Goggle Fishing in California Waters

BY DAVID HELLYER

With Illustrations from Photographs by Lamar Boren

AS I slipped from the reef into deep, clear water off La Jolla for my first goggle-fishing adventure, my diving companion shouted a friendly warning.

"Prepare for a shock," he cautioned, swimming alongside. "Your first look at the ocean's innards will give you a jolt!"

My nose was tightly encased in the rubber housing of an unfamiliar face plate. I tried to inhale before submerging. This created a strong suction which pressed the mask against my cheekbones, but gave me no air at all.

"Breathe through your mouth," my col-

league advised.

Swimming breast stroke, I gingerly submerged my head until the cool water lapped my ears. Instinctively, I kept my eyes shut. Half dreading what came next, I opened my eyes and—wonder of wonders! My gogglefishing friend was right—my first impulse was to paddle for shore as fast as possible!

A Submarine Wonderland

Even Alice, fresh from Wonderland, would have gasped at the landscape spread below me. Long, brown tentacles of kelp, waving weirdly in submarine currents, appeared to clutch at me. Eelgrass danced on the ocean's floor; every grain of crystal sand, each little animal and fish stood forth boldly like images in a stereoscope. First I was amazed, then enchanted; the spell never has been broken.

Color abounds along these reefs. Incredibly orange garibaldies, the goldfish of the sea, dart from rocky holes on the bottom. This inquisitive denizen frequently will swim to within arm's length of a goggler, his comical face gaping into the diver's face plate. Perhaps the goggler appears as ridiculous to the garibaldi as vice versa!

Acres of sea urchins carpet rocks and reefs, their purple and red spines at stiff attention like hatpins in grandma's pincushion. Sand dollars dot the ocean floor, partially buried and standing vertically like wheels from some

abandoned prairie schooner.

Countless sea anemones blanket the reef walls like beds of chrysanthemums, their fingerlike tentacles waving a fatal invitation to small marine animals on which they feed. Spider crabs dart in and out of dark crevices, and pink and white starfish cling to rocks like decorations on a Christmas tree.

Occasionally a diver discovers a group of

strange, cone-shaped objects, like leather corkscrews four inches long, lying on the bottom. These are eggs of the ugly bullhead shark.

Tide pools teem with interesting specimens. Sculpins, "little old men of the sea," lie at

rest on the bottom.

Tide-pool blennies swim jerkily from rock to rock, looking for a fight, for this pugnacious, eellike little fish always has a chip on his scaly shoulder. Sea hares, fantastic, sluggish specimens which look like animated puddings, slither over the rocks. An occasional long-jawed goby swims by. This mudsuckerlike fish will live out of water for a day or longer, if kept covered with damp seaweed. Fishermen covet them for bait.

Anchovies Flash Like Mercury

We were swimming in a narrow channel, walled in by reefs, in water perhaps 15 feet deep. A school of anchovies flashed by, their scales sparkling in the morning sun. In tight formation, they cut through the blue water like an errant river of mercury. Suddenly their ranks were shattered by a lightning-quick flash of white.

"Halibut feeding," my friend called, as he took a deep breath to dive. Down, down he swam, almost to the bottom of our private pool. Over a sandy patch in the weeds he poised his spear, then lunged the five-tined

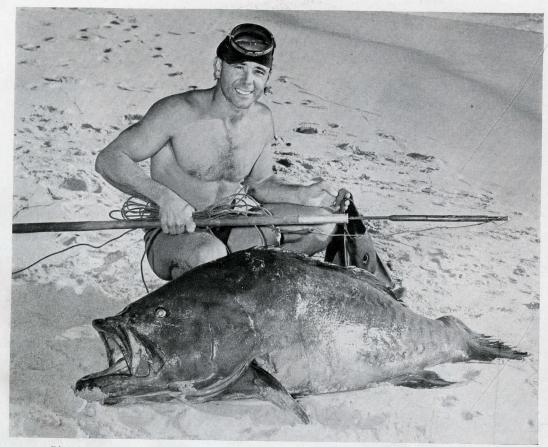
weapon into the sand.

