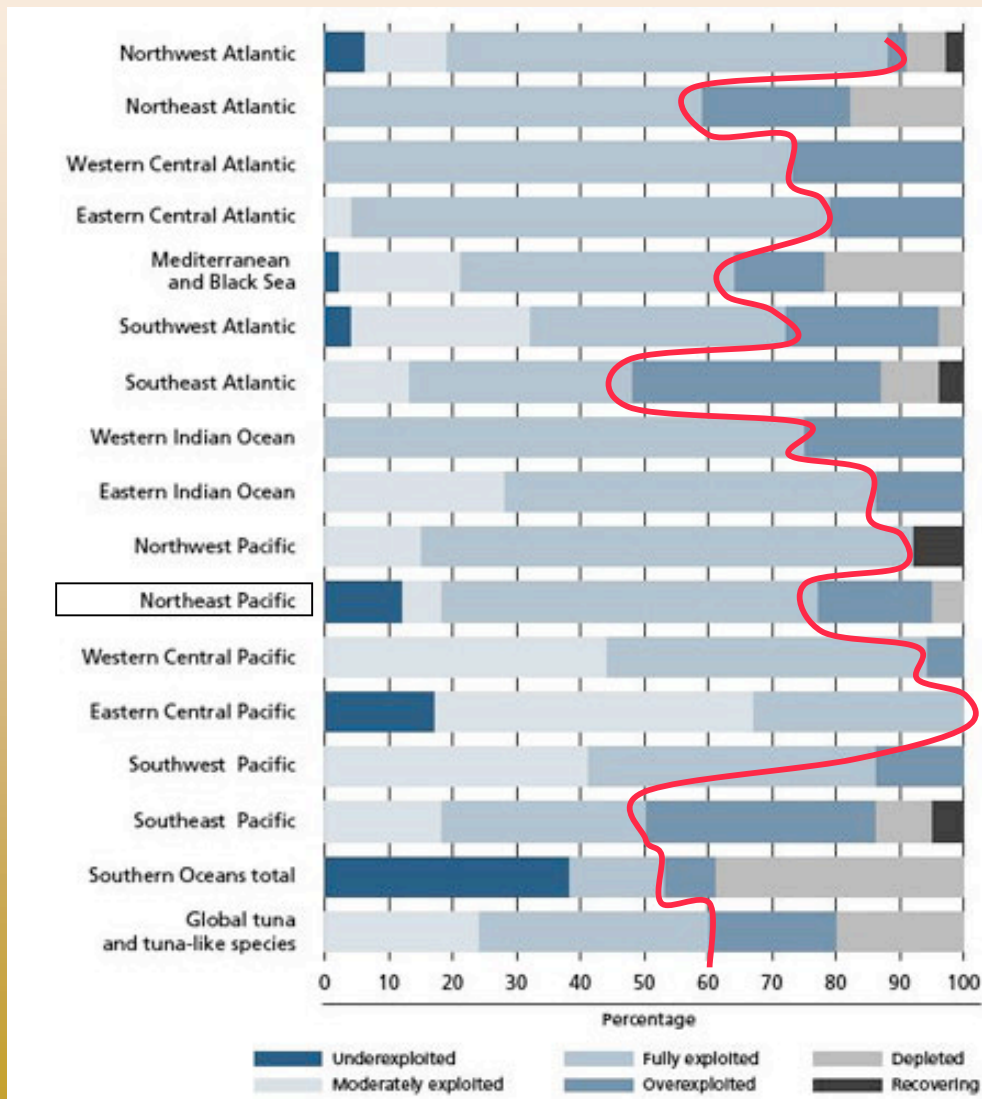
Markets expanded and access increased with marketing strategies.



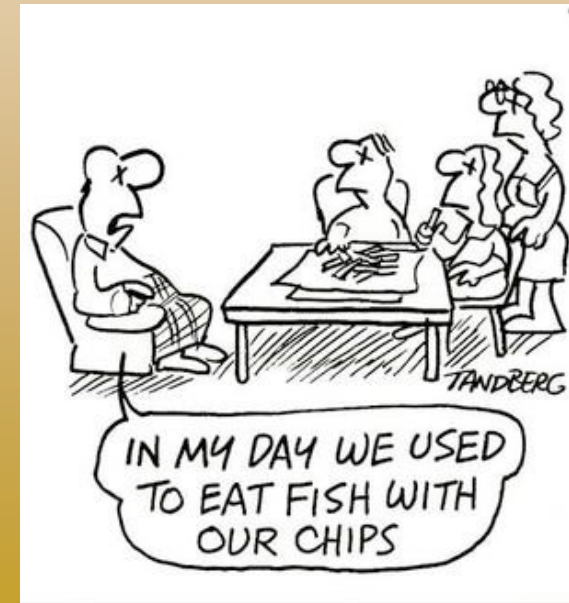
To meet demand and increase profit, fishing fleets and vessel sizes grew, as well.



