

BLUE SHARKS & Mako SHARKS



Emotionally, my first reaction to blue sharks approaching the dive boat felt like this picture. The air felt electric as the first blue sharks appeared! The crew has been chumming for some time, you are waiting patiently, maybe take a nap, and then some blue sharks arrive....

Wow !!

You scramble to take a look at them, and then gear up to dive...

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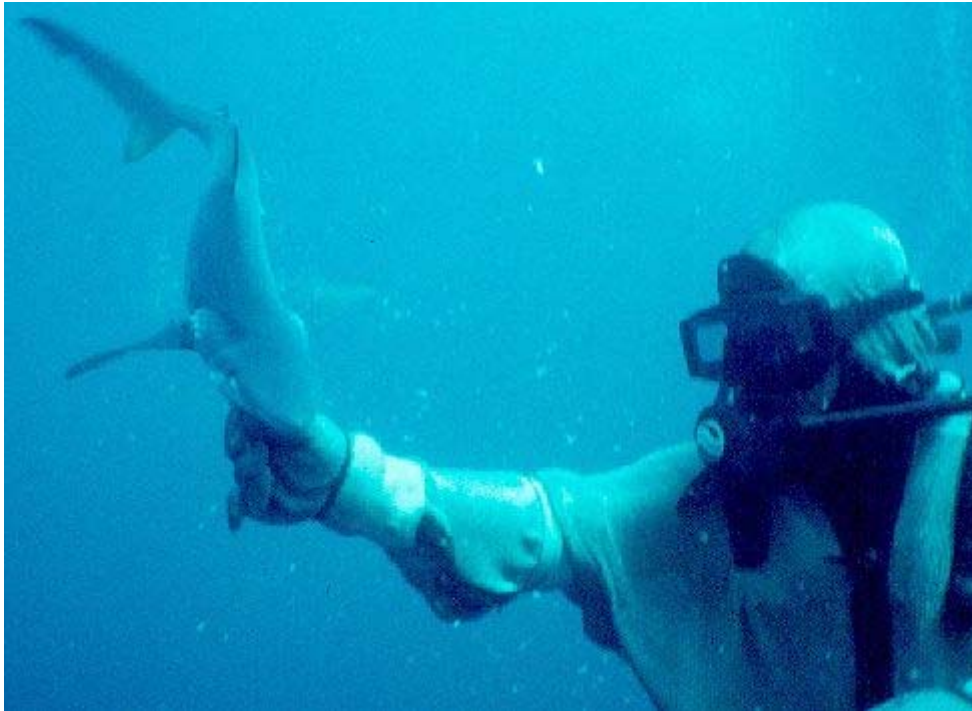
When sharks are cruising in for a bite around the cage, and particularly when there are many of them, you may feel a bit like this, but it isn't so. The cage provides sufficient protection. Of course, the sharks aren't so big or so terrifying either. BUT they aren't harmless... blue sharks are considered dangerous. Blue sharks are not strongly aggressive on contact with people underwater. They are not shy though, so divers observe considerable caution. They can get pretty bite-y when there are fish chunks available.



You can see blue sharks *Prionace glauca* off San Diego. Blue sharks occur worldwide in temperate and tropical waters and are one of the widest ranging sharks. Found from the surface down to at least 152

