



Diving the Land of Volcanoes

Kamchatka

— *Russia's Mysterious East*

Text and photos by Andrey Bizyukin, PhD



Bears, steller sea lions and orcas are the real lords of this wild land. PREVIOUS PAGE: When you fly into our dreamland, that is Kamchatka, you see only volcanoes in and around the majestic mountain ridges. It is still a world of untouched wild nature



“Is there diving in Kamchatka?” my buddy asked me while inspecting a map of Russia on Google. It was such an unexpected question, it put me in a stupor. As a Russian dive professional, I certainly should know about all the dive sites and dive centers around the country, but I was stumped with this question about Kamchatka.

The question and the uncertainty got so deeply stuck in my head that the hasty decision to go to the state of Kamchatka and check out the diving there was immediate, and I was determined to make it happen as soon as possible. I decided to investigate everything about Kamchatka and get rid of this annoying

blank in my chest of diving knowledge.

Each more or less erudite traveler I questioned told me that Kamchatka is the land of volcanoes. Of the more than 600 volcanoes on the planet, 160 of them are located on the peninsula of Kamchatka, and 30 of them are active. Volcanoes are even on the flag and emblem of the state of Kamchatka.

Official statistics state that Kamchatka has only about 15 thousand tourists annually, and the majority of them are citizens of the United States, Japan, and other foreign visitors. I was amazed that the percentage of Russians in these numbers was a lot less than half, in comparison to the approximately three million Russian tourists that visited very similar environments in Alaska. All these numbers pushed me to thinking that something was not quite right about my fellow countrymen’s knowledge of Kamchatka.

Most of the travel agencies (operating tours to Kamchatka) offered me hiking or helicopter excursions to the volcanoes, white water rafting on wild rivers, fishing, photo sessions with wild bears, bathing in hot springs and other small pleasures for boring philistines. But in regards to diving on Kamchatka, there were only rare, atypical replies, which brought me big doubts about the professionalism of the operations there.

The Internet—the best friend of divers today—informed me that August was the best season to travel to Kamchatka. We found only one PADI dive center, Orca-Diving, in the town of Petropavlovsk-Kamchatsky. This information wet my appetite and growing desire to dive even more, together with real professionals, on the coast of the mysterious volcanic peninsula.

We booked our flight for March to save money on seasonal airfare increases





Overview (above) of Petropavlovsk-Kamchatsky—the capitol city of Kamchatka; Anna Butkovskaya, PADI instructor and director of Kamchatka's dive club (inset); Location of the state of Kamchatka on map of Russia (left)

group of 19 brave underwater adventurers land on the concrete airstrip of Elizovo Airport.

History

Since ancient times, Kamchatka has been occupied by the tribes of Ilmen, Koryaks and Ainu. The first visit by a Russian to Kamchatka is not dated precisely, but Georg Wilhelm Steller (Stöller)—the historian of the first Kamchatka expedition—mentioned that Russians already lived on Kamchatka in the 17th century. There was even history about a certain person, Fed'ka, who travelled across Kamchatka and lived there for some time.

Officially, the peninsula was explored much later by Yakuts and

Anadyrs Cossacks who traveled there from the continent. Unfortunately, many documents of that time have been lost, as they were written on birch bark and stored in wet conditions in an old state office.

Eventually, Europeans discovered Kamchatka in 1729, when the Russian flotilla under command of Vitus Jonassen Bering—the Dane in the service of the Russian sovereign—rounded the peninsula from the south and made maps of the bays of Kamchatka and Avachinsky.

The peninsula is bordered by the Ohotsky and Bering Seas and the Pacific Ocean. The only overland way to Kamchatka, via the northern isthmus connecting Kamchatka with the continent, is through a land of bogs and very difficult to pass—



Map of the Kamchatka Peninsula

for such popular locations as Petropavlovsk-Kamchatsky. We were not in error to do so! In summer time, Russian air-monopolists raise the prices more than double the going rate, and tickets to Kamchatka become more

expensive than flights to the United States, Seoul, Hong Kong, Singapore, Manila or Tokyo.

It is a nine-hour non-stop flight between Moscow and the state capital of Kamchatka. Finally, our





The orca pod (above) was very friendly with us. They were very curious, liked our boat and sought contact with people; Puffins (inset above) can dive deep, about 30 meters, to hunt for fish. This red-beaked bird had even caught a few small fishes and tried to hide them from us; Our boat named *Orca* (right & below) really attracted all the local orca families. Did they like the sound of our engine or our maybe our experienced Captain Sergey (previously a professional submariner) in blue, standing on the stern? The sea otter (left inset) is the most clever creature of the sea

almost impossible for any surface transport. Therefore, all the most necessary items for normal life for people there are delivered by ships or planes from Vladivostok. At present, Kamchatka exists as an isolated island removed from mainland Russia.

Dive operator

We were happy with our guide. In Petropavlovsk, we met Anna Butkovskaya, PADI instructor (MSDT #636191) and head of the Orca Diving Club. "Diving is my hobby which has become my favorite work now," said Anna. She told her story: "Ten years ago, I did my first dive in the Red Sea—bright unforgettable impressions—

feelings of freedom of movement in three dimensions and communion with the underwater world that left indelible impressions on me for the rest of my life. Even now, as a PADI professional with hundreds of dives under my belt, I still enjoy diving, weightlessness and the feeling of comfort underwater.

"But Kamchatka's diving is special," Anna said, more seriously. "Here, it is difficult, much more severe, sometimes rough, diving. The water temperatures range from 14°C to -2°C depending on the season and depth. The visibility is 6-10 meters. There are thermoclines and tidal currents. The eastern (Pacific) coast of the peninsula is cut with sheer cliffs and has many deep and long gulfs and bays. This coast is



Sea lions, worried about hunting orcas, jump out of the water onto the safety of the rocks



sights and hiking the volcanoes, but for diving, August is by far not the best time. Frequent storms and poor visibility (due to many types of plankton) will make lots of problems for us.

“The underwater world of Kamchatka is unbridled—an often unpredictable element. Here, a diver is only a small particle. It attracts, frightens and commands respect simultaneously. I love our Pacific Ocean, and I will not exchange it for any warm seas. I have seen many oceans, but I’ve never seen another place with the unique underwater world that is here in our Kamchatka. Here, there are more than 350 fish species, seals, sea lions, sea otters, octopuses, walruses, orcas, whales, fur seals, king crabs and sea hedgehogs,” said Anna.

Avachinsky Bay

The next day we went on our first dive trip to Avachinsky Bay. The bay is the



CLOCKWISE FROM TOP: Rocky coast of the Pacific side of Kamchatka; Unique rock formations near Starichkov Island look like huge stone whale fins from the Stone Age; Orcas patrol the local waters like Nature’s coast guards

traditionally the most interesting and convenient for diving, but it is almost like diving in the ocean. It’s possible to feel how strong ocean rip currents are even at 20 meters depth, and believe

me, not every diver can dive safely in such harsh conditions. By the way, you have chosen the wrong time of year for diving here. The end of summer is a good season for visiting the topside





CLOCKWISE FROM LEFT:
Diver with huge anemo-
nes in Avachinsky Bay;
Say, "Aaaaah", with su-
per big Kamchatka crab;
Hugging seaweed fronds

penetrated into my body, head and hands; and the bottom was not visible. In order to read the color screen of my dive computer, it was necessary to bring it face to face with my mask. The nervous divers and beginners could not handle any more; they inflated their BCDs and left us. Go back to the sun, folks!

We continued our descent in hopes of finding clear water below two thermoclines. But in the absolutely muddy, gray-green, dark waters, I wondered why I had to fly to the other side of the world just to dive in such terrible conditions. The irritating question itched inside my head. So far, the first dive on Kamchatka was a real upset. But finally, I got something hard underfoot—apparently, the



second largest in the world. It looks like a tiny sea—24 kilometers long with a maximum depth of 26 meters and capable (the experts say) of hosting all world's fleets in just one convenient spot.

The guides told us about a local favorite dive site named the Three Brothers—the three separate rocks—sitting at the mouth of the bay. They promised canyons decorated with sea anemones, sea hedgehogs, crabs, octopuses, plus an "adrenaline splash", as the dive could have low visibility, extremely cold water and strong currents.

Indeed, we jumped into very cold water. We did a last bubble check and started the dive. Visibility was simply not present; a piercing cold

sea floor.

It was necessary to lie down just to see the sea bottom and the stones. Even at this depth, the visibility was less than one meter. But the unique forms and colors of the surrounding landscape were quite unusual. Sponges, seaweeds and small sea anemones covered the stones and had surprisingly bright yellow, orange, pink, snow-white and red colors. Such a variety of colors I had never seen before altogether in one area of the sea.

