

Aleutian Islands Fishery Ecosystem Plan: Update

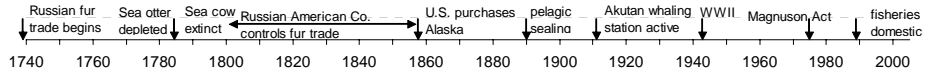
For the NPFMC Ecosystem Committee
And the NPFMC SSC

February 2007

FEP workshop report – January 2007

- Timing/schedule
- Community consultation
- Revisions to outline
- Development of approach
 - Discussion of AI ecosystem processes
 - Risk assessment
 - Key indicators
 - Implications for Council
- Ideas for future – 'second phase' of FEP

Aleutian Islands Ecosystem Processes: Visualizing relationships



3.1 Historical context

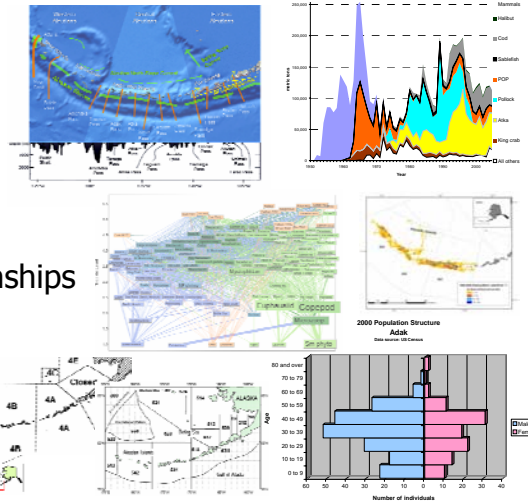
3.2 Physical relationships

3.3 Biological relationships

3.4 Socioeconomic relationships

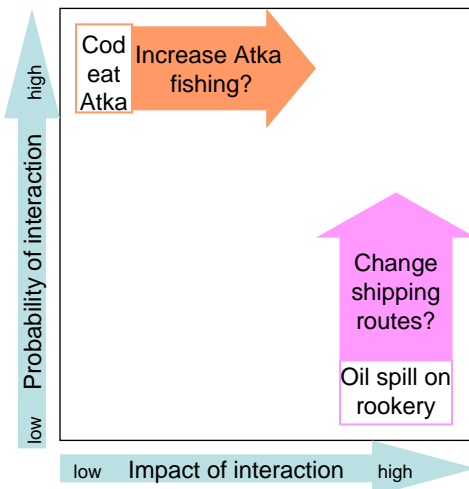
3.5 Management process

3.6 Interactions



Interactions → Ecosystem Assessment

4.1 Risk Assessment



4.2 Indicators

% Atka in cod diet
Cod condition, weight at age
Cod and Atka biomass (SAFE)

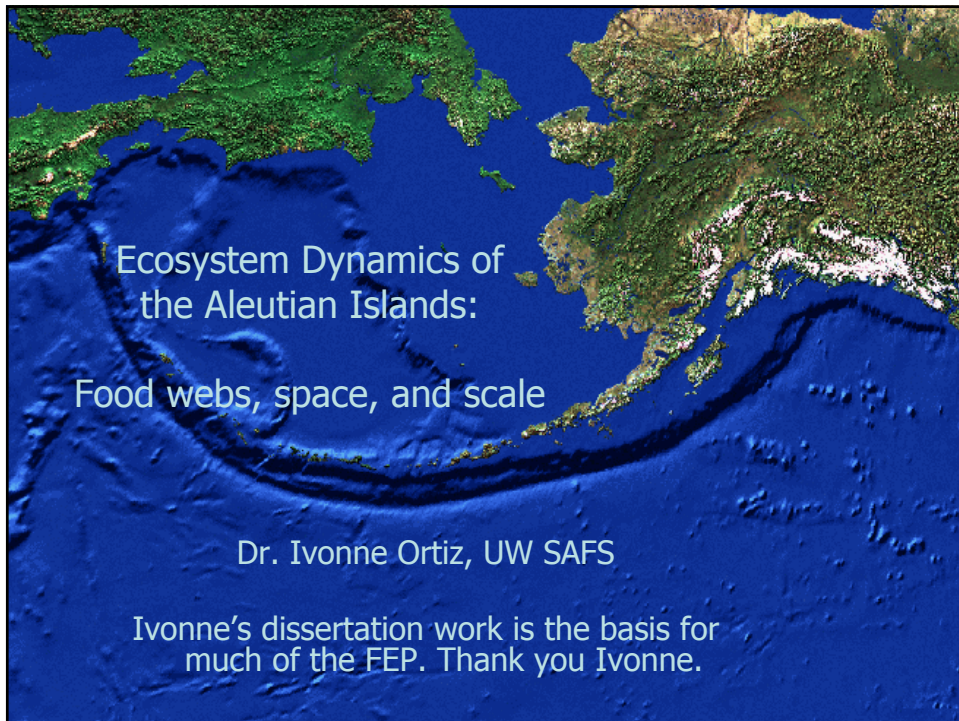
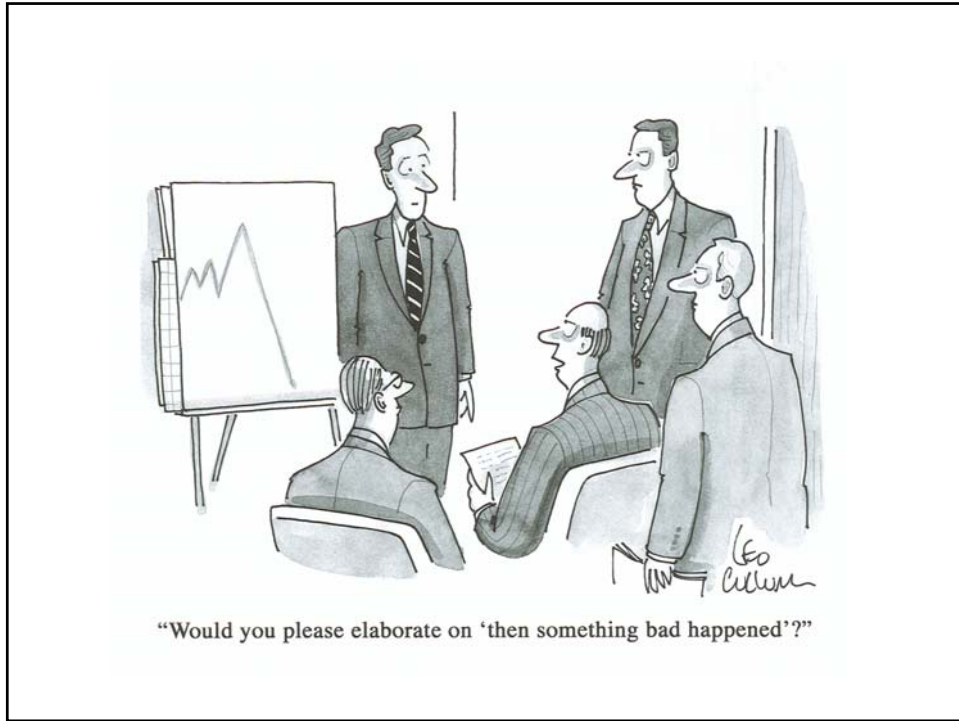
Vessel traffic near rookeries
Changing storm tracks
Increased shipping

