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Cover Story

**She's One Happy Pup**

\* A young otter name Summer once faced certain death, but today is safe, warm and getting a good, if soggy, education.

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A little girl named Summer arrived in Long Beach last month with what sounds like a Hollywood crisis: a lousy fur coat, a weight problem and a dependency issue.

Summer, an 11-month-old sea otter at the Long Beach Aquarium of the Pacific, also would be distressed to know she's missing her spot in the limelight. This Saturday the aquarium will launch Sea Otter Summer, but the budding diva will be in rehab.

Separated from her mother when she was just a week old, Summer got a second chance when the Monterey Bay Aquarium took her into its otter program, which raises or rehabilitates otters that have been abandoned or injured. The otters are released back to the ocean if they've shown survival skills. Some don't make it. But many do. And some, like Summer, survive in captivity but would surely die in the wild.

Among Summer's problems are that her fur coat is so skimpy she gets chilled, and she weighs only about 65% of what she should, probably because she burns so many calories just keeping warm. On top of that, she's developed a towel addiction that aggravates her fur condition. But Long Beach otter experts remain optimistic that they can turn this otter around.

Many forces--some natural, some not--separate mother otters from their pups. Storms, shark attacks, boating accidents and oil spills are all culprits. Without an otter mom, pups in the wild have no chance for survival. For six to nine months, moms--dads are no longer in the picture--teach their young to forage for food, maintain their coats and generally behave like otters. In captivity, people do that job, and pups need almost round-the-clock care.

When Summer first came to Monterey, she slid right into the program with the other pups slated for release, said Andy Johnson, manager of the Monterey aquarium's sea otter research and conservation program. She went on daily ocean swims on which her handler would teach her the finer points of otterhood.

But after a month, the staff noticed that Summer wasn't thriving. She got easily chilled and exhausted, wasn't gaining weight and was losing fur. Johnson's team worked with specialists at UC Davis and elsewhere to conduct nutritional, blood, skin and fur studies, which turned up nothing alarming. Given her condition, the team concluded that Summer wasn't releasable but she was adoptable.

When the Long Beach staff heard that Summer needed a home, they invited her to join the other two otters--also young Monterey refugees --that live in the year-old aquarium's Northern Pacific habitat. She won't meet her new roommates for a while, however, until she puts on some weight and fixes her coat, says Mark Ryan, Northern Pacific curator for the aquarium and one of Summer's two handlers.

Her new digs in Long Beach, a 20-foot-tall light-blue quarantine tank that resembles a giant soup can, seem rather unremarkable, except for the fervent high-pitch squeals coming from inside.

Summer is screaming for her breakfast.

The cries are lost on Ryan, who knows that inside the tank, Summer is living the high life. She gets her own heated pool (hers is 65 degrees while the other otter pool is a chilly 52); room service, which includes an all-you-can-eat buffet of shrimp (her favorite), clam meat, squid and krill several times a day; and her own personal trainer.

Yet the cries persist. "That's why they're called kelp brats," says Ryan as he takes Summer the first of her five meals for the day. Most pups eat about 25% of their bodyweight daily. Summer gets 40%, or about eight pounds of food a day.

"The crying is actually very adaptable," he explains. In the wild, a young otter's cries are its lifeline. A newborn pup's fur is so buoyant, the otter can't dive for two months. It can only float. Mother otters secure their bobbing babies with long strands of kelp so they don't drift off while Mom dives and forages for food. When Mom surfaces, the unique sound of her pup's cry helps her find it again. In this case, Mom is Ryan, who, like a mom, provides lots of food and attention.

Ryan makes a noise, too, using a training whistle he wears around his neck. It lets Summer know that either food or a reward for good behavior is on the way. Before he climbs the metal ladder to the access door of Summer's tank, Ryan steps in two bins of liquid, one containing water and one a disinfectant. He'll step in them again when he leaves. "We're fussy about quarantine here," he explains. "I don't want to take any germs into her habitat or out to the rest of the aquarium."

