

Communicating Facts and Dispelling Myths: Audiences, Avenues, Messages



Rick Starr California Sea Grant Extension Program



Audiences



Professional Fishermen (Charter, Guides, Commercial)

Agency, Academic Scientists

Resource Managers

Hard Core Recreational Anglers

Clubs

Trade Companies (Gear, Magazines)

Tackle/Bait Shops

Casual Recreational Anglers

General Public

School Groups, Young Users

**** Too many Audiences – need to target select Audiences**



Avenues & Tools



Written and Printed

Written - Electronic (Websites)

Interactive: E-media (Blogs, Twitter, Facebook)

Visual and Audio Media

Interactive: Face to Face

Interactive: Feet Wet

**** Avenues and Tools should be tailored to target Audiences**



Written and Printed



Scientific Journals, Reports of Workshops, Studies - [Research](#)
Brochures, Fliers at Marinas, Boat Ramps, Tackle Shops - [Outreach](#)
Newspaper Stories, Fishing Magazines, Selected Popular Magazines - [Advocacy](#)

Vol. 3: 291–296, 2008
doi: 10.3354/ab00088

AQUATIC BIOLOGY
Aquat Biol

Printed September 2008
Published online September 9, 2008



Physical model of the development of external signs of barotrauma in Pacific halibut

Robert W. Hannah^{1,*}, Polly S. Rankin¹, Alexandra

¹Oregon Department of Fish and Wildlife, Hatfield Marine Science Center,
Oregon 97365, USA

²Brown University, Providence, Rhode Island

³National Institute of Water and Atmospheric Research, Private B

Recovery potential of black rockfish, *Sebastes melanops* Girard, recompressed following barotrauma

A L Pribyl^{1,†}, C B Schreck², M L Kent³, K M
Kelley⁴, S J Parker^{5,†}

Article first published online: 11 MAR 2012

DOI: 10.1111/j.1365-2761.2012.01345.x

© 2012 Blackwell Publishing Ltd

Issue



Journal of Fish Diseases
Volume 35, Issue 1
275–286, April 2012



Written and Printed



Sea Grant



**BRING THAT
ROCKFISH
DOWN**

ROCKFISH-BAROTRAUMA MYTHS

Myth: Reeling a fish in slowly prevents barotrauma.

Fact: Rockfish cannot acclimate to the pressure drop even when reeled in slowly.

Myth: The organ protruding from a "popped" fish's mouth is the swim bladder.

Fact: It is the stomach! Never vent the stomach or try to force it back inside the mouth.

Myth: You can tell by looking whether a fish will survive or die.

Fact: When properly recompressed, even fish with severe barotrauma can survive.

ROCKFISH-BAROTRAUMA SCIENCE

According to published results of a Sea Grant study led by researchers at Cal State Long Beach:

The degree of barotrauma in a fish is not a reliable predictor of its survival. The most significant predictor of post-release survivorship is the time a fish spends at the surface.

In experiments with several species of common Southern California rockfish, 83 percent of fish caught at depths between 217 feet and 350 feet, survived when returned to depth within 2 minutes. The odds of a fish dying following recompression nearly doubled with every 10-minute increase in time at the surface.

Tagging and recapture studies showed some released fish were still alive 1.5 years later.

For current recreational groundfish fishing regulations, call (831) 649-2801 for recorded information or visit the California Department of Fish and Game website at www.dfg.ca.gov/marine/regulations.asp.



This brochure was a collaborative effort of California Sea Grant, Oregon Sea Grant and University of Southern California Sea Grant. Printing was funded by the California Department of Fish and Game.

FISH CAN SURVIVE BAROTRAUMA

Amazingly, rockfish that look dead at the surface can "pop" back to life if quickly returned to a native depth range. Because of this, rockfish that you must, or want to, toss back should be quickly recompressed.



Even fish with bulging eyes and protruding stomach can survive if returned to depth quickly. Note: the organ protruding from the fish's mouth is the stomach, not the swim bladder.

TOP FIVE REASONS TO SEND'EM DOWN

Why should you care about helping a released fish return to depth?

1. Floating fish are a waste of the resource.
2. Some populations of prohibited species, such as canary and yelloweye rockfish, may take decades to rebuild.
3. High-grading is illegal and selects for smaller fish in the gene pool.
4. Venting fish may cause more harm than good.
5. Re-descending fish can increase their chances of survival.

Catch-and-release practices work best when you can help with fish survival. Helping fish get back down is good for the resource and the sport.





Release Methods for Rockfish

By Steve Theberge and Steve Parker

Rockfish have a gas-filled organ, called a *swim bladder*, that allows the fish to control its buoyancy (figure 1). When rockfish are brought to the surface quickly, the swim bladder can overexpand and burst. The expanding gas from the swim bladder can push the stomach out of the mouth and the intestine out the anus. These symptoms may get worse with time at the surface. The fish may also float on the surface, unable to dive back to the bottom. Recompressing or venting the fish may increase the fish's chance of survival.



Figure 1. Dissection of a black rockfish showing the location of the swim bladder.

Avoidance

Avoiding rockfish you cannot keep is the best option when fishing in water deep enough (60 feet or more) to cause swim bladder problems. If you start to catch rockfish that have to be released, move to a different location. On rockfish you can target, do not high grade (releasing smaller fish so you can keep larger fish) rockfish caught in water deeper than 60 feet. Instead, use larger hooks and bait to discourage smaller fish. Catch-and-

release fishing is not a good option in deepwater fishing for fish with well-developed swim bladders.