However, in this incredible low viz, I lost my buddy immediately. With no compass and no guide, there was nothing to do but wait. The preliminary dive plan was all but





Fishers (like this guy at left) like to eat freshly caught salmon—within five minutes of the catch, they eat the salmon salted; Quadricycles, or off-road vehicles, are the most convenient form of transport in a country without roads; Both people and bears hunt the salmon that swim up river for the last time to spawn; Divers enjoy a hiking trip to the local valley of geysers to see the boiling lakes and clouds of steam



destroyed, but I decided to stay on the bottom just a few minutes more to try to see something else.

Large Kamchatka crabs were busy here; they coupled and chewed something, feeling themselves safe under the stones. Huge sea anemones hid between big boulders. But since the visibility did not exceed one meter, I was diving like a blind kitten, perceiving the world around me with touch alone. Suddenly, from the muddy environment there was a diver's hand which grabbed for one of my fins. Good luck was with me—it was my buddy. We knelt opposite each other at a distance of 50 centimeters and gesticulated madly. There was nothing more to see. The diving in the Avachinsky Bay was really extreme.

Our skipper told us that the best visibility in these places happens only in June and July. In the beginning and middle of summer, there is less sun, overcast skies or rain, but the sea is quieter and the water is clear.

Topside adventure

Nobody from our team wished to dive more in the bay. All understood that the time had come to look for new places in the open ocean, but a

strong wind and high waves changed our plans. We decided to wait for good weather, and instead, made a short land journey across Kamchatka to bide our time. Our topside



adventure included a rafting trip down the "Big Fast" river; an excursion into a mini valley of geysers at the volcano, Mutnovsky; and a quadrocycle trip to the foot of the Avachinsky and Koryak volcanoes.

Time on this adventure flew by very quickly. It was exciting to plunge into the wild nature of the peninsula, to observe wild

bears hunting for salmon, to cook food on an open fire, to spend the nights in tents, to drive quadrocycles on the forest roads as fast as possible and to photograph salmon heading to their spawning grounds through rough river rifts. But as keen divers, we quickly started to miss diving and waited with anticipation for the first possibility to go back to the ocean again.





A hunting orca (above) looks like a perfect weapon and even scares a guillemot (inset below); An unforgettable moment of diving (right) inside a massive cloud of jellyfish; Diver with one of Kamchatka's brightly colored seastars (bottom right)

Starichkov Island

The mouth of the shallow Avachinsky Bay to the ocean had changed our perception of Kamchatka considerably. The strong ocean rip current shook our small dive boat, and foamy waves broke violently along the rocky coast. Here, everything looked totally different—rugged, majestic and mystical. We were surrounded by the North Pacific, full of the power of nature and wild life. Puffins and guillemots flew over the sea and dived into the water. In search of food, they plunged to depths of 30 meters for several minutes and came back with mouths full of fish. Our presence frightened them and they sped away flapping and running with webbed feet on the water's surface to take off and fly away from our boat.

Orcas

"Orcas on the right side!" the skipper exclaimed. Everybody raced onto the deck and scanned the ocean. The first fountain of mist blew and a large one-and-a-half-meter dorsal fin of a huge orca male rose over the waves. Behind it rose more and more fountains and dorsal fins of lesser sizes. Orca cubs appeared surrounded by orca females. It was a group of orcas of no

less than 20 individuals (males, females and cubs). They passed by, along the rocky coast to the south in the direction of Starichkov Island, like we were.

"Orcas know and love our yacht," the skipper told us. "They have learned to identify the sound of our engine and propeller, have gotten used to our frequent presence in these places and have stopped being afraid." We followed the orcas with a parallel course. The orcas were busy hunting for fish. They stunned the fish with the loud noisy blows of their tail fins. The orcas dived under our ship, and it seemed that they very much enjoyed posing before us divers in order to be photographed. So, together with



these magnificent animals, we reached our next diving site.

At this dive site, Anna told us, a very amusing story happened. "Two divers saw an octopus underwater. One of them wanted to get a closer look, so he got very close to the octopus. The octopus was frightened by the diver and decided to attack the diver, spurring out black ink into the

diver's mask and ran away. The diver was so frightened by the inky reaction that came right into his mask, he jumped out of it. From the outside, it looked really funny: the frightened diver and the octopus quickly running from each other and the mask thus remained laying on the sea bed," explained Anna.





A humpback whale's tail fin tips up out of the water when it dives deep to hunt fish

We dived near the island. The sea water here was much colder; my dive computer registered 2°C. We went along a stony bottom to a depth of 20 meters where there were supposed to be huge sea anemones. A recently ended storm had mixed everything about; therefore, the visibility was about three meters.

Bright yellow, orange and red colors of the underwater landscape are pleasing to the eye, but at depth, all colors fade. In such conditions, a good underwater torch is very useful, as it was in this case.

There were huge, prickly crabs of bright red color covered with an uncountable quantity of sharp thorns, self-confidently walking slowly among luminous thickets. I attempted to play with one of the crabs; it went into a menacing pose and tried very hard to take off my finger with its monstrous claws. The big sharp thorns can easily pierce even thick neoprene gloves. It is necessary to be very cautious with such impressive Kamchatka monsters.

A forest of gigantic sea anemones

and seastars appeared at a depth of 17 meters. The tallest of the anemones reached half a meter in height. We took pictures of them, but quickly got cold and subsequently decided to start a quick ascent to the surface right from this spot. But just a couple of meters up from the bottom, we got into an extraordinarily dense layer of jellyfish.

It was a real underwater phenomenon, like a jellyfish wedding or a macabre underwater festival of pulsating globes. The jellyfish were so active, that even when I tried to push one aside, it quickly, purposefully and persistently ran into me again. We forgot about the cold and stayed in the thick of the jellyfish cloud, enthusiastically observing their movements and taking pictures. Other skilled divers have told us that they have seen a similar jellyfish gathering, only it was in a tropical lake—Jellyfish Lake on Palau. But finding a jellyfish cloud in ice cold Pacific waters on Kamchatka was doubly exciting, interesting and delightful.

Orcas also use their tail fins, whacking the surface of the water loudly to stun fishes they then eat (above); Views of humpback whales (top)

Close-up view of jellyfish





THIS PAGE: Exciting diving with curious sea lions looking to communicate and share contact with divers. It is the absolute highlight of diving on Kamchatka



Back on the boat, fascinated by what we had seen, talking loudly, discussing, admiring and swinging our hands about, we turned back towards the town of Petropavlovsk. But then, humpback whales grabbed our attention. They were feeding directly at the mouth of Avachinsky Bay.

These huge underwater giants, of a size much larger than our boat, blew up noisy fountains of mist and circled around us with big, wide, gaping mouths, collecting something tasty from the sea surface. Periodically, they lifted their tail fins and dived deeply; then they again rose to the surface—paying no heed to our noisy shouts of excitement and the sound of our boat engine—and continued to be engaged in their important whale affairs.

Yes, the long-awaited day of diving had gone wonderfully right and well. We saw orcas and humpback whales, dived with monster crabs, swam through actinium gardens and spent some enthusiastic minutes in a natural stew of live jellyfish. Life was good.

Diving with sea lions

We left Petropavlovsk at 4:00am the next morning in order to have time to reach Russian Bay—a cozy, rocky place on the coast where sea lions have chosen to make a home for themselves.

Huge rust-colored sea lions (steller sea lions) spend all their summers here—feeding, warming



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The alpha male (sea lion bull) with his harem, very protective of his girlfriends and jealous of us; Diving seal (below right) demonstrates incredible mobility

themselves in the sun, getting fat, raising pups and hiding from orcas. In order not to disturb the large animals, we silently entered the water from our boat about 200 meters from them. We swam to a site where we could observe the seals underwater. We stopped at seven meters depth and waited in hopes of a miracle—that the natural curiosity of the sea lions would get them to dive into the water and come see us.

Really, curiosity is the surprising natural phenomenon pushing both people and animals into improbable adventures. Within five minutes, a group of sea lions of at least ten to 15 individuals came to examine and sniff us out from all sides. They obviously discussed us among themselves.

They came as close as possible to us. With big, wide open, brown eyes, they looked directly into our masks, carefully bit our fins, tasting them, and one even gave me a kick in the back for good measure—for in front of me, there was “a terrible” bulky camera with wide-spread strobes.

The sea lions did not lose interest in us for the entire hour of diving. I was delighted to be able to take around a hundred shots or so of these wonderful creatures and only came up to the surface when when my air tank was empty. All of us divers were full of euphoria.