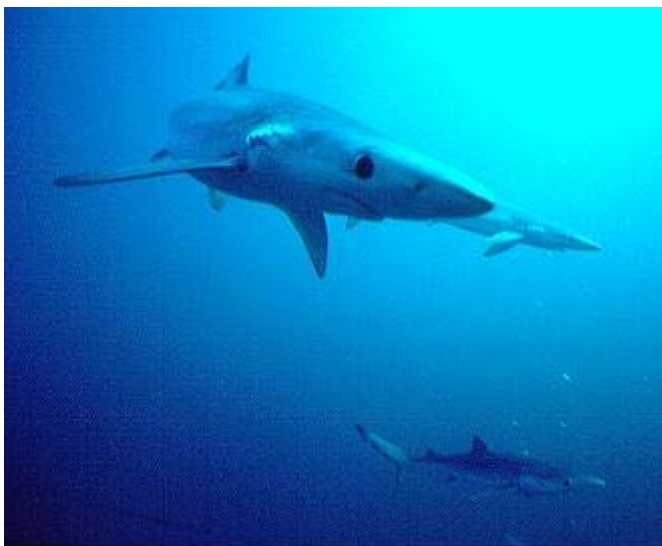
meters depth, blue sharks are typically found offshore. Blue sharks are often found in large aggregations but not tightly organized schools and are frequently close to the surface in temperate waters. Young are born live and litter size is 4 to 135; gestation period is 9 to 12 months. Living to at least twenty years of age, blue sharks mature at 4 to 6 years of age and can be up to twelve and a half feet (383 centimeters) in length. Courtship behavior is assumed to involve biting of females by males and

females are adapted for this by having skin about three times as thick as males. Blue sharks feed on small prey like fish and squid and occasionally eat other invertebrates, small sharks, seabirds at the surface, and mammal carrion.



San Diego Shark Diving Expeditions' trips were capably conducted by Doc Anes and/or staff. Procedures differ from regular boat diving since the emphasis is on getting quickly into the water and kicking quickly down to the cage

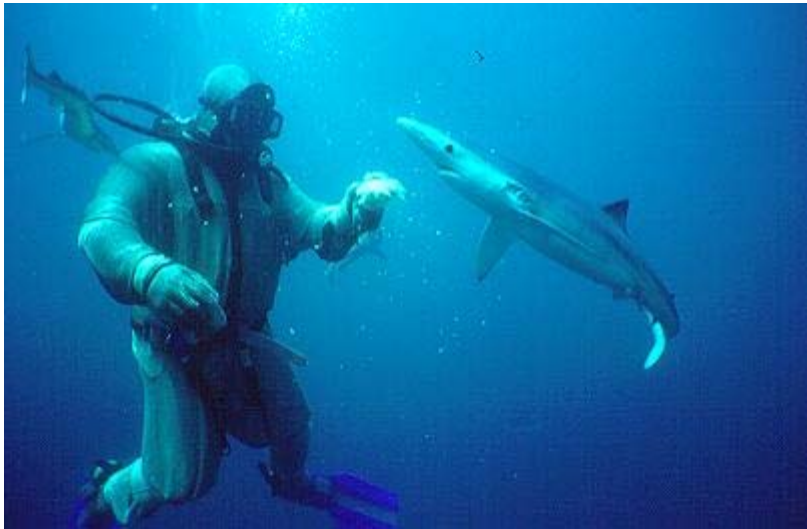
escorted by the chainmail-suited sharkmaster who will ward off any inquisitive sharks. Same on the way back - watch out for curious sharks.



The chum buckets do their duty. Blue sharks may show up quickly or chumming can take one to three hours to draw in sharks; you may be waiting awhile for Nature to take its course. On one trip to Nine Mile Bank (13 September 1998), four small blue sharks *Prionace glauca* showed up quickly and by the time I got into the cage there were twelve blue sharks

swimming around. They were mostly females and were from 3-4.5 feet in length. Later in the day, some larger blue sharks showed up with the largest being approx 5.5 feet long. Sharks continued to arrive on the

scene throughout the afternoon and there were 30-50 blue sharks on later dives.



The blue sharks were very interested in the chainmail-suited sharkmaster, who was tossing out fish chunks. The chainmailed sharkmaster would stay at one corner of the shark cage holding onto a rope to maintain position or would lay out on top of the shark cage, tossing out small

chunks of fish that would rain down in front of us. The blue sharks would sweep and roam around and eat the free-floating fish chunks or go up to the sharkmaster to seek out some chunks. There were blue sharks constantly about, above and below the cage, near and far, on your left and on your right. It can be hard to estimate numbers when you're parked in the midst of a circling phenomenon, head swiveling around constantly, sharks swimming to and fro.