Recompression Methods

New strategies being developed for releasing rockfish suffering from pressure damage need to be tested to determine long-term survival. You should not assume that a fish survives simply because it swims off on its own after being vented or recompressed and does not return to the surface.

Recompression methods involve assisting the fish back down to a depth where it can descend the rest of the way to the bottom on its own. The greatest relative pressure change occurs in the top 33 feet. Recompression, if done quickly, can reverse some of the damage done by the expanding gas. Even rockfish with severely bulging eyes may survive when recompressed quickly. Different methods have been developed to recompress fish and assist their return to the bottom. One method involves using a weight and a large, inverted, barbless hook. Fish should be hooked from outside to inside through the membrane on the upper lip so that the hook releases effectively (figure 2). The weight must lead the fish into the water and be heavy enough to sink the fish to the desired depth (over three pounds for a large yelloweye).

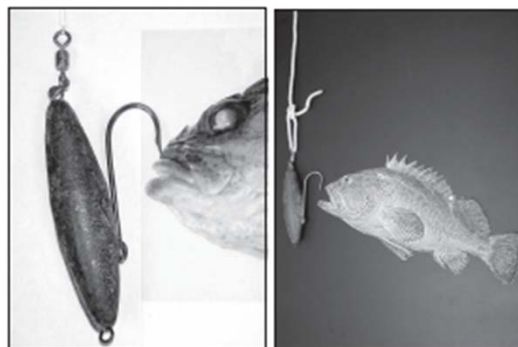


Figure 2. Left: A barbless hook is inserted into the jaw and the fish is dropped to the release depth. Right: The fish is released by pulling up on the line.





Written - Electronic

Websites: Agencies, Marine Businesses, Charter Vessel Businesses, Sea Grant, Fishing club newsletters - [Outreach](#)

Go to: [Mobile Content](#) | [Content](#) | [Footer](#) | [Accessibility](#)



[Home](#) | [Recreation](#) | [Resource Management](#) | [Enforcement](#) | [Marine](#) | [Spills](#) | [Education](#) | [Publications](#) | [Data & Maps](#)

[Marine Region](#) | [Marine Life Protection Act](#) | [Ocean Sport Fishing](#) | [Commercial Fishing](#)

[Home](#) -> [Marine Region](#) -> [What We Do](#) -> [Groundfish Central](#) -> **Rockfish Barotrauma Information**

The Marine Region

- » [Ocean Fishing](#)
- » [Laws & Regulations](#)
- » [Fish Identification](#)
- » [Permits & Licenses](#)
- » [FAQs - Frequently Asked Questions](#)
- » [Marine Life Management & Research](#)
- » [What We Do](#)
- » [News](#)

Rockfish Barotrauma Information

What is Barotrauma?

All rockfishes possess a closed swim bladder (a gas-filled organ that regulates buoyancy). When fish are brought up from depth, decreasing pressure allows the gas to expand which may cause injury and prevent the fish from returning to depth under its own power. Visible symptoms of gas expansion include a swollen and tight belly, stomach protruding past the gullet and into the mouth, and distended and/or "crystallized" eyes. Miraculously, many rockfish can recover from barotrauma if they are properly released to their respective depths as soon as possible. For more information on barotrauma and techniques and tips to properly release rockfish please refer to the [Bring that Rockfish Down](#) brochure.

-> **Rockfish: [Bring That Rockfish Down](#) PDF**

A brochure with tips and techniques for successfully releasing rockfish suffering barotrauma injuries

-> [View a news release](#) on the *California Sea Grant* website with more information about this brochure.



Interactive: E-media (Blogs, Twitter, Facebook)



Research, Outreach, and/or Advocacy



Fishing Forums

Pro Fishing Reports

Encyclopedia of Fishing

Fishing Maps

Sponsors

Banner Advertisers

Advertise

GEAR Shop

Online Magazine

News:



Sponsored by:



May 6th, 2012 at 2:24pm
Welcome, Guest. Please Login or Register

Forum Jump »

Home

Help

Search

Login

Register

Search

ImHooked.com Fishing Forums > Saltwater Forums > General Boating Saltwater Discussion > **Relieving Barotrauma in Rockfish**

(Moderators: MM_Don, el_jefe_chingon, Rusty Hooks)

< Previous Topic | Next Topic >

Pages: 1

Send to a Friend Print

Relieving Barotrauma in Rockfish (Read 185 times)

MM_Don
Global Moderator
The Mod Squad
Offline
Posts: 14752

Relieving Barotrauma in Rockfish
Sep 8th, 2011 at 6:48pm

Relieving Barotrauma Problems in Deepwater Rockfish
Posted on September 8, 2011 by californiaoutdoors| Leave a comment

I'm already there . . .

Descending devices, such as this one, can be used to help deepwater rockfishes to successfully return to depth (Photo: Cheryl Barnes, Moss Landing Marine Laboratory)

Question: Whenever I pull up one of the rockfish species that is not legal to keep, its swim bladder is usually so full of air that even if I throw it back it will still die. What's the point in throwing them back if they're just going to die anyway?