A cloud of roiled water muddied his spearhead, and when the sand settled I saw that he had transfixed a beautiful California halibut, much prized by anglers and gogglers alike as table fare.

This species, a member of the flounder family, is frequently taken by divers. One recently speared at La Jolla weighed 30 pounds, though commercial fishermen have taken specimens weighing up to 60 pounds. Pacific halibut may weigh 500 pounds!

My only equipment for this underwater adventure was a face plate and a pair of swimming trunks. But my experienced companion wore swim fins—black rubber "feet" somewhat suggestive of a duck's (page 625).

"Fins allow us to utilize the tremendous driving power in our legs," he explained. "The human foot is very inefficient in water because its area is so small in proportion to the muscle power of the leg. Wearing fins, a good 'skin diver' can travel 70 to 100 feet



If Fish Could Talk, They'd Say, "Give Jack Prodanovich a Wide Berth!"

Off La Jolla, this king-sized black sea bass, or jewfish, was "knocked out" by a thrust of the goggler's spear. Prodanovich then mounted his stunned prize and paddled it ashore. Beached, the fish revived and struggled furiously until subdued. Its captor's spear has a detachable point with a long line for playing fish.

under water in half a minute! And even a dub wearing them can outdistance an Olympic champion."

These men who "live with fish" form a fast-growing group. Ten years ago the sport was virtually unknown, save to a few hardy individuals who made their own crude goggles and broomstick spears and explored the surf alone. By 1949 over 8,000 enthusiasts had joined the ranks in southern California alone, with other groups forming on Gulf and Atlantic coasts and in inland waters.

One manufacturer has shipped goggles throughout the world, and during the war sent them to RAF pilots in Egypt, to Pan American Airways employees in the Pacific islands, and to goggle enthusiasts in the East Indies. I saw members of our armed forces using California-made goggles on Waikiki Beach, Honolulu, and on Johnston, Kwajalein, Eniwetok, and Manus islands in the Pacific.

Most experienced gogglers have their own

favorite fishing holes, secret spots in reef or surf where granddaddy lobsters lie, or where abalone or fish are especially large and abundant. A good skin diver can keep his family well fed on his submarine efforts. During depression times one goggler supported his family for two years in this fashion.

The Bottom Scratchers Club

Seasoned divers are the eight men comprising San Diego's unique Bottom Scratchers Club. Each is a veteran of several years' underwater fishing; each has passed rigorous tests. So difficult are these trials that only nine men have qualified for membership in the 15-year history of the group!

As a starter, you must swim alone through the heavy surf, navigating your way over a treacherous reef covered with razor-sharp coral and white with foaming combers.

Later you must dive in 30 feet of water, bringing up three abalone in one dive. If your



Penny Hellyer

"I'd Be Just as Happy," She Says, "If You Had Left That One in the Ocean"

Yvonne Hellyer holds a starfish in one hand and with her other gingerly pokes an octopus brought in by a spear fisherman. Despite their reputation, the eight-armed cephalopods are not feared by California gogglers. Dangerous, however, are sting rays, with barbed tails, and moray eels that bite like marine bulldogs (page 623).

wind holds out, you then go down 20 feet for a spiny lobster-and they have been known to measure three feet in length!

Surely your prowess has been proved by now? Wrong. A final test challenges. You must seek bottom at 20 feet and bring up two sharks, one at a time! That test doesn't sound too formidable until you learn that said sharks are to be captured by the tail, barehanded!

At least two women divers have done it. Admittedly, the captives were harmless pointed-nosed guitarfish, frequently called shovel-nose sharks. They attain a length of four feet (page 621).

"I once grabbed one of these four-footers by the tail," said Jack Prodanovich, veteran goggler. "He was lying in eelgrass when I cinched onto him. He gave me a swell ride, jerking me through the weeds for about 10 feet before shaking me off!"

This same diver recently made goggling

history by spearing and landing single-handed what is credited with being the largest fish ever taken by a goggler.

A 500-pounder Lurks in Depths

"About four years ago, Wally Potts and I took our wives out fishing near the La Jolla caves," Jack related. "We were swimming battle formation,' about 50 feet apart, and I held the inside position nearest the cliffs. From experience, I knew we would swim over a channel where we usually found good fish.