The female sea lions had disappeared somewhere, but the big five-meter-long sea lion bull came up out of the water 50 meters from us. His head was



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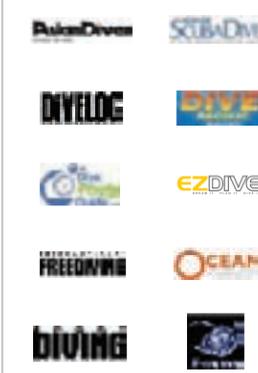
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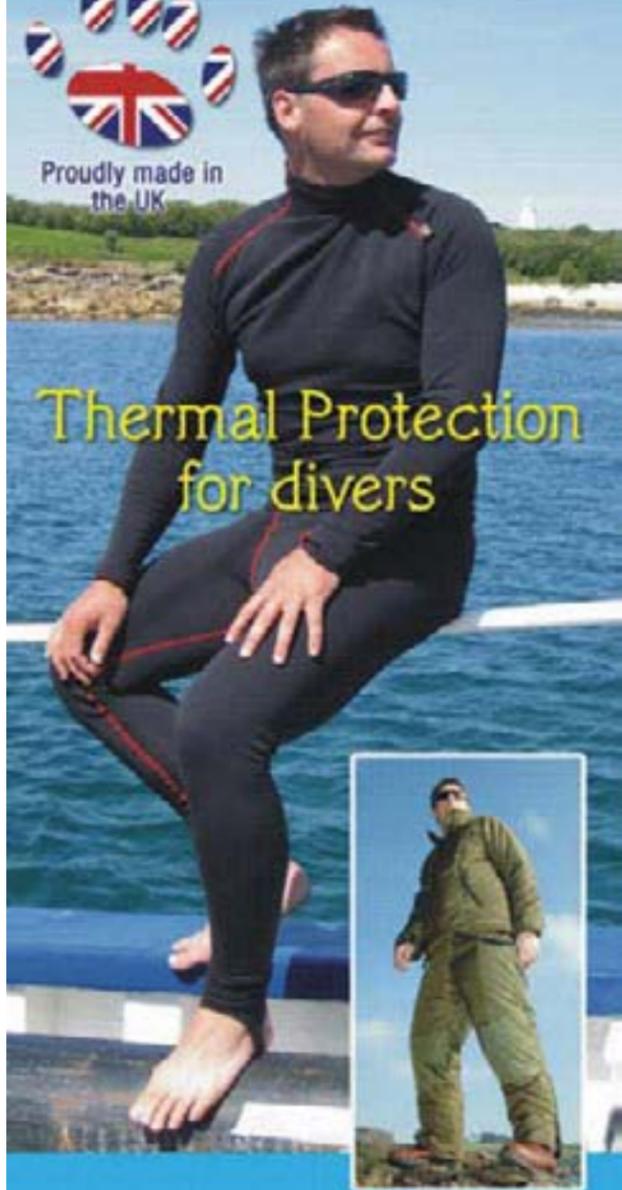
Kamchatka

similar in size with that of an adult bear. He was very protective of his territory and his harem of sea lions, looking at us with such jealousy that we instantly felt we had exceeded our stay, challenging his permission and intruding on his private territory.

In an instant, as if by a single command, we all switched on our "fifth gear" and forced our fins into action desperately trying to reach our boat. The excited sea lion bull charged with such force and speed when he rushed at us that we understood at once that we were dead meat. In actuality, we did not have a prayer to get out of the confrontation. Only a miracle could rescue us, and so, it did—in the form of an inflatable boat with a motor and a skilled diver at the helm who kept control of the situation and reacted instantly. At

Support team (left) picks up divers on the surface; Hot springs at +40°C sooth muscles after a long day of hiking (bottom left); Fresh caught sea food make a feast for us cold water divers (below)

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CLOCKWISE FROM LEFT: The quadricycle tour to the foothills of Avachinsky Volcano (left); Anchorage near mouth of Russian Bay; Memorial for British and French Navy seamen who died in an attempt to capture the city of Petropavlovsk-Kamchatsky during Russian-Turkish war; Aerial view of Kamchatka

full speed, the zodiac “cut off” the path of the bull charging us, and frightened off the animal, effectively discharging the heated situation.

The technique of diving with sea lions was thought up and tested personally by Anna Butkovskaya, and its prime directive was an insistent requirement: do not pursue sea lions, just stay in place and wait for a miracle. Sea lions should not associate with divers because of the possible danger; divers should tease the sea lions’ natural feeling of curiosity only. And such a philosophy works 100 percent of the time. “Sea lions here are absolutely

pristine. Just developed, this is my favorite dive site. Diving here is like diving on one breath,” Anna told us.

Diving with the sea lions provided emotional highs and delights which completely compensated

for all the difficulties of our first days of diving on Kamchatka. The general conclusion of all the members of our group was unequivocal, we had to fly back again to Kamchatka just to dive with these graceful and extraordinary, flexible and charismatic animals.

Afterthoughts

Before coming back home, all of the divers in our group discussed diving on Kamchatka together. As a long-term resident of the peninsula, Anna explained the underlying vision of her

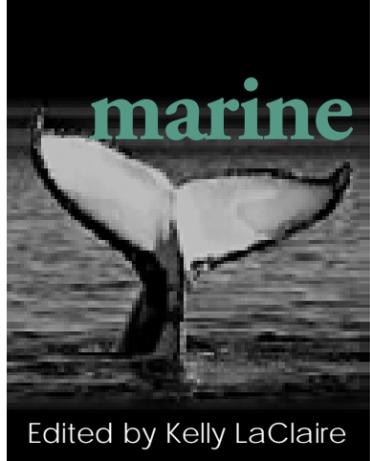
quest: “I am very enthusiastic about the preservation of our underwater world. People often destroy more than they create. Sometimes just to get food or money for living, people do not spare the underwater world. On Kamchatka, there are still untouched virgin places, and there is a lot to see. It would be desirable, that, as much as possible, divers could see our still untouched underwater world while we still can conserve it and save it from the fate of the Asian seas where there are now absolutely empty underwater regions. Let’s save and protect the natural world of Kamchatka! I wish to address this call to all the divers who live and dive on the peninsula, and also to all those who come to visit.

And I also have another dream: to organize a dive trip to see the orcas of Kamchatka. Orcas are worthy of our respect and sincere admiration. I have



not seen anything better in the world than the orcas of Kamchatka. Come with me next time, and we will dive

together! And you will be convinced that Kamchatka will not leave you indifferent,” said Anna as she finished her story. ■



marine mammals

Edited by Kelly LaClaire

Federal judge in Canada rules in favor of killer whales

A federal court judge recently ruled that Canadian environmental officials failed to give proper and adequate protection to the killer whales, or orcas, that live along the country's Pacific shores. The court sided with fervent environmental groups that argued the Canadian government had a duty to protect all aspects of the whales' habitat, some of which includes the waters between British Columbia and Washington state, not just certain segments of their feeding grounds.

According to the ruling, in 2009 government executives were negligent by limiting a protection order for the whales to only a portion of their natural habitat. There are only a little over 200 orcas that live near Vancouver Island, and they already face a host of factors militating against habitat preservation including salmon shortages, commercial pollution, acoustic disruptions from ship traffic, etc. The court's judgment was clear—the whales need all the help they can get.

It was a big win for environmental and conservation groups fighting for the orcas. "We're very pleased with the court's decision," said Susan Howatt, campaign director for the Sierra Club of British Columbia, who has been pushing for federal bureaucrats to do more for the protection of the threatened killer whales in the area. "It sends a strong message to do a better job in the future." SOURCE: REUTERS ■



Orcas breaching



Springer, a lost juvenile orca in Puget Sound

Orca thriving after return to the wild

The world-famous killer whale known as Springer is still doing remarkably well according to recent reports by researchers and scientists in Puget Sound. Just two years old when she was found lost, underweight and alone in 2002, Springer was picked up off the coast of Seattle. Experts nursed her back to health on a steady diet of salmon and medicines for a month while trying to determine where she had come from and what pod she belonged to. By listening to Springer's unique calls scientists from Orcalab concluded she was a member of the Northern Resident Community of killer whales that spend their



Researchers and scientists transport Springer back to his family pod in the Puget Sound

summers off the British Columbia coast in Canada. When she was well enough, Springer was transported to a sea pen in Canada's Johnston Strait, a deep and narrow glacier-carved passage located between the east coast of Vancouver Island and the BC mainland. Not long after, Springer was released when she began calling to a passing group of Orcas. The meeting, unfortunately, was not a success and the pod swam away without her. Fortunately, the young whale was soon spotted with another community that had close relations with her mother and one older female, known to researchers as Nodales, had taken the orphaned juvenile under her wing. Springer is now ten years old and is regularly seen with her adopted family looking healthy and happy. To find out more about Orcalab and their research, log on to www.orcalab.org. ■

Dolphins hunt with conch shells

Dolphins in Shark Bay, Australia, have developed a new and extraordinarily clever foraging technique witnessed and photographed by researchers from Murdoch University. According to details published in the journal, *Marine Mammal Science*, several dolphins have been spotted using conch shells to hunt and capture prey.