I've heard that pulling the fish slowly up to the surface minimizes the



Visual and Audio Media



TV News Stories

Radio Spots

Hotel TV “News Stories”

U Tube Video

Smart Phone Apps, Text Messages

[Home](#) | [Search](#) | [Site Map](#) | [Contact Us](#)



Southwest Fisheries Science Center
NOAA Fisheries Service

[ABOUT US](#) | [DIVISIONS](#) | [RESEARCH](#) | [SPECIES](#) | [PUBLICATIONS](#) | [DATA PORTAL](#) | [EDUCATION](#) | [MULTIMEDIA GALLERY](#)



+ advanced search

DIVISIONS



[printable version](#)

[FRD Home](#)

[Antarctic Ecosystem Research](#)

[Environmental Research](#)

[Fisheries Ecology](#)

[Fisheries Resources](#)

[Protected Resources](#)

[Libraries](#)

[Director's Office](#)

[Operations](#)

Barotrauma



View video: [Researcher's catch and resubmerge effort](#)

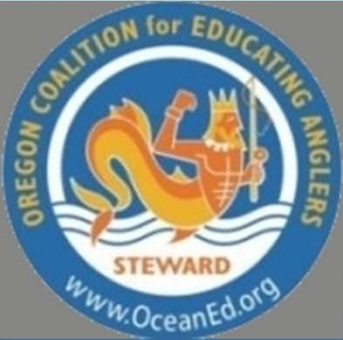


Interactive: Face to Face

Events (e.g. Sportsman Shows, Bass Pro Shops)

Presentations (Clubs, F&G Commissions, SSC, Council Meetings)

EVENTS



[HOME](#)

[NEWS](#)

[EVENTS](#)

[MISSION](#)

[OFFICERS/DIRECTORS](#)

[Past Events](#)

[2012 Show](#)

[2010 Show](#)

[2009
Convention](#)

[2008
Convention](#)

[2007
Convention](#)

[Current Events](#)

2012 Saltwater Sportsmen's Show

The show is over, but it was another good one.

We would like to thank all of the presenters, vendors, volunteers and attendees for making it a great experience.

Some of the pictures are up in the gallery and more will be coming.

[Past Seminar
Presentations](#)

[Tuna Tactics for
Big Boats and
Small
Courtesy of
Charles Loos and
Wayne Waldron](#)



Interactive: Feet Wet



California Collaborative Fisheries Research Program (CCFRP):
Fishing Communities, SG, MLML, Cal Poly, CDFG, NMFS, NGOs



Collaborative study that combines the expertise and ideas of:

- the fishing community
- academic scientists
- resource managers



Scientifically sound research to gather information for MPA monitoring and fisheries management