Here's a view from inside the cage, with the chainmail-suited sharkmaster outside. You look out through an opening that is approx 2 feet by 2 feet. It is your

duty to defend that opening and gently ward off sharks headed into the cage. Some blue sharks would come right up to the opening heading right in; you could lightly push on their nose with your hand or camera to get them to change course and turn away. There was no harmful intent in them as they approached your opening; I didn't feel I was warding off ravenous beasts. The blue sharks were just trying to figure out where that tasty smell emanated and if you bumped them, they didn't like it and changed course. A few times, a small blue shark would slip past you or your neighbor if you were unobservant. The shark would mill around inside the cage, rather confused, bumping into divers and the cage, etc. You either gently herded it out or the sharkmaster let it out the back door. The blue sharks were in a frisky mood due to the fish chunks in the water and would frequently bite the shark cage itself. Sharks respond to weak electromagnetic fields in finding prey in close ranges and the aluminum shark cage puts out a weak field. You would be inside the shark cage looking out and see sharks occasionally bite at the cage in front of you, alongside you, above you, etc. I also saw blue sharks nipping at each other, probably competing for food -- just quick nips to establish dominance. One blue shark had evidently come out on the losing end in a feeding session and had nip marks all over its body; it had really gotten bitten up. The blue sharks were well-mannered overall and milled about, darting forward a bit when they saw a fish chunk within their range.



The chainmail-suited sharkmaster was really a focal point of blue shark interest. The sharkmaster would either present a fish chunk in hand and hand feed sharks or toss out a steady rain of fish chunks. Blue sharks would regularly come up and chomp on a chainmailed hand, arm, leg, head, butt, etc; I also saw the sharkmaster's scuba tank, regulator, and hoses get nipped. The blue sharks knew the sharkmaster was the fish chunk focal point and were extremely interested in becoming orally acquainted with the sharkmaster. The sharkmaster would sometimes get into some short tussles trying to shrug loose a few blue sharks that had locked onto

the sharkmaster in some relatively inaccessible places like the top of head, butt under the scuba tank, the back of legs, etc.



Diving with two 80cf tanks in a shark cage at 20 feet depth gives you ample bottom time and a lot of shark viewing time in that cage. I never tired of it; there was a lot to see. The blue sharks have an iridescent cobalt blue color on their backs, which is dazzling when you see it up close. Their eyes would close when they were biting. They were very supple and fast in their swimming. They would cruise right by very close and look you over. It was a fascinating experience to perch there in the midst of so many blue sharks.

