

ODYSSEY



CENCAL DIVE COUNCIL NEWSLETTER WINTER 2025

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CALIFORNIA DIVING & AQUATIC STUDIES SCHOLARSHIP

To promote a better understanding of the environment we so love to explore, the *Central California Council of Diving Clubs*, Cen Cal, is offering our annual *California Diving & Aquatic Studies Scholarship*. Once again, for 2025, we are planning to award \$2,000 to support a student engaging in studies of underwater habitats. Aquatic related programs in the disciplines of biology, physical sciences, marine education, maritime archaeology, historical and social aspects of marine resources or the science of diving are relevant for consideration. ***We must, however, enter a caveat that due to our limited funding, should more than one outstanding candidate be identified we would have to divide the \$2000 award between them.*** More information is on the CenCal website cencal.org



SEA STARS BACK IN THE SPOTLIGHT

Experiments underway to breed the vanishing creatures in Bay Area labs

By Grant Stringer

For the last decade, California's offshore seafloors have been missing a massive, colorful predator that keeps kelp-munching sea urchins in check.

The sunflower sea star is a big starfish — 3+ feet across — roaming the ocean floor in orange, yellow and purple. These invertebrates can grow more than 24 arms and impressively fast, carried across the seabed by thousands of noodle-like tube feet.

In 2013, a mysterious disease nearly wiped out sunflower sea stars, armies of purple sea urchins devoured almost all of Northern California's iconic kelp forests. But, sunflower stars may once again dot the seabed, thanks to pioneering projects to grow them in labs across California, including several in the Bay Area and Monterey County.

In a closed exhibit, behind a locked door at the *California Academy of Sciences* San Francisco, biologist Riah Evin has raised 137 sunflower stars in salt-water jars/tubs. The starfish will eventually be available for the public to see in an exhibit, offering sightings of a fascinating predator now virtually extinct on the California coast.

More important is their scientific value. Researchers in this lab and others are rearing sunflower stars from infancy as part of an international effort to conserve and study them, boosted by an \$18 million grant this year from NOAA, *National Oceanic and Atmospheric Administration*. In 2020, the sea stars were deemed critically endangered globally. A conservation roadmap two years later called for more labs to raise and protect them and allowing them be released back into the Pacific Ocean.

Roughly 6 billion sunflower stars have died in their range from Baja California to Alaska since 2013, due to an ailment known as sea star wasting disease. In their absence, purple urchins surged in population and chewed through entire undersea forests of bull kelp, which are the foundation for a rich marine ecosystem. Scientists estimate that 96% of Northern California's kelp forests have vanished since then.

These underwater "redwoods of the ocean" are swaying habitats for all manner of marine life, from rockfish to abalone.



HOW CALIFORNIA'S ONLY IN-OCEAN ABALONE FARM WORKS

Co-owners Art Seavey and Trevor Fay are hands-on in every phase of the cultivation and harvest on a daily basis. Their operating goal is to duplicate the abalone's natural environment of growth in the ocean, so they arrive at the table as natural seafood of the highest quality.

Eco-farming in the Monterey Bay

Their custom cultivation system uses cages suspended in the water column from beneath the Commercial Wharf in Monterey Bay to produce virtually natural abalone habitats. The farm is fully compatible with the local marine environment and resources.

They start with “seed” abalone from hatcheries; the seeds are only about an inch in shell length and weigh just a fraction of an ounce. As the abalone grow, the number of abalone per habitat is reduced to maintain desired growth rates. The fastest growing abalone are selected for grow out to the largest sizes. California red abalone can grow as fast as inch per year under optimal conditions. It takes about four years to grow the abalone to market size; at 3 ½ inches in shell length and weigh a quarter-pound live weight.

Feeding Our Abalone

The abalone are fed fresh, hand-harvested giant kelp (*Macrocystis*). The kelp is harvested each week from the local kelp beds and is transported in the company's skiff directly to the farm and then fed to the abalone.

