





VINCE ALIOTTI: Seining Squid in Monterey Bay

Fishermen, who agreed to outlaw squid seines in Monterey Bay in 1953, now want to bring them back. Catches and prices are down, and crews are hard to find. Vince

Aliotti fishes a modified seine as part of an experimental program.



By
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LEFT: The El Dorado's crew pulls up on the webbing, taking up the slack in the bag to facilitate brailing the catch. **INSET:** From the bridge, Vince Aliotti prospects for squid in Monterey Bay.

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VINCE ALIOTTI

The crew of the *New Stella*, haul up the lampara net after a set.

“Extensive scouting is not required during peak season in most years. The fleet simply proceeds to the end of the breakwater...and vessels maneuver for position within a few hundred square meters.... There is much exchanging of oaths, and the question of where to set the net is often decided on the basis of...safety....” Much has changed since Sus Kato and Jim Hardwick penned those observations in a 1975 FAO report on the Monterey squid fishery.

Peak fishing historically ran May through July or August. On a good night a boat could catch 20 tons or more, starting after midnight, back at the dock by 4:00 a.m. Yet here it is dawn on the last day of May, 1988, and a dozen boats—the Monterey squid fleet numbers about 15—are just beginning the hunt for squid, systematically crisscrossing the southern hook of the bay. On the *El Dorado*, Vince Aliotti tracks back and forth, intent on the color sounder mounted on the bridge. He and a few other boats prospected, but found nothing, at midnight. Now the squid fleet moves in a slow waltz, boats passing and crossing, separate yet together, as street lights along shore give way to the rising sun. It's 6:00 a.m., then 7:00, and the search continues, the flow placid, hypnotic. Traffic picks up on Lighthouse Avenue, commuters heading to work oblivious to the promenade outside the kelp beds in Monterey Bay.

Suddenly one boat releases its skiff and, throttling up, cuts a circle to port, peeling out a lampara—a roundhaul net designed for schooling fish with a large central bag of webbing and short wings of larger mesh, hung so the leadline is pulled in advance of the corkline. With both wings pulled simultaneously from the stern and wound onto a drum, the leadline closes, drawing the net into a scoop, thus trapping the fish. As though tripping a switch, the first set of the day triggers a flurry of motion—boats scrambling to follow suit, one seemingly atop the next.

The first sets produce a small catch, but no larger schools show sign. Finally launching his skiff, Aliotti runs out a modified seine, one of two now working the bay, with another coming on line in this, the second year of a two-year experimental gear study. Roundhaul nets like the lampara work on the same general idea—to trap fish in a bag of webbing. However, state

law has prohibited squid seines in Monterey Bay for 35 years because, according to record, they damaged squid egg beds. “At that time, fishermen didn’t want the competition from big sardine boats,” Vince Aliotti admits with a rueful smile, acknowledging that now, with prices down, many squid fishermen would rather use the seine because it requires less work and less crew. “But now,” he adds, “it’s not easy to get the rule changed.”

In many ways the history of Monterey’s squid fishery complements that of sardines. The squid fishery began in 1863 in Monterey Bay, initiated by Chinese fishermen who rowed the bay at night in sampans, carrying baskets filled with burning “fat pine” on the bow—torches to attract the squid. Operating in teams, they surrounded squid schools with small seines, pulling the net by hand, then dried the catch in nearby fields and exported it chiefly to China.

About the same time, “haulseines” (beach seines) came into use catching king salmon on the Sacramento River, taken for the first cannery on the Pacific coast, near west Sacramento. When the first sardine cannery was founded in 1889 in San Francisco, the bay saw its first haulseines, used to take anchovies and sardines. By 1894, when the San Francisco cannery moved to San Pedro, sardines and mackerel were supplied via purse seines, employing a seine boat and tender—the first record of such use in California.

The second sardine cannery began at Monterey in 1902. The first year gillnets provided the catch, but provided such small quantities that they were replaced with purse seines in 1903. Seines were circled by hand from a skiff and pursed from the seine boat, with purse line and the seine itself pulled by hand. To handpull the net required a crew of 10 or 12 men, according to CDF&G historian W.L. Scofield, who reported in a 1951

review of California roundhall nets, "The inadequate purse seine catches of the 1903-05 period led to the trial of the lampara net in 1905."