SANTA MONICA
SEAFOOD
Family Owned Since 1939





Collect & Evaluate Information at Finer Scales





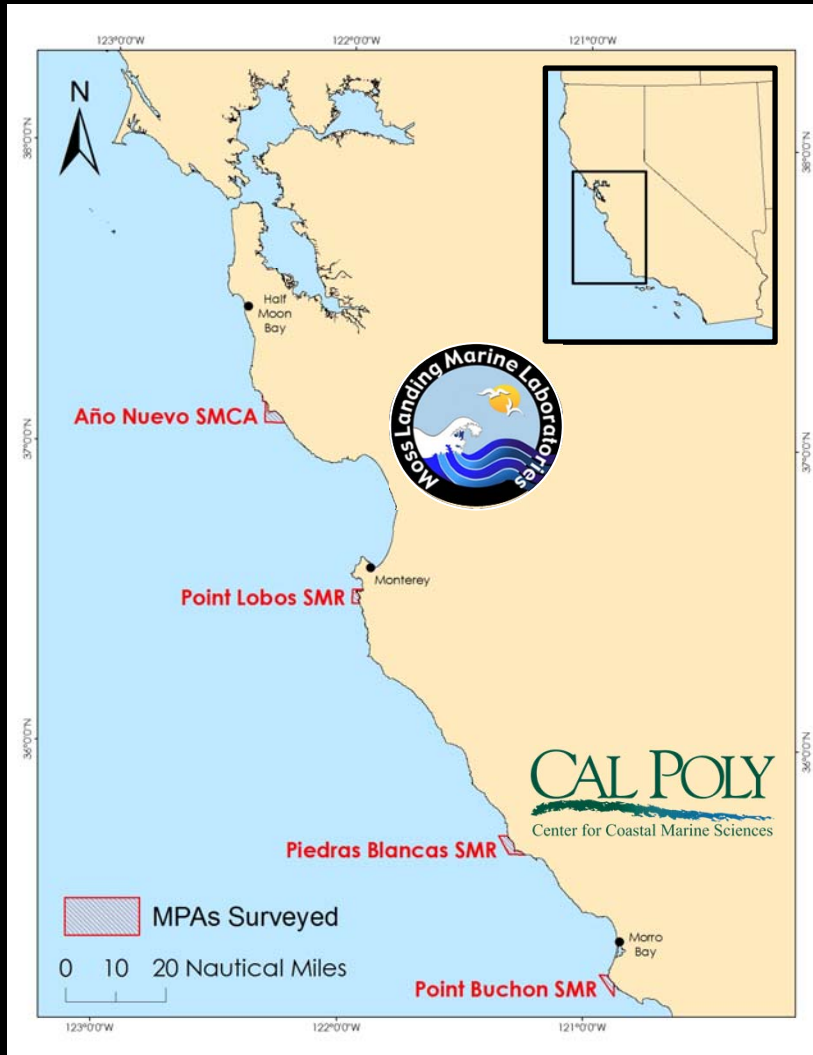
CCFRP Objectives



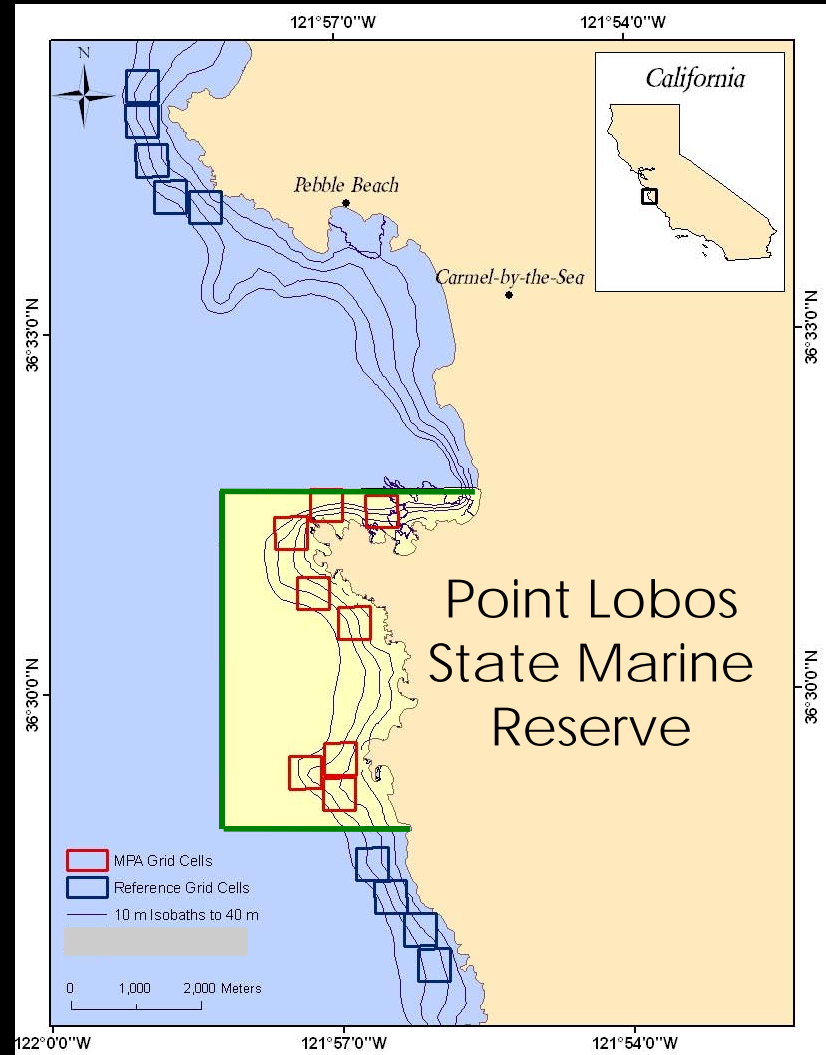
- Develop rigorous scientific monitoring protocols
- Engage the fishing community in MPA monitoring
- Generate baseline comparisons between MPA and reference sites
- Create a sampling design that can be used to collect data for fishery management
- Develop an approach that can be used across CA to manage data-poor fisheries