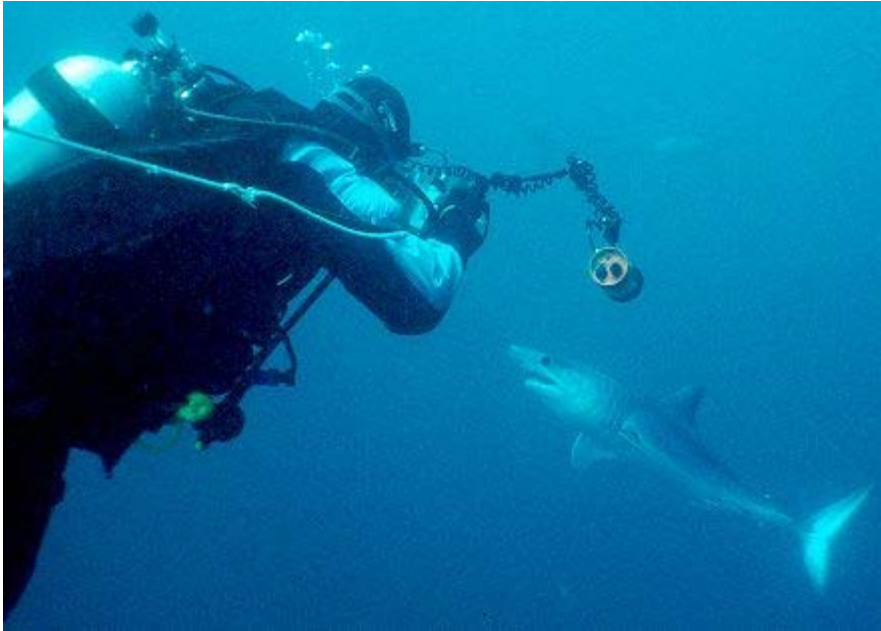


Another trip (24 September 1998) went to somewhere north of Nine Mile Bank. This second trip, I went diving outside the cage as a returning customer with known diving and shark diving experience, plus I had signed a waiver. Arriving on site, a six foot long blue shark showed up about thirty minutes after chumming started. A fish head attached to a line was played out to interest the blue shark into staying around in the area; more chum bits were tossed out occasionally to draw in other sharks. After some time, another shark showed up; more time passed and it seemed worthwhile to get in the water and take a look, particularly since both blue sharks were relatively large in size. Divers were escorted into the protective shark cage by the chainmail-suited sharkmaster, and I was on my own outside the cage.



Entering the water, I drifted slowly down to the shark cage; the underwater visibility was at least eighty feet. I took up a position outside the cage on its left side. This placed me directly behind the feeding chainmail-suited sharkmaster who was tethered by a rope and positioned about five feet in front of the left side of the cage. The thrill factor in this location was that the feeding action was right in front of me with no shark cage window framing on the scene. The blues chomp on food tossed out by the sharkmaster or held in hand. The blue sharks would continue on their swimming course after checking out the sharkmaster and biting at the food; they swam either above, next to, or below me. Blue sharks maintain their course in a smooth, fluid motion so I could see if a "collision" course was set after the shark passed by the sharkmaster. If a shark was heading in a little too close to where I was located, I just raised myself up a bit to let the shark pass underneath. No point in testing how close a blue shark would come to me before veering off. I got some

incredible up-close viewing opportunities and so did the divers in the cage. No one was missing out on some incredible shark viewing, either inside the cage or outside.



After awhile there were maybe four large blue sharks swimming in and out of the limit of visibility coming towards the cage to feed on chum chunks. Suddenly in the distance, a different-looking shark zoomed in and by; it was a shortfin mako shark about four feet long. Shortfin makos

Isurus oxyrinchus swim in fast, jittery spurts and have a very different physical appearance than blue sharks: a more pointed and shorter snout, longer teeth that lean a bit more forward out of the mouth, a crescent-shaped tail fin, and caudal keels on either side of the body in front of the tail. Makos are distributed worldwide in coastal and oceanic waters of temperate and tropical temperature. Occurring from the surface down to 152 meters depth, makos may be the fastest shark and one of the swiftest and most active of fish. Known for leaping out of the water, makos eat other fish, squid, salps, and detritus and may reach a maximum length of 12.9 feet (3.94 meters). Makos are considered to be dangerous and divers should treat them with caution. The mako shark came back again and again, eating chunks sometimes, and usually swimming out of range of vision and then reappearing on a pass back in. On one pass, the mako came too near my left-side location for my taste and I quickly moved around the back of the cage to put a bit more distance between myself and the chainmail-suited source of the food. The mako left after awhile and we were left with the blue sharks coming in and going out.

I typically hung onto the cage to maintain my depth and conserve air and energy and then would swim a bit away from the cage to frame a blue shark shot with my underwater camera. I could get fairly close to a six foot blue shark swimming by and my presence didn't seem to disturb them. One time, a six-foot blue shark was swimming on a course that was taking it too close for comfort to my stationary head (closer than two feet) so I reached out and gently pushed its head away with my hands to change its course. The shark didn't seem concerned and continued on its way, probably totally wired into making its circuit around the back of the shark cage and returning to the chum food source.