"Dolphins are known as clever inventors, showing a remarkable range of foraging tactics, which are unprecedented in other cetacean populations," said biologist Dr Michael Krützen, who is working with the Cetacean Research Unit at Murdoch University in Western Australia. For example, some dolphins have been observed hydroplaning into extremely shallow waters while simultaneously slapping their tails on the surface to chase fish into areas where they are easily caught. Other dolphins

are known to swim in small circles, kicking up mud with their tails, creating a "feeding ring", which traps confused fish and allows other pod members to rush in and grab large mouthfuls of prey.

It now seems the pod members of Shark Bay—one of the most studied pods on Earth—have developed another revelation in fishing tactics to add to their repertoire. Here's how it works: the hungry dolphins chase fish into large, abandoned conch shells, trapping them inside. From there, the dolphins simply pick up the shells off the sea floor, bring them to the surface, shake their heads back and forth a few times until the fish falls out and, viola . . . instant satisfaction!

Researchers are not entirely sure how or when this new behavior started, but they are fairly certain no other dolphins hunt this way. SOURCE: BBC NEWS - NATURE ■



Bottlenose dolphin

NASA





marine mammals



Russia and United States team up for endangered whales

A team of scientists and researchers from both the United States and Russia have successfully tagged a male western gray whale in hopes of tracking him to breeding grounds and thus gaining vital data for future research projects and conservation efforts.

This is the first time a whale from this critically endangered population has been tagged and traced. "Tremendous care was taken to select a healthy adult male," said Greg Donovan, head of science for the International Whaling Commission who coordinated the project. "Although the risks associated with such tagging are minimal, we wanted to take absolutely no chances with females or young animals. The information we expect to get from this study is vital to international conservation efforts to preserve this population, as is the collaboration between governments, international organizations, international scientists, industry and other stakeholders."

The tagged whale, known as

Gray whale

"Flex", is well known to the team of researchers, having been seen and photographed since the late 1990s when it was just a calf. Transmissions from the tag are collected every-day via satellite and then sent to the researchers for further analysis and study.

"Not a lot is known about western gray whales, so finding out where they migrate to breed and calve will be a tremendous step forward," said Bruce Mate, director of the Marine Mammal Institute at Oregon State University and one of the chief scientists helping to coordinate the project. Any data collected would

be invaluable to those attempting to aid recovery of the fragile population. There are only about 135 western gray whales left in the world with approximately 30-35 sexually mature and active females. While their feeding grounds in the Russian far east are well known, little is understood about their breeding and calving grounds.

The scientists involved in the collaborative tracking project are hoping the collected data from Flex's transmitter will help safeguard and reestablish gray whale numbers, but also aid future international conservation and protection efforts around the globe. SOURCE: REUTERS ■

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Mediterranean monk seal 'haven' discovered

Scientists discover rare seal colony at undisclosed Greek location. Researchers are keeping the colony's location secret to avoid disturbance by visitors

The monk seal is not only the world's most endangered seal, but also one of the most endangered marine mammals.

Fortunately, a glimmer of hope has arisen for the embattled species whose numbers teeter on the brink of extinction. Scientists have discovered a colony of the rare creatures at an undisclosed location in the Greek Islands. It is the only place in the region

Monachus is a genus (and a subgenus of the same name) containing the monk seals, a group of three Pinniped species. They are the only earless seals (Family Phocidae) which are found in tropical climates. They are now extremely rare, and the genus is in imminent danger of going entirely extinct

where seals lie on open beaches, rather than hide in coastal caves. Researchers are keeping the location of the colony secret to avoid having the seals disturbed by human visitors.

Mom

Alexandros Karamanlidis, scientific co-ordinator of the Mom/Hellenic Society for the Study and Protection of the monk seal, explained that this was the seals' original behaviour. "It is human disturbance that has caused the species to retreat to inaccessible

caves. So this place is incredibly important—the seals feel so secure that they go out onto open beaches."

The Mom researchers, whose society name is derived from the Latin name of the species, *Monachus monachus*, have been monitoring and studying monk seals for more than 20 years. This has not been an easy task, as most of the animals now live in areas that are not visible from the water line. By driving the seals into secluded caves, scientists say that human activity has also greatly affected the number of seal pups that survive into adulthood.

"Because of human disturbance, the seals give birth in

these coastal caves, meaning that more pups die during storms," explained Karamanlidis. The number of seal pups born annually in the newly discovered colony is amongst the highest recorded anywhere in the Mediterranean Sea.

Tourism

The region's popularity with tourists has gradually driven the animals away from other beaches, something scientists hope to stop from happening on this island. The team has placed cameras on the island to study the seals remotely. "It's a small island in the Aegean with nice sandy beaches," said Karamanlidis. ■

Seals returning to the Baltic

Scientists from the Institute of Oceanography at the University of Gdansk say in the last 20 years the population of seals has grown in the Baltic from 4,500 to 20,000.



Gray seal

After an absence of almost 50 years, gray seals are returning to the Polish coast of the Baltic Sea, researchers said, but not everyone is happy about it.

There was once a time when seals thrived in the cold waters of the Baltic Sea. At the turn of the 20th century, the natural population was estimated to be 100,000 seals strong, but thereafter, the populations suffered a strong decline. Fishermen, whose livelihoods depended on abundant fish stocks, considered seals an unwelcome competition. For decades, they drove away and killed thousands of seals until eventually there were none to be found. Such was the anti-seal sentiment at one time that the government sanctioned a mass

seal cull, offering rewards to fishermen for each seal killed.

Now, after almost 50 years of absence in these waters—and after the governments of Sweden and Poland have been working to rectify the damage done over the last century by monitoring seal populations,—the animals are finally making a comeback, thanks to tireless conservation efforts.

From an estimated 4,500 seals in the region just 20 years ago, their numbers are thought to be closer 20,000 today. A shift in attitudes has lead researchers to conclude that peaceful coexistence between man and seal is not only possible, but also necessary for the preservation of the ecosystem as a whole. ■



The Mediterranean monk seals is critically endangered and not many images are readily available. This file photo shows the related and equally endangered Hawaiian Monk Seal resting and sunbathing on a beach near Wailua Bay

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Realm of the Giant Kelp

Channel Islands

Text and photos by Matthew Meier

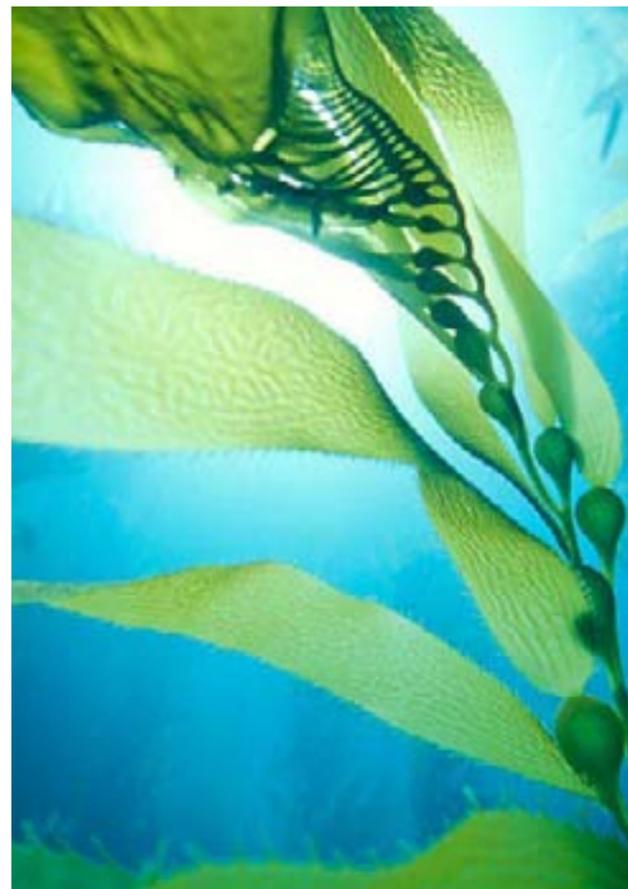


A two-spotted octopus (*Octopus bimaculatus*) moving along the sandy bottom (above), Santa Cruz Island. PREVIOUS PAGE: A school of jack mackerel (*Trachurus symmetricus*) fish in a giant kelp forest off Catalina Island

For those of us fortunate enough to call Southern California home, the Channel Islands offer world-class diving in our own backyard. Comprised of eight islands stretching over 160 miles of Pacific Ocean, the Channel Islands boast over 2,000 terrestrial plants and animals, including 150 endemic species, rivaling the Galapagos for diversity. Below the surface the islands play host to forests of giant kelp and a multitude of abundant marine life, supported by nutrient rich, cold water upwellings. The rocky reef structure is covered with algae and sponge growth, bryozoans and hydroids, anemones, tube worms, burrowing sea cucumbers, sea stars, urchins and nudibranchs. Spiny lobster, moray eels and octopus shelter in crevices, while fish species too numerous to mention, range from the resident bright orange Garibaldi to colossal giant sea bass.