"Suddenly I spotted a reef I knew didn't exist. The 'reef' moved, and I backed water and yelled for Wally. Together we peeked into the depths and spotted a monster-a black sea bass, or jewfish, that must have weighed 500 pounds!"

The boys held counsel of war. Armed only with five-pronged spears on short shafts, they must have felt like Don Quixote in his classic encounter with the windmills. Undaunted,



With Swim Fins to Boost Speed, a Quintet Takes Off in a Racing Start from a La Jolla Breakwater

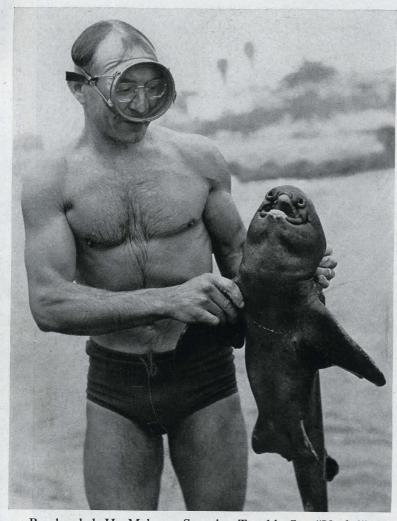
Ernest Kleinberg

Lovers of other water sports besides goggle fishing find fun at San Diego's seaside suburb. Homes, hotels, and apartment houses (background) overlook the Pacific.

La Jolla is famed as the seat of the Scripps Institution of Oceanography.



Three Fish Make Two Handfuls. Powerful Thrusts of Rubber-finned Feet Drive a Goggler Shoreward with His Catch
In his left hand the swimmer holds a halibut and a bass; in his right, another halibut, with spear attached to his wrist by a strap of inner-tube rubber. Some gogglers tie fish to their belts.



Barehanded, He Makes a Seagoing Toughie Say "Uncle!"

Spotted under a réef, this bullhead shark was pulled out by its fin and tail. Captors must beware of the fish's powerful teeth, designed for cracking mollusks, crabs, and other hard-shelled prey.

they decided to take a stab at the jewfish. "Wally was to hit him on the right side, while I smacked him on the left," Jack told me. "We took deep breaths and dove. We had to swim farther than we anticipated, and Wally ran out of air, leaving me alone with this deep-sea citizen. I speared him just back of the head. Three prongs penetrated, and I saw them bend over at right angles.

"Mr. Jewfish suddenly remembered an appointment in deeper water and tore out of that channel like a PT boat, his tail whipping up a froth of sand and kelp en route. Our wives reported that the spear shaft went past them like a sub's periscope, bound for Japan. We didn't see big boy any more that year."

All winter the boys discussed strategy for

their spring and summer hunting. They designed stronger spears for their return bout with this Dempsey of the deep.

"One morning we were exploring underwater caves near the cliffs," Jack recounted, "when we met 'junior," just a little fellow—maybe a hundred-pounder. Through a hole in a reef we peered right into his underwater nursery. All I could see was one of his big eyes—it looked like a flashlight! Just a little fellow!"

Two Years of Effort

They experimented with the idea of spearing him through the window in the rock. That didn't work—the spear just bounced off his armorlike scales.

For two years they experimented and failed in attempts to capture one of the giant fish. Finally they built a slip-point spear, powered with a high-tension spring, and prepared for the showdown.

In September, 1945, Prodanovich was cruising the waters off La Jolla on his paddle-

board; by his side lay his new spear, not yet tried in battle. Searching the depths, he suddenly caught his breath as a monster swam into view below him.

With his spear cocked for action, he dove. Within range, he struck, his spear entering the fish squarely between the ribs, completely penetrating its body. The goggler quickly surfaced, and mounted his paddleboard as the fishline from board to spearhead whipped the water to froth.

"He towed my heavy paddleboard as though it was a piece of driftwood," Jack related. "Sometimes both board and I were completely submerged. Finally the fish wore itself out, and I started the long tow to the beach. But every time I thought the sailing was smooth, he'd take off for Honolulu again!"