Interactions from other socioeconomic activities:

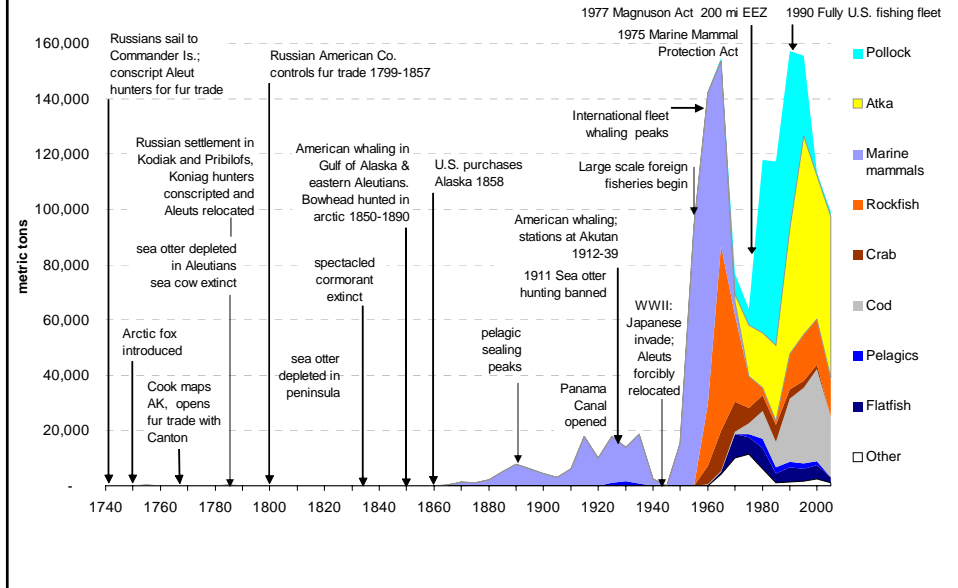
Interaction	INDICATOR from chapter	Useful for us?	Perfect indicator
Increase of military personnel	NEW military activity		facility placement, use of low and medium sonar, other testing
Stability of communities	population in AI communities	yes (shows population growth/declines)	also include people on Shemya and Attu - also need to talk about seasonal shifts in populations in these areas
Oil and gas development (e.g., North Aleutian Basin)	NEW oil and gas	DEC: history of development related spills	
Shipping on great circle route	NEW shipping route	port and waterways assessment; possibly information in contingency planning -- find out from DEC history of shipping related spills	count of vessels by type ?and cargo passing through route
Onshore processor at Adak	NEW processing jobs: indicator of onshore processing activities and habitat impacts	number of processing jobs	
Aleut efforts to develop the community of Adak	population in AI communities [DUPLICATE]	yes (shows population growth/declines)	also include people on Shemya and Attu - also need to talk about seasonal shifts in populations in these areas
Research activities	NEW research activities	fish resource permit from ADFG for research in State waters; EFH permits through NMFS	

Next steps

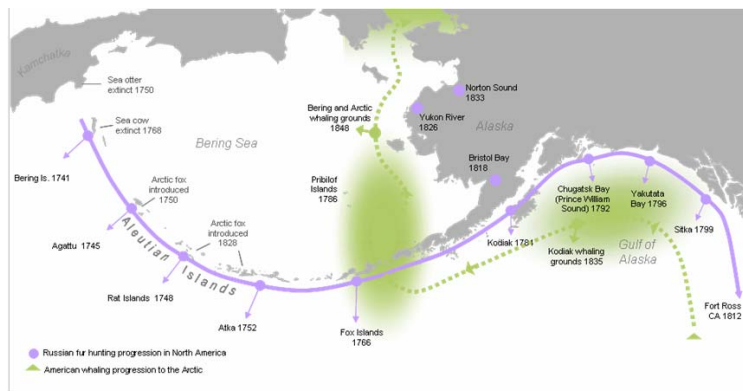
1. Each FEP team member does a risk assessment with the interactions we identified (workshop report pp 6-10).
2. Risk assessment results assembled and combined; then
3. We develop specific indicators,
 - especially for high risk high probability interactions, and
 - especially for interactions the Council actually has control over
4. We highlight implications for human use of ecosystem,
5. Suggest priorities for analysis and further research
 - within the next year
 - over longer timeframes (2 years, 5 years, 10 years, etc.)
6. And finally, make Recommendations for the Council and
7. Summarize the "value added" by FEP process



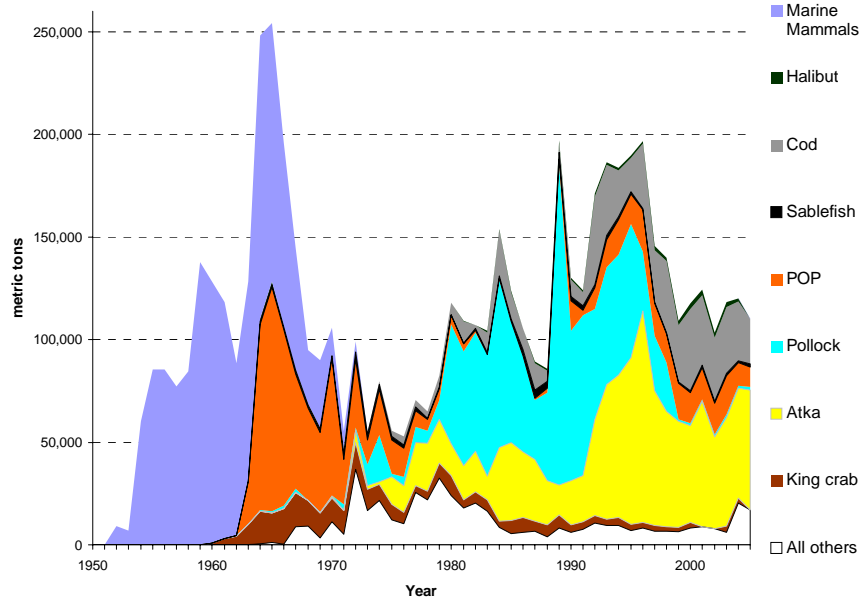
Aleutian Islands Exploitation History



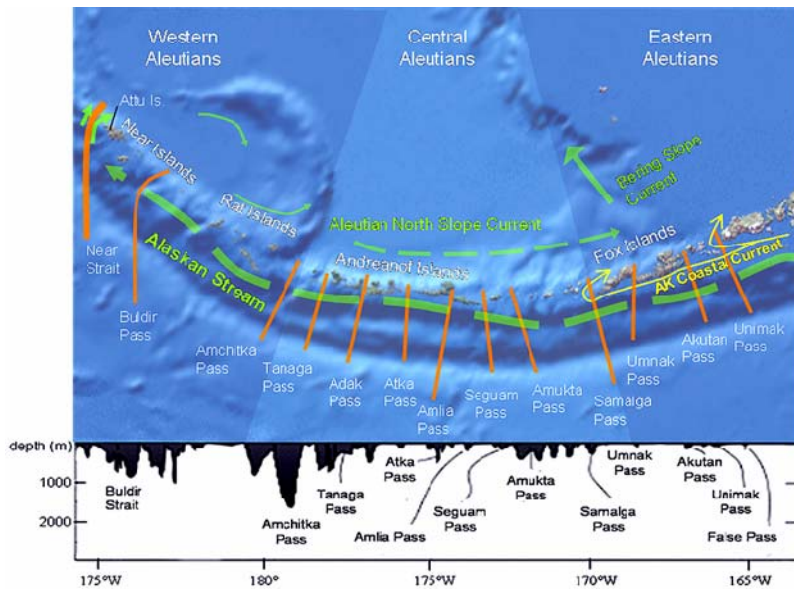
Historical exploitation patterns in space 1740-1858



