

2008 Interpretive View #1

A collection of interpretive ideas created on a weekly basis by the
Año Nuevo docent trainee class of 2008

Topic: Elephant Seals

You talk different than I do.... Researchers have discovered that elephant seals from different rookeries, (let's say, Piedras Blancas) speak a different dialect of e-seal. (Researchers learned that there was a distinct time difference in the pulses of male vocalizations, depending on which rookery they were from.) So let's be good interpreters and involve the visitors by playing the "dialect game." There might be several ways... Have visitors volunteer to say words like, "aunt, pajamas, caramel, creek, route," etc., so they can directly experience their own dialect differences, or ask how many different regional names there are for things like, "crayfish, mosquitoes, mountain lion," etc. People love to be involved and in charge of the process of discovery.

I like your eye shadow, where did you get that color? Unfortunately we don't yet know what causes that beautiful yellow highlight that surrounds a female's eyes when she first arrives at Año Nuevo. But as an interpreter, there seems to be no reason for not relating it to something like, secretions like tears for cleansing the eyes, sunglasses, or more humorously...the female has applied her eye makeup as she begins her 2-4 day search for the right man (alpha bull) to hang out with for the rest of the breeding season....

Battling bulls Forget comparing alpha bull fights to crashing football players or colliding SUVs. The newest interpretive model is "they look like sumo wrestlers!" Good one! But if you're stuck on football....one offensive 11 plus+ one defensive 11 equals= 1 alpha bull.

What's cooking in the oven? As cooks our park visitors know the importance of timing when serving up an important meal. Things must go into the oven and come out at exactly the right moment. The pregnant female elephant seal is aware of timing as well. Her delayed implantation adaptation allows her to start growing her pup when she is healthy and well fed. Good strategy, AND... as women who have gone through pregnancy can attest, it's a beautiful and demanding experience...and to think... the female elephant seal is usually pregnant every year of her 15+ year adult life. How would you like to be pregnant every year from say...age 20 through 35...What do you say girls? What about you guys???

Did you watch the Olympics? How about those swimmers....Why they wore those tight little caps so their ears wouldn't slow them down...and shaved their bodies for speed... and wore those tight body suits so their biological appendages didn't drag in the water. All that was left showing was their hands and feet (flippers and fins). They looked like seals.

Where is that child? When describing how the female elephant seal vocalizes with and sniffs her pup immediately after birth, why not try this activity if your group of visitors contains more than one family unit. Have the kids step forward and their parent step back, and with the kids NOT LOOKING, have the parent say "It's time for dinner." The children merely raise their hands if they recognize their own parent's voice. Or when describing the chaos and confusion loosed upon the harems during a winter storm at high tide, ask parents to describe their worst case scenario when trying to keep track of small children.

Thinking of good vibrations. A vibrating alarm may awaken you to an important call, just like the underwater vibrations caused by the currents of passing fish awaken an elephant seal to possible prey. Their sensitive whiskers pick up signals that allow them to follow prey that have passed unseen and are now over 100 feet away. Go blood..fish...hounds. No, maybe not bloodhounds...they smell their trails, not feel them. So, let's think, who hunts in the dark using extra long whiskers? A cat OR a seal hunting in the dark depths.

Let's play water balloon catch ...but I hope it doesn't break in my hands! Pup mortality rate has a lot to do with the surface pups are laying on when an alpha bull, on the way to a fight, runs over them. Think of a water balloon resting on sand versus one on hard ground. Which is more likely to break? Dead pups give visitors a real dose of nature's reality.

From the mountains, to the farms, to the ocean...When talking about the extreme diving depths of the elephant seal, try using some real, visible comparisons as an interpretive tool. The distance from the white barn to the Point is about a mile, the deepest recorded e-seal dive to date. The average dive is more like 1,000 feet, or about the distance from the top of the Santa Cruz mountains behind you to the farms fields below.

Schoolyard bully The alpha bull does not arrive in November and establish a territory. Rather, he establishes his rank and dominance in a pecking order. Once determined through fighting and confrontation, the alpha does not have to continually battle for dominance. All the beta bulls know who's the boss. Remember the schoolyard bully at your local learning institution? You do, don't you? It was very, very clear. Enough said. One more thing about this schoolyard tyrant (or godfather). He always had his crew of seconds who would help him maintain his dominance. Watch how the beta bulls actually do a lot of the work of driving off those seals who would be causing trouble for the alpha.