Finally the huge fish was beached. It weighed in at 207 pounds. The catch caused excitement among local marine biologists, who identified it as the first broomtailed grouper known to have been taken in California waters.

Since then, Prodanovich has speared and landed seven of these monsters, though none outweighed his first.

His last catch provided a dramatic reverse twist to the old "big one that got away" story. Off La Jolla he spotted a deep-sea behemoth lolling under a weed-covered shelf.

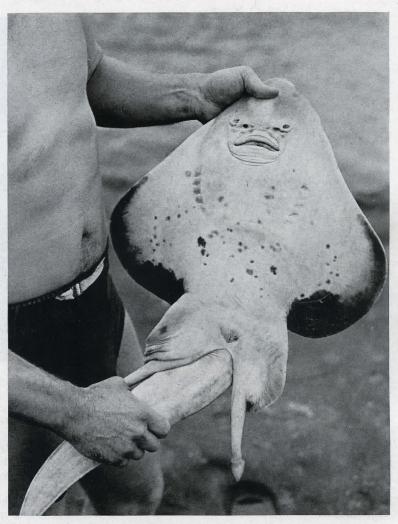
Another Big One

Aiming carefully, he drove his powerful, spring-driven spearhead into the creature. The line sang and zipped through the water as the fish took off. To his dismay, Prodanovich realized that the bass was taking his line under the reef—almost sure death for any line. And so it proved; the line soon

parted, probably cut neatly by a piece of coral.
Sadly the champion spear fisherman returned to shore, with nothing but a broken line to testify to the big one that got away.

But he who laughs last sometimes is a good fisherman. One month later, Prodanovich again spied a big one. He knew that these big bass sometimes like to lie in kelp beds. Skirting one bed, he saw the tail of a giant protruding from the forest of brown weeds. Quickly he drove home his spear, aiming through the kelp at the fish's concealed body. Then began a fight which ended one hour later with Prodanovich the victor.

As he dragged the 112-pound gulf grouper onto the beach, Prodanovich gasped with surprise. Two spear points were embedded



Only Another Guitarfish Could Love Such a Face

Gogglers find these creatures, harmless, though of nightmare aspect, half buried in sand on the Pacific floor off La Jolla. Twin reproductive organs project from the fish's body near the root of the thick, powerful tail.

in the giant's back. From one hung the remains of the spear he had lost the month before, a remnant bent and twisted by the efforts of the grouper to dislodge the barb. Prodanovich had the last laugh with his "big one that got away"—almost (page 632).

Many jewfish, or black sea bass, have been caught by gogglers and hook-and-line sportsmen in the area (page 616). An inventory of the stomach of one specimen recently caught revealed five fishhooks, several feet of line, leaders, and a six-ounce sinker!

Abalone, a mollusk much admired for its meat, must be taken by surprise, for once warned of danger it clamps itself firmly to the rock and is very difficult to pry loose (page 631). One diver nearly drowned when



Ernest Kleinberg

Afloat in a Rubber Life Raft, She Scans the Pacific Depths for Rock-clinging Abalone

To avoid long swims and to rest between dives, many gogglers drift over the hunting grounds in such craft. Others use paddleboards or inner tubes. After sighting abalone through her face plate, the girl slips overboard and swims down to pry them loose with the flat iron bar fastened to her wrist.

an "ab" clamped down on his prying iron, which the goggler had carelessly tied to his wrist with a leather thong. Thereafter, he followed the usual custom of fastening the iron loosely to his wrist with a strip of innertube rubber.

Big Lobsters Are Protected

Knowing that abalone clamp down when touched, one waggish diver played a trick on his fellow gogglers. Finding a good bed of the mollusks, he tapped each abalone with his iron. When his companions tried to pry them loose they couldn't dislodge a single one! Noting the location of his private stock, the practical joker later returned to reap a rich harvest.

Gogglers find spiny lobsters good sport, and good food, too. Specimens bought in the markets are midgets beside those brought in by the Bottom Scratchers. One member tells a tale which would sound "fishy" if others had not verified it.

"This old granddad was so long I was afraid to tackle him," said the diver. "I stretched out my arms to measure him as he lay in a crevice on the reef, and I could just reach both arms wide enough to measure his length!"

