VIP VOICE

The newsletter of tidepool volunteers

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January 2000

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Dear Volunteers:

This is the first issue of the VIP Voice, a newsletter strictly for the tidepool volunteers at Cabrillo National Park. Its origins can be traced to Bonnie Becker, our marine biologist, and several of the rangers who were interested in more extensive and regular communication with the volunteers. In addition to information from the staff, we see this as a way to communicate with one another. I am helping Bonnie get the project rolling, but we want you to know that this is your newsletter. Specifically, we want your suggestions, your recommendations and your contributions. We know there are VIPs who have special areas of tidepool expertise that could help us involve the public in the wonders we already treasure. Let us share your special interests with other volunteers in our newsletter. One of the regular features in the VIP Voice will be a volunteer profile, highlighting a VIP each month, enabling us to know a bit more than otherwise about those we work with.

This month, we are including some facts about gray whales that you may want to use to enliven the public's visits to the tidepools. The California Grays are of special interest during January and February, the peak months for their southern migration. Remember, January is whale watching month and the weekend of the 22nd is special because Mary Beth Vigralla and several other rangers and VIPs have a special whale watch weekend planned to assist the public in seeing and understanding our California Gray Whales as they travel south.

There is an enormous amount of information on the web regarding tidepools and our special critters, and we will include websites in the next newsletter. We also hope to include a calendar of upcoming Cabrillo National Monument events.

Please let us know what you think of our efforts. You may leave any suggestions including ideas for future articles and comments about the current issue in my VIP folder or Bonnie's box. In the February issue of the VIP Voice, we can look forward to a special article written by one among us with special knowledge and talents.

Thanks in advance for your involvement.

Lynn Moss
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TIDEPOOL TIDBITS

by

Bonnie Becker

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We recently installed some small, white PVC tubes in the tidepools. Inside of them are little electronic thermometers, which collect information on the water and air temperature every 2 hours. This information will be useful since it is very local and consistent. Please do not open the tubes or allow visitors to touch them. I'll be sure to show you our results at the next VIP training!

I have gotten some questions recently regarding the sulfur smell on Grunion Beach. This is not a sewer problem. When large amounts of kelp wash up on the beach, bacteria and animals start to break it down using aerobic processes (respiration that uses oxygen the way we do). Sometimes sand can bury the kelp whole, cutting off the oxygen to the decomposers. When this happens, anaerobic (non-oxygen using) bacteria start to break down the kelp using other compounds besides oxygen, such as nitrate and sulfate. What you are smelling is the by-products of this anaerobic respiration (analogous to the carbon dioxide we exhale). This is also what causes the black water to percolate out of the sand. I kind of like the smell--it reminds me of mangrove forests in Florida!

Our poor, dead whale has finally left the area. Lisa Schwartz told me that the harpoon they found in her is Russian. The current thinking is that she was harpooned all the way in the Northwestern Pacific, and migrated here before she died.

Thanks to those of you who have filled out wildlife observation reports. I have included some of them in the database.

Bonnie

GRAY WHALE

(Eschrichtius robustus)

Class:	Mammalia
Order:	Cetacea
Suborder:	Mysticeti
Family:	Eschrichtiidae
Genus:	Eschrichtius
Species:	Eschrichtius robustus

There is extensive information available about the California Gray Whale. In addition to what you might find in your local library, a marvelous resource is the Visitor Center. While there, be sure to get your copy of ***The Gray Whales, a Guide to Whale Watching at Cabrillo National Monument***. You might want to recommend to visitors that they secure a copy. The Visitor Center also has books about whales and rangers who can answer questions. During the migration season, films about whales are shown several times daily in the auditorium.

Gray Whale Facts (from the above referenced ***Guide to Whale Watching***)

Size: 30 - 50 feet long; females are generally larger than males of the same age. 20-40 tons in weight.

Life Span: 20 - 40 years on average. Some live 60 years. Grays reach sexual maturity in 8 years.

Swimming and Diving: Cruising speed is 2 - 4 miles per hour. Top speed, around 11 mph. Females with calves travel more slowly. Whales normally dive to between 120 and 220 feet and stay down 3 to 7 minutes, but they may dive as deep as 500 feet and stay underwater 20 minutes.

Distinctive features: Body mottled gray. Head narrow, V shaped when viewed from above; barnacles and "whale lice" are common and the patterns they form are used in identifying individual whales; calves are normally darker and less mottled than older animals; dorsal fin absent.