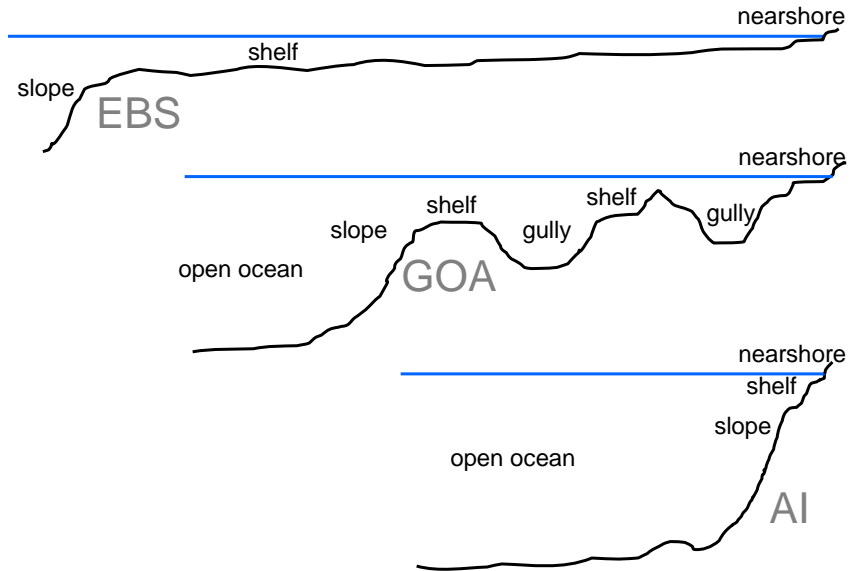
Aleutian Island Catch History 1950-2006



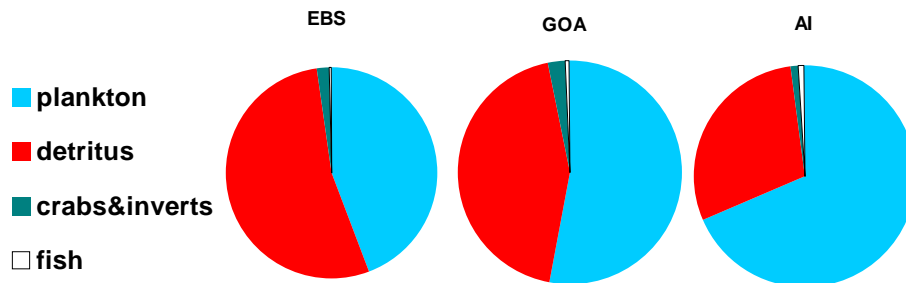
Aleutian Islands Physical relationships



Physical relationships: habitat proximity



Consumption in all three ecosystems



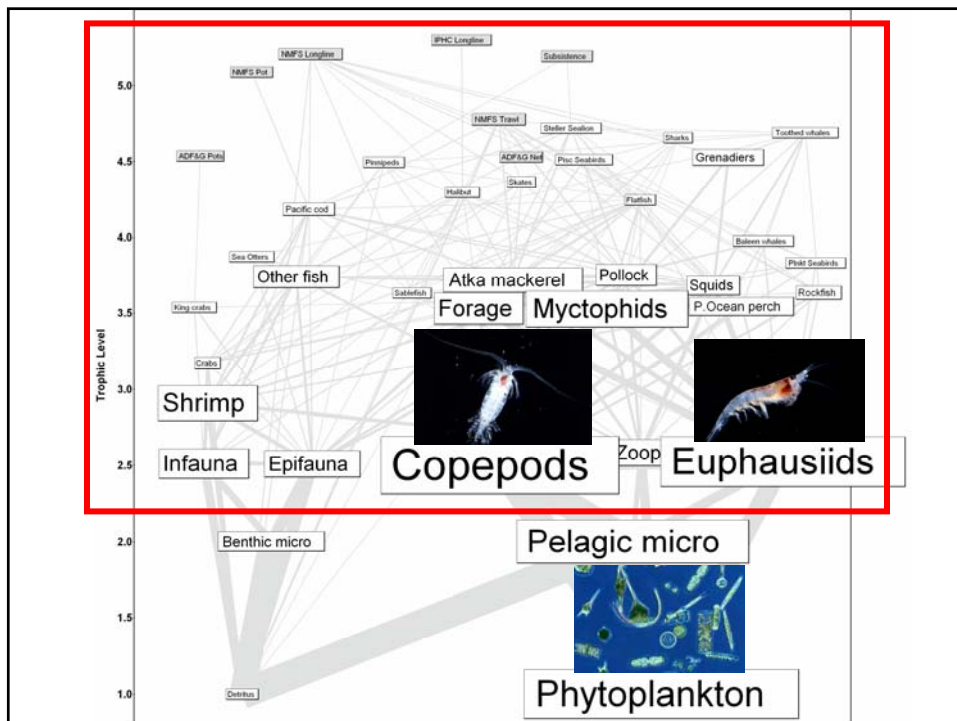
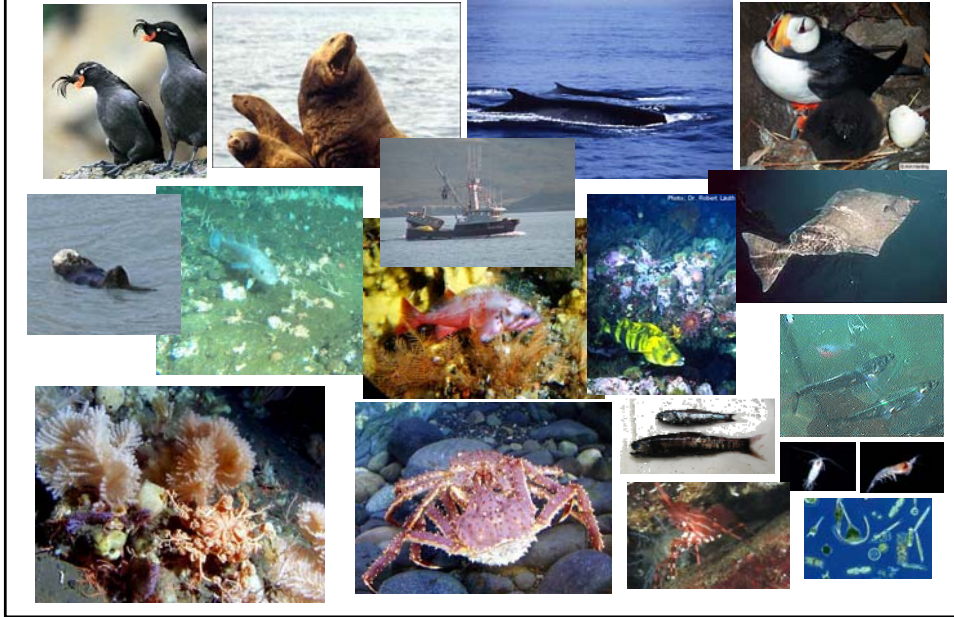
The Eastern Bering sea is **detritus / benthic** dominated