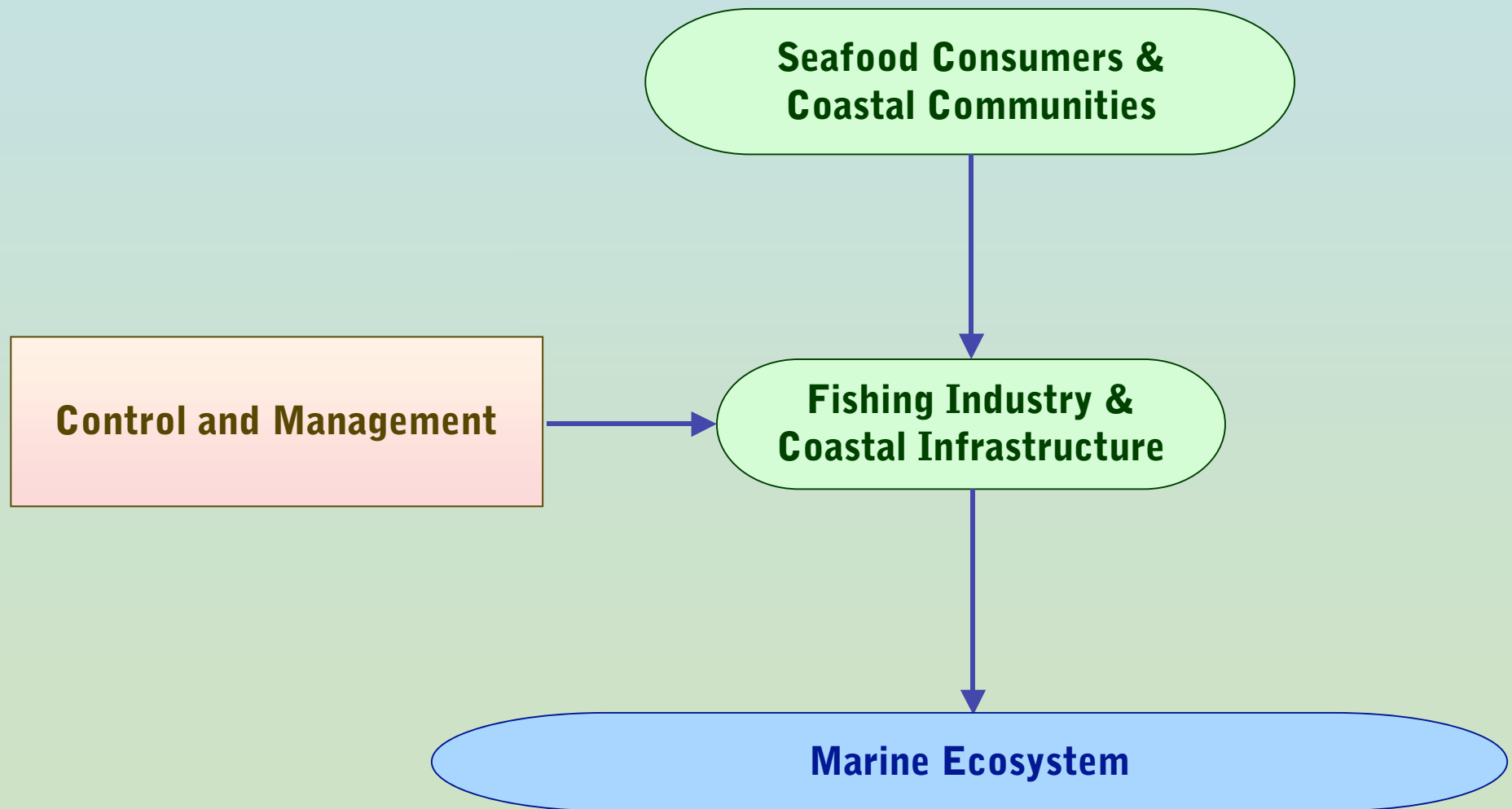
The result of these and other conditions: overexploitation and depletion.



FAO, 2004



Part of the fix to the problem
was to invoke a new paradigm.

