

The REEF Process

- Come to REEF Fish/Invertebrate ID class
- Optional, but highly recommended REEF survey kit (\$25)
 - » includes 1-year membership to SDOF



- Conduct surveys
- Record data online



You will learn how to...

- Complete a “roving diver” survey
- Conduct underwater observations
 - Properly record & submit data
- Identify many fish species important to San Diego

The Roving Diver Method

Go diving ... and don't forget your survey slate!

- Actively seek out marine life during your dive
- Record species and relative abundance
- Keep survey under a 300 ft (100 m) radius
 - Observe open water species while descending
 - Near the bottom - slowly search for fish
 - Keep a rough count of the number of each species you see
 - Record only positively identified species!

Ranking:

Single = 1; Few = 2-10; Many = 11-100; Abundant = 100 + or 'Present'

Survey Type



Species and Abundance

» Provides picture of population fluctuations

* Submit one survey per dive



Ranking:

Single = 1

Few = 2-10

Many = 11-100

Abundant = 100 +

Present (no estimate required)

Don't stress ... this is FUN!

- Surveying should be an enjoyable addition to your dive
 - Don't get frustrated!
- The more you dive, the more fish you'll be able to identify

EVERY BIT HELPS!

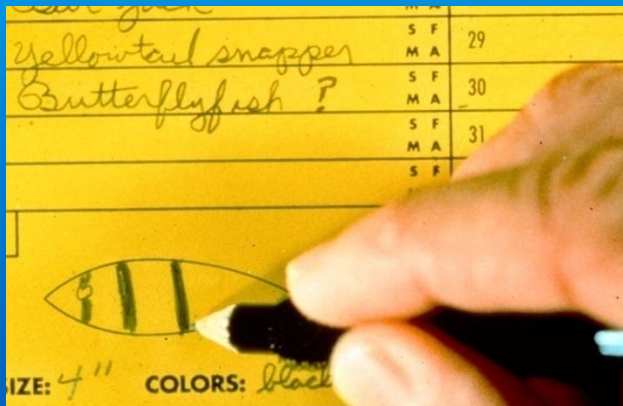


What's THAT?!

If you can't POSITIVELY identify a fish



- » Don't count it!
- » Sketch a picture on your slate
- » Check your reference card after the dive
- » Don't guess or try to "fit" it into an existing category



Entering Data Online

- Go to www.reef.org
- Under “Database” click “Submit Data Online”
(For your first time logging on, click “New Member” and complete the registration form)
 - » NOTE: Your SDOF member number
and REEF numbers are DIFFERENT
- Log into the REEF database


- Enter your 5-digit REEF number
- Enter your last name

REEF Fish Survey - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://www.reef.org/dataentry/login.php>



Welcome REEF Fish Survey

This online form can be used to enter survey data collected from any REEF region, including Hawaii, the Pacific, the Tropical Eastern Pacific (coming soon), and the Tropical Western Atlantic. **Please note that data entered online will not be loaded into the REEF database immediately.**

First time submitting a REEF survey online? Click [here](#) to view information and instructions.

You must have a REEF member number to use this form. If you are not a member yet or you have lost your member number, please use the links below to receive a new number or retrieve your existing number. You can also contact REEF at reefhq@reef.org or 305-852-0030 to receive your member number.

[New Member](#) [Lost ID Number](#)

Please enter Your Member ID and Last Name below.

Member ID	<input type="text" value="99999"/>
Last Name	<input type="text" value="Gruenhagen"/>

Inter


Verify 'Member Demographics' and click 'NEXT'...

REEF Fish Survey - Microsoft Internet Explorer

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Address <http://www.reef.org/dataentry/demographics.php>



Tropical Western Atlantic
REEF Fish Survey
Online Data Entry Form

THE REEF ENVIRONMENTAL EDUCATION FOUNDATION

Member Demographics

Our records indicate your name and address is: Herb Gruenhagen
11038 Barbados Way
San Diego, CA, 92126
US

hgruenha@nethere.com

Is this address information correct?

