

ALASKA

**Tidelines**

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## SHOULD THE FUR SEAL HARVEST BE HALTED?

The tiny Pribilof Island group far out in the Bering Sea is home to the largest single herd of marine mammals in the world. Each summer its black sands and rocky beaches are jammed to overflowing as more than a million Northern fur seals return to the place of their birth to breed and bear their young.

For most of the year fur seals live in loose groups, eating, sleeping and playing in the open ocean (see page 6). Some travel thousands of miles without ever going ashore. But to breed and give birth, they must return to land. And each year instinct calls them back to the same place, at the same time, in a massive family reunion.

"Sea bears" they were called by the Russians, who found the misty Pribilof Islands in 1786 by following the roars and barks of the seals through a dense summer fog. What they saw was a fur hunter's dream—thick glossy pelts there for the taking, worth millions on the booming fur market.


The prized sea otter had been hunted nearly to extinction. Now it was the fur seal's turn. First under the Russians and then, after the U.S. purchase of Alaska in 1867, under the Americans the fur seal slaughter continued. By the early 1900s the Pribilof herd, which once may have numbered 2,000,000, had dropped to less than 135,000 animals. And it seemed that the fur seals, too, would fall victim to man's greed.

But in 1911 an international treaty was signed by the United States, Russia, Japan and Canada to protect the seals and to bring the killing under control. The four nations agreed to stop all commercial sealing on the high seas. In exchange for this, a limited annual harvest was to be held on the U.S.-owned Pribilof Islands and on the Russian-owned Commander and Robben Islands, with Japan and Canada to receive 15 percent of the furs.

Today the Pribilof fur seal herd has built back to about 1,400,000 animals. And the treaty is hailed by many as a shining example of sound conservation and good management.

But others argue that the treaty has served its purpose. They say that now the government should get out of the fur seal business in which animals are killed primarily for their coats.

Caught in the middle are the people of the Pribilofs, whose Aleut ancestors were forced to move to the islands to hunt the seals for the Russians. Slaves to the harvest for nearly 200 years, they have not fared as well as the seals (see pages 4-5). And today almost all their cash income is tied to the taking of the furs.

The treaty will run out in October, 1980, unless the U.S. takes action very soon to extend it. What do you think should be done? 

# THE DEBATE



Photo by Susan Hackley Johnson

**PRO (Team 1): The International Fur Seal Convention (treaty) has proved to be good management policy and should continue.**

**CON (Team 2): The treaty has served its purpose and should be allowed to run out.**

In a debate, two teams take opposite sides in speaking for (PRO) or against (CON) a certain issue. Usually three judges listen to the arguments and decide at the end which side made the most convincing case.

So choose your judges and take a stand, PRO or CON, on Team 1 or Team 2. Here are some of the arguments that have already been made from both points of view. You will probably think of some more as you go along:

**PRO:** With this treaty we have come up with a management plan that really works. Why should we end it? The Pribilof fur seal herd is healthy. It is protected from high-seas hunting where females and pups can be taken and hunting loss is very high. It is kept under control by a limited harvest of non-breeding males so that there is enough food and space for the herd. And in less than 70 years, the herd has built back from only 135,000 seals to 1,400,000 animals.

Sure, there may have been more fur seals in the old days. But that was before they were competing with the fishermen in the area. Fur seals eat an awful lot of fish—about six percent of their body weight each day. And many scientists believe that the herd is now about as big as the Bering Sea can support.

The world has changed, and the food needs of our growing population must be considered too. In our management plans, we must try to reach the best possible balance for the benefit of both

people and animals. This treaty is a good example of such a balance. **CON:** We agree that the treaty served a real purpose in saving the fur seals. But we don't need it any more. If there is competition for food and space, nature will hold down the size of the herd. And by allowing the seal to live and die naturally in the ocean, it is recycled into the food chain for the benefit of all marine life. Nature determines who will survive—not man.

What we do object to most strongly is the so-called "harvest" of seals you referred to. What you're really talking about is the bloody slaughter of 20,000 to 30,000 animals each year—just for their coats.