Lobsters are protected by law; none over 16 inches or under 10½ may be taken (632).

Lobsters fall easy prey to an experienced goggler. Being a natural scavenger, the "spiny" can be tricked into revealing himself if tempted with a meal. Some gogglers use one hand as bait to lure the crustacean from his lair, then grab him securely as he emerges. Some, as if aware of the housing shortage, resist eviction by bracing their legs so firmly against the walls of their rocky homes that they cannot be captured.

Many fish are weird. An example is the "horned" bullhead shark (page 627).

"I spotted one of these ugly fellows under a reef," reported Lamar Boren, one of the Bottom Scratchers. "All I could see was a big red mouth and two long, white horns. I shouted for Jack, who was hunting near by. He dove, and came up laughing with the report that it was nothing but a bullhead shark.

"Jack has always wanted to catch one with his bare hands. So he handed me his spear and dove, surfacing a minute later with the brute thrashing around in his hands. He was holding it by the tail and one flipper (page 620). We put a stick in his mouth when we got him ashore, and you could hear him crunch down on it with those strong teeth

20 feet away!"

Moray eels are vicious, too. Specimens up to six feet long have been taken. These saltwater horrors are especially fond of abalone meat, and often mistake the hand of a diver for their favorite food. One goggler had just pried an abalone loose when an eel darted from its crevice and snatched the meat right out of his hand, leaving the diver with an empty shell!

"Eels will follow you with their teeth bared if you threaten them," one diver disclosed. "We always check carefully when diving for abalone. Some day one of these submarine bulldogs may strike and clamp onto an arm, hand, or leg, and we'll have to come ashore

to pry him loose!"

Other dangers lurk in the underwater world. Contrary to popular notion, however, octopuses, sharks, and rays are not considered

perils by divers in these waters.

"Our worst enemy is carelessness or misjudgment," explained one veteran. "Hunting abalone or lobster, we sometimes dive under ledges or into crevices. A strong current could catch a man in such a position and keep him there until he drowned."

Like aviators flying in rarefied air, divers must beware that they do not run out of oxygen. Once a pair of gogglers were diving in kelp beds, in search of grouper. As customary, one man mounted watch on the paddleboard while his companion dove (629).

Submerged Almost Four Minutes

"My friend had been down nearly four minutes before I sensed danger," related the watcher. "Most of us can manage a two-minute dive, but even the best of us is no four-minute man. I was just getting ready to go down after him when I saw him floating to the surface, face down and arms out-stretched.

"Somehow I managed to get my friend's body across the paddleboard. By beating him mercilessly on the back, I finally got him to take a deep breath of air. He gasped and gulped for several minutes before regaining consciousness."

The unfortunate goggler afterward related

his recollection of the incident.

"I had spotted a good fish and followed him into the weeds. I knew my oxygen was running low, but thought I had a few seconds more to go. But I didn't reckon with the fact that 25 feet of water lay between me and the surface. On the way up I suddenly blacked out. It was very peaceful!"

Most gogglers bear the scars of encounters with coral. Frequently a diver will be swept against coralline reefs by a strong wave or current, and emerge from the engagement badly cut and bleeding.

Encounters with sea lions are not uncommon. One pioneer diver was prying abalone from a reef when something hit him in the

back.

"The pain was so terrific it bent me double," he recounted. "I thought a moray eel had hit me. But my enemy soon made another pass at me, and I saw then it was a large seal, probably a mother with young. It took several stitches to close the wound."

Sometimes big seals just feel playful!

Swimming with a Seal

"One afternoon, after fishing all day, I decided to take a swim, for the exercise," related one diver. "I dove in without any weapons, wearing only face plate and fins. I submerged several times for the scenery, and each time I surfaced I noticed a crowd had gathered on the breakwater. This was not unusual, so I kept on diving."

What he did not know was that a big seal cavorted beside him, submerging and surfacing

with him like a shadow.

"Finally I spotted the monster streaking along under me like a torpedo. I decided this was no place for me and headed for shore, with Mr. Seal swimming alongside. Then he dove, and surfaced right in front of me, between me and salvation. He stopped me cold, his beady-eyed face so close to mine I could count his whiskers!