Yes

No * Please provide any corrections below:

NEXT

[REEF HOME](#) | [ABOUT REEF](#) | [DATA](#) | [MEMBER SERVICES](#) | [WEB RESOURCES](#) | [SEARCH](#)

Done Internet

start | Internet Explorer | Microsoft PowerPoint

Volunteer Survey Project

Online Data Entry

REEF

An active organization of divers and marine enthusiasts committed to ocean conservation



- Survey Type California
- Date
- Dive Start
- Geographic Zone Code
 - » Search within box to the left
 - » Look it up beforehand under “Database – Geographic Zone Codes”

SURVEY TYPE

Select the type of survey taken:

Tropical Western Atlantic (TWA)

Species & Abundance * Species Only **

Pacific Northwest (PAC)

Fish Only † Invertebrates Only †† Fish & Invertebrates †††

California (PAC)

Fish Only † Invertebrates Only †† Fish & Invertebrates †††

Hawaii (HAW)

Species & Abundance * Species Only **

* A **Species & Abundance (S&A)** survey is taken on a single dive and records the species positively identified as well as their abundance.

** A **Species Only (S)** survey is taken over multiple dives and indicates which species were positively identified (by marking the **Single (S)** response for these species).

† A **Fish Only (F)** survey records the presence and relative abundance of all positively identified fish species seen during a dive.

†† An **Invertebrate Only (I)** survey records the presence and relative abundance of all positive identified species seen during a dive from a set list of invertebrate and algae species, which varies by region (California, Pacific Northwest - see <http://www.reef.org/data/pac/invertsp.htm> for details).

††† A **Fish & Invertebrate (F&I)** survey records the presence and relative abundance of all fish species and specific invertebrates and algae species that are positively identified during a dive.

DATE OF SURVEY

Select the date of the survey. If you are entering a Species Only survey and the survey spanned multiple days, then enter the date of the first dive.

January - 16 - 2008

DIVE START

Select the time at the start of the dive to the nearest hour.

7 a.m.

GEOGRAPHIC ZONE CODE

California Refine Search: La Jolla

Enter a search term in the field above to find the geographic zone code of your dive site. Search results will appear on the left side of the page.

Enter the 8-digit code in the field below.

Click on + to select a zone code.
Click on a site name to see a map.

- + 41010001 St George Reef Lighth
- + 41070001 Mendicino Headlands
- + 41070002 Russian Gulch State P
- + 41080101 Salt Point
- + 41080102 Gerstle Cove
- + 41080103 Still Water Cove
- + 41080104 Casper Cove (between
- + 41110001 Ruby Tuesday - Fanny
- + 41110002 Noonday Rock - Fanny
- + 41110003 Alan's High Spot - Fan
- + 41110004 Fair to Middling - Mid

- Navigational Coordinates (if known)
- Temperature
- Bottom time
- Visibility
- Average Depth
- Current
- Habitat

REEF Fish Survey - Microsoft Internet Explorer

Address: <http://www.reef.org/dataentry/surveydetails.php>

NAVIGATIONAL COORDINATES

Fill in this section if you can determine the exact longitude and latitude to the minute and to the hundredth of a minute. The correct format is DD MM.MMM, for Degrees and Minutes less than 10 please add a zero (e.g. 09). *Please do not use LORAN coordinates.*

Latitude

North Degree Degree
 South Minutes Minutes
 1 / 100 Minute 1 / 100 Minute

Longitude

Degree Degree
 Minutes Minutes
 1 / 100 Minute 1 / 100 Minute

TEMPERATURE

If you have a thermometer, record the water temperature at the surface and near the bottom.

Surface *Fahrenheit *Celsius
 Bottom

BOTTOM TIME

Fill in the total number of minutes spent surveying. For an S Survey, fill in the total number of minutes of bottom time for all the dives made during this survey.

Minutes

VISIBILITY

Select the estimated or measured horizontal visibility where most of the survey was taken.

under 10' 50' - 74' 100' - 149'
 10' - 24' 75' - 99' over 149'
 25' - 49'

Done

start

REEF Fish Survey - Microsoft Internet Explorer

Address: <http://www.reef.org/dataentry/surveydetails.php>

AVERAGE DEPTH

Fill in the depth range where most of the survey was taken. *For surveys conducting in the PAC region, please report MAXIMUM depth range surveyed.

Snorkel 40' - 49' 90' - 99'
 under 10' 50' - 59' 100' - 109'
 10' - 19' 60' - 69' 110' - 119'
 20' - 29' 70' - 79' 120' - 129'
 30' - 39' 80' - 89'

CURRENT

Fill in the current encountered.

