Sea Grant California

Sea Grant Fisheries

FALL 2007

Newsletter of the California Sea Grant Extension Program and UC Division of Agriculture and Natural Resources

INSIDE STORIES:

Taking a Summer Plunge: Youth Learn About Commercial Fisheries of the Santa Barbara Channel Region

Carrie Culver,
Marine Advisor, Ventura and Santa Barbara Counties

In July, Marine Advisor Carrie Culver teamed up with 4-H Program Supervisor Susan Gloeckler, UC Cooperative Extension/Sea Grant Extension Intern Rebecca Estrada, and 4-H Youth Advisor Rose Hayden-Smith to offer an intensive fisheries journalism academy for a select group of Ventura County middle and high school students. The students spent two weeks learning and writing about the Santa Barbara Channel region's commercial fisheries. The goal of the project was to improve fisheries and ocean literacy and stewardship among the participants, and others through development of a newspaper supplement produced by the students.

The Fisheries Youth Academy activities included:

- Lectures and discussions with fishery participants, managers and researchers
- Visits to local harbors and commercial fishing boats
- Trips to local seafood-processing facilities, retail markets and restaurants
- Tours of marine research/education facilities, touch tanks and local waters
- Tour of *Ventura County Star* newspaper and discussions with local journalists
- Research, writing, and artwork development (e.g., fish printing)

Commercial fisherman, Mike McCorkle, demonstrates the use of various gear types and describes fishing operations and life as a commercial fisherman to the Fin-atic Reporters
Credit: C. Culver

The students, who collectively call themselves the "Fin-antic Reporters," wrote about selected aspects of local commercial fisheries, including the biogeography of the region, commercial fishing operations, factors affecting fisheries, seafood availability and consumption, sustainability and ocean stewardship. They also wrote about some of the top commercial fisheries of the region, providing interesting tidbits and fun facts about the biology, history, operations and fishery participants.

The Fin-atic Reporters' articles will be published and distributed as a supplement to the *Ventura County Star* in collaboration with the newspaper's Star in Education Foundation (pending funding for production costs). The supplement will be distributed to local newspaper subscribers, as well as more than 500 Ventura County public school teachers and their students. A limited number of additional copies will be available and distributed throughout the region, and the articles will be posted on the Ventura County Cooperative Extension website http://ceventura.ucdavis.edu.

Fishery academy students learn about local marine organisms through the REEF (Research Experience and Education Facility) program at UC Santa Barbara
Credit: C. Culver

The Fisheries Youth Academy is modeled after the Cooperative Extension's 4-H and advisor's successful agricultural academy youth programs that resulted in the "Fields to Fridge: What's Growing in Ventura County" newspaper supplement http://ceventura.ucdavis.edu/Junior_Master_Gardener/
The Fisheries Academy was sponsored by the Ventura Port District, Andria's Seafood and the University of California Cooperative Extension Sea Grant Extension and 4-H programs. Many others supported the academy by contributing their time and knowledge. For additional information or to donate funds for production of the newspaper supplement or future marine science academies, please contact Carrie Culver, csculver@ucdavis.edu, 805-645-1469.

Eight Populations of Cabezon Discovered

Christina S. Johnson
California Sea Grant Science Writer

Results of a California Sea Grant/California Department of Fish and Game (CDFG) study strongly suggest that the West Coast's largest sculpin species, cabezon (*Scorpaenichthys marmoratus*), is composed of at least eight genetically distinct populations.

Six of these are in California in areas around Fort Bragg, Half Moon Bay, Morro Bay, Santa Barbara/Ventura, the Channel Islands and San Diego. The two other populations were identified near Coos Bay, southern Oregon and in Puget Sound, Washington.

Cabezon. Credit: Margaret Webb

"What our study shows is that breeding cabezon are not dispersing between these eight areas," said Cal Poly San Luis Obispo biology professor Francis Villablanca, a co-investigator on the project with Cal Poly colleague Royden Nakamura. "What we don't know is why we see this pattern."