"I lived and died fifty times during the next few seconds, remembering what had happened to another goggler in similar circumstances. But just as I was about to double up and kick him in the face out of sheer

desperation, he took off."

These underwater sportsmen make important contributions to marine biology and frequently contribute specimens of interest to experts at Scripps Institution of Oceanogra-

phy, located at La Jolla.

"According to the textbooks, certain fish grow to certain maximum lengths and weights," one goggler observed. "We have helped correct many of these ideas. For example, one manual says sheepshead attain a maximum weight of 25 pounds. I personally speared one weighing 27 pounds, and have seen many larger specimens. And the texts tell us that moray eels grow to five feet. We know of a goggler who brought in a six-footer measuring seven inches in diameter!"

Gogglers have learned to relate certain fish

to specific types of bottom, much as hunters seek their quarry in definite kinds of cover. California halibut, for example, most frequently are taken in sandy patches surrounded by eelgrass or other weed. Sheepshead inhabit rocky bottoms where plenty of crevices and holes provide protection.

Lobsters Hide in Crevices

Lobsters seldom venture into the open, and are found only where cracks and crevices furnish safe hiding places. They do come out at night, however, to prowl the bottom for food. Black sea bass, or jewfish, lie in kelp beds, while croakers often are found feeding in a few inches of surf, right on shore. Game fish sought by deep-sea anglers—the barracuda, bonito, tuna, yellowtail, and other rod-and-reel favorites—seldom ranging out of deep water, are not often taken by gogglers.

Because of their delicious flavor, California halibut are prized catches, and divers have perfected halibut spearing to a high degree. Hard to spot as it lies on sandy bottom, the California halibut has a chameleonlike capacity for changing color to suit his surroundings. On clean sand he adopts a sandy hue; near rocks his coloring becomes mottled. But his underside always is snow white. Oftentimes the fish buries itself completely in the sand and can be detected only by its outline.

Not gifted with the rakish lines of some of his underwater brethren, the halibut appears sluggish, an appearance which proves very deceptive. Actually this fish is lightningquick, capable of flashing through the water with incredible rapidity when feeding or

frightened.

Several kinds of rays are common along the California coast. Many of these biological nightmares have saw-toothed barbs in their tails—a fact which an occasional bather discovers to his misfortune. Stepped on, such a ray instantly whips its tail upward, burying its tiny serrated sword in calf or ankle.

Poison glands exist in many rays and, like the earthbound rattlesnake, such rays are venomous. While the sting is very painful and may be dangerous unless cared for promptly and properly, it is rarely lethal. Cases of death from such punctures have

been recorded, however.

Rays thrive on sandy bottoms. On one goggling adventure I swam over a large sandy area in eight feet of water. Dark, dime-sized spots covered the sand. Curious, I prodded one with my spear. A sting ray shook off its blanket of sand and swam away. There were literally hundreds of such spots within an acre or two of sandy bottom, and

each marked the bed of a sleeping ray!
Once I noted a curious, diamond-shaped outline in the sand, measuring nearly two feet

across. Prying with my spear, I dislodged a sluggish guitarfish, which reluctantly swam off.

Gogglers frequently find "treasure" in their underwater adventures. Tackle boxes, rods and reels, all sizes of anchors, rings, bracelets and other jewelry, knives, and tools are among

their booty.

I once found a revolver on a reef. While swimming at Waikiki Beach, I spotted a beautiful ring sparkling in the coral. Retrieving it, I found it to be a class ring of a famous eastern academy. I wrote the academy, disclosing the initials and year engraved on the ring, and was given the name of its owner. The ring was then sent from Honolulu to Rhode Island, and

another friendship was born!

During the war special teams of gogglers were formed by the Navy to scout reefs and beaches for anti-invasion obstacles. The Underwater Demolition Teams, recruited in part from peacetime sportsmen, are credited with saving the lives of thousands of Allied soldiers and sailors by removing barriers in the face of heavy enemy fire.