My first underwater photos were taken at the Channel Islands, and I have returned every year since. On my most recent trip, the liveaboard

spent two days anchored at one dive site, in which time, none of the 20 photographers and videographers onboard ran out of subjects



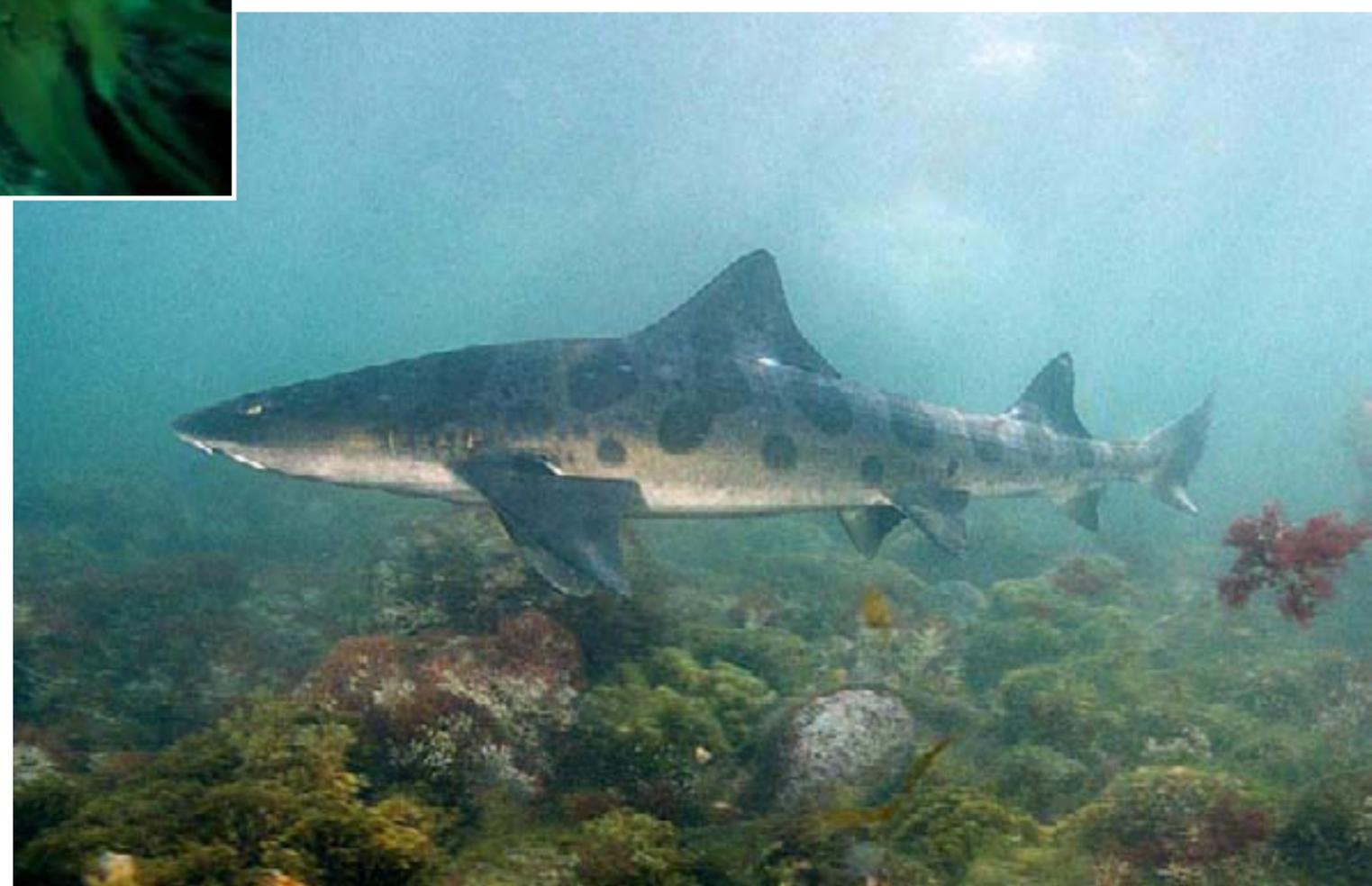
Giant kelp (*Macrocystis pyrifera*) lit from behind by sunrays, Santa Cruz Island



Ochre sea stars (*Pisaster ochraceus*) and purple sea urchins clinging to the rocky reef (above) off Santa Cruz Island



LEFT INSET: Horn Shark (*Heterodontus francisci*) laying in a rock crevice, Catalina Island



CLOCKWISE FROM TOP LEFT: Soupfin shark (*Galeorhinus galeus*) with jack mackerel swimming over kelp, San Clemente Island; Giant sea bass (*Stereolepis gigas*), adult, also known as black sea bass, Catalina Island; Leopard shark (*Triakis semifasciata*) in shallow water filtered with sunrays, San Clemente Island

to shoot. We were privileged to have harbor seals and California sea lions nearby, a vertical wall of rocky reef full of macro subjects, bat rays in the sand below the boat, and schools of Jack mackerel, opaleye and blacksmith fish, along with soupfin and leopard sharks swimming in the shallow waters of the giant kelp forest.

On one particular night dive, I discovered an elusive two-spot octopus moving across my fin, as I knelt in the sand. Octopuses are not often seen during the day, preferring to stay in their den or else hidden in plain sight, camouflaged against the rocky reef. With no room to get down on its

level, I was left to hold my camera just above the sand, shooting blindly as it moved away. Days later, when my film was developed, I was rewarded with one of my more unforgettable octopus images.