Strong Weak None

Strong indicates a current that is difficult to swim against.
Weak indicates a noticeable current, but one that does not seriously affect your dive;
None indicates slight or no current.

HABITAT

Fill in the habitat over which a majority of the dive was made:

Kelp Forest Rock/Shale Reef Artificial Reef
 Sandy Bottom Open Ocean Eel Grass Bed
 Surf Grass Bed Pinnacle Bull Kelp
 Mud/Silt Bottom Cobblestone/Boulder Field Wall

Kelp Forest consists of giant strands of brown kelp (*Macrocystis pyrifera*) growing from a rocky substrate.
Rock/Shale Reef are where a rocky or shale-like substrate protrudes from the sea floor by no more than 10 feet.
Artificial Reef includes ship wrecks, platforms, dumped debris or other artificially created habitats.
Sandy Bottom is where no vegetation or rocks occur, just sand.
Open Ocean is away from the reef in deep water where the bottom is not visible.
Eel Grass Bed (*Zostera sp.*) are calm water areas composed of sand and eel grass.
Surf Grass Bed (*Thalassia sp.*) are found at the edge of kelp forests or rocky reef areas near shore and are typically associated with high wave energy.
Pinnacle is a large rock or group of rocks that starts in deep water and protrudes toward

Optional:
Add additional
species not on
master list
(fish only)

Search for:

Display Results

Common Name

Scientific Name

Family Name

Click on a species to select the species.

Species ID	CommonName	ScientificName	Family
201	Albacore	<i>Thunnus alalunga</i>	Mackerel
202	Almaco Jack	<i>Seriola rivoliana</i>	Jack
088	Angel Shark	<i>Squatina californica</i>	Angel Shark
355	Arrow Goby	<i>Clevelandia ios</i>	Goby
203	Bald Sculpin	<i>Clinocottus recalvus</i>	Sculpin
204	Balloonfish	<i>Diodon holocanthus</i>	Puffer
205	Banded Guitarfish	<i>Zapteryx exasperata</i>	Guitarfish
206	Barcheek Pipefish	<i>Syngnathus exilis</i>	Pipefish & Seahorse
207	Barred Pipefish	<i>Syngnathus auliscus</i>	Pipefish & Seahorse
113	Barred Surfperch	<i>Amphistichus argenteus</i>	Surfperch

Error checking feature lets you know if something may be misidentified

» Only record POSITIVELY identified species!

Our Error Checking has flagged one or more of your sightings.

REMEMBER THAT ALL SPECIES MUST BE POSITIVELY IDENTIFIED! Are you **SURE** you saw these fishes? They are either new records for the area or have been reported in less than 1% of surveys from the location. Please confirm below.

Species	Response	Confirm	Clear
Blacksmith (<i>Chromis punctipinnis</i>)	Single (1)	<input checked="" type="radio"/>	<input type="radio"/>
California Halibut (<i>Paralichthys californicus</i>)	Few (2-10)	<input checked="" type="radio"/>	<input type="radio"/>
Unidentified Flatfish ()	Single (1)	<input checked="" type="radio"/>	<input type="radio"/>

[VIEW SUMMARY PAGE](#)
[REEF HOME](#)

Summary page lets you check entries...

- Submit

Thank you for entering your REEF Fish Survey using our online data entry interface. Please review the summary below and verify that everything is correct. If it is, click on the "SUBMIT" button. If you would like, you can logout now and come back later to submit.

Please note that once you chose "SUBMIT", you will not be able to modify your responses. Also note that the survey data will be reviewed by REEF data management staff and will not be immediately added to the database.

Online Submission Form Number: 5012579i

Survey type: Fish Only
Survey Date: 2008-01-16
Dive start: 7 a.m.

Zone code: 41080104 (CALIFORNIA, S Point Arena - Salmon Creek, Casper Cove (between Salt Point and Gualala))

[Edit Details](#)

Bottom time: 60 minutes

[Edit Details](#)

Listed Species

DAMSELFISH

Blacksmith (*Chromis punctipinnis*) Single

FLATFISH

California Halibut (*Paralichthys californicus*) Few
Unidentified Flatfish () Single

GOBY

Blackeye Goby (*Coryphopterus nicholsi*) Many

[Edit Listed Species](#)

Unlisted Species

[Edit Unlisted Species](#)