Giant kelp is one of the fastest growing plants on earth. Fronds have been measured to grow as much as 3 feet per day under ideal conditions. In this region kelp grows about 14-18 inches per day. Kelp is abundant along the rocky coast of the Monterey Peninsula, particularly in the spring, summer and fall. During the winter, storms and less favorable growing conditions make the kelp canopy less abundant. The Monterey Abalone Company and other local kelp harvesters coordinate through the Monterey Kelp Cooperative to ensure that harvests are sustainable and that other uses of this vital natural resource are not impaired.

The Wharf Owned by the City of Monterey, the Commercial Wharf was constructed in 1926 and its location provides for strong tidal action and

surge, creating good water quality for abalone farming. The configuration of the wharf benefits the farm by shading the abalone growing under it. It also provides superior access to the abalone, electricity to power lighting and equipment, and protection for our farm's workers from the elements.

Prior to the arrival of the Monterey Abalone Company, the area below the wharf had never been utilized. Now it is an innovative, successful, environmentally-sound work space in a stimulating marine environment that contributes to the local economy, while producing some of the finest abalone for resorts, restaurants and individuals across the United States.



118th Congress (2023 -2024) Second Session

During the 118th Congress more than 483 Bills were introduced in the House of Representatives(H.R.) and the Senate (S.), that dealt with ocean management.

The Bills addressed the following topics:

Acidification	Energy production and pipeline safety
Antidumping, plastic waste	West Coast protection
Arctic drilling	Trawling
Blue Energy	Southern California Coast protection
Bycatch vessels	Renewable Fuel for Ocean-going
Chesapeake Bay	Marine mammals
Climate impacts on regional coastal and ocean communities	
Endangered species	Energy production and pipeline safety
Fisherman, fisheries, salmon, sharks, finfish, red snapper	
Great Lakes mapping	North Pacific Ocean protection

H.R. 2741. DEMA supports the **DIVE BOAT Act**, Don't Imperil Vessel Employees, Business Owners, and Tourism Act. The bill would provide insurance relief for liability claims. The amendment is part of the Coast Guard Authorization Act of 2023, H.R. 2741. No laws passed



CDFW INTRODUCES WEB-BASED ANGLER SURVEY PLATFORM TO COLLECT AND SHARE SPORT FISHING DATA AND IMPROVE FISHING EXPERIENCES

The California Department of Fish and Wildlife (CDFW) is excited to announce a web-based platform called the *California Inland Recreational Angler Survey*, or *CIRAS*, providing the public with helpful fishing information driven by data submitted by anglers. [CIRAS.wildlife.ca.gov](https://www.wildlife.ca.gov/CIRAS).

CIRAS is powered by anglers for anglers. It allows anglers to submit data regarding their fishing trips and provides immediate access to aggregated sport fishing data through an interactive “Ready to Fish” dashboard.

CIRAS exponentially expands the reach of CDFW’s Angler Survey Boxes (ASB), a network of more than 200 metal angler survey boxes.

The web platform debuts its first phase within CDFW’s [North Central Region](#), later to be expanded statewide. CDFW’s North Central Region encompasses all or parts of 17 counties, including Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lake, Nevada, Placer, Plumas, Sacramento (east of Interstate 5), San Joaquin, Sierra, Sutter, Yolo (north of Interstate 80), and Yuba