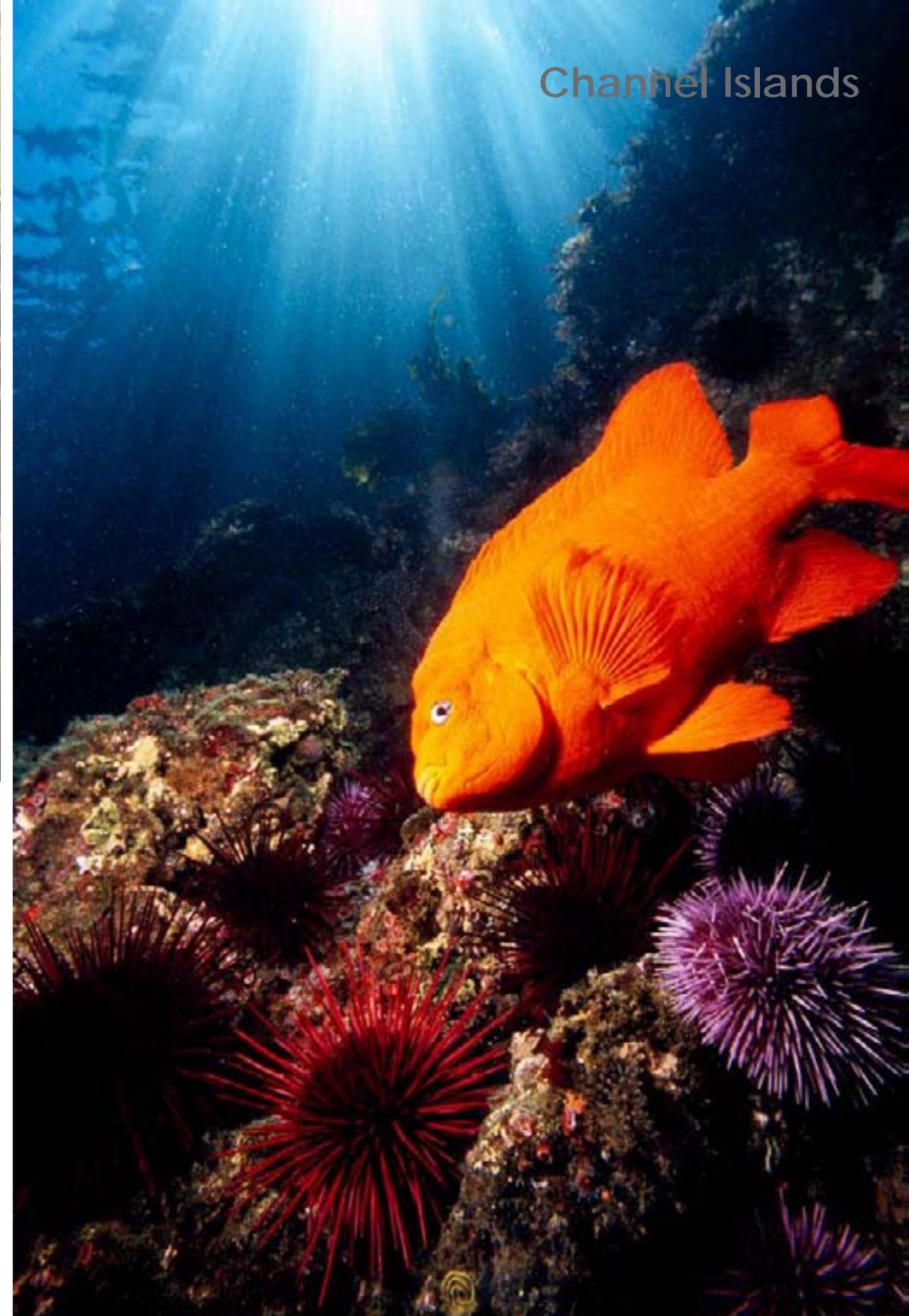
Big fish

Spectacular to see underwater, giant sea bass are the largest species of fish living in the kelp forest. They can grow to be over seven feet in length and weigh upwards of 700 pounds. Due to their dwindling numbers from overfishing, giant sea bass have been protected in California waters since 1982. While still listed as a critically

endangered species, giant sea bass are slowly making a comeback. Swimming alongside one of these behemoths is truly an amazing experience.

The Channel Islands support numerous shark and ray species. I have had good luck photographing soupfin and leopard sharks at San Clemente Island, horn sharks at Catalina and bat rays at most islands. It is also possible to see blue sharks, mako sharks, angel sharks, swell sharks, stingrays, shovelnose guitarfish and electric rays to name a few. In the 60's and 70's, basking sharks were common in the Santa Barbara Channel, but by now they have all but disap-

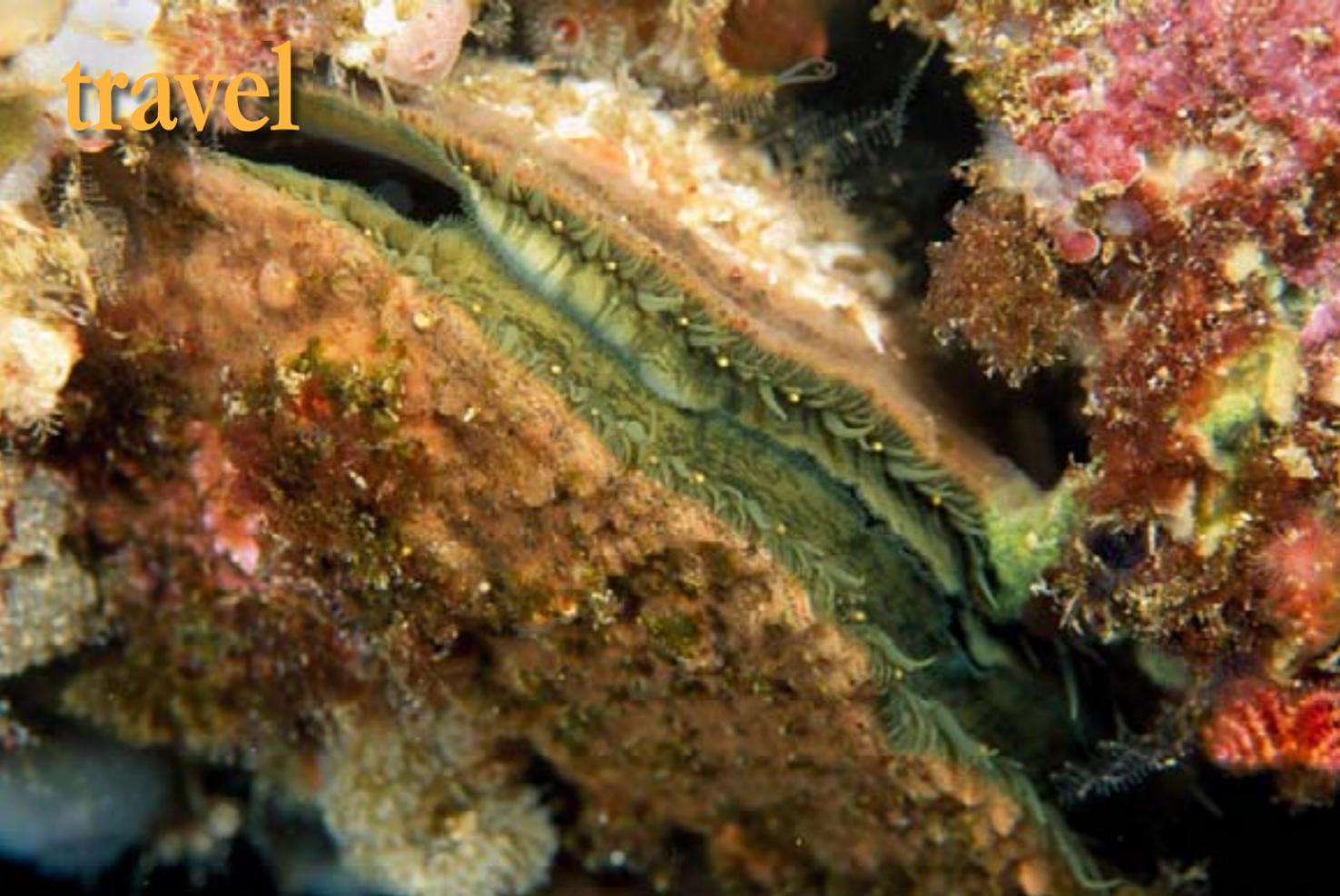




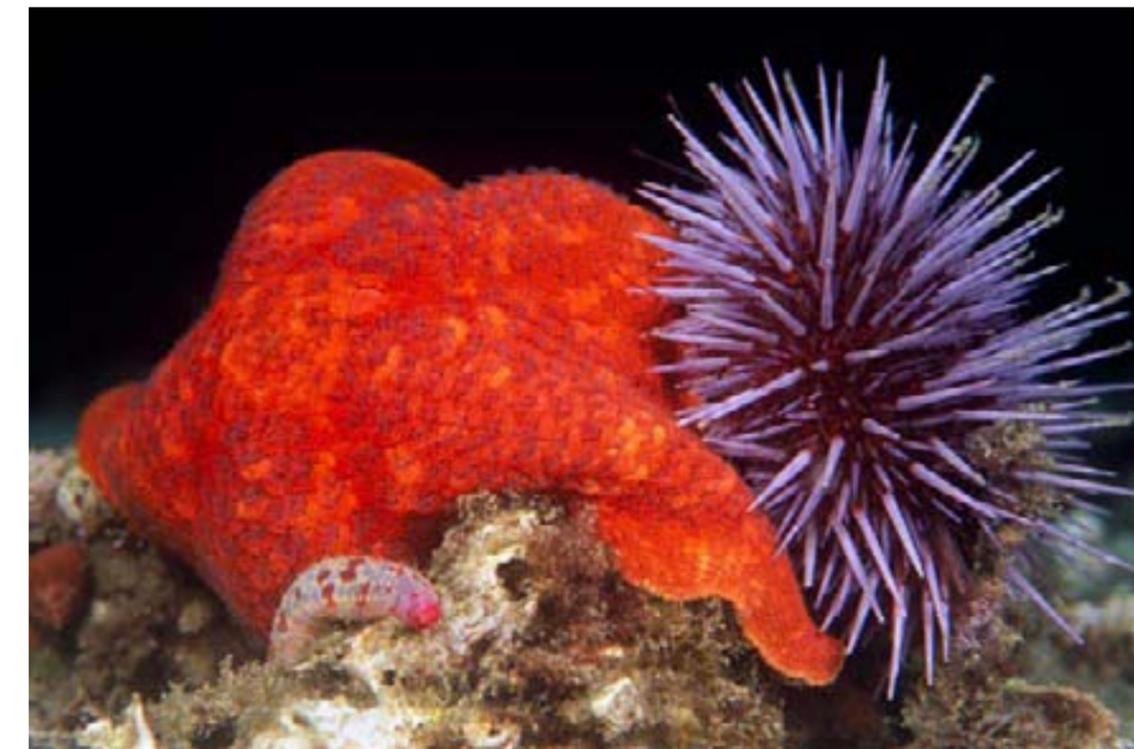
peared.