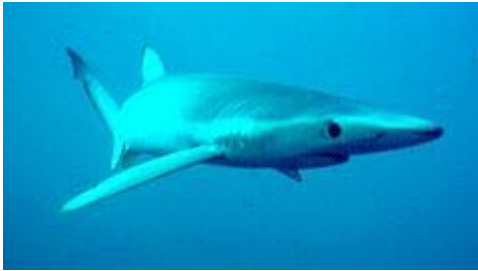
During one lull, I went off away from the cage to look at the gelatinous animals drifting by in the current. There were big chains of salps attached side-by-side together in a coiled configuration. There were numerous comb jellies of the family Cestidae, either *Cestum veneris* or *Velamen parallelum*. These comb jellies were transparent, about 3-5 inches long, and shaped like a ribbon with rounded edges at the ends; they winged themselves along through the water.



Later on towards the end of this first dive of seventy-five minutes duration, three shortfin mako sharks about five feet long showed up to feed. I finished off my roll of film but my dive buddy was shooting pictures on his second camera. To get mako shots, my dive

buddy drifted out into the chum line downcurrent from the chainmail-suited sharkmaster; I recall thinking at the time that this was not a great location to be -- in the midst of food floating here and there. I wasn't so comfortable venturing out there with makos about and stayed closer to the relative refuge of the shark cage (where I could always get around a corner if need be). The makos really squirt around fast and I felt

uncomfortable around them since their swimming course is less predictable.



We had a great time hanging out and watching makos and blue sharks swim and zip about. When the action seemed to let up, we were out of air anyway and surfaced. I fitted a second air tank in my BC and went back down but conditions had changed. The wind had picked up, the current had picked up, and the blue sharks were coming in but not getting close or staying around the cage. After twenty minutes waiting to see if the party would jumpstart again, we called it a day and headed back to the boat. This second dive trip was an excellent counterpoint to our first trip. The first trip was a shark swarm with mostly smaller sharks; this second trip was playtime with a few larger sharks. The prolonged time viewing the shortfin mako sharks really made this second trip stand out. Diving outside the cage was a great viewing experience and I never felt endangered.



Another trip (8 September 2000) went to Nine Mile Bank offshore San Diego. We arrived on site and chumming started; a long and wide fish-oily sheen could be seen spreading away from the boat. The boat drifted slowly and time whiled away as we waited for sharks to come in. I took a nap. Sometimes the blue sharks come in relatively quickly for shark viewing; other times it can take several hours for sharks to come in and hang around for competitive feeding. We saw a few blue sharks from the boat within thirty minutes but not in sufficient number to jump in and start the underwater feeding and shark cage viewing. In addition to the chum gruel spreading out on the surface, fish chunks are occasionally tossed in the water to attract sharks up from deeper waters. The sharkmaster said the blue sharks are

nocturnal animals and that the best shark action starts at 4pm. It started earlier for us, a bit after 2:30pm. Several blue sharks in sizes from 3-6 feet were approaching the cage from down current, cruising in and grabbing fish chunks that were tossed out by the sharkmaster in front of the shark-caged divers. Occasionally a blue shark would come in close and the chainmail-suited sharkmaster would hold up a fish chunk in an armored hand and let a shark bite on for a tussle for the chunk. At any one time you could see one to eight blue sharks, near and far. Underwater vis was 50-60 feet and the blue sharks would cruise in and materialize from that distant blue field underwater. Every so often a shortfin mako shark would cruise through for a bite. The makos are distinctive in appearance, with a crescent-shaped (lunate) tail, a pointed snout, and a body more white-sharky in appearance than blue-sharky. The mako sharks wouldn't come right in front of the cage; they would cruise by alongside the cage in faster spurts of swimming than the relatively leisurely progress of the blue sharks. Over the course of the 2+ hours I was underwater, I saw maybe eight mako sharks; it is a fortunate trip to see mako sharks. I was diving outside the cage, and generally I hung about alongside the cage, hanging with one hand onto ropes with loops to keep me from drifting off down current. I took photos with my camera with the other hand. In addition, I stretched out on the top of the shark cage, overhanging the front side, for a good top-down view of the feeding action. One little three-foot blue shark pup was excited by the feeding and came right up to me and nosed my camera strobe, looking for a bite to eat. I gently pushed my camera away a bit to redirect the shark's interest.