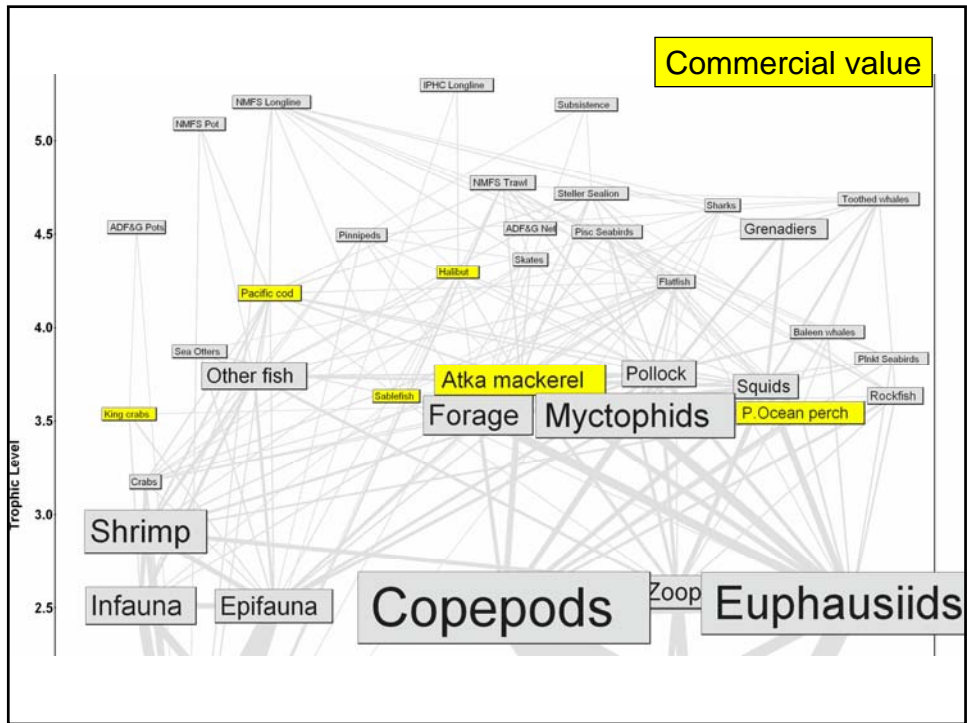
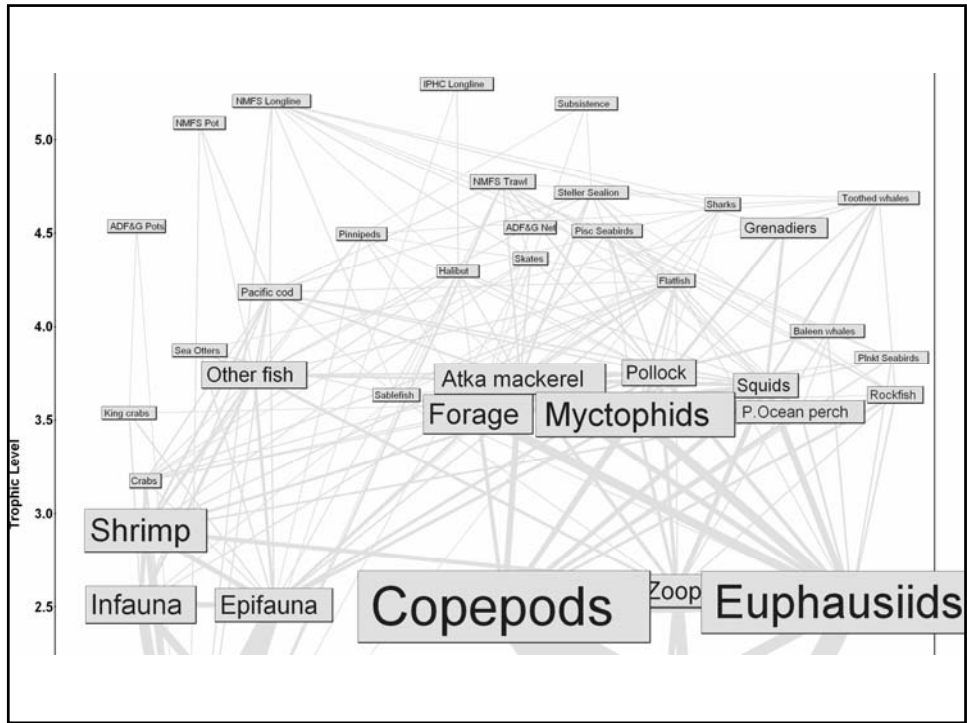
The Gulf of Alaska is intermediate