No visit to the Channel Islands is complete without encountering the charismatic and vibrant garibaldi, California's official state salt water marine fish. They are found only in the Eastern Pacific Ocean from Monterey Bay down to Baja and are abundant at the Channel Islands. Garibaldi are the largest member of the damselfish family, growing up to 12 inches in length and are a striking orange in color. A juvenile Garibaldi's color is slightly less vibrant, and it has luminous blue spots that disappear by the time it reaches adulthood. In summer, male Garibaldi construct circular nests on flat sections of rocky reef and then guard their nests after the female deposits her eggs. They are incredibly territorial during this time period and will attack much larger fish and even humans to protect their developing young.

CLOCKWISE FROM ABOVE: Club-tipped anemone (*Corynactis californica*); Coonstripe shrimp (*Pandalus danae*) sits at the opening to a crevice in the rocky reef; Garibaldi fish (*Hypsypops rubicundus*) graced with sunrays. All images this page from Santa Cruz Island



Channel Islands



Diving

Scuba diving at the Channel Islands is almost exclusively achieved by means of a day or multi-day boat trip from the mainland. Dive boats run out of harbors like Santa Barbara, Ventura, Los Angeles, Long Beach, San Pedro, Dana Point and San Diego. Single day trips usually allow for three to four dives, before returning back to the docks in late afternoon. Transport times differ depending on the harbor, boat and destination, but most range between one to two hours. The charters vary from intimate, six passenger vessels to 30+ passenger liveaboard boats.

Diving in California is for the hardy and self-reliant. The water is cold, the gear extensive and the pampering virtually nonexistent. On most boats, divers are required to provide their own equipment, tanks and even weights and to transport that gear onboard themselves. Once in the water, divers are expected to be able to read their



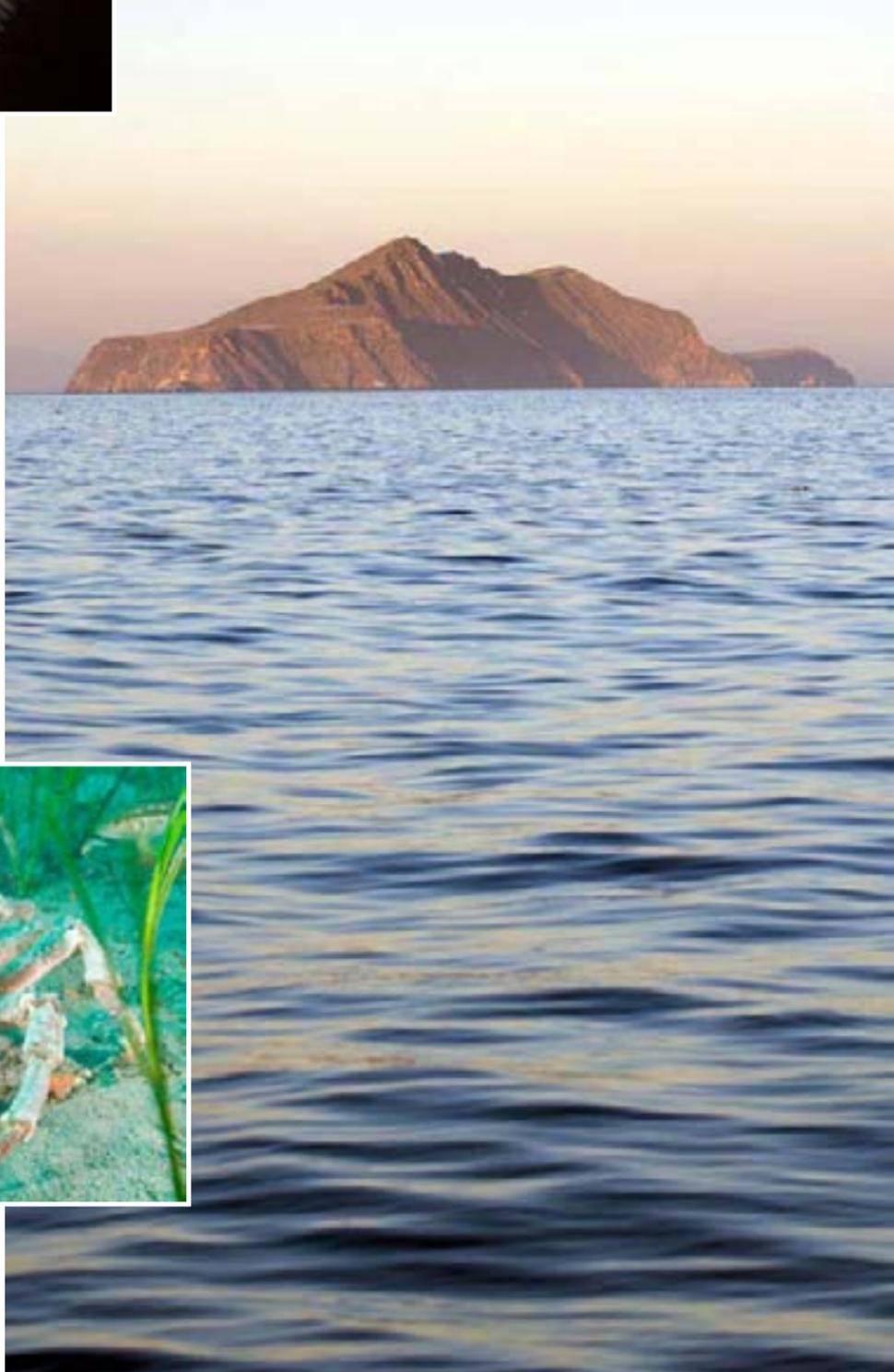
CLOCKWISE FROM ABOVE: Red bat star (*Patiria miniata*) and a purple sea urchin (*Strongylocentrotus purpuratus*); Detail view of a green rock scallop attached to the rocky reef; Sunflower star (*Pycnopodia helianthoides*) moves over the ocean floor. All images this page from Santa Cruz Island, except the three California rock lobsters (*Panulirus interruptus*) in a crevice (right) on the rocky reef off San Clemente Island





Channel Islands

CLOCKWISE FROM FAR LEFT: Silhouette of the lighthouse at sunrise over the east end of East Anacapa Island; Yellow zoanthid anemones (*Epizoanthus giveni*) growing on the rocky reef off Catalina Island; Anacapa Island (at sunset) and Santa Cruz Island make up part of the Channel Islands of California; A large sheep crab (*Loxorhynchus grandis*) moves across the sand amongst the sea grass, Catalina Island



to Catalina, though helicopter and plane rides are also available. Once on Catalina, there are a wide variety of quaint hotels and restaurants to choose from, the vast majority within walking distance of the ferry dock. Several dive boats operate out of Catalina and shore diving is also available. A must see is the Casino Point Marine Park, which was established as a marine reserve in 1965 by the city of Avalon. This shore dive is easily accessible by concrete steps taking you straight into the water.

The four northern Channel Islands (Anacapa, Santa Cruz, Santa Rosa and San Miguel), along with Santa Barbara Island comprise the Channel Islands National Park (CINP). The National Park expanded the protec-



tions of the Channel Islands National Monument, created in 1938 by U.S. President Franklin Delano Roosevelt, which covered only the islands of

may not even get wet. The reward for all this effort however, is magnificent diving and absolute freedom underwater. Plus, you finally get to prove you were paying attention during that navigation specialty course.

Visibility at the islands averages 30 feet and on a good day can reach 100+ feet. Water temperatures typically vary 5-10 degrees from the northern to southern islands. Average winter surface temperatures range from 53-59°F, while summer temperatures fluctuate between 62-70°F, though the water is typically cooler at depth. A drysuit or 7mm wetsuit, hood, boots and gloves are recommended.

The islands

Santa Catalina Island maintains the only permanent, non-military settlement on the islands, with the majority of residents living in either Avalon or Two Harbors. Boat ferries are the most common means of transportation

compass, manage their bottom time and find their way back to the boat. Dive masters typically do not conduct a follow-the-leader guided tour and



Hilton's aeolid (*Phidiana hiltoni*) nudibranch moves over the rocky reef off Santa Cruz Island



Sarcastic fringehead fish (*Neoclinus blanchardi*) in a shell, with brittle stars all around, Santa Cruz Island

heading south from their Arctic feeding grounds towards the warmer waters of Baja California, Mexico, to give birth. In the summer months of July to September, humpback whales, fin whales and blue whales come to feed. This aggregation of blue whales is the largest of its kind, with nearly ten percent of the world's population gathered in the Santa Barbara Channel.