UDT Performs Underwater Miracles

Units operating off Guam destroyed more than 1,000 large obstacles, making troop landings possible. Frequently these divers, equipped only with face plates, fins, and steel courage, worked right in the wake of Jap divers who were installing obstacles. When our boys had set their high-explosive charges, they retired to safety while time fuses blew obstacles and Japs into oblivion.

UDT crews performed underwater miracles on Omaha Beach in the Normandy campaign, suffering heavy casualties in the process. Their mission: to slash sixteen 50-yard gaps through three principal lines of obstacles. Working under devastating machine-gun and sniper fire, they sapped over 85 percent of the German-placed traps on the beach within

two days.

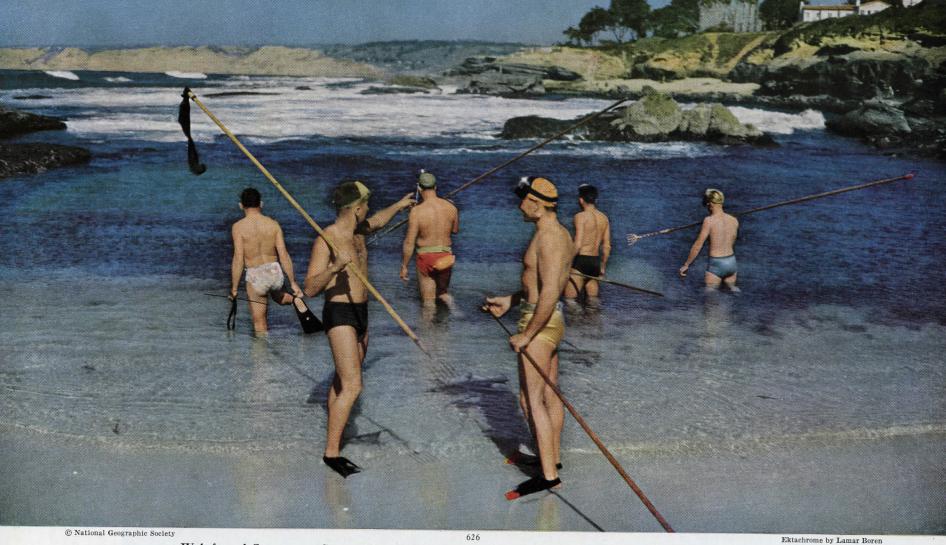
Until recently it was illegal to spear game fish in California's ocean waters—and it still is, for everyone except a goggler! In recognition of this new sport, and in tribute to the divers who put themselves on a par with their prey, the California legislature passed an amendment to the fish and game code making the goggler an exception to the spear-fishing rule.

"Anyone who wants a fish badly enough to hunt him out in his own element deserves to spear him," one legislator observed in voting "aye."



With Heavy Rubber Fins, Gogglers Kick Themselves Down to Eerie Deep-sea Hunting Grounds

Two members of the Bottom Scratchers Club don their swim fins to explore the depths off La Jolla, California. A third (background) churns the surface of a rock-walled pool, ready to submerge when he sights his quarry. Fishermen, wearing rubber-and-glass face plates, carry five-tined spears. With prying irons (right) they dislodge abalone from rocks. To qualify for the club, candidates must capture two sharks, barehanded, in 20-foot dives.



Web-footed Sportsmen, Spears Poised, Wade Out to Battle Marine Giants in Davy Jones's Locker Within sight of La Jolla's hotels (right), "skin divers" plunge into boiling surf to capture big bass, halibut, sharks, and spiny lobsters.

With Gun Spears, These Underwater Hunters Seldom Miss

On contact with a fish, a .38-caliber shell drives the spearhead into the quarry. The goggler hangs on by a line attached to the point.

