

Science Needs Towards ACL Development: How Can Cooperative Research Help?

-The Council Perspective-



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Cooperative Research – Pre and Post MSA Reauthorization

- Pre MSA Reauthorization
 - No formalized process
 - Up to the Councils to promote Congressional add-ons
- Post MSA Reauthorization
 - National Cooperative Research Program established
 - Specifies who will be involved with cooperative research, including incorporating Council input
 - Funding:
 - ❖ NCRP ~ 2.7 million/year
 - ❖ Congressional add-ons
 - ❖ Funding in 2008 was increased to \$10,068,000 nationally, but the base \$2.7 million has remained roughly the same over the past years

MSA Reauthorization

SEC. 318. COOPERATIVE RESEARCH AND MANAGEMENT PROGRAM

(a) IN GENERAL.—The **Secretary** of Commerce, in consultation **with the Councils**, shall **establish a cooperative research and management program** to address needs identified under this Act ...[that] shall be **implemented on a regional basis** and shall be developed and **conducted through partnerships** ...

(b) ELIGIBLE PROJECTS.—The **Secretary shall make funds available** under the program **for** the support of **projects to address critical needs identified by the Councils**

(c) FUNDING.—In making funds available, the **Secretary shall award funding on a competitive basis** and based on regional fishery management needs...

MSA Reauthorization

- Formal Cooperative Research Program (CRP) Established (pg. 145)
 - ❖ Defined as scientific activity through partnerships
 - ❖ Provides a way for commercial and recreational fishermen to become involved in the collection of fundamental fisheries information to support development and evaluation of management options
- CRP is managed by PIFSC
- CRP can provide information about fishery-dependent data, life history data, conservation engineering, species abundance and distribution, habitat studies, socio-economic studies, etc

WPFMC Council Action

- At the 145th Council meeting in 2009, Council approved the following process:
 - At the fall CM, PIFSC or Council staff reports to Council about funded cooperative research projects and Council recommends info/research for following fiscal year
 - Council staff ID's and prioritizes projects based on Council recs along w/management related mandatory actions, such as ACLs, compliance with ESA, MMPA, FEP development, 5-year research plan, etc.
 - Council staff presents list of research priorities and solicits ideas from SSC, FEP APs, and PTs, which may then be included in an amended list presented to the Council for action in spring
 - Council takes final action taken in summer CM
 - PIFSC annually develops RFP and submits for Council review in July/August
 - Council, PIFSC, and PIRO meet every summer to finalize RFP
 - PIFSC publishes RFP in October; implements bid solicitation review
 - Council, PIFSC, and PIRO review proposals and agree on funding
 - PIFSC awards contracts consistent with established protocols

WPFMC Council Action

- At the 145th Council meeting
 - At the fall CM, PIFSC cooperative research for following fiscal year
 - Council staff ID's and w/management relationships with ESA, MMPA, F
 - Council staff present SSC, FEP APs, and P presented to the Co
 - Council takes final a
 - PIFSC annually develops July/August
 - Council, PIFSC, and
 - PIFSC publishes RFP
 - Council, PIFSC, and
 - PIFSC awards contracts
- Council meets with constituents to generate a list of research topics
- Council, PIFSC, and PIRO review the list to determine those that meet cooperative research criteria, eliminating those with a low success rate
- Edited list then presented at a Council meeting for Council and public comment
- PIRO, PIFSC, and Council refine project list with eye towards ACLs
- PIFSC develops and publishes RFPs, implements bid solicitation review process
- PIFSC awards contracts consistent with established protocols

Cooperative Research in the Western Pacific Region

- Started around 2001 – NMFS advised Council to access funds similar to other regions for cooperative research
- 2002 – workshops held in American Samoa, Hawaii, Guam, and CNMI
 - Explained the cooperative research program
 - Generated a list of potential research priorities
 - A few projects were funded, but not many due to funding shortfalls
 - Since 2002, annual funding has been \$400,000 for the PI region
- \$400,000 has been allocated to NWHI large-scale lobster tagging program from 2002 through 2009
 - Technical assistance and expertise from Hawaii fishermen
 - 2 Hawaii-based commercial vessels chartered by PIFSC
 - Tagged spiny lobsters and slipper lobsters at Necker Island, Maro Reef, Gardner Pinnacles, and Laysan Island
 - ~100,000 spiny and slipper lobsters tagged

WPFMC Critical Needs

In 2008, critical needs* that would benefit ACLs included:

- Stock Assessment Needs – bottomfish life history data in island areas, life history data for species of importance identified through Council risk-ranking, fishery-independent study on MHI BF
- Improve Fishery Monitoring – use FVs to test new technology-based systems, log book program for determination of recreational catch and effort for BF and PS such as ono, mahi, and billfish
- Bycatch Reduction – assess methods of longline fishing to avoid catch of epipelagic species
- Address Non-commercial fishery issues – community-based non-commercial monitoring using community members
- Compile Economic Data – Conduct baseline econ research in AS, CNMI, and Guam, such as cost-earnings

*There were other needs, but they did not necessarily inform ACLs.

