2. PUBLIC FORUM

Today's Item

Information 🛛

Direction 🗆

Receive public comments for items not on the agenda.

Summary of Previous/Future Actions (N/A)

Background

MRC generally receives two types of correspondence or comment under public forum: Requests for MRC to consider new topics, and informational items. As a general rule, requests for regulatory change need to be directed to FGC and submitted on the required petition form, FGC 1, *Petition to the California Fish and Game Commission for Regulation Change* (Section 662, Title 14, CCR). However, at the discretion of MRC, staff may be requested to follow up on items of potential interest to MRC and possible recommendation to FGC.

Significant Public Comments (N/A)

Recommendation

If MRC wants to recommend any new future agenda items based on issues raised and within FGC's authority, staff recommends holding for discussion under today's Agenda Item 9(B), *Potential new agenda topics for FGC consideration.*

Exhibits

1. Pete Halmay presentation: Achieving sustainable 3S fisheries

Committee Direction/Recommendation (N/A)

Achieving sustainable 3S fisheries

Small-scaleSedentarySpatially explicit

Peter Halmay

San Diego Sea Urchin Fisherman peterhalmay@gmail.com



Case study of a 3-S fishery (small-scale, sedentary, spatially explicit)

Red sea urchin fishery

Characteristics of the red sea urchin fishery (3S)

S1: Small scale fishery

- Dive fishery with many small boats
- Market success based on steady supply of high quality fresh or live product
- Domestic markets are taking the place of exports
- Transaction costs are very high under typical top-down management system



S2: Spatially explicit

- Adults are patchily distributed (e.g. ~90% of red sea urchin "stock" occupies < 10% of bottom)
- Metapopulation where resource is divided into subpopulations
- Subpopulations may be connected by larval dispersal
- Subpopulations have site-specific dynamics
- Lack of necessary site-specific (very expensive) data



S3: Sedentary

- Adults do not migrate across subpopulations
- Harvests depend on growth, and short movements from cryptic habitat, deeper areas, or diet-related movement
- Harvest based on quality of product dependent on food supply
- Catch & CPUE are not good indices of harvestable stock size



Product: sexual organs (roe)

Quality of roe is dependent on environmental factors (Availability of kelp, water temperature (El Niño))





Poor Quality (2%)

Good quality (7%)

Challenges to the sustainability of the red sea urchin fishery (3S)

- Aging fleet
- Permits tied up by older fishermen who aren't using them
- Fishing effort is becoming more concentrated over fewer fishermen
- Fisheries data collections are needed but unaffordable

An aging fleet & tied up permits



Sea Urchin Divers in 2010

- Median age in 2010 was 52 years, with 20% of divers 60 years & older.
- Sea urchins are fished by diving.
- A large portion of the divers are not active
- The main reason old divers renew their permits is the promise of being able to sell permits when they become transferable (retirement insurance)

Year	# divers* harvesting 80% of sea urchin	<pre># divers* harvesting 95% of sea urchin</pre>	Total harvest (M)
2013	86	133	13.0
2012	86	130	11.4
2011	91	136	11.5
2010	84	128	12.2
2009	81	129	10.3
2008	88	139	11.2
2007	86	134	10.7
2006	95	142	11.3
2005	102	154	12.2
2004	115	19	
2003	138	209	* Of 300
2002	169	247	
2001	173	256	
2000	190	278	
1999	192	297	
1998	181	293	

Fishing effort is becoming more concentrated

- Proportion of divers with permits who harvest the sea urchins is in decline (from 98% to 44% between 1998-2013)
- As divers age, even those harvesting are working less and less each year.

(Kalvass 1-21-2011)

New entrants have low impact on the fishery

Year	Annual harvest of fishery (lbs)	Annual harvest by new permittees (lbs)	# new permits issued annually	# of new permittees landing
2007	51,396	?	6	2
2008	115,181	?	19	10
2009	544,282	?	5	17
2010	823,034	?	18	24
	Avg=383,473	Avg=7,989	Sum=48	Total fishing=26

- Between 2007-2010, there were 48 new entrants through the lottery
- Only 26 of 48 new permittees landed sea urchin
- New permittees harvested only 2% of the average total annual harvest for 2007-2010.

Data are needed but unaffordable

- A fine scale data collection program would help to:
 - test sustainability of harvest at the sub-population level
 - develop a local harvest plan
 - feed into a research plan that supports harvest strategy
 - develop standard stock assessment techniques for 3-S fisheries
- Data to integrate MPAs in fishery planning
- Data to assess ways to make fishery profitable, e.g., using a direct marketing strategy

But regulatory culture is not receptive to fishermen collecting data for use in management



Data Collected by Sea Urchin Divers

- Total area of the sea urchin fishing grounds Random transect surveys ٠
- CPUE •
- Density of harvested red sea urchins Size frequency before harvest ٠
- •
- Size frequency of harvested animals Estimate of red sea urchins after harvest

- Bottom topography
- Kelp type and condition
- Water temperature

- Quality and price of sea urchins harvested Annual kelp bed maps
- Population estimates outside the fishing Red sea urchin growth rates
- Larva settlement and early juvenile survival

Possible solutions for a more sustainable red sea urchin fishery (3S)



Possible solutions

- Provide the orderly entrance of active, well-trained, ethical participants
- Institute an apprenticeship program to train new entrants in data collections, ethics, business, safety, etc...
- Free up unused permits through a buy-back program for inactive permits
- Let industry contribute to data collections and co-management

from boat

to throat