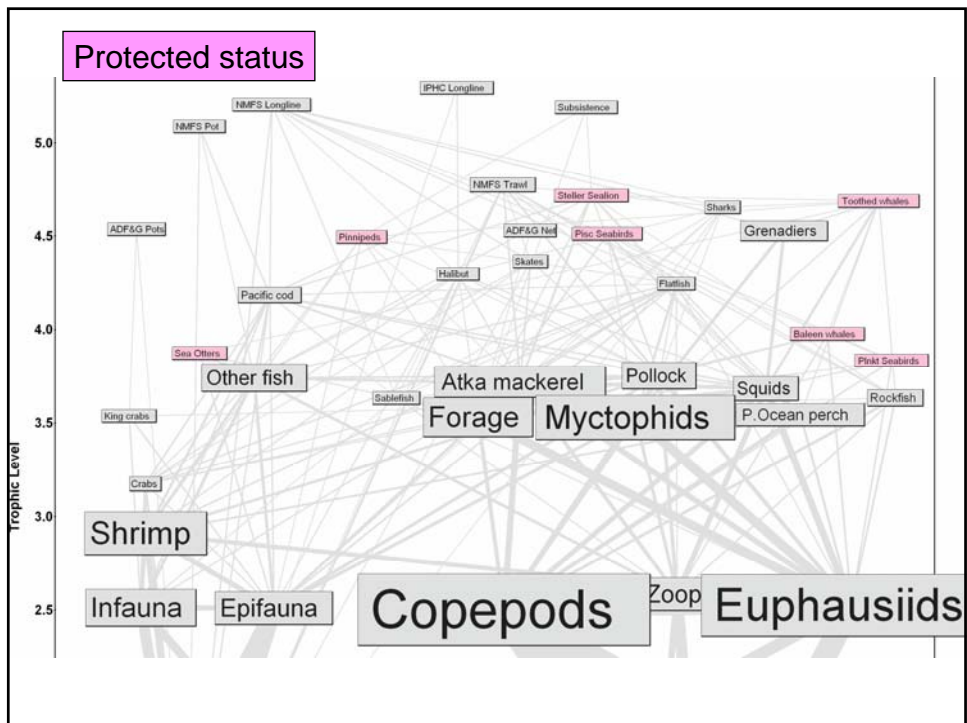
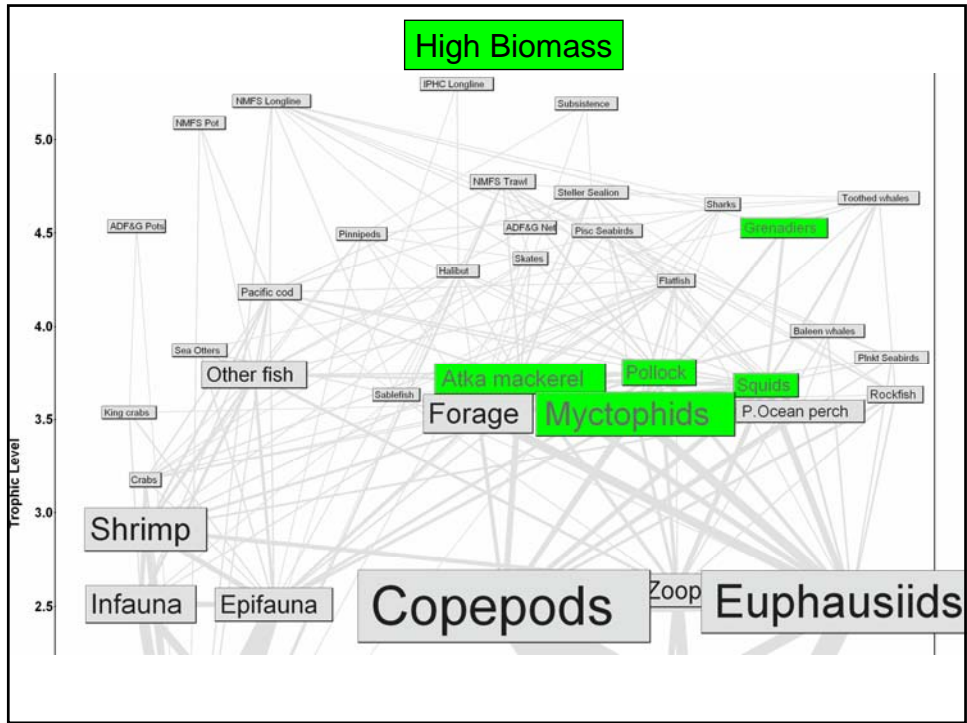
The Aleutian Islands is **plankton / pelagic** dominated

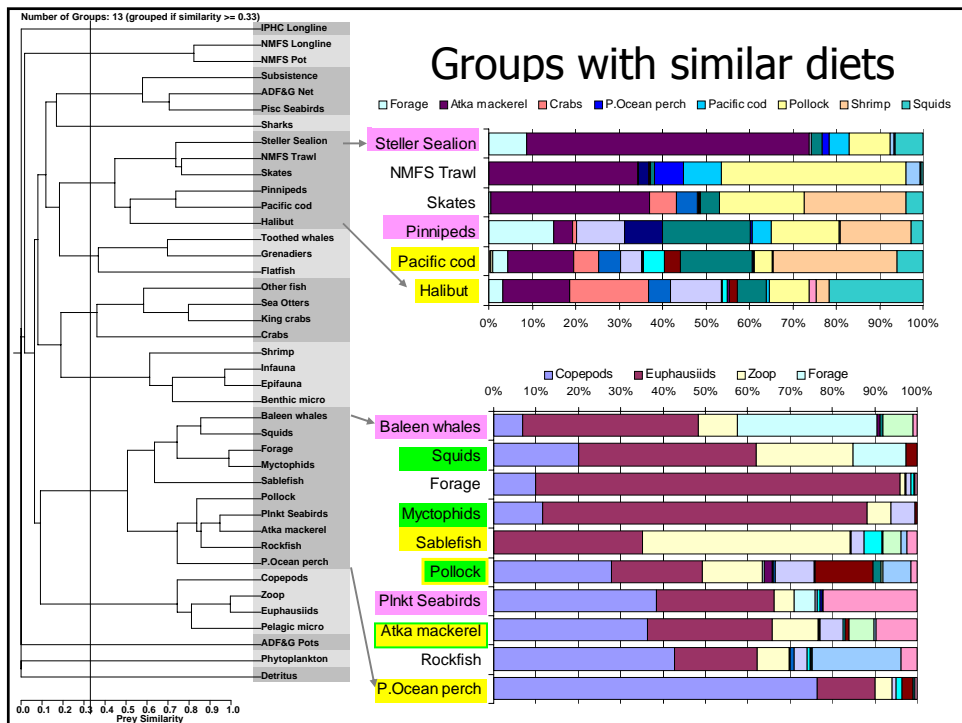
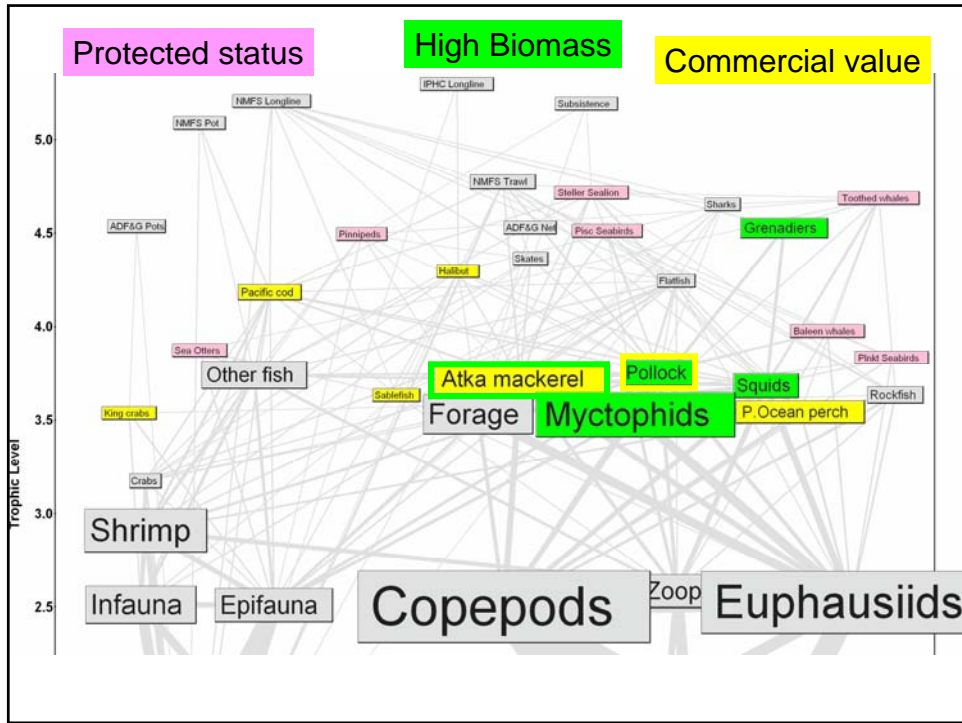
Aydin et al in review