Lamparas worked well catching sardines in the Mediterranean, and with the influx of Italian-Sicilian fishermen to San Francisco, Monterey, and San Pedro, the transition to lampara fishing was natural. Within a few years, in fact, the lampara dominated both Monterey and San Pedro sardine fisheries. Also beginning in 1905, Italian immigrants using lamparas replaced Orientals in the Monterey Bay squid fishery. Chinese and Japanese entrepreneurs still exported the catch until the mid-1930s.

In construction and deployment, the lampara "...differed radically from the purse seine," Scofield wrote. "It had no purse line or rings. It was not a straight wall of webbing of uniform mesh size. It depended upon a large, deep bag to impound the fish..."

In the 1930s in the sardine fishery, the "purse-lampara" or "half ring" net came into use. It began as a lampara with purse rings along the landing bag but evolved into a purse seine net—except that the landing bag was in the center instead of at the end of the net, and both wings were pulled simultaneously, deviating from the purse seine practice of pulling only one end. Mesh size also was reduced, along with the fullness of the bag: The lampara's scooping action was giving way to the purse seine's cupped impoundment.

Although the name "half ring" persisted, purse rings eventually extended the length of the leadline. "Except for the method of hauling," Scofield noted, "the ringnet had evolved into what for all practical purposes could be called a purse seine." In the 1940s, purse seines replaced ringnets. By 1945, the use of wire cable purse lines was widespread in California. The introduction of foot chain as leadline came around 1946. Then came lightweight chain instead of rope for purse ring bridles. By 1953, larger, increasingly efficient purse seines posed formidable opposition in roundhaul rivalry, even after lamparas added foot chains. This fact was not lost on

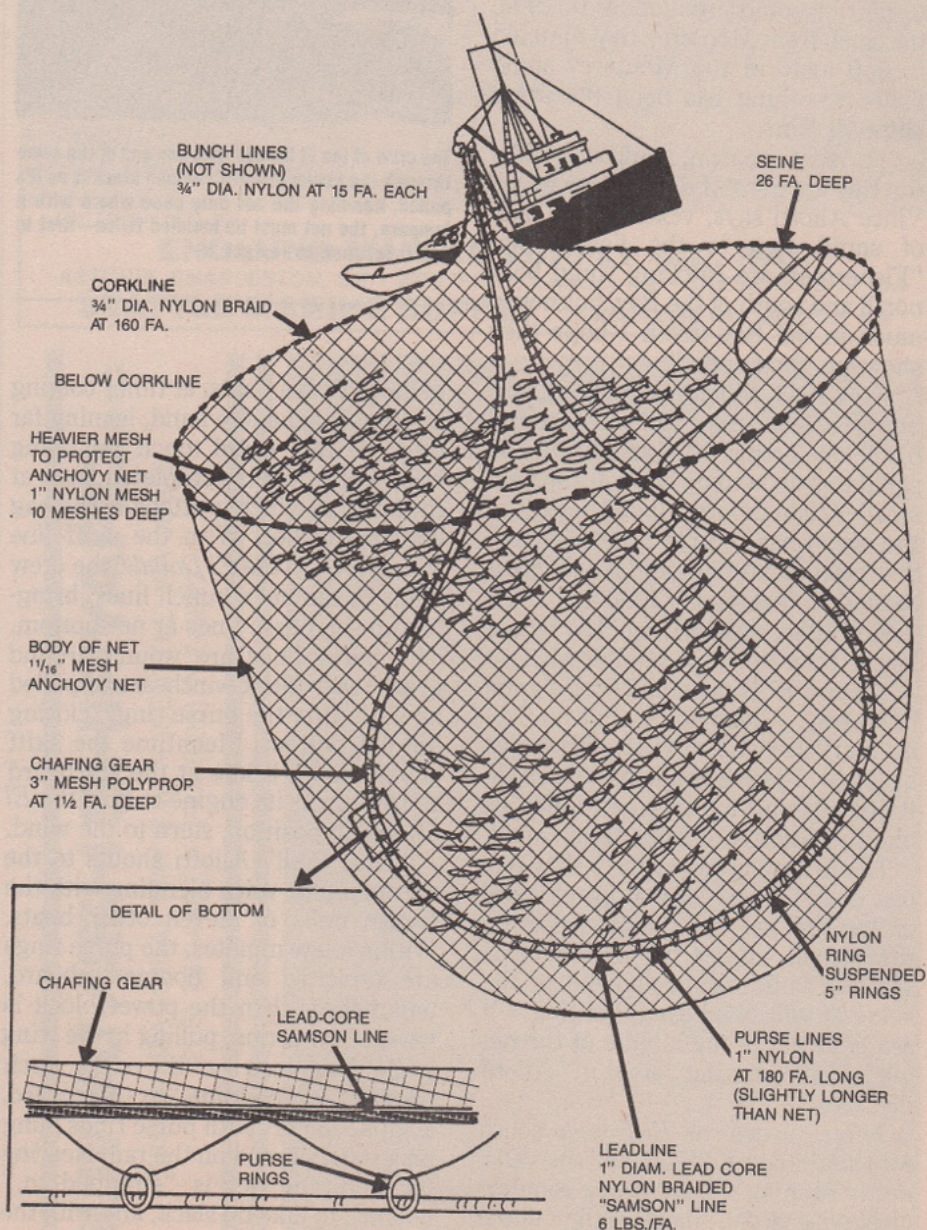
lampara-using Monterey Bay squid fishermen.