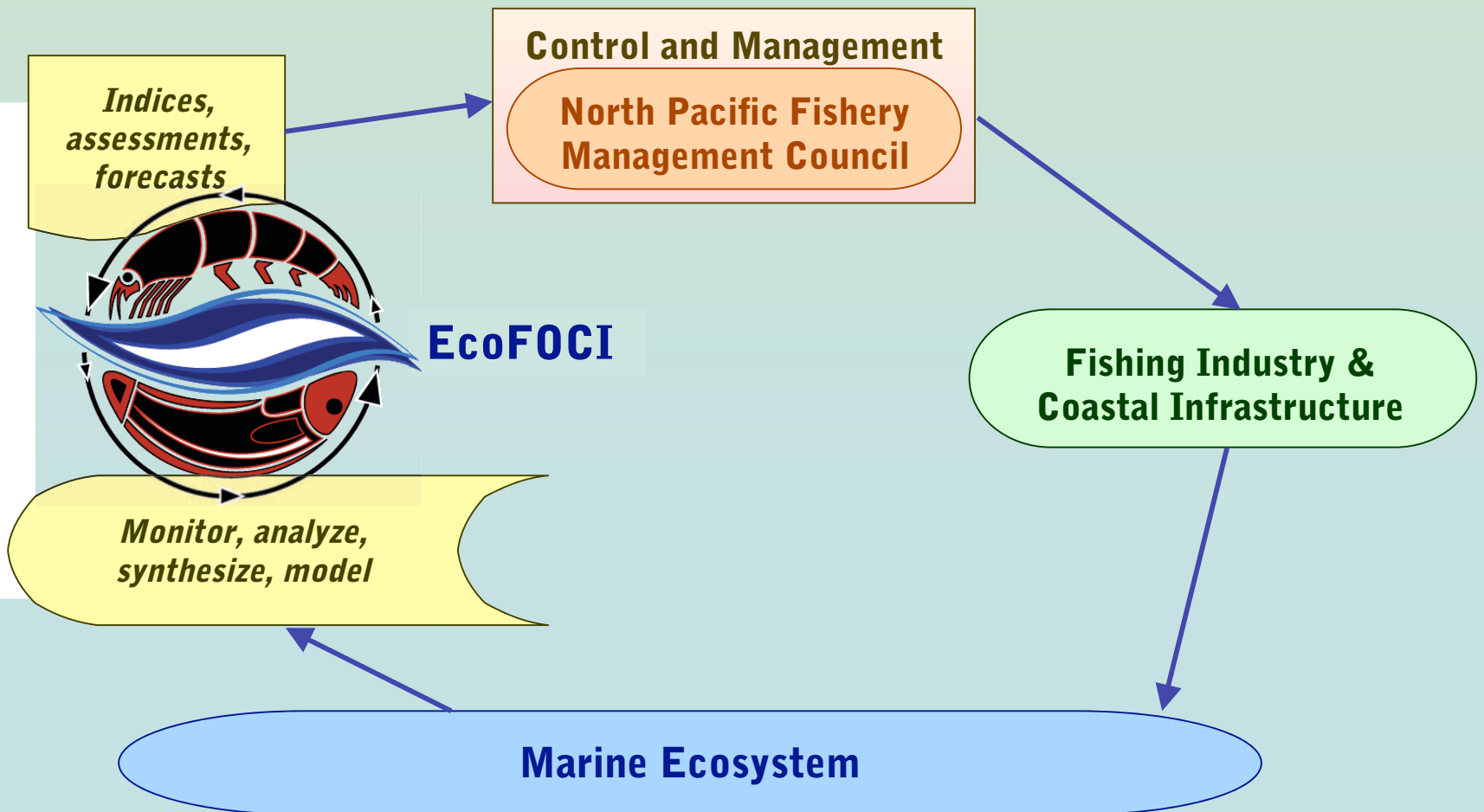


Control and Management



- For Alaska groundfish, the regulatory body is the North Pacific Fishery Management Council.
- Council plan teams assess stocks, evaluate the fishery and recommend catch levels. The council considers these recommendations along with social and economic factors to determine the total allowable catch and other measures used to manage the fishery. These decisions are reviewed by NOAA Fisheries, and the Secretary of Commerce makes final approval.

Before EcoFOCI, single-species stock assessments rarely included environmental data. EcoFOCI incorporated environmental data and early life history into the process, thus beginning an ecosystem approach to management.



Summary

EcoFOCI provides observations, indices and models, and forecasts that address societal needs for ecosystem approach to marine resource management and response to changing climate.



*Ecosystems & Fisheries-Oceanography
Coordinated Investigations*





Ecosystems & Fisheries-Oceanography Coordinated Investigations



AGENDA

EcoFOCI: Science for Society.....Phyllis Stabeno

The Power of Partnership..... Jeff Napp

Recent Summer Arctic Sea Ice Loss..... Jim Overland

Break

Science Stations:

Applications of Ocean Technology..... Ned Cokelet, Tony Jenkins

Physical and Biological Modeling.....Al Hermann, Wei Cheng

Climate Model Selection..... Muyin Wang, Nick Bond

The Bering Sea Ecosystem..... Carol Ladd, Phyllis Stabeno

Summary and Discussion..... Phyllis Stabeno