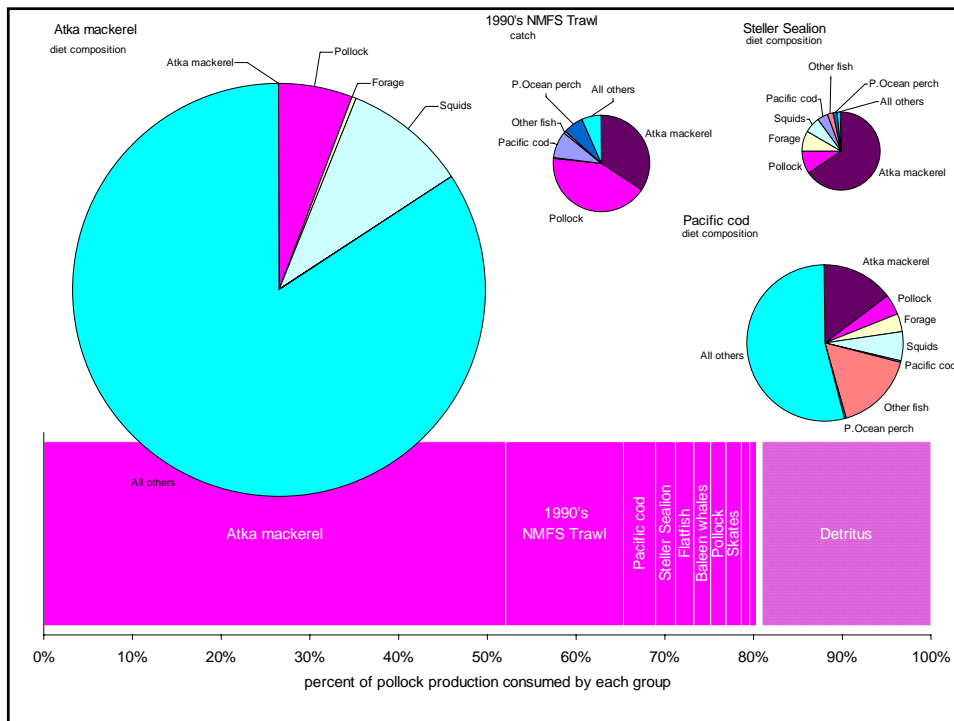
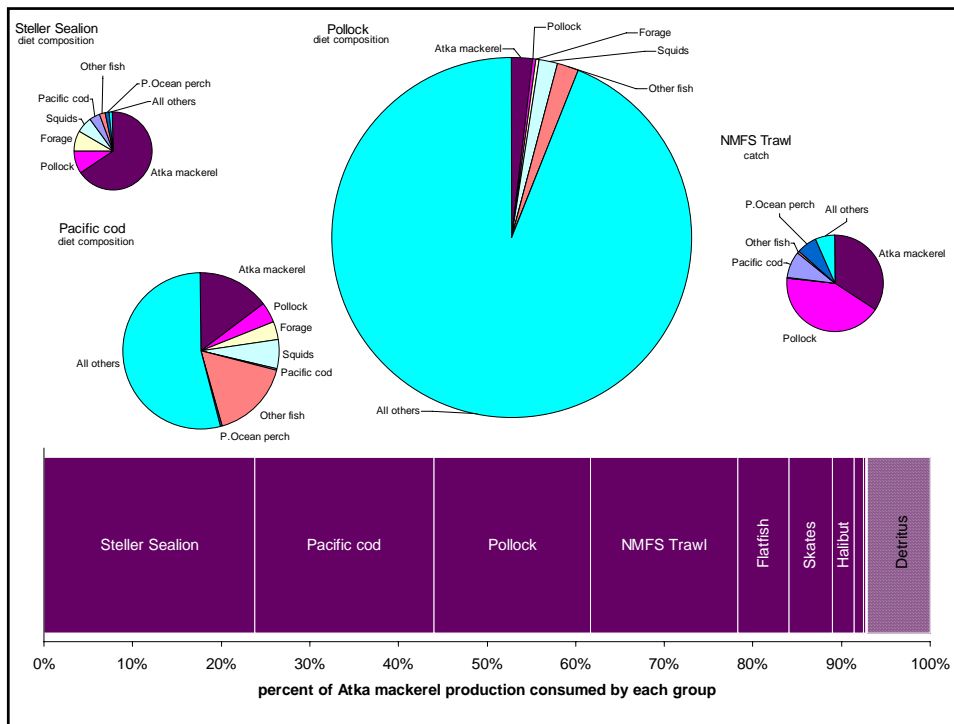
Aleutian Islands Biological relationships