Adults only! XXX! No children allowed!!! "Where are all the small ones?" a visitor might ask. The yearlings arrived in the fall and left when the big bulls arrived. It's an easy instinctual choice: "Leave or be annihilated." During the fall, yearlings will actually play at fighting and dominance, in a sort of Pop Warner football league. Their time will come.

Is he dead? No, he's just not breathing. Called "apnea" the elephant seal has slowed his heartbeat and breath rate while reclining in the dunes (one breath every 10 or 20 minutes does nicely). That bull is conserving not only energy but water, too. Think of yourself out in a desert with no food and water, you wouldn't be jumping around at high noon. Conserving body water would be your main goal (no sweat). The elephant seal, who doesn't drink (or eat fish) for 3 months feels the same about it. He metabolizes water (and food) solely from his body fat. Conservation. Something we all need to think more about.

Raise your flipper if you know the answer to this question. You might ask your group "How many different ways can you take a baby's temperature using a thermometer?" Well, you can do it orally, anally, and yes, you can place it under their arm. So if you see an elephant seal waving at you, they are probably thermoregulating (cooling off). The one place an e-seal has no fur is under its arm (flipper). A sea lion has no fur on its entire flipper, so you'll see them using this technique even more often than elephant seals.

Where's my Mom? When the nursing cycle is over, the female leaves her pup on its own. The food source is gone so, lonesome and hungry, the pup starts visiting the neighbor's refrigerator only to get bitten and sent on its way. "Sorry, no free lunches in this harem," the pup soon learns. So, nipped and snapped at, he leaves the harem area for more friendly grounds, and joins a weaner pod on the outskirts of his former home grounds.

Super Seal... Is the alpha bull the Super Seal of Año Nuevo? No, not really. He's got no super powers at all ...even though he acts like the super heroes we find in our literature. He defends the helpless (females and pups) against the forces of evil (marauding beta bulls who raid, rape, and pillage the helpless harem folk). But he does it without any more super powers than any ordinary bull elephant seal. So actually the only "super" thing about it is that the alpha bull is super stressed. He is constantly on watch, he must maintain dominance, he must provide a safe and peaceful environment for the raising of young pups....Whew! Super stressful. No wonder alpha bulls can usually only accomplish this feat for a single season.

Protect yourself at all times: You might ask your group, “How many athletes wear protective equipment?” From a hockey goalie to a baseball catcher, many wear protection of some kind. A good interpretative introduction to the male elephant seal’s chest shield.

Waiting to exhale: Involve your group by asking them, “Before you dive underwater, what do you do?” Take a big breath, of course, and hold it. The elephant seal does the opposite. Seals exhale when they dive. “So where is the oxygen stored for their hour-long dives?” you can then ask your group. This kind of questioning engages visitors and puts them in charge of looking for the scientific explanation of the role of hemoglobin and myoglobin.

20,000 Leagues Under the Sea : Jules Verne wrote about men living a submerged existence in an ocean environment aboard the submarine Nautilus. They would farm the sea and seldom surface in order to avoid the danger and craziness of humankind. Well, son of a seal, if that isn’t the life the elephant seal actually lives. Ninety percent of an e-seal’s life is spent underwater. Their average day consists of about 75 dives of about 1,000 feet, so that is about 75,000 feet a day, nine months a year; 12,000 miles covered per year, about 15 years in a average life. Thats 60,000 leagues under the sea (1 league= 3 miles).

Ready...let’s exercise: As people age, they are encouraged to do weight-bearing exercises and take calcium to increase bone density. Elephant seals do the same. They haul out on land twice a year, move around exercising their bodies, and naturally build up their bone density. They are *hardwired* to exercise. Don’t you wish you were?

Gee, dear, he sure is a big one : The sexual dimorphism of elephant seals (males much bigger than females) is easier to picture if you put it in human terms. Let’s say your daughter brings a new fella home for you to meet. He turns out to be 10 feet tall and weighs 400 pounds. That’s the way it might be if humans were as dimorphic as e-seals.

I’m really hungry, let’s go out to eat : So you get in your car and drive 3,000 miles to New York for a meal in a restaurant, driving the whole way in the dark, with no road signs. The bull elephant seal leaves Año Nuevo after fasting for three months and makes a nonstop journey to the Aleutian Islands (without feeding) and doesn’t eat until he gets there. WOW!

