



FRIENDS OF THE ELEPHANT SEAL *E-SEAL NEWS*

WINTER
2012



Winter Drama

The elephant seals' dramatic season of birthing and breeding begins in late November and continues through March as the new pups become seaworthy. It's Mother Nature's big show of the year at the Piedras Blancas viewing site.

Battle for Dominance—November & December

The first act begins in late November or early December with the arrival of the huge adult males, returning from their long journey to Alaska, where they have been foraging to bulk up for several months of fasting. A dominance hierarchy develops on the beach as these giants challenge each other. A massive male that can weigh two tons or more is impressive, with his long, dangling nose – the proboscis that gives elephant seals their name. The hollow holler of an adult male is hard to describe. It's been said it sounds like a Harley revving up in a gym. Sometimes the big voice is all it takes to make one guy decide to back off. If not, they might fight, banging their chests together and biting necks with their sharp canine teeth. The thick, crusty callus on a male's neck is called a chest shield because it is so tough. Although it bleeds, the opponent's teeth seldom go deep enough to do serious damage. By mid-December the alpha bulls have divided the beach into harems with beta bulls more on the edges and alert for openings. Careful observation will reveal which bulls are the alphas. But the hierarchy can continue to change as larger males arrive and challenge the alphas.

Birthing and Nursing—January & February

The pregnant females begin arriving in mid-December and each one selects a comfortable location to give birth. Eventually, each alpha male will have 20–100 females in his harem, and he hopes to mate with each one when she weans her pup, about a month after it is born. The first pup is usually born around December 20, and births continue through January with the peak of the birthing in mid-month.

For up-to-date information, visit our web site at www.elephantseal.org

Elephant Seal Births and How to Spot Them

The high point of a rookery visit is witnessing a birth. Births occur between the middle of December and the middle of February with most occurring in January. While you will often know that a birth has occurred, courtesy of the gulls, most visitors would love to see the event itself and frequently ask "How can I know when a mother is about to give birth?" This article, based upon a study* carried out at the Ano Nuevo rookery, may help you do so.

The females are somewhat restless during early stages of labor, shifting their weight from their abdomen to one side or the other. The labor time varies from approximately 15-25 minutes in the older adult females to 30-60 minutes in the very young females. So in some instances you may not have much time to answer your cell phone. During the final phase of labor the female lies on her belly and may elevate her lower abdomen 1-2 feet above the ground and swing it slowly from side to side. She may begin flipping sand or root in the sand as a sign of anxiety. At the same time, her front flippers may be extended and her head and neck raised, giving a U shaped appearance. This posture is usually assumed during contractions from the time the pup is visible to the moment of expulsion and is a reliable signal that birth is imminent. Mothers move very little during this period, although a few will circle as the pup is being expelled. She may look straight ahead and may close her eyes during labor and there may be tearing from time to time. She may emit a low vocalization similar to low intensity encounters with other females. While the blubber thickness makes it difficult to observe contractions, there may be a bulge near the lower abdomen. In some instances either before or during labor you may be able to see the pup move.

At first appearance the pup is surrounded by an amniotic membrane which usually ruptures by the time the head or rear flippers are visible. The mother usu-

A Gathering of *Friends*

This is your invitation to join our volunteer guides and other *Friends* for a potluck reception and a presentation on the aging processes of the northern elephant seal. Bernard Le Boeuf, a pioneer in the study of the elephant seal, will be speaking on the results of recent research on the survivorship and senescence of elephant seals as observed at the Ano Nuevo rookery. Admission is free, but reservations are required -- (805) 924-1628 or fes@elephantseal.org. We will gather at 5:00pm on December 15, 2012 in the Veterans Memorial Building, 1000 Main Street in Cambria. Bring finger food, or desserts, or drinks -- sodas, wine or beer. We are eager to share the evening with you.

In addition to hearing a fascinating presentation by one of the leading elephant seal experts, your trip can include a visit to the rookery to see the dominance battles of the giant bulls and formation of the harems in preparation for the birthing season. Our *Business Partners* are ready with accommodations and meals to make your stay easy and pleasant. Make your travel plans now.

Friends of the Elephant Seal
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**Visit our office, gift shop,
and displays at the
Cavalier Plaza, Highway 1
San Simeon**

Docent class of 2012



First row, l to r, Kathy Hepperly, Elaine Russo, Ginny Drew.