Migrating whales exhibit highly predictable respiratory patterns, generally blowing three to five times at intervals of fifteen to 30 seconds before raising the flukes and submerging for three to five minutes

The following is excerpted from R. Barstow, ***"Meet the Great Ones"***

Grays live only in the north Pacific and spend more time close to shore than any other great whale.

Gray whales participate in one of the longest known migration route for any mammal, (6,000 mi. one way) from summer feeding in Alaska's Bering Sea (actually some come from as far as the Beaufort Sea north of Alaska) down the west coast of North America to warm coastal lagoons of Baja California where they winter. In these shallow, protected lagoons, they mate and calve and in spring return to the Arctic. A cow mates one year and gives birth the next.

The following are excerpts from T.J. Walker's ***"Whale Primer"***

In summer, gray whales are in the Arctic feeding continuously and weaning their babies. Once they start their migration, with the exception of an occasional meal, they won't eat again until they return to the Arctic seas. In September, the whales start their southward migration to avoid suffocating under the ice cap.

Gray whales feed on tiny shrimp-like creatures (known as amphipods) by simply swimming through clouds of them with their mouths open and catching them in their baleen (or whalebone). They also plow through the muddy bottom and suck crustaceans into their mouths. Whalebone is not bone but rather is like fingernail material. It has been used for corset stays, buggy whips, hoop skirts and umbrella stays. The krill is forced through the baleen in the mouth and into the stomach while the tongue is pushing the water out of the mouth.

Whales were actually terrestrial mammals who have fully accustomed themselves to life in the sea. In the process, they have eliminated most of the features that allowed them to live on land. The physical properties of water allow whales to be free of the need for structural and muscular arrangements to support themselves against gravity. One accommodation to life in the water is that the gray whale is able to

shut down every function that is not necessary while under water if oxygen is short, and resume those functions when they surface and oxygen is again available.

While submerged the oxygen in the lungs becomes saturated with moisture from the blood, and this is expelled under pressure upon surfacing, producing fog. Many feel that the spout of the gray whale is heart shaped. Some gray whales have one blowhole and some have two. Expelling the air causes a great "whooshing" sound and gets rid of 85% of the air in the lungs at one blow.

Whales retain their heat by accumulating a thick layer of fat -- called blubber. Blubber provides food storage and neutral buoyancy. Fat is collected in every nook and cranny.

Whales mature sexually during the eighth year, and female generally have a calf every other year. The gestation period is approximately one year and the babies nurse for 8 months because the calves lack baleen during that time. The mother's breast muscles force milk into the baby's mouth. It is the consistency of soft margarine so it doesn't mix with the sea water. A calf doubles its length in 7 months, and grows 220 pounds a day.

Gray whales are considered to be very intelligent animals. They make a series of grunts, low rumbles and clicks to navigate and to communicate with one another.

Occasionally a gray whale looks above water by breaching or simply elevating the head for a look around. This is called "spyhopping.".

Whales seem to have extremely good hearing and have a sophisticated sound system of sonar that allows them to find food and travel easily in murky water. When an unaccustomed sound is heard, the whale may "spyhop" to see what is in the way such as a sandbar or a breakwater.

A sense of smell lacks importance to whales and was lost when the nostrils were shifted to the back of the head for diving. Taste doesn't seem to be important either. The sense of touch seems important to baby whales only insofar as they need it to stay in contact with their mother's bodies.

Grays tend to be relatively solitary or travel in small groups unlike toothed cetaceans (toothed whales, dolphins) which usually are social and travel in large groups.

The herd of California Grays, now estimated to number more than 20,000 has increased in recent years, primarily as a result of legislation which has provided protection for the species. Protection from commercial whaling was accomplished by international agreement in 1946. This has been buttressed by the Marine Mammal Protection Act of I972 and placement on the endangered species list in 1984. Although devastating to the Gray Whale, whalers were important in helping chart the oceans and land masses.

The California Gray is considered to be the most primitive of the living baleen-bearing whales, and it seems to represent the stage in the evolutionary sequence from which the two main groups diverged. It is the sole survivor of a family of whales which in past eons was represented by many species. Its dependence on foods that are found only near shore is considered further evidence that it is primitive. Further its need for harbors to calve indicates it hasn't lost its dependence on the nearshore habitat, even though it could easily cross the Pacific. This whale now is completely confined to the Pacific, whereas they used to be found in the

Netherlands and were probably exterminated in European waters by prehistoric whaling.

