

## **The Day All the Sharks Died**

by Peter Benchley (author of JAWS)

Once upon a time, there was a seaside village whose people lived in harmony with nature. They made their living from the sea. They caught fish on the reef that protected the village from the full fury of ocean storms. They gathered clams and oysters, mussels and scallops from the bays and coves and inlets. Some they ate themselves; some they sold to the people in other towns and villages, from whom they bought necessities like light bulbs and clothing and radios and refrigerators and fuel for their boats and cars.

Their biggest business, which employed the most people and brought in the most money, was lobster fishing. Professional lobstermen owned special boats and had special licenses that permitted them to set a certain number of pots or traps to catch lobsters. The law permitted the fishermen to catch only lobsters that were too big to pass through a special ring, which meant that they were old enough to have bred and had young of their own. Smaller lobsters were put back in the sea to live and grow, as were female lobsters carrying eggs.

Everyone worked together to maintain a healthy, stable population of lobsters, for many people's livelihoods depended on them; not only the fishermen who caught them and the mates who worked on the boats but the wholesalers on the docks who bought the lobsters, processed them, and packed them up for shipping; the truckers who took the lobsters to stores and restaurants up and down the coast; the men and women who worked at the restaurants where lobsters were served; the businesses that cleaned the linens used in the restaurants; the bankers who financed the businesses; and so on, like ripples spreading from the splash of a stone dropped in a pond. So valuable were the lobsters to the people of the village that very few of the villagers ate the lobsters themselves. Eating lobster, they said, made them feel as if they were eating the money in their pockets. That may not make sense to you or me, but it was the way the people felt. They'd eat clams they caught themselves, or fish they caught themselves, but not lobsters.

The villagers grew vegetables in their gardens and fruit on the trees planted many years ago on the hillsides behind the village.

A small colony of sea lions lived on a rocky point of land that joined the breakwater at the mouth of the harbor, and in springtime tourists from other towns would come to the village and have lunch at one of the restaurants on the harbor, just for the fun of watching the newborn sea lion pups playing with one another, or learning how to swim and hunt for food, or sunning themselves on the warm rocks. There always seemed to

exactly enough sea lions to keep the colony healthy, never so many that they had to fight for food with one another or with the village fishermen, never so few that inbreeding became a problem and pups were born dead or deformed.

The villagers' garbage was collected by big trucks that took it away to dumps somewhere far inland. The sewage from their showers, toilets, and washing machine ran into pipes buried along the road in front of the village and was carried to treatment plants that removed the sludge and cleansed the water. They did not think much, or worry at all, about the great numbers and variety of creatures that lived in the sea. The sea and all its living things seemed infinite, indestructible, eternal. Nor did they worry about the predators that lived in the sea. They knew that sharks patrolled the reef and the deep water beyond, but never - not in living memory or in village lore - had anyone ever been bitten, let alone killed, by a shark.

The villagers had, of course, been taught from birth to respect the sea and the animals in it, so they took sensible precautions. Even on the scorching hot days of summer no one swam at dawn or dusk, when sharks were known to feed on the reef, or when, once in a great while, a dorsal fin could be spotted slicing the flat-calm surface of the water in the harbor.

They never swam near fishermen, or wherever bait was in the water. They never swam if they saw fish feeding or birds feeding on fish. No one swam or snorkeled or dove or scalloped with a fresh cut or an open sore. Nobody fished for sharks because none of the locals liked shark meat and there wasn't a market for it anywhere nearby, and if a fisherman caught a shark by accident, on a line or in a net, he'd let it go. Nobody in the village ever killed anything just for the sake of killing. Except bugs. And spiders, now and then, although the elementary school teacher had made it a personal crusade to teach every child in her care how important spiders were in keeping down the numbers of, among other things, bugs.

