



## California Grunion Facts

California grunion (*Leuresthes tenuis*) are members of the New World silversides family, Atheriniopsidae, along with the jacksmelt and topsmelt. They normally occur from Point Conception, California, to Point Abreojos, Baja California. Occasionally, they are found farther north, to Monterey Bay, California, and south to San Juanico Bay, Baja California. They inhabit the nearshore waters from the surf to a depth of 60 ft. Tagging studies indicate that they do not migrate.

Grunion are the object of a unique recreational fishery. These fish are famous for their spawning behavior, which is so remarkable it evokes an "I don't believe it!" response from people hearing about it for the first time.

Grunion leave the water at night to spawn on beaches during the spring and summer months. For four consecutive nights, beginning on the nights of the full and new moons, spawning occurs after high tides and continues for several hours. As waves break on the beach, grunion swim as far up the slope as possible. The female arches her body and excavates the semi-fluid sand with her tail to create a nest. She twists her body and digs into the sand until she is half buried, with her head sticking up. She then deposits her eggs in the nest. Males curve around the female and release milt. The milt flows down the female's body until it reaches and fertilizes the eggs. As many as eight males may fertilize the eggs in a single nest. After spawning, the males immediately retreat toward the water while the female twists free and returns with the next wave. While spawning may take only 30 seconds, some fish remain stranded on the beach for several minutes.

Spawning occurs from March through August, and occasionally in February and September. Peak spawning is late March to early June.



California grunion, *Leuresthes tenuis*  
illustration by P. Johnson

## More California Grunion Facts

Mature grunion may spawn during successive runs, with females spawning up to six times each season. Females lay between 1,600 and 3,600 eggs during one spawn, with larger females producing more eggs.

Eggs are deposited during the highest tides of the month and incubate in the sand during the lower tides, when they will not be disturbed by wave action. The eggs are kept moist by residual water in the sand. They hatch about 10 days later, during the next high tide series, when they are inundated with sea water and agitated by rising surf.

You can watch grunion eggs hatch by collecting a cluster of eggs after a grunion run and keeping them in a loosely covered container of damp sand in a cool spot for 10-15 days. Then, add one teaspoon of sand and eggs to one cup of sea water and shake gently; the eggs will hatch before your eyes in a few minutes.

Most grunion seen on southern California beaches are between 5 and 6 in. long, with some are as long as 7 in. An average one-year old male is 4½ in. long while a female is slightly larger at 5 in. At the end of two years, males average 5½ in. and females are around 5¾ in. long. By the end of three years, an average male is nearly 6 in. and a female is a little over 6¼ inches in length. Few live to be older than three years old. Grunion mature and spawn at the end of the first year.

Grunion food habits are not well known. They have no teeth, so they are presumed to feed on very small organisms. Shore birds, isopods, flies, sand worms, and beetles eat grunion eggs, while humans, larger fish, and other animals prey upon grunion.

**Help Fish and Game Wardens  
Put an End to Poaching**

If you witness poaching  
or polluting, call

**1-888-DFG-CALTIP**  
(1-888-334-2258)



Alternate communication format available upon request. Call the California Relay (telephone) Service for the deaf or hearing-impaired from TDD phones at 800-735-2929 or 711.

DFG\_Marine Region\_Grunion Ver.1 01/09



California Department of Fish  
and Game

## California Grunion Information



M. Brock

2009

# California Grunion Facts and Expected Runs



Despite local concentrations, grunion are not abundant. The most critical problem facing the grunion resource is the loss of spawning habitat caused by beach erosion, harbor construction, and pollution. By the 1920s, the fishery was showing definite signs of depletion. A regulation was passed in 1927 establishing a closed season of three months, from April through June. The fishery improved, and in 1947 the closure was shortened to April through May. This closure is still in effect to protect grunion during their peak spawning period.

During the open season, a fishing license is required for persons 16 years and older to capture grunion. Grunion may be taken by sport fishermen using hands only. No holes may be dug in the beach to entrap them. There is no bag limit, but take only what you can use—it is unlawful to waste fish.

Under these regulations, the resource seems to be maintaining itself at a fairly constant level. While the population size is not known, all research points to a rather restricted resource that is appropriately harvested under existing law.

While grunion spawn on many beaches in southern California, the Department of Fish and Game does not recommend any particular beach because of changing safety conditions and local curfews. One of the best ways to find out which beaches have had recent runs is to call the state and county beach lifeguards who can often tell if spawning has taken place. There is a grunion program offered to the public at Cabrillo Beach in San Pedro on several nights of the season. Call (310) 548-7562 for details. Additional grunion information and volunteer programs may be found at: [www.grunion.org](http://www.grunion.org).

Grunion research and management is conducted by the California Department of Fish and Game, and is supported in part by federal aid from the Sport Fish Restoration Program.