Observers of the gray whale have noted a relationship between the length of a dive and the number of blows. A single blow indicates a one minute dive, two blows, two minutes, etc.

Unlike other whales, grays can swim and play in shallow water. They have been seen rolling in the surf barely deep enough to float them.

Three distinctive groupings of migrating whales have been observed in San Diego. In the first group there often are a number of solitary whales, believed to be pregnant females. (They travel at about 4 knots and surface frequently.) The second group of three to five nonpregnant females accompanied by one or more males appear to be courting. (The migration is less hurried and more time is spent on the surface, blowing and milling about.) It is this series of whales that put on the best show for people at Cabrillo National Park, not infrequently putting on a display for an hour or two. Toward the end of a season there are migrants that are smaller and closer to shore just outside the kelp beds, and they are believed to be last year's young making the trip alone for the first time.

When Gray whales put on a display and breach, it is thought they may be feeding as water is streaming from the mouth or getting rid of annoying lice, especially if gulls are seen following and feeding on the lice.

Extensive information regarding the California Gray whale is available on the internet. If you are dealing with younger children, you may find the following web site, Gray Whales with Winston, entertaining and enlightening:

http://www.geocities.com/RainForest/Jungle/1953/index.html

Another useful site is maintained by the American Cetacean Society. Try

http://www.acsonline.org/factpack/graywhl.htm

FRED ANDREWS -- January VIP

In my second day on the job as a tidepool volunteer, I worked with Fred and immediately found him to be a really generous and helpful young man. The day was busy, the questions many and my answers still were few, so I sent people to Fred for an explanation of what we were seeing in the tidepools that day. Not only did he save my bacon, we all learned a great deal about the wonders of our shoreline.

Fred was born and raised in the east county of San Diego, the oldest of three brothers. His mother, who is a school teacher and his father, who was an accountant moved about in the La Mesa, Jamul and El Cajon areas while he was growing up. In Jamul, they had 81 acres of land and Fred was active in 4-H raising and showing cattle at the Del Mar Fair and growing a garden. When he was 5 years old his family brought him to the Cabrillo Pt. Loma Lighthouse where he was able to climb up into the very top to see the Fresnel lens as well as miles and

miles of ocean and sky. Fred didn't return to the park until he was a student at San Diego State University.

He loved history in school which accounts for his love of the Cabrillo National Monument. A requirement of his major in recreation administration was a semester (Feb. - May 1992) in a fieldwork class so he volunteered as an intern at the Cabrillo National Park and was able to do everything -- interpretation, introduction of auditorium programs, giving ranger talks, working at the desk, assisting with the elementary school program, resource management and the tidepools -- and he loved it all. He also worked through the park service as a seasonal worker for 10 weeks dealing with Youth Conservation Corps teenagers. Being bright and doing what he loved he stayed on as a volunteer, and he taught himself more about the tidepools. He devoured the library reading about critters so he could answer questions asked by the public. He has talked with thousands of people at the tidepools over the years and to this day will write down a question he is unfamiliar with, find the answer and send the person a postcard . When asked about the most unusual thing that has happened to him while working in the tidepools he told of a day when the entire tidepool area was completely filled with red pelagic crabs, also called tuna crabs.

Each time Fred volunteers at the tidepools, and he has close to 2000 volunteer hours, he takes his tide tables, hat, sunscreen, water, a first aid kit, a tidepool book he favors, binoculars, a magnifying glass, pen and paper (for those questions) and a sense of fun and adventure. He loves people and has fun talking with them and engaging them in the surroundings. People that say, "Gosh, there's nothing here!" to Fred are asked to kneel down and quietly look at all the little creatures living there or pick up each foot and talk about what's under them. I've seen people and especially children leave with a wonderful sense of awe and wonder. I've left with awe and wonder after talking with him. When next you work with him, get to know him and you'll find his enthusiasm about the outdoors and the natural world catching. He loves to camp, hike and now he is pursuing photography as his hobby.

Fred is planning to get into a teacher training program where he can work with children. He especially likes middle school. Happily he also loves being outdoors, the beautiful sunsets, exciting children about sealife and meeting people from around the world, so we can hope that he will keep putting lots of energy into the Cabrillo National Park and the tidepools. We are all really lucky to have him in our VIP program. Thanks, Fred.