Historically, squid was Monterey's second largest fishery after sardines—neatly filling the gap after sardine season ended. Roundhall fishermen fished both—sardines in winter, squid in summer. The same canning machinery used for sardines also worked for squid, packed whole with salt in one-pound tall cans. Monterey Bay produced a record 19,000 tons of squid in 1946. In 1947, Monterey's

sardine catch tumbled from 200,000 tons to 18,000, beginning the great decline. When sardines failed, squid moved to number one position.

The 1953 prohibition on purse seines in the Monterey Bay squid fishery, followed in 1959 with a ban on nighttime attracting lights, may have been an attempt to save squid from sardines' fate. In any case no such prohibitions were placed on the southern California squid fishery, which began developing in the 1950s, the San

VINCE ALIOTTI'S MODIFIED SQUID SEINE



Pedro wetfish fleet availing itself of purse seines and attracting lights along with power brails. By 1975, southern California squid landings rivaled, and in some years surpassed, Monterey, which peaked in summer while the southern California fishery peaked in winter. But Monterey squid were larger, meatier, pricier.

Although landings have bounced like silly putty since the early days of the fishery in 1978 to 1982, Monterey's catch averaged 11,130 tons. In 1982, lamparas produced 11,656 tons, doubling southern California squid production. In 1983, the catch from Monterey Bay tumbled to 540 tons. In the Monterey squid fishery, nothing has been the same since El Nino.

"For some reason, squid don't like the Bay anymore. I don't know why," Vince Aliotti says, vexed at the lack of squid sign in the fish finder. "Fishermen are catching squid both north and south of the Bay, but not so much in the Bay itself. I hope they show up good soon."

Since 1983, Monterey landings have been below expectation—around 6,000 tons both in 1986 and 1987. The squid that showed up early in 1988 are smaller than before, albeit the rest of the ocean has returned to "normal." Southern California squid landings exceeded 15,000 tons in 1986 and 1987. And in 1988, southern squid so far are larger than those in Monterey.

"Before El Nino, squid was a good business," Aliotti adds, "but no fish, no markets—and now the price has dropped." The trend is bad news for Italian fishing families in Monterey, like the Aliottis, who bank on squid.

The fishing is particularly slow this last day of May—only a ton of squid on the first set and the catch lost on the second, after a trio of California sea lion bulls roll in and out of the seine at will, wild-eyed, gorging. "If sea lions get in the middle of the net while you're setting, forget it!" Aliotti declares.

Aliotti moves the *El Dorado* south for the third set. "Skiff ho!" he yells, deftly running the seine in a counter-clockwise circle, smack in the middle

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The crew of the *El Dorado* runs one end of the seine through the power block. Crewmen stack it as it's pulled, handling the net only once where with a lampara, the net must be handled twice—first to pull it in, then to restack it.

of half a dozen boats, at times coming so close that an idle hand, leaning far over the rail, could touch a passing hull. The circle is completed back at the skiff, to which is attached the bag end of the net. With the skiff line transferred to the *El Dorado*, the crew hauls in the net's bunch lines, bringing up the purse lines at net bottom. The purse lines are wound around gypsyheads (deck winches) and pulled in, gathering the purse rings, closing the net bottom. Meantime the skiff hooks onto a bridle at the starboard rail and guns its engine to hold the *El Dorado* in position, stern to the wind.