Summer just wishes he'd hurry up already. Her yelping can be heard from the parking lot. Ryan climbs onto a platform, just above the tank's water level, then opens the access door and steps onto the deck in her tank. Ah, peace. She slides out of the water and onto the deck to greet him, searching him over as if to say, "So where's the food already?"

"No, no. First we have to get weighed," Ryan says, toweling off the little mammal.

To an outsider, Summer looks otterly fine. She's active, social, vocal and looks as furry as any other otter. Once more or less dry, Summer obediently climbs into a small cage outside her tank. The floor of the cage is a scale. She weighs 9.6 kilos this morning, or about 21 pounds. That's actually down from her arrival weight of 10.3 kilos, but two weeks after this visit, she was back up to 10.3, or 22 1/2 pounds. Most female otters her age weigh about 30 pounds, and they average 45 pounds when fully grown.

Unlike sea lions and seals, which have a layer of blubber to stave off the cold, otters rely on their thick fur for warmth. Their fur, which has a million hairs per square inch, has two layers: a dense fine undercoat and a longer coat of thicker, oil-coated (and therefore water-resistant) guard hairs. The guard hairs actually help trap warm air pockets close to the skin and keep the animal warm in the 50-degree waters of the Northern Pacific.

Summer's guard hairs are damaged, though it took awhile for otter experts to discover this. And even longer to determine why.

Initially mammalogists looked to congenital or nutritional reasons for Summer's fur problem. It now looks as if she may have damaged her own hairs by too aggressively rubbing on the towels handlers give otter pups to play with and suckle on. Just a few weeks ago, mammalogists at Monterey and Long Beach received a new pathology report from a lab in Texas that had analyzed a sample of Summer's fur. According to the report, it appeared "twisted and damaged," suggesting the possibility of "self-induced trauma," said Johnson.

Handlers give otter pups a lot of fresh towels to cuddle with as a replacement for their moms, to suckle on as they're being weaned and to use to groom themselves. Like a toddler with a favorite blanket, Summer got too attached to her security object.

'Tough Love' Approach:

### **Fewer, Smaller Towels**

"It looks as if the towel is implicated," said Johnson, "only it's very hard to wean her from it when she likes it so much."

"Here, you play with this," Ryan says, throwing Summer one of only two fresh towels she now gets a day. (She doesn't like them wet, which they quickly become.) She used to get one every hour at the old place. Eventually, she'll get just one towel a day. Then the towel will get smaller. It's the tough love approach.

The quick physical is over, and Ryan's finally getting to what Summer's been waiting for--the fish in his hip bag. She nestles into the towel. Ryan, dressed in khakis and rubber boots, kneels beside her and begins to hand-feed her.

Next to them is a Little Tikes slide, the brightly colored plastic variety, which Summer can climb onto so she can slide into the water. "She's just like your average 2-year-old," he says. Though how many 2-year-olds need a 12-step program?

Summer isn't interested in the small talk. As Ryan tries to explain the finer points of otter reproduction, he momentarily neglects to hand Summer another piece of fish and she swats his knee. "Am I taking too long?" he asks her. "You're so demanding."

Although otters live in Asia and Alaska in healthy populations, the otters unique to California's northern coast number around 1,937, fewer than 100 animals away from being on the endangered species list. Almost extinct earlier this century because of Russian fur trappers, California sea otters remain a threatened species and are protected by the Endangered Species Act and the Marine Mammal Protection Act. Their population has declined again recently because of El Nino storms and possibly pollution.

"One big oil spill could easily wipe them all out," Ryan says. In studying otters like Summer, scientists can gather clues about what will bring these animals back to safer numbers.

"The rewards of the job are similar to those of parenting," says Ryan, father of two. "I enjoy the satisfaction of seeing the otters hit certain milestones. I also think it's a responsible act. Summer couldn't survive in the ocean, but she's healthy. Why not give her a good life, while educating the public and us about how otters live so we can use the knowledge to help the environment?"