For a current schedule, send a self-addressed, stamped envelope to:  
**GRUNION**  
California Department of Fish and Game  
4665 Lampson Ave. Suite C  
Los Alamitos, CA 90720  
Or download a schedule from the Department Web site at [www.dfg.ca.gov/marine/gruscd.asp](http://www.dfg.ca.gov/marine/gruscd.asp)

OPEN SEASON

MARCH	
10 TUESDAY	10:05 p.m. - 12:05 a.m.*
11 WEDNESDAY	10:30 p.m. - 12:30 a.m.*
12 THURSDAY	11:00 p.m. - 1:00 a.m.*
13 FRIDAY	11:30 p.m. - 1:30 a.m.*
26 THURSDAY	9:55 p.m. - 11:55 p.m.
27 FRIDAY	10:25 p.m. - 12:25 a.m.*
28 SATURDAY	10:55 p.m. - 12:55 a.m.*
29 SUNDAY	11:30 p.m. - 1:30 a.m.*

JUNE	
7 SUNDAY	9:25 p.m. - 11:25 p.m.
8 MONDAY	9:55 p.m. - 11:55 p.m.
9 TUESDAY	10:30 p.m. - 12:30 a.m.*
10 WEDNESDAY	11:05 p.m. - 1:05 a.m.*
22 MONDAY	9:20 p.m. - 11:20 p.m.
23 TUESDAY	10:10 p.m. - 12:10 a.m.*
24 WEDNESDAY	11:00 p.m. - 1:00 a.m.*
25 THURSDAY	11:50 p.m. - 1:50 a.m.*

JULY	
7 TUESDAY	9:45 p.m. - 11:45 p.m.
8 WEDNESDAY	10:20 p.m. - 12:20 a.m.*
9 THURSDAY	10:50 p.m. - 12:50 a.m.*
10 FRIDAY	11:25 p.m. - 1:25 a.m.*
21 TUESDAY	9:15 p.m. - 11:15 p.m.
22 WEDNESDAY	10:00 p.m. - 12:00 a.m.*
23 THURSDAY	10:50 p.m. - 12:50 a.m.*
24 FRIDAY	11:40 p.m. - 1:40 a.m.*

AUGUST	
5 WEDNESDAY	9:30 p.m. - 11:30 p.m.
6 THURSDAY	10:05 p.m. - 12:05 a.m.*
7 FRIDAY	10:35 p.m. - 12:35 a.m.*
8 SATURDAY	11:05 p.m. - 1:05 p.m.
20 THURSDAY	9:55 p.m. - 11:55 p.m.
21 FRIDAY	10:40 p.m. - 12:40 a.m.*
22 SATURDAY	11:25 p.m. - 1:25 a.m.*

CLOSED FOR TWO MONTHS

CLOSED SEASON  
OBSERVATION ONLY

APRIL	
9 THURSDAY	9:50 p.m. - 11:50 p.m.
10 FRIDAY	10:20 p.m. - 12:20 a.m.*
11 SATURDAY	10:45 p.m. - 12:45 a.m.*
12 SUNDAY	11:15 p.m. - 1:15 a.m.*
24 FRIDAY	9:15 p.m. - 11:15 p.m.
25 SATURDAY	9:50 p.m. - 11:50 p.m.
26 SUNDAY	10:30 p.m. - 12:30 a.m.*
27 MONDAY	10:35 p.m. - 12:35 a.m.*

MAY	
8 FRIDAY	9:15 p.m. - 11:15 p.m.
9 SATURDAY	9:45 p.m. - 11:45 p.m.
10 SUNDAY	10:15 p.m. - 12:15 a.m.*
11 MONDAY	10:45 p.m. - 1:45 a.m.*
24 SUNDAY	9:30 p.m. - 11:30 p.m.
25 MONDAY	10:15 p.m. - 12:15 a.m.*
26 TUESDAY	11:05 p.m. - 1:05 a.m.*
27 WEDNESDAY	11:55 p.m. - 1:55 a.m.*

Regarding This Schedule



The times given for each date reflect the **probable** two-hour interval during which a spawning run may occur. The second hour is usually better. The best runs normally occur on the second and third nights of a four-night period.

The times given here refer to the grunion runs at Cabrillo Beach near the Los Angeles Harbor entrance. The timing of the runs varies at different places along the coast: San Diego runs occur about 5 minutes earlier and Santa Barbara runs occur about 25 minutes later than the times provided here.

Times are Pacific Daylight Savings Time.  
REMINDER: During the open season, a California fishing license is required for persons **16 years and older**. Grunion may be taken by hand only. No holes may be dug in the beach to entrap them. There is no bag limit, but take only the fish you can use - it is unlawful and unethical to waste fish.

\* Where the time relating to the expected run is after midnight, the date of the previous evening is shown.