CCFRP Sampling Design

Study Areas

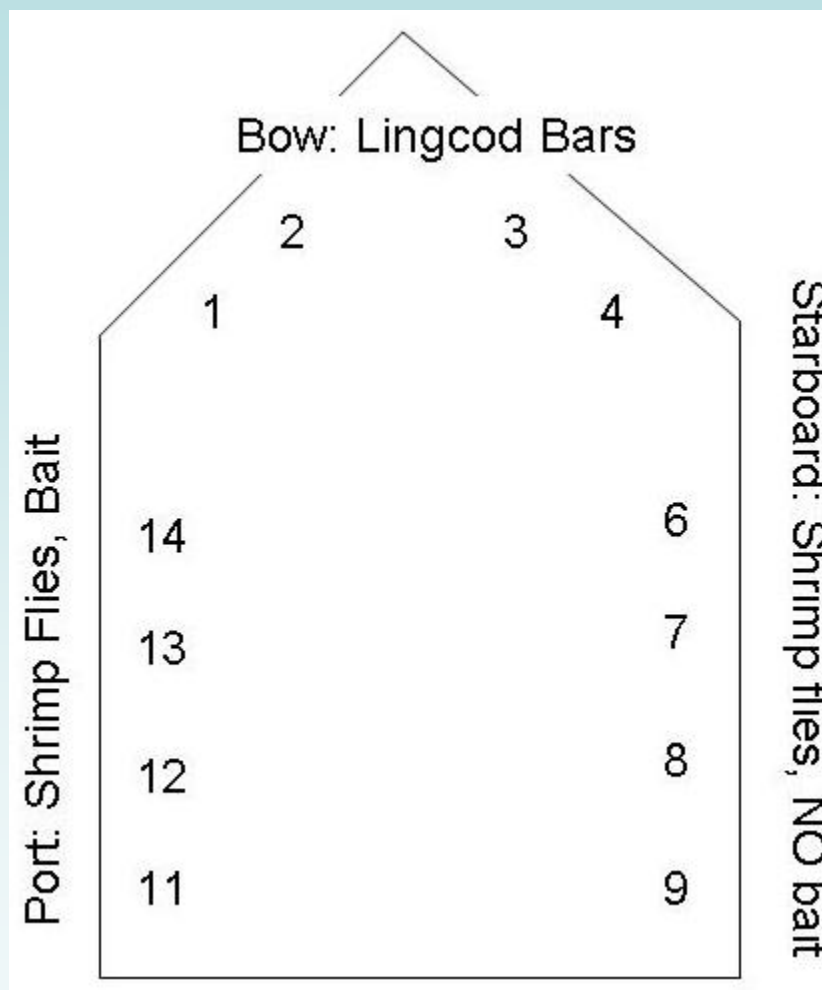


Sites, Cells & Drifts





Agreement on Sampling Protocols





2007 - 2011 CCFRP Sampling

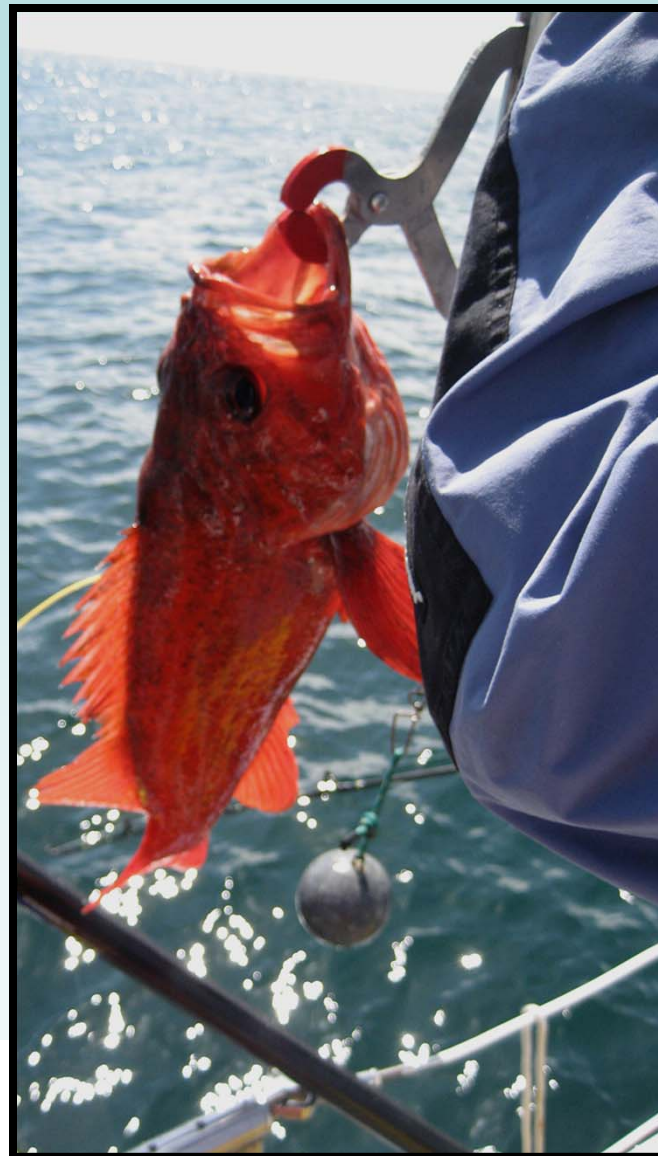
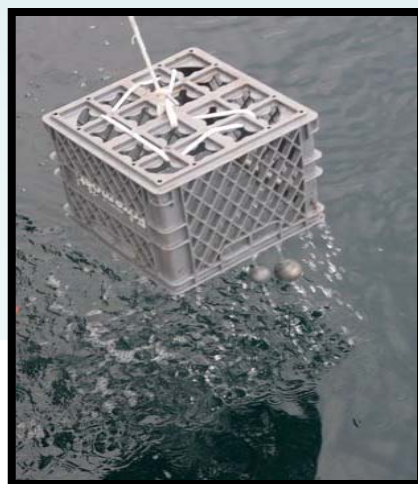


- ❖ 16 Charter fishing vessels
- ❖ 19 different skippers and 33 crew
- ❖ 582 volunteer anglers
- ❖ > 4,800 angler-hours of fishing
- ❖ > 32,000 fishes caught and released





Educating Anglers





Communicate Results



Collaborative Research Project: October 2007 Update

THANK YOU TO OUR VOLUNTEER ANGLERS!!

October marks the end of the 2007 field season for the collaborative research study being conducted by the UC Cooperative Extension Sea Grant Program at Moss Landing Marine Laboratories and California Polytechnic State University, San Luis Obispo. During the months of August, September and October we have been working with Commercial Passenger Fishing Vessels and recreational anglers to catch and tag fishes out of Monterey, Morro Bay, Pillar Point and San Luis Harbors. The aim of this project is to collect baseline information about the Point Buchon, Point Lobos, and Año Nuevo Marine Protected Areas (MPAs). Our volunteers caught a total of 3,668 fishes in August, 2,574 fishes in September and 1,760 fishes in October (all three areas combined).

Over the past three months we have met and exceeded the sampling objectives thanks to the commitment and expertise of our volunteer anglers and the captains and deckhands of the *F/V Caroline, Fiesta, Hull Cat, Pacific Horizon* and *Patriot*. Of our volunteers, we had several who came out multiple times: Jeremy Harkins, Ido Nienhuis, and Jim and Bonnie Roberson: 5 times; Nancy and Gary Aubuchon, Jim Dull, and Jim Webb: 6 times; Mike Blackstone: 7 times; Darrell Bunse: 8 times; David Reins: 12 times; David Kammerer: 15 times. Thank you for your continued support of this project!

Please check our websites for more information and to follow the progress of this study:

www.slosea.org/collaborative and <http://seagrant.mlm.calstate.edu/crpmamonitor.php>

Below is a summary of our fishing trips (Note that the number of volunteers does not equate to the number of people fishing. Also, the duration of fishing varied per day.).

Date **No. Volunteers** **No. Fishes Caught**

Año Nuevo (AN)

10/08	6	106
10/09	5	64
10/11	8	51
10/12	16	7

Total Fishes Caught in October: 228
in September: 256
in August: 866

Point Lobos (PL)

10/22	10	277
10/23	12	96
10/24	14	356
10/25	12	111

Total Fishes Caught in October: 840
in September: 1531
in August: 1794

Point Buchon (PB)

10/15	10	181
10/16	12	138
10/23	10	134
10/24	10	239

Total Fishes Caught in October: 692
in September: 787
in August: 1008

Fishes caught in October: Black, Black-and-Yellow, Blue, Canary, China, Copper, Flag, Gopher, Grass, Kelp, Olive, Rosy, Starry, Treefish, Vermilion, and Yellowtail rockfishes, Cabezon, Kelp and Rock Greenling, Lingcod, Ocean Whitefish, Rock Sole, Sanddab and Sardines.