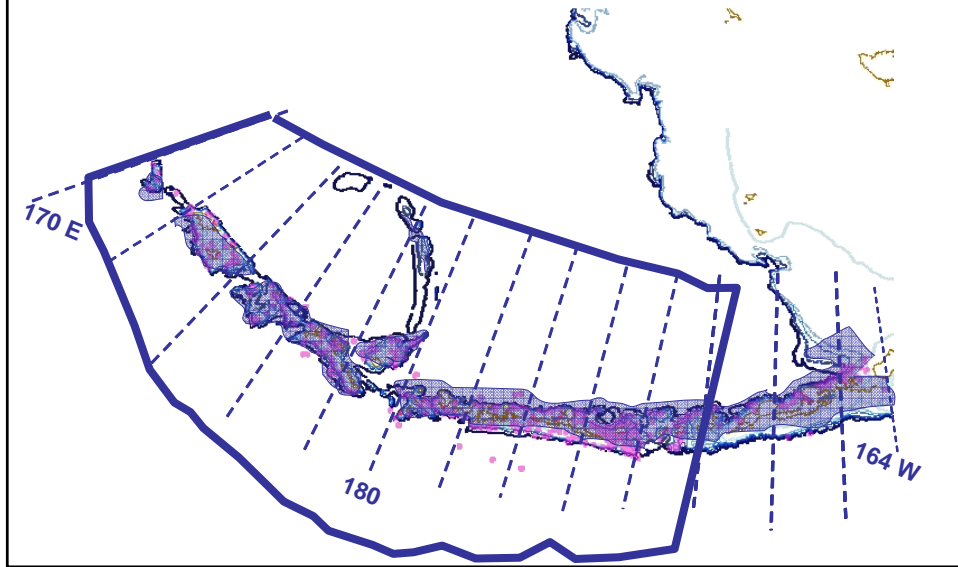




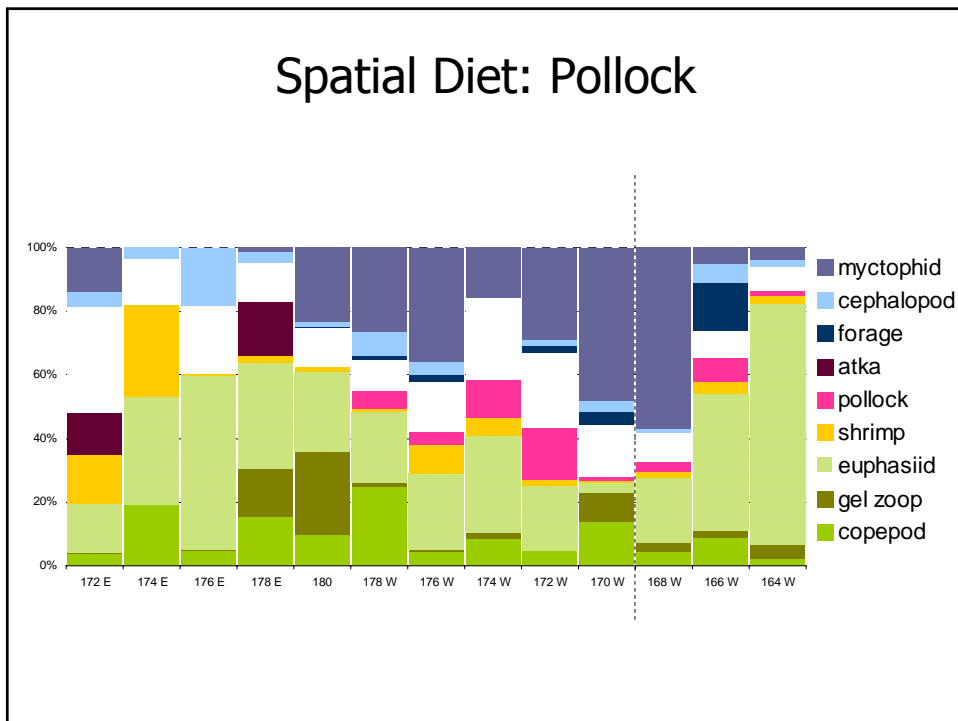




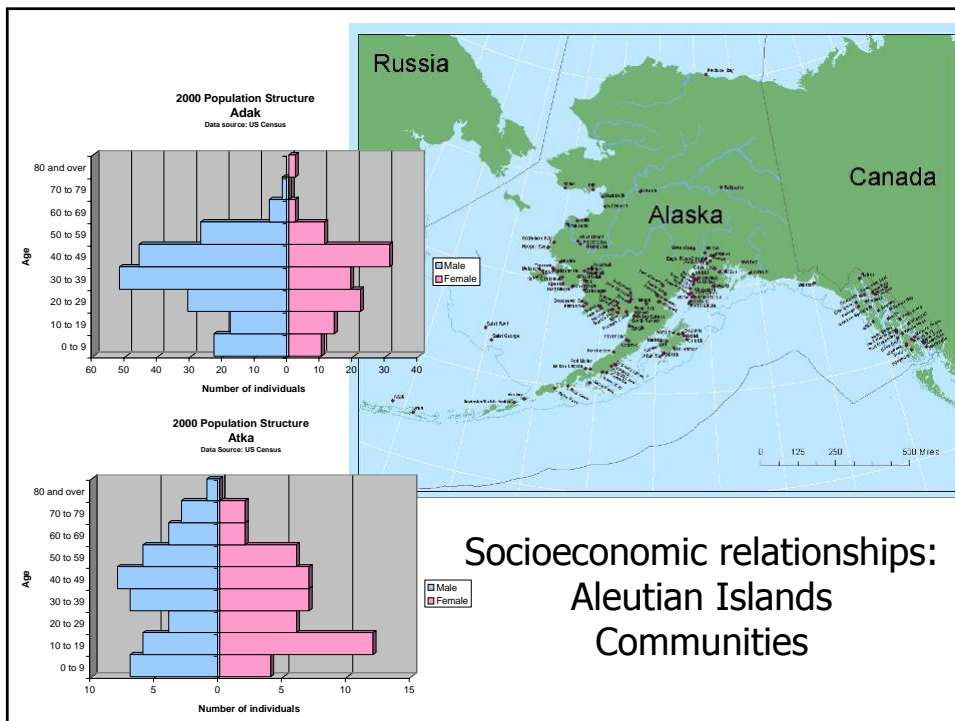
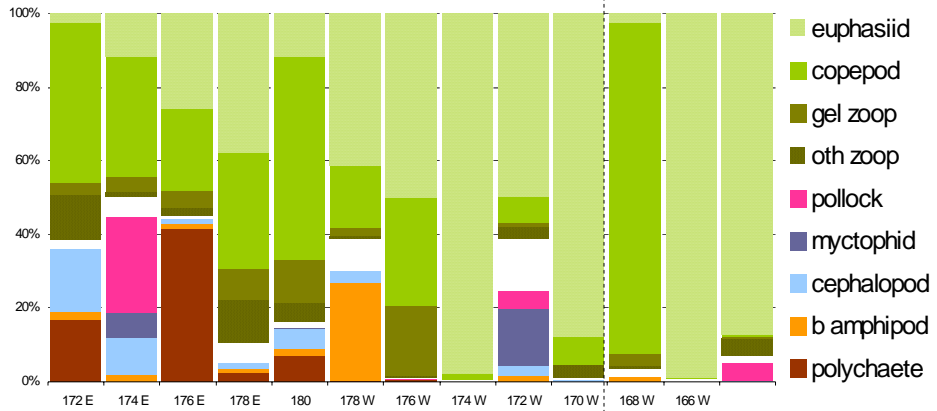
Spatial relationships: 2 degree blocks