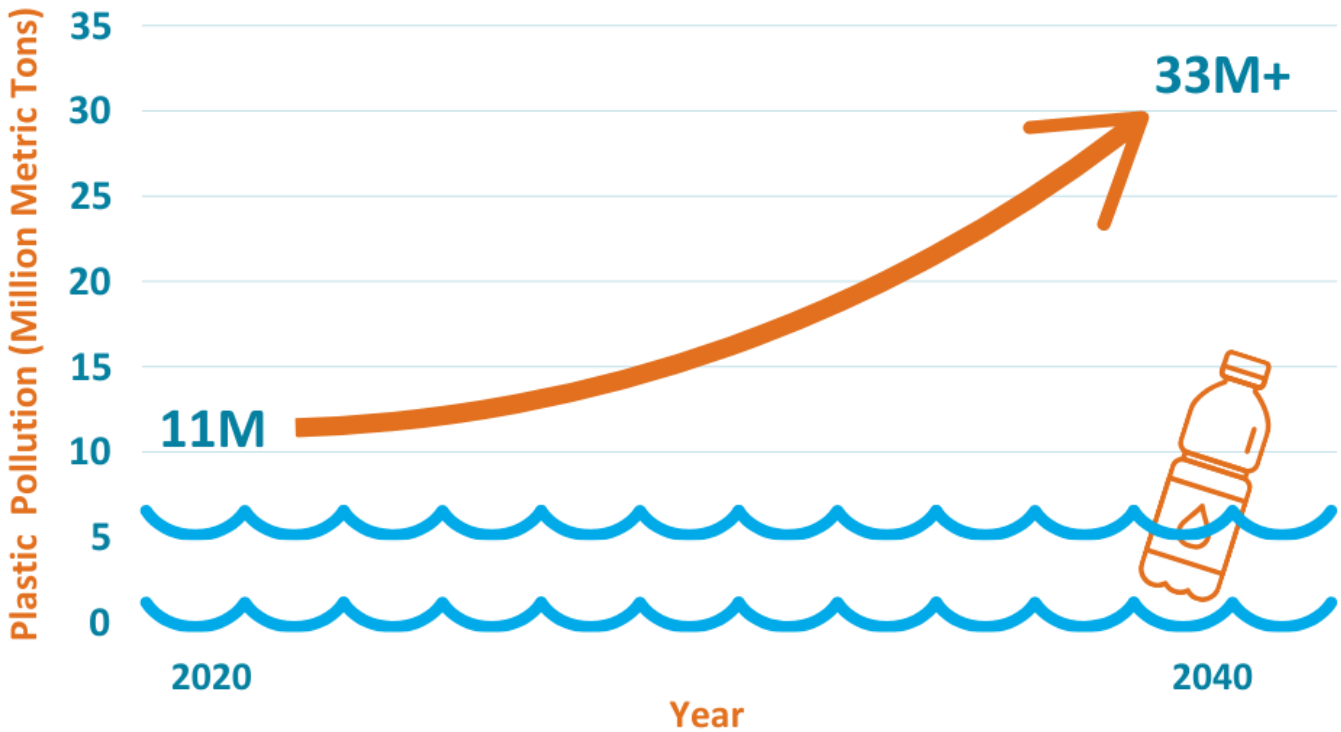
CDFW uses fishing survey data submitted by anglers to inform management actions to protect fisheries and improve angling opportunities. The surveys collect data directly from anglers about the fish they catch (or don’t catch). Data collected from angler surveys can include the species of fish caught, general fishing location, and overall angling experience from a single fishing trip. This information can also serve as an alert for CDFW scientists.

Questions and comments: CIRAS@wildlife.ca.gov.



PLASTIC POLLUTION

Plastics are a constant presence in Californians' daily lives and our environment. Globally, as much as **11 million metric tons of plastic enter the ocean annually**, expected to **triple by 2040** without significant intervention. Plastics are recognized worldwide as the most harmful and persistent component of marine litter, 85% of total marine waste. Over time, plastics in aquatic environments break down into smaller fragments, including microplastics—pieces less than 5 millimeters in size. Microplastics can now be found in every part of our environment and lives



To learn more about how California is addressing plastic pollution, explore the [Statewide Microplastics Strategy](#) and the [California Ocean Litter Prevention Strategy](#). Visit OPC's [Plastic Pollution webpage](#) to discover how we're tackling the issue and protecting California's people and ecosystems.



