

# Southwest Fisheries Science Center

## 2008 Internship Information

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### Introduction

Thank you for your interest in the internship program at Southwest Fisheries Science Center. Our program is geared towards motivated individuals with an interest in marine science, conservation and management. Ideally, we are looking for applicants that have some work experience or coursework related to marine or environmental science, but all individuals are encouraged to apply. Internships vary in scope and duration depending on current projects within the Protected Resources, Antarctic Ecosystem Research and Fisheries Resources Divisions at the La Jolla Laboratory. To apply for any of the projects listed below, please provide the following to Liz Zele at: [Liz.Zele@noaa.gov](mailto:Liz.Zele@noaa.gov) or Siri Hakala at: [Siri.Hakala@noaa.gov](mailto:Siri.Hakala@noaa.gov).

- Completed 2008 SWFSC Internship Application
- Two letters of recommendation
- Resume or CV

All applications are due by **March 25, 2008**. Prospective interns will be scheduled for either an on-site or phone interview in early April and internships will start late spring to early summer. If you have any questions or require additional information, please contact Liz Zele at: [Liz.Zele@noaa.gov](mailto:Liz.Zele@noaa.gov).

Download the 2008 SWFSC Internship Application in [DOC/PDF](#) formats from the [SWFSC Education Website](#) (see Education at [swfsc.noaa.gov](http://swfsc.noaa.gov))

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### Available Internships

#### **Project I: Digitize spotted & spinner dolphin morphological records**

**Division:** Protected Resources Division

**Supervisor:** Liz Edwards

**Description:** A unique dataset consisting of various morphological measurements on spotted and spinner dolphins was collected during various necropsies in the 1980s. This internship consists of developing an Excel-spreadsheet data base form (or perhaps several), and transferring the written records for approximately forty dolphins, ranging in size from late fetus through adult. Upon completion of the database, involvement in a publication is a possibility.

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## Project 2: Marine Mammal Food Habitat Study

**Division:** Protected Resources Division  
**Supervisor:** Kerri Danil

**Description:** Intern wanted to assist in marine mammal food habit study. Project includes dissection of pinniped and cetacean stomachs and sorting of squid beaks and fish otoliths from these stomachs. Occasional field work possible, on an opportunistic basis, assisting with the necropsy of dead stranded marine mammals

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## Project 3: Assistance with Protected Resources Division Mapping Program

**Division:** Protected Resources Division  
**Supervisor:** Tim Gerrodette

**Description:** Locate files containing latitude and longitude positions of countries and cities. These positions are then incorporated in a mapping program for Protected Resources Division.

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## Project 4: Larval Lab Assistant

**Division:** Fisheries Resources Division  
**Supervisor:** Sherri Charter

**Description:** Opportunities for student internships as well as volunteer and paid positions (UCSD work-study) in the Larval Lab are available on a regular basis.

Ichthyoplankton are the eggs and larvae of fish found mainly in the upper 200 meters of the water column. It is important to study ichthyoplankton because the abundances of eggs and larvae of several species have been demonstrated to be good indicators of the transient spawning population size of the adults. Determining the abundance of eggs and larvae in an area is usually less expensive to do than sampling the adults. For species such as sardine and anchovy, egg and larval counts are a good indicator of population size. Thus, we can use the egg and larval data as a way to monitor trends in population abundance of the adults. We are able to tell when populations are declining, often more rapidly than we could if we were just monitoring adults.

For species that aren't captured by a fishery, monitoring their population trends by monitoring their eggs or larvae can provide an indication of a healthy or stressed ecosystem. It is unlikely that we would have an idea of the abundance, growth or decrease of these species in any other way.

The FRD Ichthyoplankton Collection Archive is the most continuous, and one of the best kept archives of ichthyoplankton in the world. The archive contains roughly half a million vials, with samples dating from 1933 collected by Stanford researchers conducting early work on sardines. The majority of the samples are from the Fisheries Resources Division's CalCOFI cruises, which began in 1949. The amount of information contained in the archive could support literally hundreds of Ph.D. projects. The collection archive is maintained and curated on site at SWFSC. Samples are kept in vials with special polyseal cone caps. Every sample is routinely checked and preservative is added or exchanged if needed.

Students can choose among a variety of projects, including:

- \* Learning the systematics of fishes
- \* Learning various ichthyoplankton sample analyses
- \* Learning how to curate the Collection Archive

We accept currently enrolled high school and college students. Some knowledge of biology and willingness to learn many different things is helpful. Skills that would be useful include manipulation of organisms with dissecting equipment under a microscope and computers.

We ask students to work a minimum of one month, at least 15 hours a week. Depending on the project and the student's goals, however, some positions are available for several years.