A second, ongoing genetic study, based on looking at genetic markers inherited from both male and female fish, will help researchers explain why the sub-populations evolved. The study reported here is based on an analysis of genetic information inherited exclusively through the female line from 244 cabezon.

Deb Wilson-Vandenberg, groundfish project supervisor at CDFG said she was not surprised by the results. "Cabezon's larval duration is about a month and they are very territorial. You would not expect a lot of dispersion." Also, cabezon spawn demersal eggs (eggs that sit on the bottom), restricting that initial opportunity for dispersal.

California currently manages cabezon as one stock. Wilson-Vandenberg said that if stocks were managed individually, CDFG might be in a better position to protect each genetic unit.

Jason Cope, NOAA Fisheries biologist and lead author of the most recent federal stock assessment for cabezon, was also not surprised by the results, noting that the existence of multiple genetic units makes sense given cabezon's life history characteristics and minimal movement patterns.

The issue is what managers should do with the information, Cope said. "How do we properly evaluate and manage multiple populations at small spatial scales? Do we spend money collecting data for each sub-population to perform traditional stock assessments or do we devise simpler, less data-intensive assessment methods? Which way is better?"

"Once assessed, we then are faced with the decision on how to allocate the catch between fishery sectors, mainly commercial and recreational fisheries," Cope said. "This is especially difficult when each fishery may be fishing more than one sub-population. Who gets what and of which sub-population?"

Despite all the questions and potential controversy over allocation, Tom Hafer, a commercial nearshore fisherman in Morro Bay, said he is still in favor of moving toward regional management. "All I know is that Central California is the cabezon capital of the world," he said. "Since we have so much here, we should have our own quota."

For more information, please contact: Francis Villablanca, Ph.D., Cal Poly State University, 805-756-2200, fvillabl@calpoly.edu.

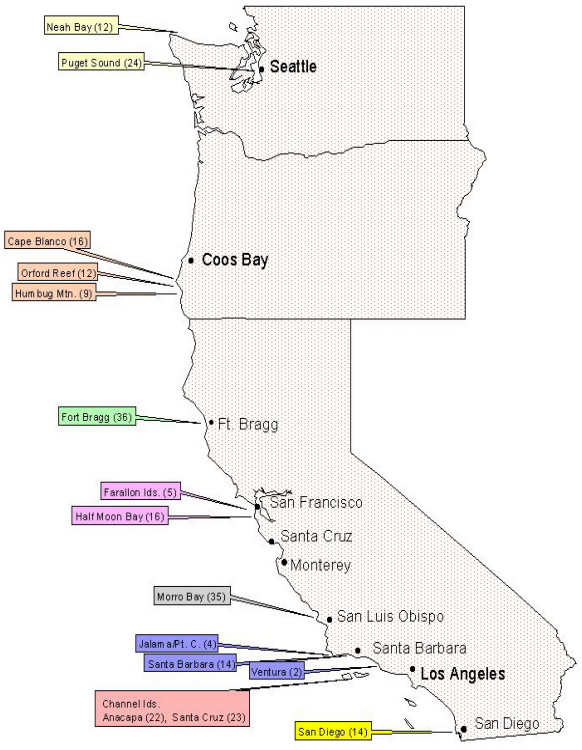

Figure 1: The number of fish analyzed for each of the different sampling sites. The color-coding shows the locations of the eight cabezon sub-populations. Credit: Cal Poly, San Luis Obispo

Regional Research and Information Plan for the California Current Large Marine Ecosystem of Coastal Washington, Oregon and California

Carrie Pomeroy
Marine Advisor, Santa Cruz County

Sea Grant programs in Washington, Oregon and California are coordinating efforts to assess the long-term marine research and information needs of the entire West Coast of the United States. The goal is to help the region move toward an ecosystem-based approach to marine-resource management-research, and information.