DIVING and/or SPEARFISHING HISTORY 1950 - 2025

GENERAL: CenCal and/or USOA or CMAS did not exist in 1950. All came into existence in 1959. Looking at CenCal newsletters for 1969, I found there were 52 member clubs; still existing are Aqua Tutus, UPS, Humboldt Divers, Marin Divers, San Jose Flipper Dippers and Alacosta.

NATIONALS: For the first 8-10 years of Skin Spear Nationals (1950-1959), the event was under the auspices of AAU – *Amateur Athletic Union*. By 1960, AAU had divorced skindiving spearfishing from their list of official sports, and USOA took over the entire competitive program. At the time, CenCal Dive Council was not a member of USOA and had decided not to join USOA. (*Cen-Cal Bulletin* January 1, 1960 page 1)

CENCAL: By 1963, CenCal had become *The Central California Council of Diving Clubs, Inc.* It held 4 skin spear meets a year. It also planned a perpetual trophy for the top woman diver using the same basis as the existing mens trophy. Ten women competed in the 1963 year, 90 men competed. For long timer spearfishers, there are a few recognizable names in the Top Ten 1963: Don Barthman, Bob McGuire, Roger Chung, Bob Steele, Ralph Tiemann.



**HERE'S HOW CALIFORNIA CAN CONSERVE 30% OF
OUR
LANDS AND COASTAL WATERS BY 2030**

“As of 2024, California has protected 25.2% of our lands and 16.2% of our coastal waters... Collectively, these efforts are the result of collaboration among government leaders, agency representatives, nonprofits, Tribes, and community members.



DURING THE DECEMBER OPC MEETING, THE COUNCIL UNANIMOUSLY APPROVED SEVERAL SIGNIFICANT ACTION ITEMS SUPPORTING OPC’S STRATEGIC GOALS:

Adaptive Management and Resilience of Kelp Forests:

Up to \$775,000 to support adaptative management and resilience of kelp forests through the following projects:

- Up to \$250,000 to Woods Hole Oceanographic Institution to assess the impact of commercial and recreational harvest on giant and bull kelp in California.
- Up to \$525,000 to the University of California, Santa Cruz to inform climate-resilient restoration by strategically mapping giant and bull kelp genomic diversity in California

Senate Bill 1 Sea Level Rise Adaptation Planning Grant Program:

Up to \$3,521,568 to four local, regional, and tribal governments ranging from Del Norte and Humboldt Counties to Los Angeles County to support sea level rise adaptation planning projects under the SB 1 Grant Program.



THE KLAMATH DAM FINALE: LARGEST RIVER RESTORATION PROJECT IN THE NATION OFFICIALLY COMPLETED AS SALMON RETURN

The largest river restoration project in U.S. American history was [officially completed](#) ahead of schedule and on budget this fall. Now work continues to restore formerly submerged lands as salmon make a [historic comeback in the north state](#), returning sooner than expected

2024 BY THE NUMBERS

- **861,000** : acres of additional land conserved, counted, and added
- **27 tons** : of purple urchin harvested to support kelp restoration
- **\$23 million** : distributed to plan and prepare for rising sea levels



COASTAL HABITAT CONSERVATION ACT HAS PASSED

This act will authorize the United States Fish and Wildlife Service's Coastal Program in perpetuity and provide consistent funding for coastal habitats. With increasing pressures from sea level rise, extreme storm events, land development, pollution and habitat fragmentation, this program is more important than ever.

Coastal habitats—like salt marshes, mangrove forests, wetlands and seagrass meadows—provide homes for fish, shellfish, birds and other animals. They also play a critical role in buffering storm surges, minimizing sea level rise, and preventing flooding and coastal erosion



PUBLIC TOURS OF BODEGA MARINE LABORATORY

When: Fridays from 2-4pm

Where: 2099 Westshore Road, Bodega Bay

Reserve your spot for a free docent-led tour of the Bodega Marine Laboratory and learn about the ongoing marine and coastal science research at the lab and its history on the Sonoma Coast. Plus, meet a variety of colorful and diverse ocean creatures.