WPFMC Critical Needs

In 2010, critical needs that would benefit ACLs included:

- AS –
 - Biosampling in island areas
 - Quantify rec catches through voluntary logbook system
 - Tagging study to determine seasonal mvmt patterns and residence times of pelagic species
 - Determine FAD species composition, including catches, size structure, and stock structure
- Marianas –
 - Biosampling
 - Tagging program for commercial tuna species in CNMI
 - Characterization of bottomfish fishery
 - Stock structure of pelagic monchong
- Hawaii
 - Determine post-hooking mortality of BET by longline fleet
 - Monchong tagging at Cross and other seamounts
 - Kona crab data – size f , variations throughout State
 - Tagging studies of BF to assist stock assessments
 - Tagging to examine residency of YFT and BET in HI
 - **Tagging studies to provide info for management under ACLs**

Projects

2008-2009 funded projects that would benefit ACLs included:

1. BF tagging studies and fishery-independent BF resource survey to assist BF stock assessments (NCRP funded)
2. Monchong tagging at Cross and other seamounts (PIFG)
3. Kona crab data collection to fill in gaps on size f and variations throughout the State for stock assessment for ACL purposes (PIFG)
4. Tagging studies to examine residency of YFT and BET in HI waters (PIFG)

2008-2009 unfunded projects that would benefit ACLs included:

1. Determine post-hooking mortality of BET from LL fleet
2. Tagging studies to provide info for management under ACLs
3. Biosampling projects for pelagic species – weight conversion factors, determination of size classess, development of conversion metrics

Potential Projects for the WPFMC for ACLs

- Using fishermen with access to military bases to help collect catch information and assess reef fish populations (jacks, snappers, etc) within defacto MPAs (Guam, HI). Collect CPUE data, tag fish, biosampling. In Guam, Navy said NO
- Assess potential of using small fixed-wing aircraft to conduct biomass estimates for schooling fish, such as akule, oio, mackerel
- Monitor and track annual recruitment strength of goatfish, rabbitfish, moi, awholehole, etc.
- Biosampling for growth, movement, genetics to help determine stock range and structure
- On-board data collection to validate effort, catch, etc.
- Tagging of species known to travel large distances
- Ecosystem monitoring (water clarity, weather, lunar cycle, etc) to determine effects on fishing and seasonal fish runs
- Continue with Fishbox.org and Community Monitoring Tacklebox