The project, supported by the National Oceanic and Atmospheric Administration (NOAA) and endorsed by the governors of the three states, is a response to recent national recommendations calling for a regional approach to research planning. This Sea Grant-led effort is also a collaboration with the West Coast Governor's Agreement on Ocean Health. In California, the Ocean Protection Council is supporting the effort.

Sea Grant plans to involve a broad range of ocean and coastal interests in the process, including coastal residents, scholars and researchers, community organizations, marine conservation groups, state and local governments, resource managers at both the state and federal levels, and those who depend on ocean resources for livelihood or recreation.

The project will address eight themes that recur in state, regional, and federal research agendas:

- The social and economic vitality of coastal communities
- Coastal natural hazards
- Human health
- Ecosystem health
- The ocean's role in climate variability
- Marine transportation and security
- Ocean education and environmental literacy

Additional themes will be addressed as they arise.

How can you participate?

Attend a public workshop in your region
California's Sea Grant programs are hosting three stakeholder workshops this fall. You are invited and encouraged to attend.

Southern California Workshop
Date: September 18, 2007
Time: 9:00am – 3:00pm
Location: Southern California Coastal Water Research Project (SCCWRP)
3535 Harbor Boulevard
Costa Mesa, CA 92626-1437
(Already passed. Contact Juliette Finzi, finzi@usc.edu for information)

Northern California Workshop
Date: October 24, 2007
Time: 9:00am–3:00pm
Location: Wharfinger Building
Bay Room,1 Marina Way
Eureka, CA 95501-0292
RSVP: Susan Schlosser
(scschlosser@ucdavis.edu)

South-Central Coast Workshop
Date: November 14, 2007
Time: 9:00am–3:30pm
Location: Veteran's Memorial Building
112 W. Cabrillo Boulevard
Santa Barbara, CA 93101
RSVP: Monique Myers
(Moniquemyers@gmail.com)

Bay Area and North-Central Coast Workshop
Date: November 28, 2007
Time: 9am–3:30pm
Elihu Harris State Office Building
1515 Clay Street, Room 1
Oakland, CA 94612
RSVP: Alisha Dahlstrom
(adahlstrom@ucdavis.edu)

Participate in a brief, online survey
If you can't attend a workshop, you're encouraged to take part in Sea Grant's web-based survey (see URL next column), and tell us your priorities for ocean and coastal research and information in your state and the region. Providing your comments will help ensure that your knowledge, experience, and perspectives are incorporated into the regional plan.

Contact the nearest West Coast Sea Grant Program (below) to express your opinions via e-mail, telephone or to set up an in-person meeting.

Track our progress on the web site (below) where you will be able to view and comment on draft reports as they are developed.

For more information about the workshops and the online survey please go to: seagrant.oregonstate.edu/research/RegionalPlanning/.

Fisheries Specialist Emeritus, Dewees, Admits to Causing Prolonged Decline of State's Commercial Fisheries!

Peter Nelson
Marine Advisor
Humboldt and Del Norte Counties

As many of you know, Sea Grant Fisheries Specialist Chris Dewees, a 35-year veteran of the program, retired last spring. Marine Advisor Pete Nelson checked in with Chris recently to see how he was faring. Please go to http://www.csgc.ucsd.edu/PUBLICATIONS/SGFisheriesIndx.html and click on DeweesInterview.pdf for a somewhat tongue-in-cheek look back on Chris' career and his take on California fisheries.

Christy and Chris Dewees at Auckland Museum in New Zealand.
Credit: A. Golder

(SGML)

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Editor: Carrie Pomeroy

Designer: Janelle Kohl

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Sea Grant Fisheries Addendum

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Dewees, Fisheries Specialist Emeritus, Admits to Causing Prolonged Decline of State's Commercial Fisheries!

Peter Nelson
Marine Advisor, Eureka, California

Chris Dewees, long-time Marine Fisheries Advisor, retired April 1, 2007. In August, after some time to enjoy his emeritus status, I called him at his Davis home to ask him some questions about his 35-year career with California Sea Grant and the Wildlife, Fish and Conservation Biology Department at UC Davis, as well as the past, present and future of California fisheries. Here, at last, Chris reveals all ...