UPDATED OCEAN SPORT FISHING REGULATIONS

The California Department of Fish and Wildlife (CDFW) has updated its [California Ocean Sport Fishing Regulations guide](#) (PDF), and encourages anglers and all outdoor enthusiasts coastwide to download and review the January 22, 2025 version.

The updated guide is now available on the CDFW [Fishing Regulations web page](#), in the CDFW [License App](#), and on the CDFW Marine Region's

comprehensive [Ocean Sport Fishing web page](#). Regulation changes and updates include the following:

- When filleted at sea, **lingcod** fillets must retain all of the skin on each fillet (not just a small patch of skin). (CCR T14 §27.65(b)(3))
 - When filleted at sea, **California scorpionfish (sculpin)** fillets can be of any size, and must retain all of the skin on each fillet (not just a small patch of skin). (CCR T14 §27.65(b)(9))
 - When filleted at sea, **kelp greenling and rock greenling** fillets must retain all of the skin on each fillet. (CCR T14 §27.65(b)(8))
 - The minimum size limits for **cabezon, California scorpionfish (sculpin), kelp greenling, and rock greenling** have been eliminated. There are no minimum size limits for these species. (CCR T14 §28.28(c), §28.29(c), and §28.54(c))
- The regulation summary tables beginning on page 45 in the guide



OPC The Ocean Protection Council is a Cabinet-level state body.

Beach Water Quality

Ensuring safe and enjoyable public access to California's beaches depends on maintaining clean waters. Unfortunately, poor water quality, including contamination by pathogens like fecal pollution, puts millions of California beachgoers at potential health risk each year.

During the high visitor summer season, fewer than 20 California beaches account for half of all areas where bacteria levels exceed safe limits statewide. In 2022-2023, beaches with the most exceedances were in San Mateo, Orange, San Francisco, and San Diego counties.

OPC continues to prioritize water quality improvement, public health, and access at all California beaches. Learn more about beach water quality in the **2023 California State of the Coast and Ocean Report** and watch for the 2025 release of the first **California Coast and Ocean Report Card** for updated data. To explore what OPC is doing to address water quality, visit our **Water Quality webpage**.



RISING TO THE CHALLENGE: COASTAL RESILIENCE IN THE FACE OF SEA LEVEL RISE

As winter approaches, California prepares for storms and higher tides, a reminder of the ocean's immense power and need for action along the coast. This December, King Tides (December 13-15, 2024) will provide a glimpse into the future – a preview of what higher sea levels may look like in our everyday lives even when extreme weather events are not occurring. The Ocean Protection Council (OPC) is leading efforts to ensure our ecosystems and communities are resilient for decades to come.



COASTAL RESILIENCE: A DYNAMIC APPROACH

Resilience isn't static. As sea levels rise, the risks of flooding increase significantly. Beaches erode, roads become impassable, and homes are threatened. Resilience means addressing these challenges head-on by integrating the best available science, planning, and community collaboration – and continuing to adapt as conditions change.

STATE OF CALIFORNIA SEA LEVEL RISE GUIDANCE: 2024 SCIENCE AND POLICY UPDATE,

developed and adopted by OPC, is a key resource as California coastal communities confront the growing challenges of sea level rise. By offering updated sea level rise scenarios and a precautionary approach, the guidance helps local governments and stakeholders plan for the future by making informed decisions about adapting to accelerating impacts of sea level rise.

NATURE AS A PARTNER IN PROTECTION

California's 1,100 miles of coastline face unique risks from sea level rise, but also offers unparalleled opportunities for innovation, such as working with natural processes rather than against them. Coastal wetlands and dunes, for

instance, serve as natural buffers, absorbing wave energy and reducing the impact of rising tides. Wetland restoration projects along California's coastline combat erosion and also provide essential flood protection.