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Ektachrome by Lamar Boren

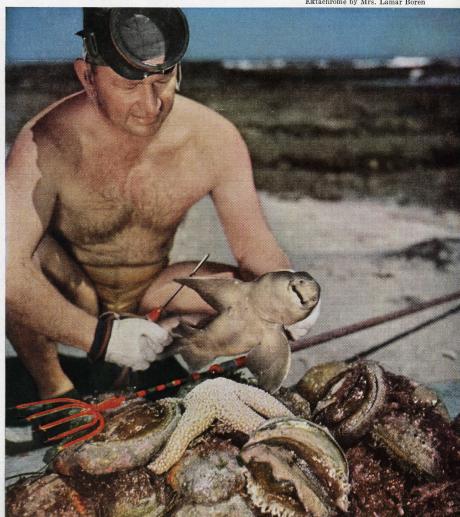
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Behind Bullhead Shark's Silly Grin Are Powerful Teeth

Erect spines on its back gives this creature another name—horned shark. Gogglers call it the "fish with the lipsticked mouth." It was caught by hand.

Ektachrome by Mrs. Lamar Boren







On a jaunt to Baja California (right), members of the Bottom Scratchers Club and their companions risked broken bones but found fish and spiny lobsters plentiful.

More and more girls, like the one resting on a rock near La Jolla, are taking up spearfishing.

Good Hunting! As One Goggler Goes Down, Fins up, Another Surfaces with Abalone for His Comely Board Tender

The girl on a plywood paddleboard follows the divers to spare them long swims to unload their catch. California law lets sportsmen take 10 abalone a day from high-tide mark to a depth of 20 feet. Commercial fishermen wear diving suits and work in deeper water.





After a Day of Diving, Gogglers Feast on Tasty Chowder

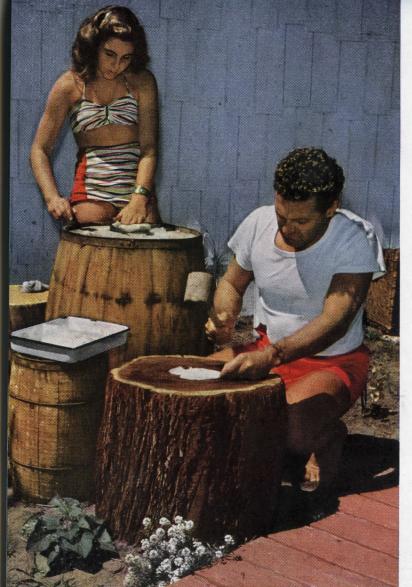
Into the pot go fish, spiny lobsters, abalone, and clams cooked with a spicy tomato sauce. Also popular are abalone "burgers."

Among these spear fishermen and friends gathered around a fire on La Jolla beach are boys wearing the sting-ray insignia of the Mantas, a high school and college age diving club.

Ten years ago goggling was known only to a hardy few. To-day thousands follow the sport. From their ranks, in World War II, came many of the Navy's "frog men," or underwater demolition experts.

On Guam these specialists destroyed more than 1,000 obstacles, to make troop landings possible. Others, on Omaha Beach in the Normandy Campaign, suffered heavy casualties while sapping within two days 85 percent of the German underwater traps.

© National Geographic Society Ektachrome by Lamar Boren



No Matter How Thin You Slice It, It's Still Abalone

After bringing "abs" up from the depths, gogglers gouge the animal from the shell (right) and trim viscera and outer surfaces from the edible "foot," or muscle.

Then the meat, tough as a rubber tire, is cut into half-inch strips and "tenderized" with a wooden mallet (left). Steaks are fried or cooked in chowder. They suggest the oyster in flavor.

Abalone are marine gastropods, or snails. When clamped to rocks, they take in oxygen by pumping water under the edge of their shells and discharging it through a row of holes.

Pacific coast Indians once used abalone shells as ornaments and as currency. Later, curios made from them sold so readily that shells were worth twice as much as meat. Today, while some are polished and sold as souvenirs, tons are used to build retaining walls.

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↑ A Goggler Drags In "the Big One That Got Away"—Almost!

When Jack Prodanovich landed this 112-pound gulf grouper, he found it carrying a spear point he had lost a month earlier. Prodanovich, crack diver of the Bottom Scratchers Club, has caught other fish weighing up to 207 pounds.

632

Ektachrome by Lamar Boren

Junior holds the antennae of a 12-pound spiny lobster speared by a goggler in a rocky den off La Jolla. The Pacific coast crustacean, *Panulirus interruptus*, lacks the pinching claw of its northeastern American cousin. The tail yields rich meat.

