



## NOAA FISHERIES

### Focal Ecosystems

- California Current
- Eastern Tropical Pacific
- Antarctic

### Key Species Groups

- Sardine, anchovy and other forage fishes
- Krill
- California Salmonids
- Tunas, sharks and billfishes
- Whales, dolphins and porpoises
- California groundfish
- Abalone
- Penguins
- Seals and sea lions
- Marine turtles



## Southwest Fisheries Science Center

NOAA's Southwest Fisheries Science Center (SWFSC) generates the scientific information needed to manage and conserve living resources in the California Current, the eastern tropical Pacific Ocean, The North Pacific Ocean and the Antarctic.

### Strengths

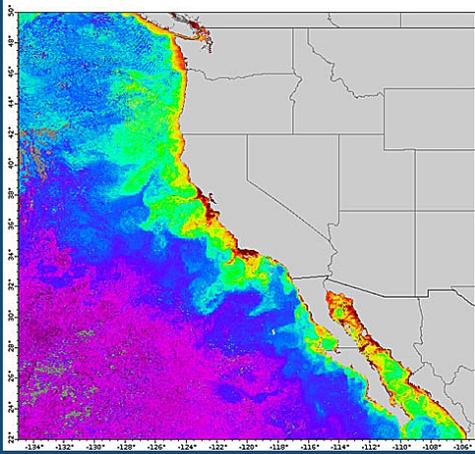
- World-class expertise in advancing stock assessments to manage fisheries and protect endangered species
- Domestic and international leadership in developing new paradigms for ecosystem-based fisheries management, recovering endangered species and managing fishes in the global ocean commons
- Expertise in international fishery science of transboundary species
- Socio-economic expertise for supporting resilient fisheries and economics and conserving endangered species
- Innovating optical, acoustic, telemetry, and genetic technologies to address emerging conservation and fisheries issues
- Providing climate, ecosystem and species data for science-based policy decisions
- Collaborative relationships with fishing industry and universities to support resilient fisheries and next-generation scientists
- Educating and training of the next generation of marine resource scientists



Southwest Fisheries Science Center, NOAA Fisheries Service

### What Makes Us Unique

- NOAA's longest time series of surveys and largest-scale ecosystem surveys in temperate, tropical and polar systems
- Expertise in assessing and predicting the effects of climate and environmental variation on fish populations, protected species, and ecosystems for policy decisions
- World's largest marine fish, mammal and turtle tissue collections



## Advanced Technologies

- Passive and active acoustics
- Remotely operated vehicles
- Autonomous underwater vehicles
- Unmanned aerial surveys
- Photogrammetry
- Genetics and molecular biology
- Biotelemetry
- Modeling
- GIS
- Satellite imagery



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## What Makes Us Unique (cont'd)

- Acoustic and optic technology for more efficient and accurate fisheries, protected species and habitat assessments
- Expertise in assessing fish and mammal stocks with limited data and information
- Environmental data products on large spatial and temporal scales served on the web
- State-of-the-art genetic methods to aid in the recovery of endangered and threatened species
- The world's foremost large-sea and fresh-water test tank for developing technology to manage fisheries and conserve species
- Next generation models to predict relationships between climate, habitat, and species
- Incorporating ecosystem and environmental information into assessments
- Determining the role of forage species in the ecosystem and as food
- Determining the effects of dam removal or modification on salmon recovery
- Advancing assessment methods for commercial and protected species with limited data
- Developing sustainable aquaculture that limits impacts on natural systems
- Collaborative research with recreational fishers on the post-release survival of fish
- Assessing and mitigating anthropogenic impacts on marine mammals
- Determining sustainable levels of protected species bycatch
- Predicting marine mammal distribution and abundance using ecosystem data and advanced models
- Establishing large marine protected areas in Antarctica

### For more information:

Website: <http://swfsc.noaa.gov>