Biggest lingcod caught:

In August:	86 cm (34 in)	David Reins (PL)
	87 cm (34 in)	Nick Koozmin (AN)
In September:	81 cm (32 in)	Matt Michie (PL)
In October:	81 cm (32 in)	Wayne Macon (PL)



Annual Workshops:

- In Half Moon Bay
- In Moss Landing
- In Morro Bay

Attendees:

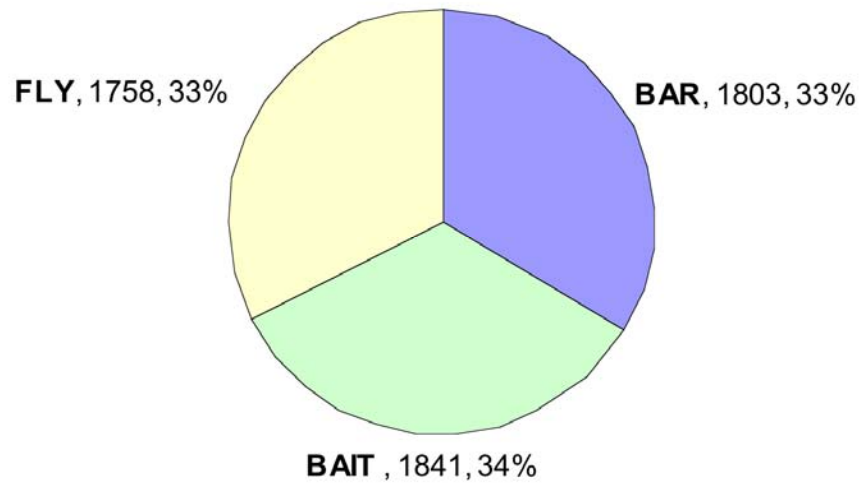
- Fishermen
- CA DFG and NMFS
- NGOs
- Academic Scientists

Objectives:

- Get Feedback
- Review and Improve Protocols
- Discuss Use of Data for Management