Occasionally a large male sea lion that chose to hang about with the boat ALL DAY would come down, squirt around and casually chase after a small blue shark. It was interesting to watch, but not good for shark diving. The sharks didn't care for a tail-follower and would shoot off, which was the sport of it apparently for the sea lion. The sea lion was hanging about for the fun, not eating any of the fish chunks. After awhile, what seemed amusing to watch became irritating because the sea lion was chasing off our shark viewing action. Nothing to do about it though....



Arriving on site at 9 Mile Bank (7 July 2001), chumming attracted a mako shark fairly quickly. A few makos continued to come by the boat, attracted by the fish chunks floating down current. They were maybe five feet long. A mako would occasionally grab onto a fish tied to a line, biting it off the line after a tussle. The makos stayed near the surface around the boat and we were treated to the sight of their dorsal fins knifing through the surface. At one point, maybe fifty yards away, a mako executed two successive flips totally out of the water. I saw the second flip and it was dramatic. The mako got totally in the air and somersaulted around, landing with a splash. Since the makos seemed to be hanging around, the sharkmaster deemed it time for the divers to enter the water and the shark cage. Four divers were in the cage and a friend and I were diving outside the cage (due to previous trip experience). The presence of the makos seemed to keep the blue sharks largely away; we saw a few blue sharks near the end of our second tank, with one being seven feet long. So it was predominantly a mako shark dive day for us, which turned out great.



There were at least five makos coming by the cage, grabbing food and moving off down current, to pass by again. At any one moment,

there were two or three makos near the cage. This became a bit nerve-racking for diving outside the cage. One mako at a time is sufficient for optimal viewing and underwater photography. Three makos at a time required constant vigilance and less attention paid to underwater photography. Multiple makos at a time also made it very uncomfortable to be a short distance away from the cage on an eight foot long drift line. I felt like a nice chunk of meat played out an eight foot line, so I gave up the drift line after about twenty minutes, tiring of the constant vigilance required. Sticking near the cage meant you only had to watch 180 degrees of open water for approaching makos. The makos were mostly five feet long but one was six feet long. They were pretty active and even got a bit too excited at one point during our time underwater, shooting around very quickly, with one bumping loudly into the cage. There was plenty of food to go around, so I guess they just got excited anyway.



And approach the cage they did, making very close passes to the cage in order to get fish chunks. Basically I clung to the outside of the cage, swiveling my head and body around constantly, moving my camera into position when a good shot of a mako drew close to me. It made for exciting viewing, but hard to concentrate on setting the manual exposure

and keeping the photography act together while on the lookout. I watched a mako come directly at the front of the shark cage and bite at it, in front of the divers inside. I'm sure that was impressive to see, right in front of their masks. My friend Bob, who was also outside the cage, reported that a mako bumped him on the head from behind. I also watched a mako bite at Bob's camera; I gently fended off a mako with my camera strobe on

four separate occasions when the shark didn't veer from swimming straight into me. At about two and a half foot distance, I got a bit nervous with a head-on mako approach and pushed gently out with my camera strobe to get it to veer off. This worked well, though my strobe was bitten twice, leaving some scratches (which it now bears proudly). A mako bumped me on my right foot; I didn't see it approach me from behind and beneath me. It wasn't in a bite-y mood at that moment, just seemed to be checking me out for fish chunks, and it happened so quickly that I didn't have time to be surprised. You know how you get those unforeseen bumps during a dive, and it usually isn't anything, except this time I looked down to see a five-foot mako right there at my feet. I got my feet out of the way and the mako continued on its way.



Some blue sharks appeared midway through my second tank. There was a little one about two feet long that was very persistent in coming right up to you underwater... a cute little fellow. A slim seven footer also circled regularly around the cage

as well as another blue. The blue sharks weren't shy about approaching the sharkmaster for hand-feeding so there was some great shark feeding action. I was getting sharked out from maintaining vigilance, and couldn't really tell you how many blue sharks were there.... there was undoubtedly more than three. It didn't matter by this time, since the mako sharks had and were continuing to deliver big-time shark viewing action.