PFMC Cooperative Research

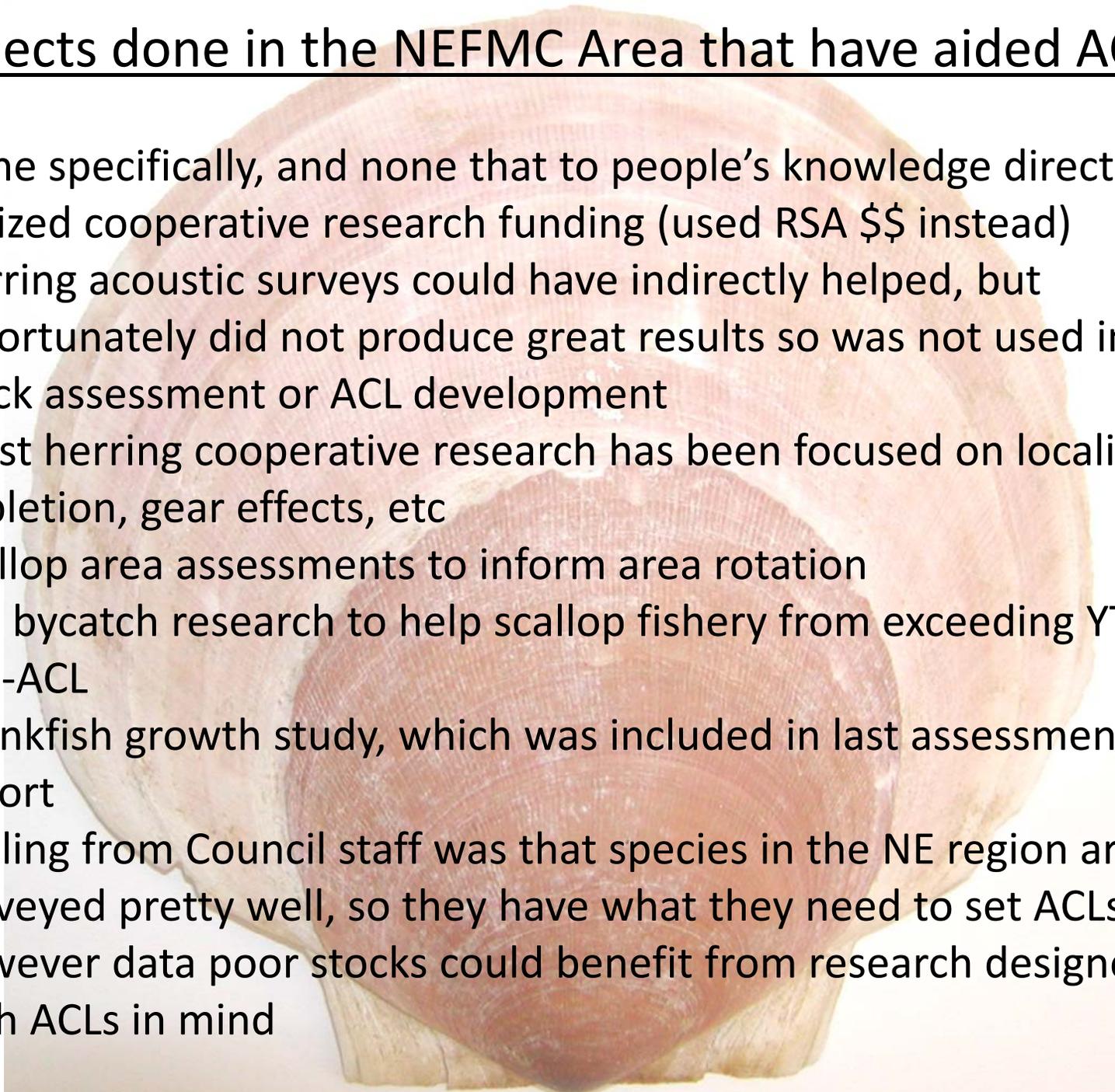
- Council is not actively involved in cooperative research decisions, so does not necessarily know when its been used to inform stock assessments
- Agree that it's important for fisheries management
- Has been previously discussed in a research and data needs document as well as in a white paper about social science needs