The rest, l to r, Elisabeth Haug, Nancy Hendricks, Carroll Butler, Marcia Daniels, Van Dees, Kathy Dowding, Paula Ross, Judy Bertonneau, Ed Miggin, Lynette Harrison, Dawn Fiegel, Ellen Stoner, Kathy Bruckner

What's New

FES Projects: The Board of FES has initiated two projects and is investigating two others.

- The Board has instructed its Finance Committee to establish an endowment fund to ensure the long term survival of the organization.
- We have established an internship for students from biology or veterinary science at CalPoly (California Polytechnical University in San Luis Obispo) to work with the Marine Mammal Center in marine mammal rescue operations in the area. The interns will report to FES what they learn about the causes of problems, particularly for elephant seals, along our coast. Two students will be selected for this academic year and the Board will review the results for possible continuation of the program.
- Under consideration is a white shark monitoring program at Piedras Blancas. One of the most common questions from visitors and a matter of great interest to the docents is the extent of shark activity in the rookery area. Many white sharks along the coast have embedded microchips that can be detected by appropriate nearby detectors. We are looking at the possibility of installing a detector on a buoy in the deep waters off shore.
- Also under consideration is the development of a smartphone app or web site that our non- or limited-English speaking visitors could use to get a narration about the scene on the beach in their language.

Elephant Seal Births (Continued)

ally turns immediately to face her pup, breaking the umbilical cord. As she turns she usually begins emitting a warbling sound in the pup's direction and touches his body with her nose. She does not lick or clean the newborn. The pup usually responds to the mother's warble with a vocalization of its own. All pups make this sound within an hour after birth and some vocalize almost immediately. The placenta is delivered with the pup or within an hour after birth, typically attracting the gulls, the broadcasters of the birth. The arrival of the pup increases the aggression of females in the vicinity. They may approach the pup and sniff it, bite it, threaten it or, in a few cases, attempt to take the pup as their own.

Of births observed in the study, 62% were head first and 38% were rear flippers first with the process, in either case, taking between 1 and 30 minutes, with an average of 7.5 minutes. Still births and premature births are very uncommon.

*Le Boeuf, B. J., Whiting, R. J. and Gantt, R. F. 1972. Perinatal Behaviour of Northern Elephant Seals and Their Young. *Behaviour*, vol 43, no.1/4(1972), pp121-156.



Winter Drama (Continued)

After long migrations, the females have nourished their bodies to withstand a couple of months of fasting, birthing and nursing. Usually, in less than a week after arriving, a female gives birth to one pup, which weighs around 70 pounds. The first thing the mother does is vocalize with her pup, bonding so that they can find each other if they become separated on the crowded beach.

The pups nurse for four weeks and can gain as much as 10 pounds a day on the rich milk, averaging 55% and reaching 65% fat by the end of the nursing period. For every pound the pup gains, the mother loses about two pounds. By the end of the nursing period the pup can weigh over 300 pounds.

Breeding and Weaning—February and March

The mating season begins about a month after the first births, and there is plenty of action as the alpha males chase other males lurking around the harem and fight for mating rights. At the same time, females are squabbling over pups and space, and winter storms are threatening to separate pups from their mothers. It's not always a pretty picture, but it's a noisy, exciting time and a rare opportunity for human visitors to observe the seals' birthing and mating season without disturbing them.

The female goes into estrus about four weeks after birthing, typically in mid-February. When betas and other males sneak into the harem to try their luck, the targeted female fights and raises a loud protest. By doing so, she alerts the alpha who presumably has, after all, the best genes around. While the alpha successfully breeds about half of his harem, the betas don't do too badly. She soon mates, abruptly weans her pup and heads out to sea.

The Weaners

It's important that the pup, now called a "weaner," is fat enough to survive after its mother leaves. It will take eight to ten weeks for the youngster to teach itself to dive, to remain under water for an extended period and to swim well enough to head north and west to forage at depth for food. Most of that learning takes place in the off-shore tide pools that provide protection from the waves and potential predators. The pup will molt off the black coat it's born with and turn silvery gray after it is weaned. It will fast while still in the rookery and lose one-third of its body weight before departing.



Recent visitors as seen with the web cam