Chris with Kodiak Island Chinook Salmon
Courtesy of C. Dewees

PN: So, Chris, tell us what a Marine Fisheries Specialist is.

CD: Specialists in the University of California Cooperative Extension differ from the typical faculty-type positions. They are less theoretically inclined, looking for opportunities to make a difference—to solve various fisheries-related problems.

I'd sent Chris a graph (Figure 1) with the intent of asking for his take on the decline in numbers of commercial fishermen.

CD: From your graph I obviously made a big difference.

I remarked that it took him a couple years to get his ducks in a row ...

CD: But once I did, they all fell out of the sky! When I started, things were on the upswing, but within five years I had them turned around.

PN: I know that you were an avid fisherman growing up. I'm wondering how that experience influenced your professional career?

CD: Can I find a job where I can fish all the time? I really like fish; always been neat to me. I saved my money, bought a little El Toro [sailing dinghy] when I was 10 or 11 and I doodled around Sausalito all the time, fishing and sailing and dinking around. And my parents were into sailboat racing.

Another major influence was a friend of the family's, a UC Berkeley scientist studying effects of nuclear testing on human health who'd changed careers, and bought a commercial salmon troller. I was a deckhand on his boat when I was a senior in high school. John Gofmann just died at 88. But that was my introduction to being a commercial fisherman at a formative age. It was an experience that gave me empathy with the life of commercial fishermen.

I wondered why Chris hadn't also pursued a career as a commercial fisherman ...

CD: It was the continual up and down of your fortunes ... that, and you don't have much of a social life sitting on the boat in Drake's Bay, with winds of 35 knots.

Instead, Chris completed his bachelor's at the University of Redlands where he gained an early exposure to the social sciences. He went on to work on his master's in fisheries biology at Humboldt State University, and then traveled to Chile for two years as a member of the Peace Corps. He acquired experience in applied fisheries science and extension-like work, and also formed lasting professional relationships at the Universidad Católica de Valparaíso. While in Chile, Chris was hired by UC Davis as the Marine Reources Specialist.

During his first sabbatical in 1979, he went back to school to complete his doctorate on the human dimensions of fisheries.

CD: I saw my colleagues as not very happy in their fish biology jobs. They had Fish and Game jobs for example, but were frustrated in their efforts to affect positive changes in management. Besides, I'd always done well with the social science side of things. I'd been working with fishermen for some years now, and I was interested in why they behaved the way they did. The neat thing was that I could read both the biology and social science sides of things. Most of my colleagues were totally confused by the human element.

PN: Are there any mistakes or successes from your career that were especially informative or memorable?

CD: Oh yeah, there was one "mistake." I don't know that you really want to tell anyone about this, but it was revealed during my retirement roast anyway. I gave a paper during the first national aquaculture convention [1971] in Chile about net-pen culture of salmon in the Pacific Northwest! I can't say the rest is history, but ...

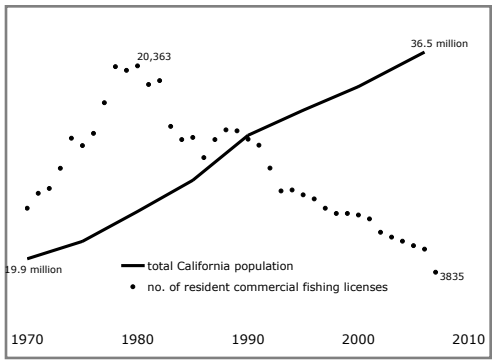

Figure 1. California Department of Fish & Game licensing data show a peak in the number of resident commercial fishing licenses in 1980 followed by a steady decline to the lowest point in 2007 since data were collected. The state's population has climbed steadily during the same period.

(Continued on page 2)

(Continued from page 1)

PN: At your retirement party, I was impressed by the diversity of people in attendance—academia, management, and industry—and all of them not only liked you but also clearly respected you.