"Tira! Pull!" Aliotti shouts to the skiffman, his voice blending with the Italian cries of eleven other boats. Within a few minutes, the purse rings are bunched and boomed aboard, unbunched, then the power block is lowered for action, pulling in the wing while four men on the stern deck restack it, corkline to starboard, leadline to port with purse rings hung on a rod mounted on the rail. Nearing the end, the net is "strapped in," boomed to take up slack, and with the

skiff now supporting the corkline of the landing bag, the business end of the net, the crew haul the last bit of slack hand over hand. When the catch is "dried up" in the bag, the crew maneuver it into a metal-ringed sock brail, dumping it directly into the hold. This time the catch is better—about three tons and the squid a little larger. Three passes with the sock brail clears the net. The entire process, start to finish, takes about 30 minutes.

"This experimental net is not as big as a full seine," Aliotti said, preparing for the next set. "See, there's no chain, no cable. The net bottom is soft; it's clean—doesn't dig. It doesn't even pick up starfish. It doesn't disturb the egg beds," he declares. "We bring in less eggs than a lampara." No egg cases are evident on this trip.

Instead of wire cable purse lines, Aliotti's net employs nylon rope. In place of foot chain, the leadline is braided, lead-core rope—Samson line. The nylon line is quicker to wear and can't fish rocky areas without penalty. Lampara nets, with chain on the leadline, handle rocky bottom better. But the seine is easier to work—and easier on the crew. "With a drum or power block, it only takes four crewmen to stack it," Aliotti remarks. "A lampara requires seven or eight, and you have to handle it twice each set—pull and restack. With a seine, you only have to handle the net once." With the price of squid down to \$200 a ton, the difference makes economic sense. "The lampara is a lot of work—sometimes you have to make a lot of sets, handle the nets a lot with a short crew," he continues, thoughtful. "It's harder to find a crew with the prices low. Some guys rigged up for squid this year and couldn't get a crew."

CDF&G began the experimental gear test in 1987, placing observers onboard to evaluate the number of egg cases taken by lampara vs. modified seine. Originally the trial was intended to test a half-ring drum seine—an old-style ringnet wound on a reel. Aliotti's "soft seine" was authorized to save time and gear-up cost. The

permit authorized this year will, however, test the half-ring.

"Fishing takes even less manpower with a drum," Aliotti said. Not wanting to foot the cost of a drum unless the gear change is legalized, he hopes it will be approved.

Although the test so far is inconclusive, preliminary data after the first year indicate that "...the seine caught squid eggs at a higher rate than lampara nets, in number of tows that caught and number of eggs caught," notes Paul Wild, CDF&G squid biologist in charge of the study. "That's why we're running the experiment for two years." Wild plans to use an underwater camera this year and run both gears over identified squid beds to study the effects. By March 1, 1989, he will submit his final analysis to CDF&G brass in Sacramento.

Aliotti makes his fourth set of the day with the sun angling toward noon. The net is pursed in seven minutes; 18 minutes later, another ton of squid is sliding into the hold. The fifth set yields the same; after nearly eight hours of fishing, Aliotti figures his catch at six or seven tons. As if on cue, the squid fleet disbands, heading in. The *El Dorado* is back in its slip by 1:00 p.m.

Fishing picks up a little in the following weeks. The second week of June, with half the squid fleet on the way to Alaska, one stay-at-home squid fisherman hauls up 30 tons of squid in two sets. Everybody is fishing better, catching earlier. Like the old days, boats are tied up by 4:00 a.m. The squid are still small, but Wild says, "Small squid happen every year in Monterey at the first of the season. We've had poor years before." Monterey squid fishermen have never scratched for so long as after this last El Nino. Though landings are down, they're not—like El Nino—down and out. Maybe this is the year the squid will come back.

Vince Aliotti and a lot of other fishermen hope the modified seine will be approved. "We don't want to hurt the egg beds," he says. "We're doing this test for everybody. We care about our future."