I’ve got gum in my hair!!! When researchers glue computer tracking devices to elephant seals, it’s not a big hindrance to the seal. For a human it would be like attaching a pack of gum to your head or body. And just like gum, it would come off as soon as you cut or lost your hair in your yearly molt. Did you know humans lose about 7 pounds of skin a year?

Do you swim like a elephant seal or like a sea lion? If you get most of your power from your arms and your kick is weak, you swim like a sea lion, who uses his large front flippers to speed through the water. Now if you are a scuba diver and put on swim fins and your kick moves you through the water, then you are like a seal, who races through the water propelled by its rear fins.

Pass the yogurt: Cow’s milk 4% fat, mother’s milk 6% fat, ice cream 11% fat.....if elephant seal milk is 50% fat, it must be as thick as yogurt or the consistency of mayonnaise. The researcher who measured the fat content of stolen e-seal mother’s milk couldn’t resist tasting it.... I mean how could you not try it... it tasted bland and had a sort of nut-like flavor. Guess what... Nuts have a very, very high fat content.

Movie stars, rock stars, alpha bulls; One of a kind: One movie, one song, one season, and it could be the end of your life at the top. Once in a while, an alpha bull reigns for two or more years, but not very often. It’s demanding, and the temptations....

Make noise and posture, not war. Elephant seal males, who are born to fight, try hard not to; and when they do, they do it in a way that no one gets seriously hurt. They use body language, not bombs. First you give the LOOK, the evil eye. Then it’s turn and FACE your

opponent. Then rise up and show how BIG you are. Then ROAR. Then MOVE forward. Then PUSH and SHOVE. Only then do you BITE and FIGHT....and usually no one gets hurt.

Round up the dogies, it's branding time: We keep track of elephant seals by satellite, by tagging (green for Año) and by branding. (What??? Do you mean yippee ti yay, cowboy branding?) Yes. If you want to keep track of an animal for years, and easily identify it over time (that tag is kinda small you know, and the numbers fade...) branding is the way to go. Done properly, it doesn't hurt much, because that smell and smoke is mostly burnt hair, and there's nothing like a roundup to bring people, I mean researchers, together. Yahoo!

NO DOGS ALLOWED (NO coyotes, either). You have heard that elephant seals are genetically similar (they're all twins, actually). So what if they get hit by some disease, aren't the chances very high that it would wipe the whole population out? Yes, it could... and it HAS HAPPENED. In Northern Europe an outbreak of distemper severely impacted the genetically dissimilar seal population there. Canine distemper, as in the disease carried by dogs, coyotes, weasels.... So no dogs allowed on the reserve, or sick coyotes.....

The kiddie pool will open in March : If you are a weaner and don't know how to swim (they don't), the best learning area is a sheltered bay or protected intertidal area, both of which we have here at Año Nuevo. The bight bay between the island and shore is an excellent training area, and the protected intertidal bays on the North beach serve as a great beginner's pond. Did elephant seal moms in their infinite instinctual wisdom pick Año Nuevo as a birthing area because of its safe kiddie pool environs? By the way the word "bight" as in "Bight Beach" is defined as a "curve in a coastline forming a bay"....It's a funny word, isn't it???

"No" really means "yes": Every girl knows how to behave around men... it's an art mothers teach their daughters. Elephant seal girls have a way with men, too... When they want to mate with a male, and a male presents himself, they protest and act like they don't want to mate....for a moment, at least. Researchers feel their protests are a way to check if this big guy is really the Big Guy (alpha bull), because if he isn't, this girl doesn't want anything to do with him and her protests will bring on the real alpha bull in no time.

Old Eagle Eye meets Old Owl Eye. Who is the seal with super vision? The elephant seal! Apparently, e-seals see better (further) than any other seal or sea lion. But if you could look into an e-seal's eyes, you could barely see the pupil that is the gateway of this super vision, since the iris is shut to just a pinhole in the light of day. But go under water and down into the dark, dark depths, and the elephant seal's eyes open wide and win the prize for super night vision as well. The eyes are built like a cat's or an owl's eye with mirror-like membranes (tapetum) that reflect existing light and make low-light vision possible.

Flying with no power, like a glider.... or an elephant seal. Elephant seals are great conservers of energy (as we all should be) so they GLIDE as much as they can when they dive. If they are a bit heavy, they glide on the downward part of the dive, but if they are well fed and their blubber layer is thick they GLIDE or float on the upward part of the dive.