CD: Is that what that roast was about?

PN: Well, my interpretation is that your ability to be an honest broker, to be neutral and unbiased really made the difference. I'm interested in hearing how you learned its importance.

CD: I think I had sort of a gut feeling about that from the outset. In Sea Grant, at the time, there were a lot of people who were clearly advocates of the commercial fishing industry, so I wanted to be broader than that, encompass more than the industry alone.

At this point I asked Chris to talk about the graph. He replied in classic Dewees fashion with a list of thought-provoking observations that clearly would never have occurred to another fisheries scientist:

CD:

- *The people of California ate all the fish.*
- *We drank/used all the water.*
- *The fish were too shy to reproduce with all these new Californians around.*

After reluctantly agreeing that these ideas were probably too progressive for general acceptance, he provided a number of more mundane ones.

CD: The tuna fleet went overseas—it became so expensive to do business here in California, that almost anywhere overseas was cheaper, plus the issue of setting a purse seine around a school of dolphins to capture the associated tuna in the eastern Pacific. The other part of the "perfect storm" was consumers switching from tuna in oil, which had a tariff, to tuna in water, which had a very low tariff. It was one of those tipping points. But the graph is a little misleading—during the 80s you also had the Magnuson Act. We'd go to these workshops during the early 70s on the Capital Construction Fund and federal loan-guarantee programs because our government wanted to raise U.S. capability, and they did!

By the late 70s, there were joint ventures with the Russians, big improvements in midwater trawl technology, increasingly effective electronics; the Americans learned pretty quickly. They found things like widow rockfish that they had never fished previously. They'd seen big blips [indicating schools of fish on their sonar], but didn't know what they were. Finally they developed the technology so they could move a midwater net accurately through the water, and pretty soon they were catching thousands of pounds a day. The decks were just awash in widow rockfish. That couldn't be sustained.

PN: Things clearly haven't looked all that good since.

Christy and Chris Dewees at Auckland Museum in New Zealand.
Credit: A. Golder.

CD: No, technology clearly was really tough on the schooling rockfish, so that's part of the decline. And then I don't know if you can measure decline due to the loss of coastal habitat.

PN: That would be a tough one.

CD: Decline due to loss of coastal habitat may not equate with a lot of poundage, but most of those populations probably weren't huge to begin with—California halibut, the nearshore basses [Paralabrax spp, e.g., kelp bass], salmon's use of the estuaries ... habitat loss probably makes the salmon fishery even more variable from year to year.

PN: I would imagine that those habitat losses were also influential in the associated loss in the prey base—there was a trickle-down effect.

CD: Yeah, right, I mean San Francisco Bay has changed so much in the last 40 years ... productivity of the delta is way down. That has to affect the fish that use San Francisco Bay as a nursery: surfperch, flatfish, Dungeness crab, herring or whatever.

PN: So the obvious question is what does the future hold for commercial fisheries in California?

CD: Well, with my retirement, maybe it'll turn around. Maybe you can undo all the things I tried to do!

PN: We're working at it!

CD: Working at it! OK. Great ... MPAs!

Probably the only way commercial fishermen can survive is to fish for dollars. Some fishermen are definitely realizing that. The groundfish fishermen, (many of them) are pushing for the ITQs [individual transferable quotas], but it's hard to tell what's going to happen. Depends on whether you want the fisheries to be made up of a lot of small boat-type fisheries or bigger, industrial units.

Ecosystem-based management [EBM] is certainly changing how people look at fisheries. Whether they can actually pull EBM off, I don't know.

There isn't the political will to define a coherent goal, state how we'd like to see things look, much less develop a strategy—perhaps quite painful—for getting there. When you look at a graph like Figure 1, it indicates that there's a problem, but we're not willing to jump in there and take the big risks necessary to fix things.

PN: They still want their tuna salad sandwich, but ...

CD: As long as it's someone else's tuna!