As he leaves her tank, again dipping his boots in disinfectant, the dramatic cries return. "She'll complain for a bit," he says, speaking like a mother who knows her baby well. "Then she'll go back to doing otter things. She knows I'll be back soon."

## BE THERE

Summer on the Web

\* Go to Calendar Live! to see Summer the sea otter in her new home at <http://www.calendarlive.com/otter>

## Otters Up Close

The Long Beach aquarium on Saturday launches Sea Otter Summer, a series of programs and exhibits to complement its display of sea otters. Story on Page 8

GRAPHIC: Sea Otter  
ID NUMBER: 19990617hca0004  
Enhydra lutris

Otters, members of the weasel family, spend most of their time in the water, no more than a few miles off the coast. Hunted for their pelts to near extinction in the early 1900s, California sea otters became a protected species in 1911.

### Warm Coats

Unlike other marine animals, sea otters do not have a layer of blubber to keep them warm. Instead, they have two layers of fur that interlock to trap warmth.

Outer fur: Thick, long guard hairs that lie extremely flat to keep the underfur dry. Natural body oils coat the fur to make it water resistant.

Underfur: Fine, dense coat containing between 170,000 and 1 million hairs per square inch, more than any animal on Earth. (Dogs have 1,000-60,000 hairs per square inch and people have about 100,000 hairs on their entire head.)

### Physical Characteristics

Weight: 40-80 lbs.

Lifespan: 15-20 years.

Length: 4-5 feet

Subspecies

Asian Sea Otter

Location: Kuril Islands near Japan and off the Kamchatka Peninsula's eastern coast.

Population: 23,000

Alaskan Sea Otter

Location: Aleutian Islands to Prince William Sound

Population: 120,000

California Sea Otter

Location: Between San Francisco Bay and Santa Barbara Channel Islands area.

Population: 1,937

Diving Ability

Sea Otter

Depth: 100-180 feet

Underwater time: 4-5 minutes

Seal

Depth: 400-500 feet.

Underwater time: 30-60 minutes.

Sperm Whale

Depth: 900-1,000 feet.

Underwater time: 2 hours.

Feeding Habits

Diet: Abalone, clams, crabs, fish, mussels, octopus, sea urchins, squid.

Amount: Consumes 25%-30% of body weight daily.

Forepaws with retracting claws are used for eating and grooming.

Kelp is used as an anchor while sleeping or relaxing.

Flattened tail serves as a rudder.

Webbed hind feet are used for propulsion

Sources: Long Beach Aquarium, Monterey Bay Aquarium, "Sea Otters" by Marianne Riedman, Graphics reporting by JANICE JONES DODDS / Los Angeles Times

The Marine Mammal Center: <http://www.tmmc.org/seaotters.htm>

Alaska Department of Fish and Game:

<http://www.state.ak.us/local/akpages/FISH.GAME/notebook/marineseaotter.htm>

PHOTO: Summer the otter snuggles up close to Mark Ryan at Aquarium of the Pacific.

ID NUMBER: 19990617fcxfgry

PHOTOGRAPHER: KEN LUBAS / Los Angeles Times

PHOTO: (Cover) Saving a Sea Otter. Behind the scenes, the Long Beach aquarium is rehabilitating one orphaned pup. And just in time for a

summer full of otter events.

ID NUMBER: 19990617fcxffbgy

GRAPHIC-DRAWING: Through grooming, air bubbles are trapped for insulation, DORIS SHIELDS / Los Angeles Times.

ID NUMBER: 19990617hca0005

GRAPHIC-DRAWING: (No Caption), DORIS SHIELDS / Los Angeles Times

ID NUMBER: 19990617hca0006

GRAPHIC-MAP: (No Caption), DORIS SHIELDS / Los Angeles Times

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Descriptors: SEA OTTERS

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