One day people noticed a big boat - big enough, in fact, to be considered a ship - lingering not far offshore. Smaller boats were put overboard from the ship, and they cruised up and down the reef, doing something or other. Village fishermen who had gotten close enough to the ship to read its name couldn't remember it or pronounce it, because it was stenciled on the ship's bow and fantail not only in a foreign language but in an alphabet nobody could decipher. The one peculiar thing about the ship that fishermen could describe was that on stern were two very, very big - gigantic, even - spools, each of which looked like it could hold at least a mile's worth of thick, strong fishing line. And visible in the coils were baited hooks, too many to count. When the people in the village awoke on the morning of the third day, the ship was gone.

Everything seemed to be okay; nothing looked different. There was no way anyone could know that, over the past two days, their village had been murdered.

The first sign that something was wrong was discovered by fishermen who went out to the reef. Scattered over the bottom, in the reef and on the sand, they saw the dead bodies of sharks (because sharks do not have swim bladders like other fish, when they die they do not float; they sink to the bottom). They saw that the sharks had not only been killed, they had been mutilated; their fins had been slashed off - dorsal fins from their backs, caudal fins from their tails, pectoral fins from their sides - and the sharks had been thrown back into the sea to bleed to death or drown.

The fishermen's first reaction was anger: so this was what the foreign ship had been doing offshore, killing our sharks for soup, an expensive delicacy.

Their second reaction was frustration: what would they do about this thievery? They knew the answer: nothing. The ship had come from a foreign land, and from experience the villagers knew that their local police and wardens and marshals had no power over foreign vessels.

Their third reaction was resignation: well, the shark population will rebound. Sharks from other regions up and down the coast will come here. Nature will stay in balance. What they didn't know was that there were no sharks in other regions up and down the coast. The big ship and the boats it carried had worked the entire coastline, taking all the sharks from all the reefs and using the long lines on the huge spools that sat on the stern of the big boat to catch the open-water sharks, the big ones that fed on sea lions.

For the first few weeks, nothing seemed much different. Fish and lobsters were caught and sold, money was earned and money was spent, and life continued as before.

Then fishermen began to notice that they were catching fewer lobsters in the pots. Slowly at first, then more rapidly, the numbers of lobsters were declining. Often lobster fishermen found in their pots not lobsters but octopuses. They had never paid attention to octopuses before. Now the octopuses seemed to be everywhere.

Within a month or two, the villagers realized that the number of sea lions had increased, too, especially young ones. As the sea lion population grew, the number of fish caught by the village's fishermen declined. In itself, this was no mystery: sea lions subsist on fish, so as their numbers increased, they took more and more fish from the sea. The mystery was, why had the sea lion population exploded? Soon there were so many sea lions that they outgrew their rocky point and spread back toward the village. Some took up residence on docks, some on boats moored in the harbor. Normally friendly and playful, the sea lions were not accustomed to being forced to move from

their perches, and some showed irritation - even aggression - toward the people who approached them.

Since sea lions poop wherever they please, boat owners found the decks and cockpits of their boats soiled and stinking. When the wind blew toward the shore, the stink wafted into the village and made dining an unpleasant experience. Restaurants lost customers; waiters and waitresses were laid off, and some had to move away to find new jobs, leaving houses and apartments vacant. Lobster catches continued to drop. To make up for lost income, lobstermen wanted to raise the price-per-pound they were paid for the lobsters they did catch, but the wholesalers refused: catches elsewhere in the country had not declined, so the overall number of lobsters available was, more or less, the same as usual. If the price of local lobsters rose, markets and restaurants would simply import their lobsters from elsewhere. Most lobster fishermen had borrowed money from banks to pay for their boats. Some had borrowed to pay for their homes as well. The loans were paid back over many years, but payments were due every month. Now, with their income so low, they couldn't make the monthly payments.

The banks were as fair and generous as they could be, but their revenues were down, too, and so eventually they had no choice but to take the lobster boats from the fishermen and try to sell them to someone somewhere else.

Every one of these decisions and actions became a new stone dropped into the pond: ripples spread, affecting businesses and men and women and their families for miles and miles around. And always the questions lingered: why? What had gone so terribly wrong so terribly fast? By the time the answer came the following summer, the village was, by almost every measure, dying. The signs of its demise were visible to anyone: the words FOR SALE printed, stenciled, painted, scribbled, and hung on houses, boats, shops, restaurants, cars in driveways, and lawn mowers on lawns; the silent streets; the nearly empty harbor; and the vast, uncountable populations of sea lions that, by now, inhabited every square inch of waterfront property in the village.