Visitors will frequently see large pods of common dolphins and occasionally much smaller pods of Risso's dolphins at the surface. Less frequently encountered are Pacific white-sided and bottlenose dolphins. A few lucky visitors will experience dolphins or even a whale underwater while diving around the Channel Islands, but the vast majority of these sightings will be from the deck of a boat. Several tour boat operators run

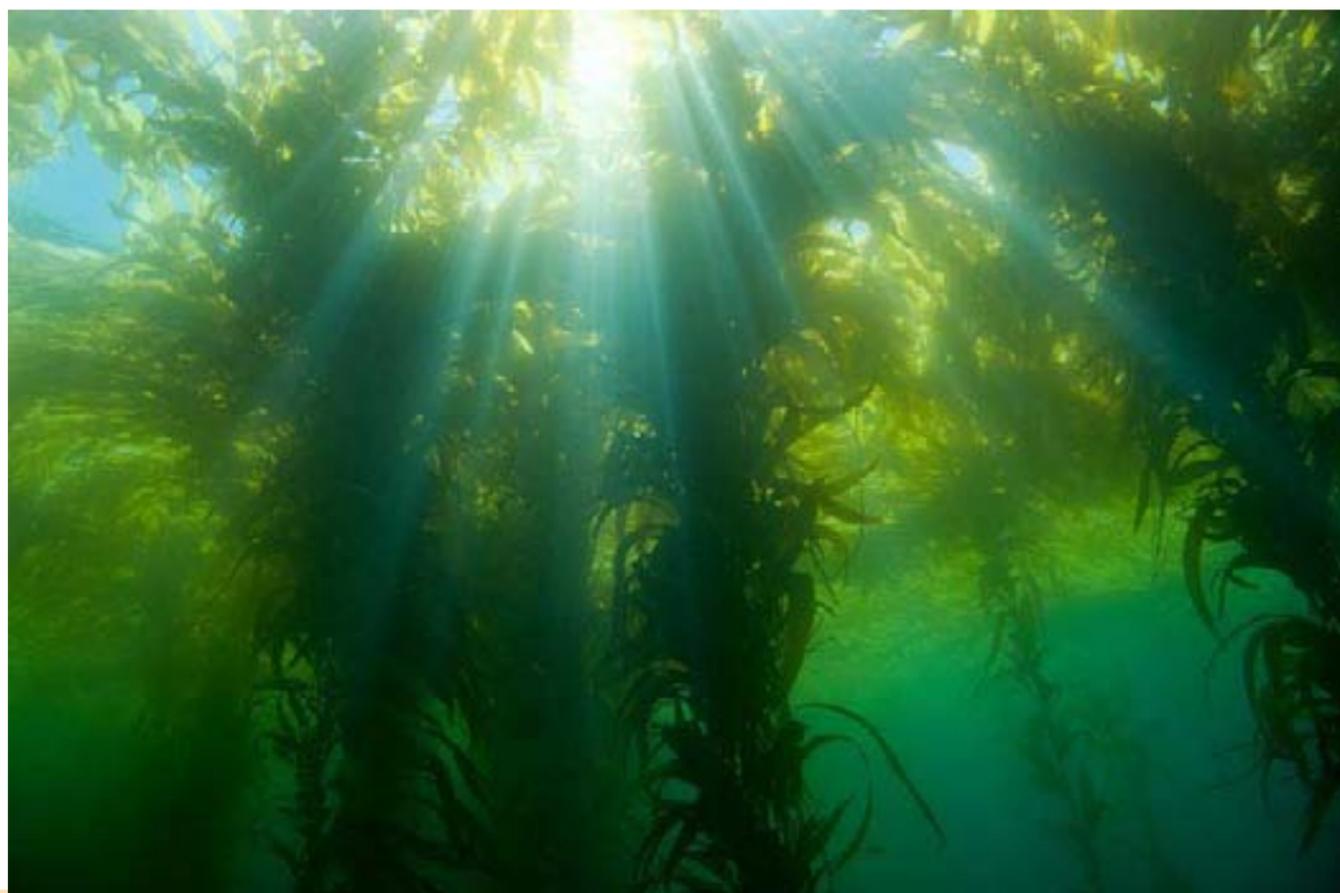


California sea lion (*Zalophus californianus*) blowing bubbles upside down, Santa Barbara Island

Anacapa and Santa Barbara. Surrounding the entire CINP is the Channel Islands National Marine Sanctuary (CINMS). The sanctuary is a marine protected area administered by NOAA (National Oceanic and Atmospheric Administration) that encompasses 1,250+ nautical square miles of the Pacific Ocean, from the high tide line of the CINP, to six nautical miles offshore. Both were established in 1980 and together they help to protect the natural and cultural resources on the islands.

Marine mammals

A wide variety of marine mammals call the islands home, and at various times of the year, many more pass through on their migratory routes. Nearly 30 species of cetaceans (dolphins and whales) have been observed, with 18 species listed as residents. Pacific gray whales migrate during the months of December through March,



Beams of sunlight shine through the canopy of a forest of giant kelp (*Macrocystis pyrifera*), Catalina Island

whale watching cruises, specifically to search out these majestic creatures.

A few years back I had the pleasure of watching a humpback whale in the Santa Barbara Channel while returning from a

dive trip. The whale was leaping out of the water, in a behavior known as breaching, at seemingly regular intervals. As we waited for its next breach and tried to estimate where it might reappear, the whale advanced much closer



Channel Islands



LEFT TO RIGHT: Humpback whale (*Megaptera novaeangliae*) breaching at Anacapa Island; Large pod of common dolphins (*Delphinus capensis*) off Santa Cruz Island

past, Guadalupe fur seals and stellar sea lions also visited the islands, but today, are rarely seen. On the northern most island of San Miguel, hundreds of thousands of pinnipeds gather, breeding at different times of the year, to form one of the largest congregations of wildlife in the world.

The leeward side of Santa Barbara Island plays host to a rookery of California sea lions. Hundreds of sea lions haul out on the rocks at night to sleep or to laze about in the sun during the day. Pups are born in the spring and learn to swim under the watchful eye of adults in the calm, shallow waters close to shore. By mid-summer, they are graceful swimmers and curious to explore their world. This is a popular dive destination and well worth the trip. Some of my most memorable dives have been at Santa

Barbara Island watching playful sea lions swim circles around me.

Topside adventures

The Channel Islands offer a wide range of activities for non-divers as well. Water-based activities include whale watching, kayaking, boating, fishing, surfing, tide pooling and snorkeling. Camping and hiking are allowed on all of the islands except San Clemente and San Nicolas, which are controlled by the U.S. Navy and off limits to the public, though diving is permitted in the waters around those islands. Limited backcountry camping is allowed on Santa Cruz and Santa Rosa. Facilities differ, but most are primitive, so be sure to check on conditions and necessary equipment



Map (above) of Channel Islands of California and their location on the global map of the world (left)

than anticipated. I was able to snap four photos as it breached perhaps 20 yards from the boat and landed with a monstrous splash. Thanks to modern technology, my photos were actually in focus, though much more tightly cropped than I envisioned. To this

day, that is one of my favorite wildlife viewing experiences.

There are four species of pinnipeds (seals and sea lions) at the islands, including the California sea lion, harbor seal, northern elephant seal and the northern fur seal. In years



Detail of green anemone
(*Anthopleura sola*),
Santa Cruz Island

FACT FILE

Southern California's Channel Islands are geographically broken into the Northern and Southern Channel Islands. Anacapa, Santa Cruz, Santa Rosa and San Miguel make up the northern islands, while the southern islands consist of Santa Barbara, Santa Catalina, San Clemente and San Nicolas.

Climate The climate at the islands is similar to the Mediterranean, with cool, wet winters, hot dry summers and moderate temperatures year round. December to March are the coolest months and July to October are the hottest. The majority of the rainfall occurs from November to April, with January and February being the rainiest. May to October is considered the dry season, accounting for only one percent of the annual accumulation. Morning fog is common in the spring and early summer due to the humid ocean air and high nighttime temperatures.

Diving Diving is possible year round at the Channel Islands, however the visibility is typically better from mid-summer through winter.

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before you go. Hiking trails vary from maintained roads and paths with directional signage to rugged, unmarked, and mountainous. Day hikers need to plan their routes accordingly, to be certain they are back at the dock in time for their boat ride home. In late winter and spring, the islands are usually lush and

alive with wildflowers in full bloom.

Bird watching at the islands can be spectacular. Over 60 species of seabirds winter, feed, nest or migrate through and 99 percent of all Southern California seabirds utilize the islands for nesting and feeding grounds. The islands also play host to the only nesting population of

brown pelicans on the U.S. west coast. Once threatened by pesticides like DDT, the California inhabitants have made a remarkable comeback.

Divers and non-divers alike will appreciate the diversity and beauty of the Channel Islands. ■

Matthew Meier is an underwater photographer and dive writer based in San Diego, California. For more information and to order prints, visit: www.matthew-meierphoto.com

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