Towards the end of my second tank, I grew tired of maintaining vigilance and entered the shark cage for more relaxed viewing. You can see the shark feeding more closely inside the cage than outside the cage, since the sharkmaster is located for optimal viewing of

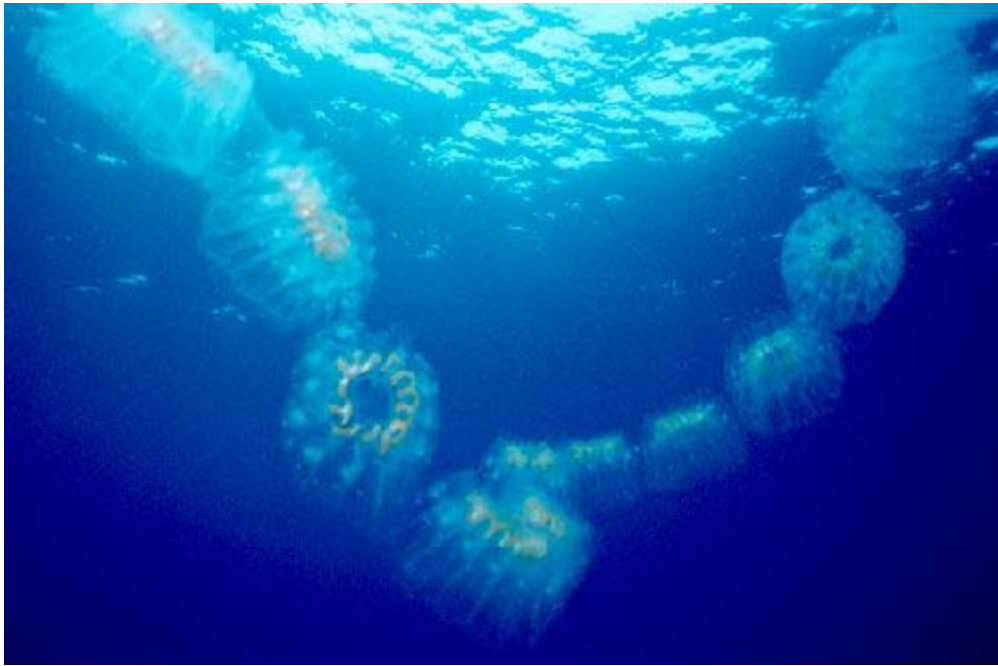
feeding for those inside the cage. One shark got a bit confused and nosed into my shark cage opening; I gently pushed it away with my camera. My air consumption decreased dramatically once I was inside the cage and free from anxiety, so I was able to extend my bottom time significantly for my second tank. My total u/w time was two and three quarters hours total. Finally, our shark time was over and we headed back to the boat and home. It was a very different trip from my previous San Diego Shark Diving trips due to all the mako action, definitely a trip with an edge, and one my strobe will never forget.



On one trip (18 August 2001), we watched feeding action by three or four blue sharks at a time, plus a very twitchy mako shark. The mako was interesting because it was very interested in us, making close inspections and swam in a fast, very twitchy way near the cage.

We saw a mola sunfish nearby the cage, and a sea lion hung out with us for a short while. Sea lions are not good to see, because they chase away the smaller blue

sharks.



The ocean was full of salps, drifting by in the current.

When there weren't any sharks at the cage, I swam out to photograph salps. There were adult salps reproducing successive encircling chains of juvenile salps;

encircling salp chains on their own or attached to other salp circles, as well as solitary adults. Pretty fascinating.... definitely was a day for salps.

Text and All Photographs ©Peter Brueggeman.

Natural history of sharks taken from: Sharks of the world : an annotated and illustrated catalogue of shark species known to date / prepared by Leonard J.V. Compagno. Published Rome : United Nations Development Programme, 1984