All the sea lions were unnaturally lean. Many were scrawny to the point of starvation. There were not enough fish in the harbor and on the reef to feed them all. Only those strong enough to swim far out to sea and dive very deep were able to feed themselves, and even they could barely keep themselves nourished; they had no extra to feed their young. And so, as nature had programmed them to do, mother sea lions let their pups starve to death; their natural duty was to keep themselves alive so they could breed new litters of pups every year; instinct told them that the cycle of life would eventually turn from scarcity to plenty, and soon there would be enough food for themselves and their pups. For now, though, they had to let their pups die, and the bodies of the dead

young sea lions rotted on the rocks and washed around the shallows, not even fulfilling their own natural function of providing nourishment for the larger predators because, you see, there were no predators left alive.

It was a high school student working on a paper who discovered what had killed the village, and her discovery wasn't even very complicated. Anyone could have made it; the reason no one had was that no one had known how and where to look. Once the student began to look, answers came quickly.

She examined the food chain in the sea when the village had been thriving. At the top were the sharks. Some sharks preyed on the fish on the reef; all sharks preyed on octopuses. Octopuses, in fact, were one of the sharks' favorite foods, which was one of the things that kept octopuses from overrunning the reef. Octopuses lay thousands and thousands of eggs at one time, but nature does not intend that all of them will survive. Many are destined to become food for small fish, many for larger fish, many for sharks. When the sharks had disappeared, the student discovered, the octopus population had boomed out of natural proportion, and many more octopuses than normal were growing to adulthood. Now, one of an octopuses' favorite food is lobster. An octopus will trap a lobster with one or more of its eight powerful arms, squeeze it to death and crack it apart, and then eat it with its powerful beak. Even small octopuses can catch and eat small lobsters - lobsters too small and young to have had a chance to reproduce - so when the sea around the village became overpopulated with octopuses, the lobster population suddenly crashed. Very soon there were no more lobsters for the fishermen to catch.

Normally, other sharks - larger ones, including great whites - preyed upon the sea lion colony, taking the weak, the sick, the malformed and the vulnerable, leaving only the strong and healthy sea lions to maintain the colony. When those sharks were killed by the big fishing ship, there were no predators left to control the growth of the sea lion colony. And since sharks are not only predators but scavengers as well, even the dead sea lions were not recycled into the food chain but left to rot and become hosts to flies and other carriers of disease.

The most discouraging discovery the student made was that, in all likelihood, the village would never recover. The damage done was irreversible and permanent. Although no entire species of sharks had yet been fished to extinction, what had been done to the village was being done to thousands upon thousands of towns and villages all over the world, so shark populations were being devastated worldwide. Because sharks breed late in life (some species not until they are twenty-five or thirty years old) and produce so few young, of which even fewer survive to maturity, their former numbers would never return. The marine food chain had been altered forever.

The student turned in her paper, and she received a good grade. She would have received the highest grade, but her teacher said the report lacked solutions for the problems the student had discovered.

But there are no solutions, replied the student.

Nonsense, said the teacher, there are always solutions, for everything.

In this case, however, the teacher was wrong.

He did not recognize the truly significant discovery the student had made: that nature is not invulnerable, the ocean is not infinite and eternal, and that now, for the first time in history, mankind had the power to destroy the ocean that gives life to the planet that gives life to us. We can actually affect the fundamental functioning of the earth, altering the mechanisms that give us the air we breathe, the water we drink, and the food we eat. What the student knew in her heart, but was loath to believe and afraid to articulate, was that unless mankind changes its ways - and soon - we have all begun a leisurely stroll down a seductively gentle slope to eventual self-destruction. All this she has learned by studying the events that followed the day when the sharks died in the waters off the seaside village that used to live in harmony with nature.