BEYOND THE WAVES

California's coastline is more than a boundary – it's a source of life, inspiration, and connection. The rising tides remind us of what we stand to lose, but they also call us to action. Through science, policy, and collaboration, OPC is working to safeguard this invaluable resource for future generations.

Higher tides are coming, and with them, a chance to reflect on our shared responsibility to protect the coast. This winter, let's look beyond the waves to the work being done—and the work still needed—to create a future where California's coast remains resilient, vibrant, and thriving.



CALENDAR 2025

February

- | | |
|---------------|----------------------------------|
| Feb 2 | Ground Hog Day |
| Feb 12-13 | Cal Dept Fish & Wildlife Meeting |
| Feb 14 | Valentine's Day |
| <i>Feb 17</i> | <i>Presidents Day Holiday</i> |

March

- | | |
|-------------|-------------------------------------|
| March 1 | First Night Ramadan |
| March 5 | Ash Wednesday |
| March 8-9 | Orange Cnty Cup UW Hockey Irvine CA |
| March 9 | Daylight Savings |
| March 13 | Marine Resources Comm Meeting |
| March 15-16 | Boston Sea Rovers Dive Show |

March 15-16 UW Rugby Tournament – Boston
March 15-16 UW Hockey Tourn of Universe Key Largo FL
March 17 St Pats Day
March 26 CenCal Meeting
March 28-30 Beneath the Sea Dive Show
March 30 Ramadan Ends

April

April 5 Eugene Potluck UW Hockey Eugene OR
April 9 Skin Spearfishing Comm & Rules Meeting
April 11 Skin Spear Nationals Lake Pleasant AZ
April 12 Victoria Potluck UW Hockey Victoria BC
April 13 Palm Sunday
April 18 Good Friday
Paul Revere Ride
April 20 Easter
Orthodox Easter
Passover Ends
April 22 Earth Day
April 26-27 Lucky Florida Cup, UW Hockey, Orlando FL

May

May 4 May the Fourth Be With You
May 5 Cinco de Mayo
May 11 Mothers Day
May 17-18 NW Club Cup UW Hockey St Helenes OR
May 23-25 Fin Swimming World Cup Coral Springs FL
May 26 Memorial Day

May 28 ***CenCal Meeting***

May 31-June 1 Scuba Show, Long Beach

June

June 7-8 **UW Rugby Nationals, Newark NJ**

June 8 Oceans Day

June 14 Flag Day

June 15 Fathers Day

June 19 Cal Dept Fish & Wildlife Meeting

June 20-22 **UW Hockey Nat Championships Denver**

July

July 4 *Independence Day*

July 14 Marine Resources Committee Meeting

July 30 *CenCal Meeting - 5th Wednesday*

August

August 2-3 Portland 3v3 UW Hockey Portland OR

August 7+ **World Games/Fin Swimming, Colombia**

August 15-20 **Americas Qualifier UW Hockey, Colombia**

September

Sept 1 *Labor Day*

Sept 23 Rosh Hashanah

Sept 24 ***CenCal Meeting***

October

Oct 2 Yom Kippur

Oct 4 USOA Annual Membership Meeting – Virtual

Oct 13 *Indigenous People Day*

November

Nov 2 Daylight Off
Nov 11 Election Day
Nov 6 Marine Resources Comm Meeting
Nov 11 Veterans Day
Nov 11-14 DEMA – Orlando FL
Nov 21-24 Skindiving Spear Worlds Brazil
Nov 26 Move CenCal Meeting Move to December 3
Nov 27 Thanksgiving Day

December

Dec 3 CenCal Meeting
Dec 7 Pearl Harbor Day
Dec 11 Cal Dept Fish & Wildlife Commission Meeting
Dec 15 Hanukkah
Dec 25 Christmas Day
Dec 26 Kwanzaa Begins