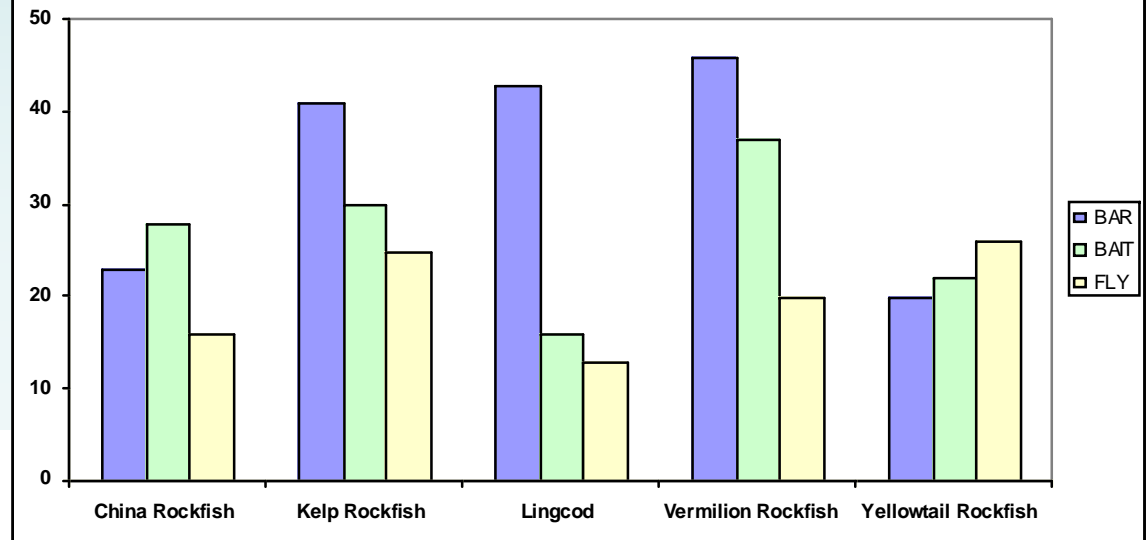


Gear Selectivity

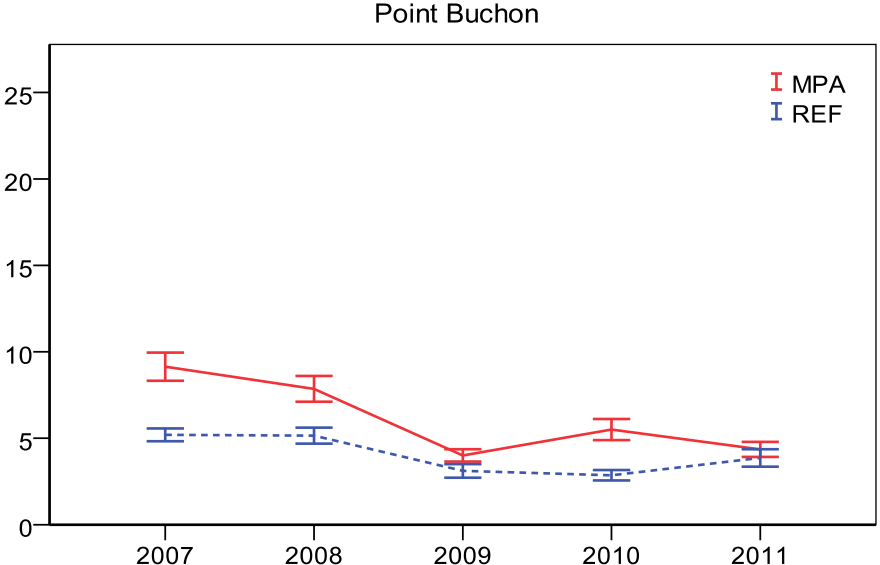
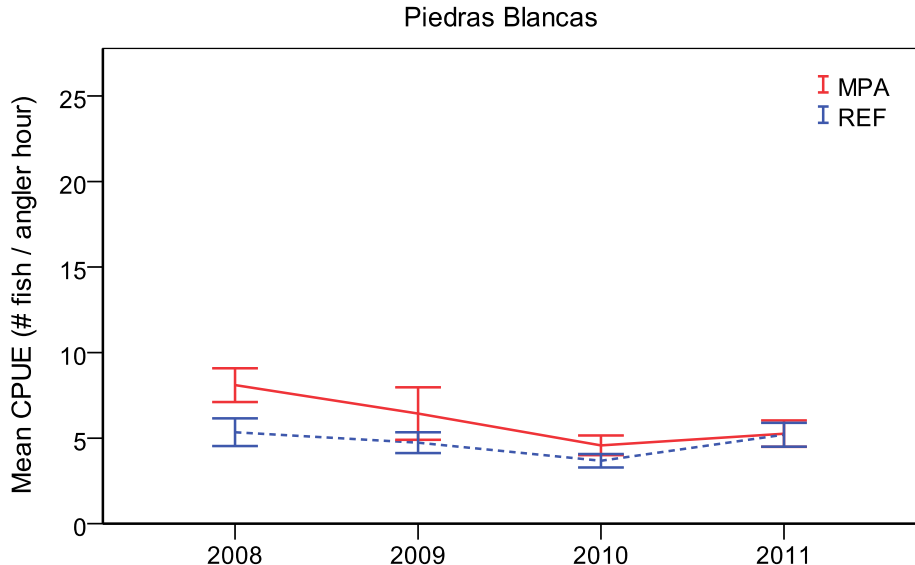
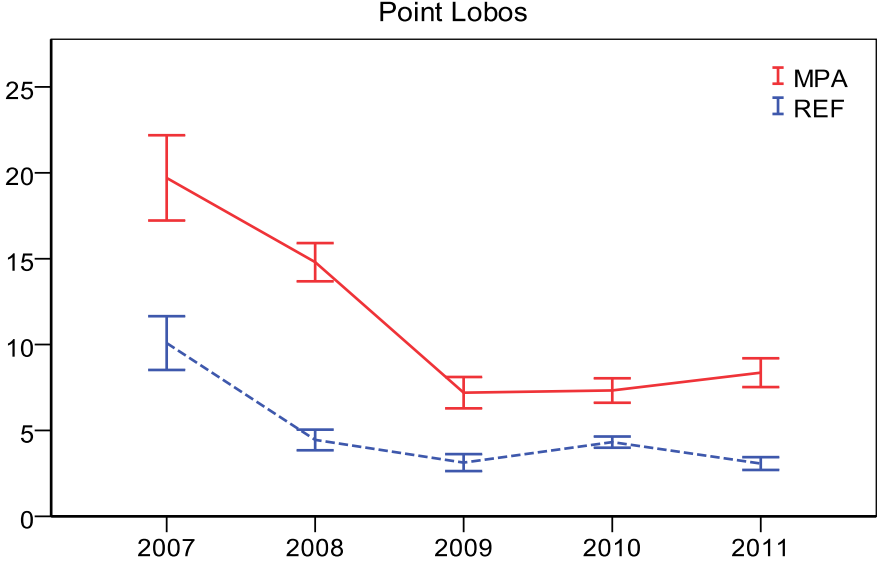
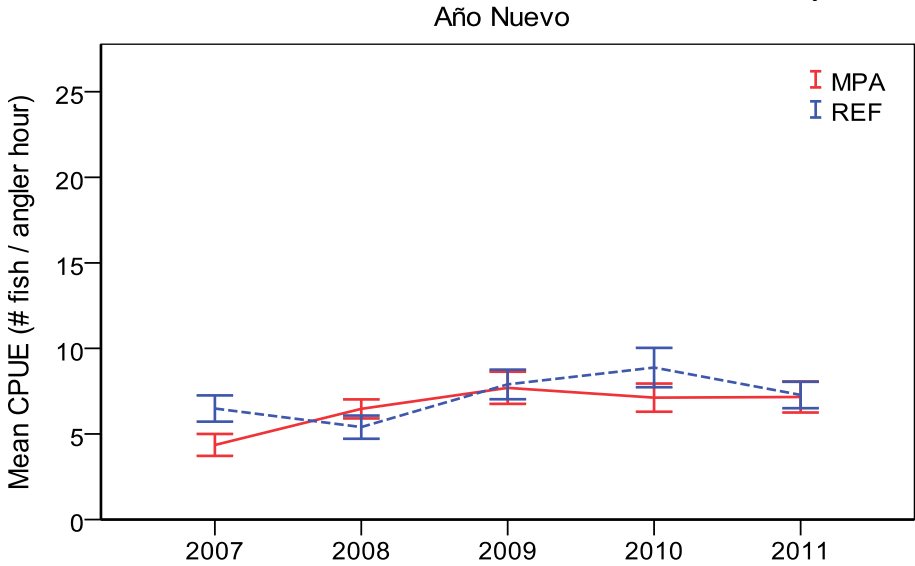


