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## Walrus in our midst ... And Six Flags works to keep it that way

By RACHEL RASKIN-ZRIHEN/Times-Herald staff writer

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Wild rides and wildlife shows are not all Vallejo's Six Flags Discovery Kingdom is about - there's a quiet scientific side behind the scenes, as well.



And that side is suddenly gaining new traction as the park's scientists work to help preserve the walrus, said spokeswoman Nancy Chan.

Holley Muraco, the park's marine mammal reproductive specialist, is working to study the breeding habits of walrus - something difficult to do in the wild.

The efforts come at a time when the walrus' status in the ecological scheme of things is in question. The Center for Biological Diversity reportedly sued the U.S. Fish and Wildlife Service and Interior Secretary Dirk Kempthorne last month for failing to act on a petition seeking protection for walrus under the Endangered Species Act.



Holley Muraco, a specialist in marine mammal reproduction, greets Sivuqaq, whose stage name is Jocko, in the walrus enclosure at Six Flags Discovery Kingdom in Vallejo. (Chris Riley/Times-Herald)

Alaskan walrus are threatened by global warming that melts the Arctic sea ice they use, and also by oil and gas development, according to the group.

"Polar bears are always the poster child for global warming, but what about the walrus?" Chan said.

Because of the unique opportunity offered by the park, the breeding habits of Discovery Kingdom's 2,200 pound Pacific walrus Sivuqaq (the ancient Yupik name for the village of Gambell, Alaska) and his two female companions Uquq (blubber) and Sika (ice) have become the subject of some intense study. In fact, Muraco is creating an artificial vagina in the hope of interesting Sivuqaq in performing sexual acts that can be analyzed and quantified, she said.

If everything goes according to plan, the male, nicknamed Jocko for his starring role in the Adam Sandler / Drew Barrymore film "50 First Dates," would by this means provide scientists their first walrus semen sample, Muraco said.

Though she's constructed similar body parts for horses, cows and pigs, those creatures' breeding habits are much less of a mystery. Pacific walrus, on the other hand, live in a remote part of the world and breeding activity takes place under water, making observation and study nearly impossible in the wild, Muraco said.



The three walrus at Six Flags Discovery Kingdom in Vallejo are, from left, Uquq, Siku and Sivuqaq. (Chris Riley/Times-Herald)

The Discovery Kingdom walrus, whose mothers were killed during a hunt, came to the park from the Bering Sea as 2-week-old unrelated orphans about 14 years ago, Muraco said. They were hand-raised and trained by park experts, which is one reason it's even possible to do the various tests and examinations being performed, she said.

Any semen collected will act as a baseline for further study and can be frozen in the park's on-site sperm bank as a sort of insurance policy against the extinction of the species, Muraco said. "We don't know what the future is going to be for these arctic species, so this is important," she said.

"There are about 30 walrus spread out among only seven facilities in the country, and if this works, we'll share information and techniques so we can add more data to compare," said Discovery Kingdom's animal care director, and Muraco's husband, Mike Muraco.

"We are ground zero here with regard to walrus breeding," Holley Muraco said. "It's a big, open area of study as it is with many exotic species."

One reason the Muracos and other park animal experts started brainstorming walrus research ideas about a year ago, is the fact that though the walrus are sexually active, they have yet to produce offspring. This may be because of the animals' youth, but that's one answer the scientists seek.

Walrus like Jocko can grow to 4,000 pounds and typically live up to about 30 years, Mike Muraco said.

As the walrus research goes forward, Holley Muraco will monitor the animals' hormones, use ultrasound, take blood tests and vaginal swabs to determine the females winter breeding cycle season, and watch them mate under water, in addition to making the latex or rubber artificial vagina into which semen can be collected. The trio are uncomplaining participants in the examinations and testing, she said.

"They're not shy with their sexuality," Holley Muraco said. "They're trained to cooperate with these exams. They just lay back and relax."

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