NPFMC Cooperative Research

- Council provides a list of research priorities to AFSC

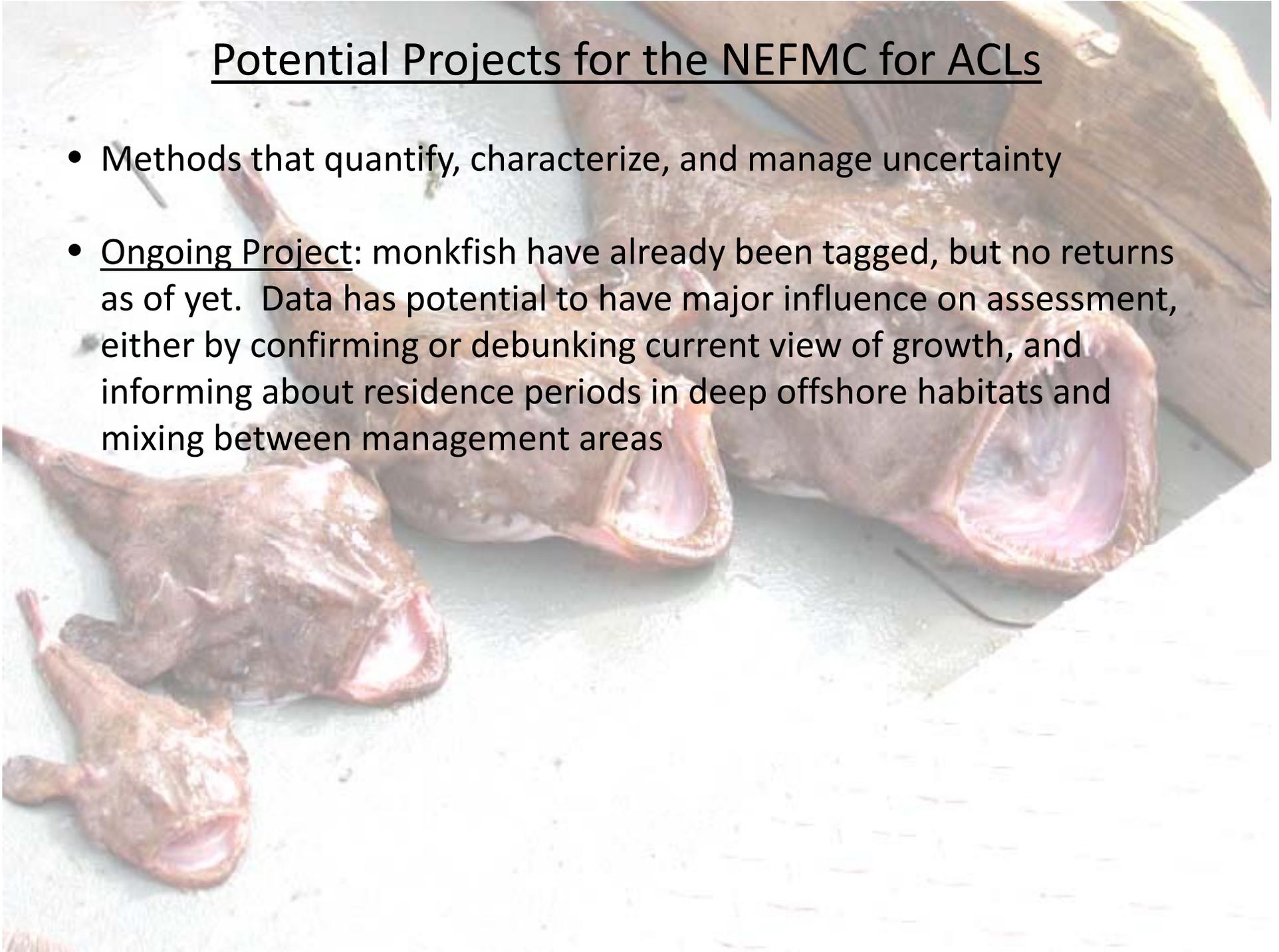
Projects done in the NEFMC Area that have aided ACLs

- None specifically, and none that to people's knowledge directly utilized cooperative research funding (used RSA \$\$ instead)
- Herring acoustic surveys could have indirectly helped, but unfortunately did not produce great results so was not used in the stock assessment or ACL development
- Most herring cooperative research has been focused on localized depletion, gear effects, etc
- Scallop area assessments to inform area rotation
- YTF bycatch research to help scallop fishery from exceeding YTF sub-ACL
- Monkfish growth study, which was included in last assessment report
- Feeling from Council staff was that species in the NE region are surveyed pretty well, so they have what they need to set ACLs, however data poor stocks could benefit from research designed with ACLs in mind



Potential Projects for the NEFMC for ACLs

- Methods that quantify, characterize, and manage uncertainty
- Ongoing Project: monkfish have already been tagged, but no returns as of yet. Data has potential to have major influence on assessment, either by confirming or debunking current view of growth, and informing about residence periods in deep offshore habitats and mixing between management areas



MAFMC Research Set-Aside (RSA) Program

- RSA Program to fund cooperative research projects initiated by MAFMC in 2002
- Council can set aside up to 3% of annual quotas for most MAFMC managed species to fund cooperative research
- RSA program has funded 26 projects during period 2002-2009 at cost of approximately \$4.5 million

Projects completed in MAFMC Area that have informed
ABC/ACL specifications

- Near-shore fishery independent trawl survey (NEAMAP) results used to inform recent SSC ABC specification for butterfish



Projects completed in MAFMC Area that have informed
management decisions

- Black sea bass trap vent study results used by Council to specify escape vent size in BSB commercial fishery



Projects completed in MAFMC Area that have informed stock assessments

- Summer flounder trawl discard mortality study results used to verify assumptions about flounder discard mortality rates used in assessment
- Supplemental trawl transect survey data used in qualitative description of catch rates by depth in *Loligo* squid assessment

Ongoing Projects in MAFMC Area that will inform ABC/ACL specifications and stock assessments