Spatial Diet: Pollock

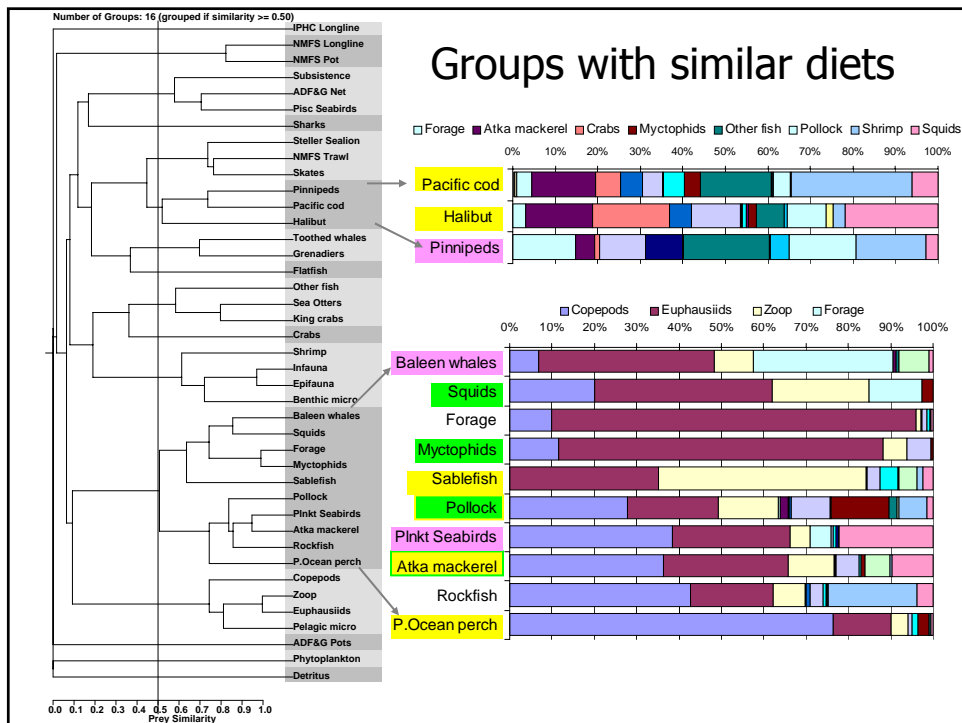
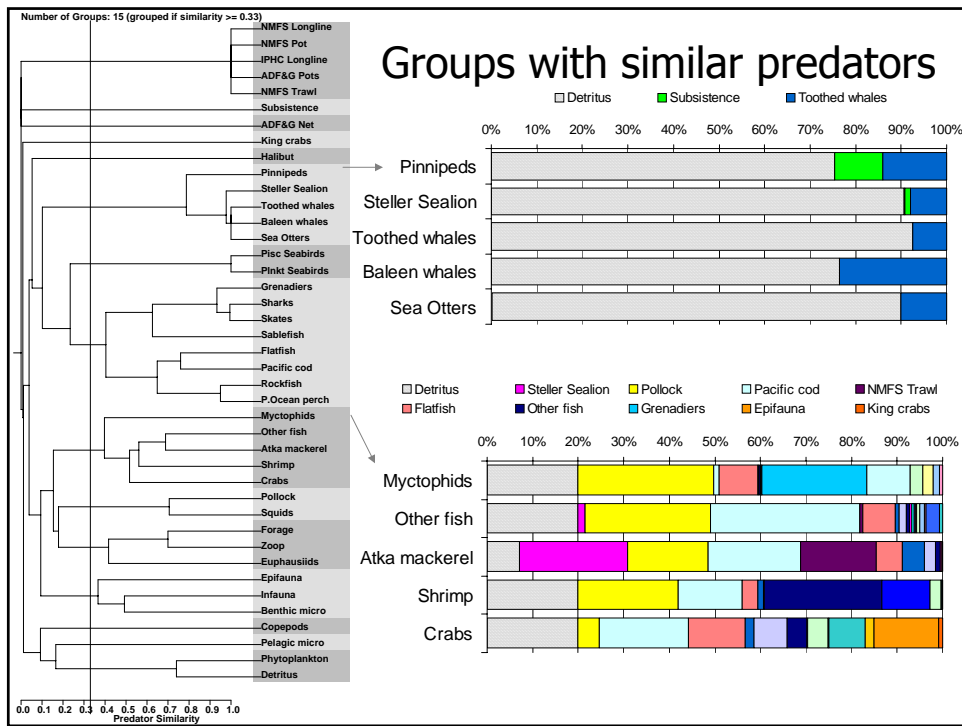


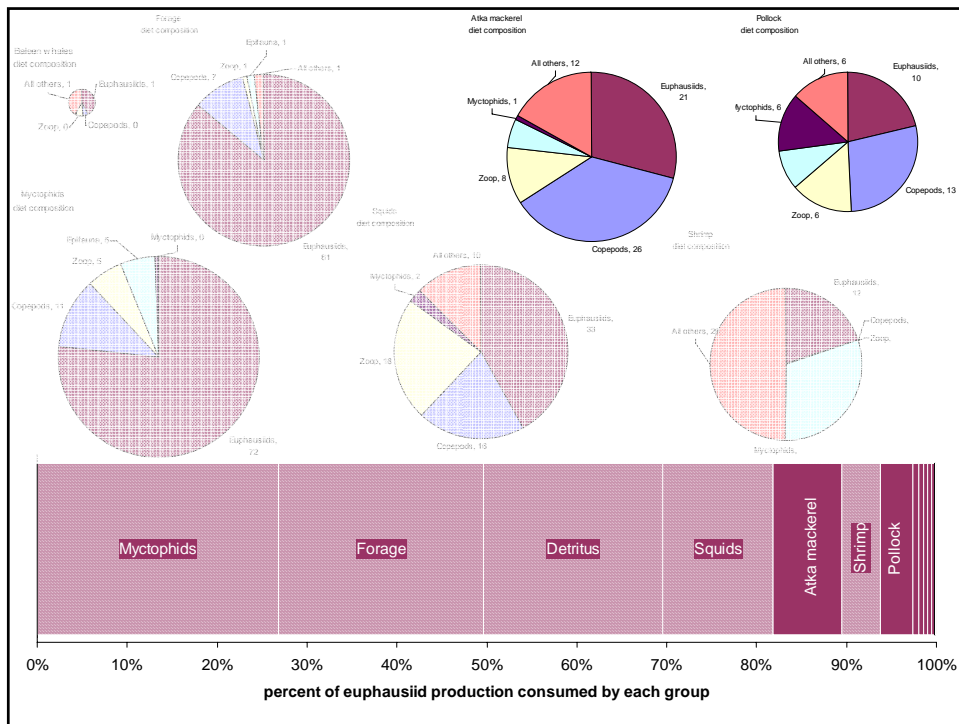
Spatial Diet: Atka mackerel



Social and management boundaries

- This is what the Council knows best...
- But we highlight interactions between agencies and human uses of the ecosystem
- And where those overlap with biological interactions
- Summarized for Council perspective



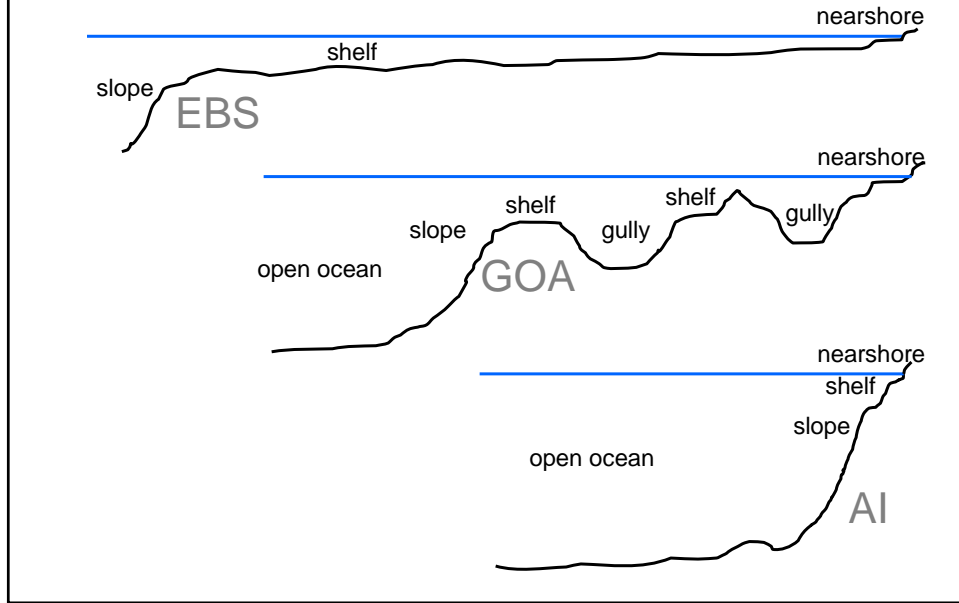


Consumption—an ecosystem indicator

[These are details that Team wants to discuss/include, present only if time allows.]

- Important to describe major energy flow in system
- Compare between systems: AI is special any why
- Basis for comparing fishery with predators

Physical relationships affect energy flow



Consumption in the Aleutian Islands