This puts the United States in a ridiculous position. How can we urge other nations not to kill marine mammals when we are doing it ourselves? Our own law, the Marine Mammal Protection Act of 1972, forbids the hunting of all marine mammals—seals, walrus, whales, polar bears—except by Native people for subsistence use.

And yet under this treaty we are taking the lives of thousands of fur seals for no better purpose than to provide luxurious fur coats for a few rich people.

Like you said, the world has changed. Many people don't want to wear the skins of wild animals, and the operation won't support the Aleuts much longer. It isn't even paying for itself now—which means the taxpayers are.

Recently protesters put a full-page ad in one of the East Coast newspapers showing Pribilof seals being knocked unconscious with clubs. And the headline read: "Your tax dollars at work." How to you like that?

**PRO:** The Marine Mammal Protection Act specifically excluded the fur seal because it was covered by the international treaty. Your main objections seem to be on two rather emotional grounds. One, you don't like the idea of people wearing furs, and two, you don't like the sight of blood.

Well, as any Alaskan ought to know, people have been wearing furs for warmth as long as they have been eating meat for food. And did you ever stop to think of how other animals—lambs, pigs, cattle,—are killed on their way to your dinner-table? That isn't very pretty either.

Scientific studies have shown that the age-old method of knocking the seals unconscious and then stabbing them swiftly in the heart is the most reliable and humane way of killing them. If a better method could be found, it would certainly be used.

**CON:** We know that both the pig and the seal are animals. And we admit we don't react to a fat tame pig—raised to be slaughtered—the same way we do to a beautiful wild fur seal. People aren't paying thousands of dollars for a fur coat to stay warm. They're doing it for fashion or vanity. A seal's life is worth more than that. Backers of this treaty would have us believe that we are saving the seals by slaughtering them.

**PRO:** But the harvest was set up in the first place in exchange for an agreement that the treaty nations would halt pelagic (puh-LAY-jik) sealing—which means hunting on the high seas. Seals spend most of their lives in the open ocean, you know, and that's where most of the damage was done in the past. The U.S. and the U.S.S.R. (Russia) now give 15 percent of the seal skins they take to Japan and Canada. So if you give up the controlled harvest, you are opening the door to uncontrolled high-seas hunting again.

**CON:** The seals would now be protected within our 200-mile off-shore management zone.

And if we could get Canada to go along under a separate agreement, that would cover most of the seals' north-south migration patterns. So far as Japan and the U.S.S.R. are concerned, perhaps trade sanctions or world opinion might pressure them into leaving the seals alone.

**PRO:** Well, that hasn't worked with the whales (see *Tidelines*, March, 1979). And the fur seals aren't even an endangered species. Also, the Japanese government has been getting a lot of heat from its fishermen because of seal damage on fishery stocks. The Pribilof herd eats about a half a million metric tons of fish each year, including some 300,000 metric tons of finfish in the Bering Sea alone. As we said, the seals are competing with people for the world's limited supply of food.

**CON:** That brings up another problem. We fully respect the Native people's traditional use of marine mammals for food, clothing and tools. But only one percent of the seal meat from the Pribilof harvest is used for food. The rest is wasted. At one time there was a

market for the meat as mink feed. But for the past two years it's just been hauled off to the dump. And it certainly isn't making it as a commercial operation. Last year it ran almost \$4,000,000 in the red.

**PRO:** That figure has been quoted before, but it really isn't fair. It includes all the federal money that goes to the Pribilof Islands for social services, such as education, housing programs and health care. If there were no seals on the islands at all, the government still would be helping those in need, just as it helps the poor in the big cities.

The sealing operation itself costs only about \$400,000 a year, and it provides just about the only jobs for the 650 people on the islands.

We think the treaty can be defended on its own merits, without regard to the welfare of the Pribilovians. But still those people cannot be ignored.

**CON:** As long as the treaty stands, they will continue to be dependent upon the U.S. government. We think the money now being spent on the seal harvest should be used to help develop other sources of year-round income for the people of the Pribilofs.