Each gear type catches the same amount of fish

Proportion of catch by gear type can differ

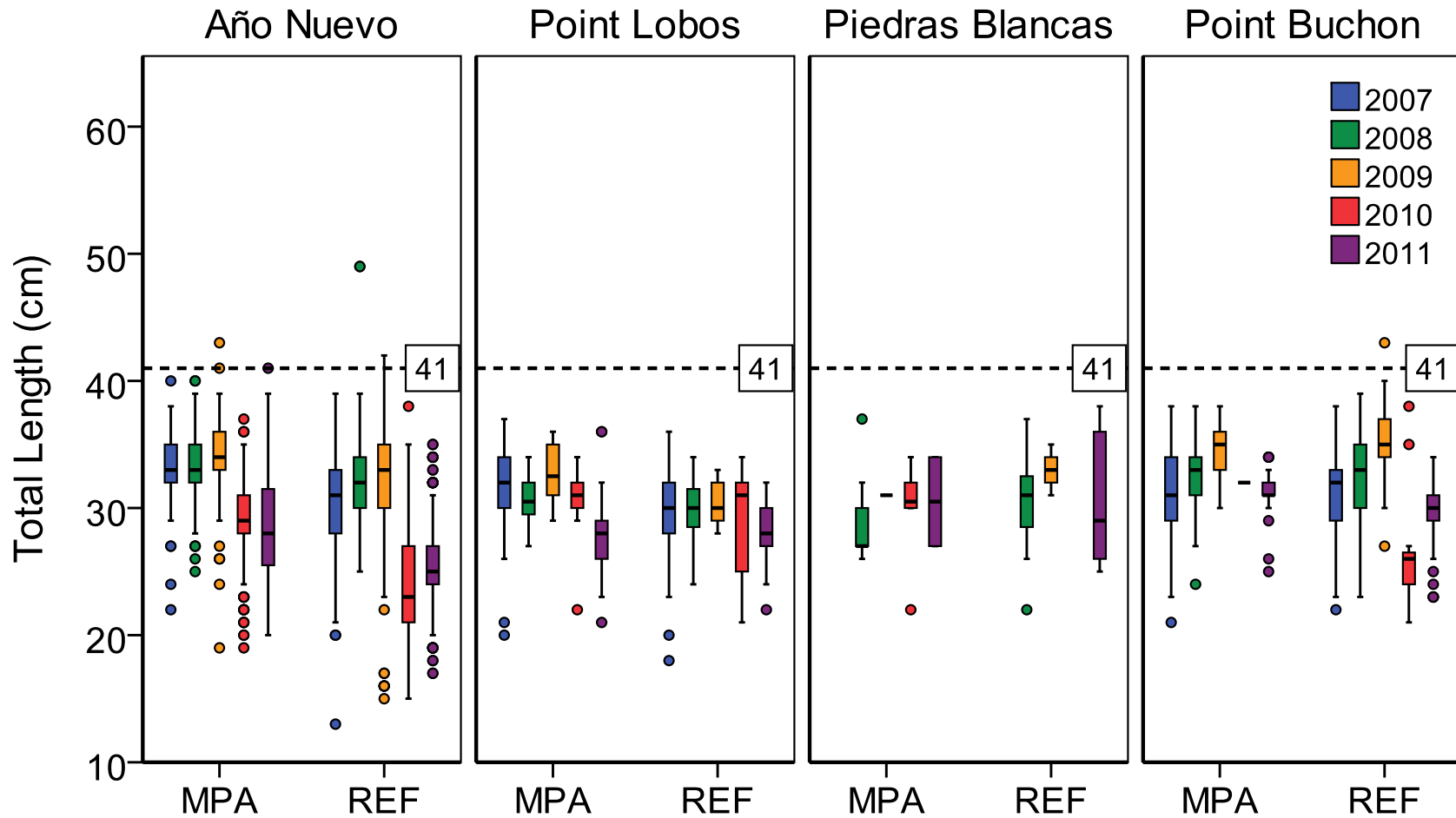


All Species Combined



Total catch per angler hour by area and year, all species combined. Error bars denote one standard error above and below the mean.

Black Rockfish



Whiskerplots representing lengths for Black Rockfish by area, site and year. The dashed horizontal line represents the length at which 50% of the female population is considered mature (Wyllie-Echeverria 1987). The lower margin of each box indicates the 25th percentile while the upper margin denotes the 75th percentile in length (cm). The black line in center of each box represents median length. Error bars show the 95% confidence interval and circles represent outliers.



Integrating the MLMA and MLPA



Developing new ways to manage CA nearshore fisheries using catch data from MPA monitoring

- 2 more years monitoring of MPAs (7 yr total)
- Comparison of 6 Data-Poor Fishery Models
- Management Strategy Evaluation
- Outreach and Management Recommendations

Tom Barnes, DFG

Jason Cope, NMFS

Kristen Honey, Stanford

Jono Wilson, UCSB

Large Multi-disciplinary Advisory Board



Take Home Messages for This Workshop



Lots of scientific information available, more needed



Demonstration Projects



Research, Outreach, Advocacy

Collaborative Projects along coast that:

- ✧ Conduct needed research
- ✧ Include different collaborators in design, collection, analysis
- ✧ Summarize results of the project in different formats
- ✧ Broadcast information about the project in different formats
- ✧ Encourage recreational community to be conservation leaders



Thanks for all the Fish