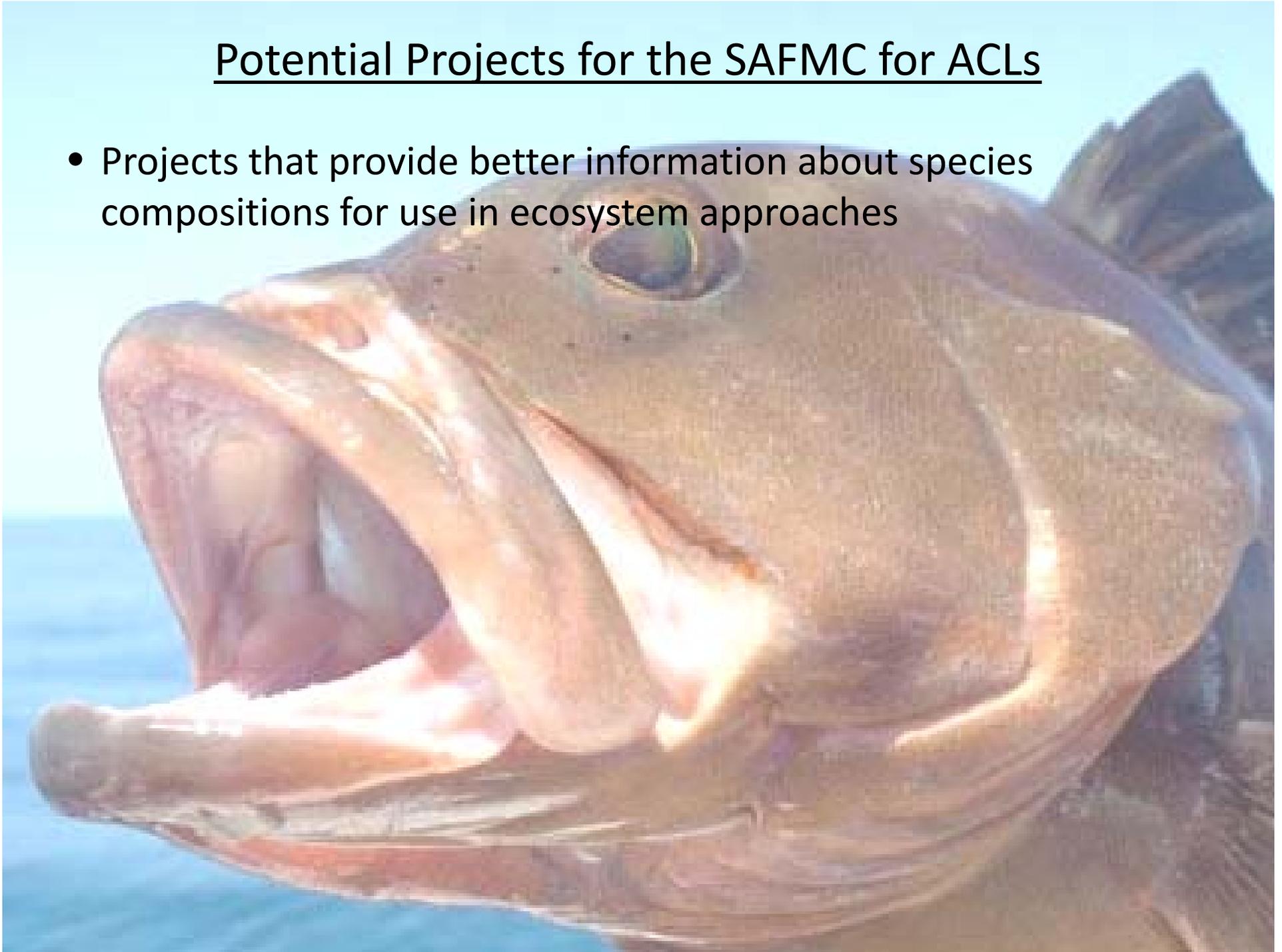
- NEAMAP survey – as time series develops, will become more useful for informing stock assessments

Projects done in the SAFMC Area that have aided ACLs

- Bycatch/discard studies that have impacted assessments – led to changes in presumed discard mortality rates in assessments and management evaluations
- Some studies have provided age/size info for discards
- Life history studies (numerous)
- Almost every assessment has benefited from some type of cooperative research
- Determination of existence of a large population of red snapper offshore in deep water beyond normal fishing areas, which could provide a better handle on population size and SSB

Potential Projects for the SAFMC for ACLs

- Projects that provide better information about species compositions for use in ecosystem approaches



Future of Cooperative Research for Aiding ACLs

- Clearly a need for more research that elucidates life histories
- Need for bycatch estimates, as well as bycatch mortality estimates
- Understanding of ecosystem interactions when species begin being managed under an ACL that previously did not have a target catch
- One big issue for the CRP going forward will be funding – current climate of reduced/no earmarks, which have funded this program for the past 4 years
- Data ownership – who owns data if NMFS funds but university collects?

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