**PRO:** That's easier said than done. For nearly 200 years their lives have been centered around one thing—the seals. The Russians moved the Aleut hunters there in the first place for the sole purpose of harvesting the seals. Then after the purchase of Alaska in 1867, the United States considered the sealing operation so valuable it placed the Pribilofs under federal control. So after serving as slaves to the Russian fur hunters, the Pribilovians found themselves held as wards of the U.S. government. Only within the past 15 years have they been granted the full rights of citizenship.

It is as though the people and the seals have been locked in together on those lonely isolated islands. So now you say they should suddenly find something else to do. Any suggestions?

**CON:** How about developing a bottomfish industry? The islands lie right in the middle of some of the richest bottomfish resources in

the world, which are now being harvested mainly by foreigners. **PRO:** They're thinking about that too. But it would require time and an enormous amount of money. The Pribilofs have no natural harbor. Even supplies must be unloaded at sea and brought in by small boats. So in addition to the cost of fishing vessels and fish processing facilities, a large vessel harbor would have to be built.

But that won't help the people now. And later on you're going to run into another problem: Commercial fishing in the area is going to cut down on the food supply for the seals, and the seals are going to cut down on the number of fish available for the fishermen. So we're back to Square One.

**CON:** Well, there's a bill before Congress that would turn the Pribilofs into a wildlife sanctuary if the treaty ends. That would provide year-round jobs in managing the sanctuary. And it would bring in a lot more tourists.

**PRO:** What kinds of jobs? You mean 300 park rangers and tour guides? Tourists swarming in around the breeding beaches?

**CON:** OK, call it sentimental. But we feel that those seals—like other marine mammals—belong to all of us. They can't be moved. They can't adjust to another place. But people can.

So maybe the people should move to where there are better job opportunities and give the islands back to the seals. After all, the Pribilofs aren't the traditional home of the Aleut people.

**PRO:** It is just as much their home as the United States is to most of the American people. The Aleuts have been there since before the Civil War.

We say that the seals and the people can live together in a balance, for the proven benefit of both. They have under the treaty. And the Aleut people did for thousands of years before that. Now are they to be given less consideration than seals, or whales, or polar bears?

This article was reviewed for content and fairness by John I. Burns, marine mammal biologist, Alaska Department of Fish and Game, and by representatives of Greenpeace Alaska and the Aleutian/Pribilof Islands Association. Some changes in the original manuscript were made after that review, in an effort to present both sides as fully as possible.

# MAP OF ALASKA (Aleut-style)

Alaska has always been a problem for map-makers. It's just too wide. From Camp Point on Portland Canal in the Southeast Panhandle to Cape Wrangell on Attu Island at the end of the Aleutian Chain, it stretches some 2,400 miles from east to west. And with a lot of water in between, most of the Aleutian Islands wind up in an "Inset Box" at the bottom of the map, plunked somewhere in the middle of the Gulf of Alaska. Wrong place. Wrong direction. Wrong angle.

So here is a map of Alaska from the Aleuts' point of view. And it isn't as far off as you might think. Check it out, geographically and historically:

1. Using the scale of miles in the lower left corner, figure out about how far it is from Port Moller (generally con-

sidered the eastern-most Aleut village) to the tip of the chain.

\_\_\_\_\_ 800 miles. \_\_\_\_\_ 1200 miles. \_\_\_\_\_ 600 miles.

2. If Alaska is 2,400 miles from east to west, that makes the Aleutian region about \_\_\_\_\_ 1/2 \_\_\_\_\_ 1/3 \_\_\_\_\_ 1/4 as wide as the whole state.

3. Some 15,000 to 20,000 years ago the ancient ancestors of the Aleuts, like those of all the North American Indians and Eskimos, came to the New World from Asia by way of the Bering Sea "Land Bridge" (see Alaska Tidelines, October, 1978, page 5). But unlike the others, the Aleuts moved down the Alaska Peninsula and out along the island chain that stretched back almost to the land from which they had come. In what direction were they headed? \_\_\_\_\_

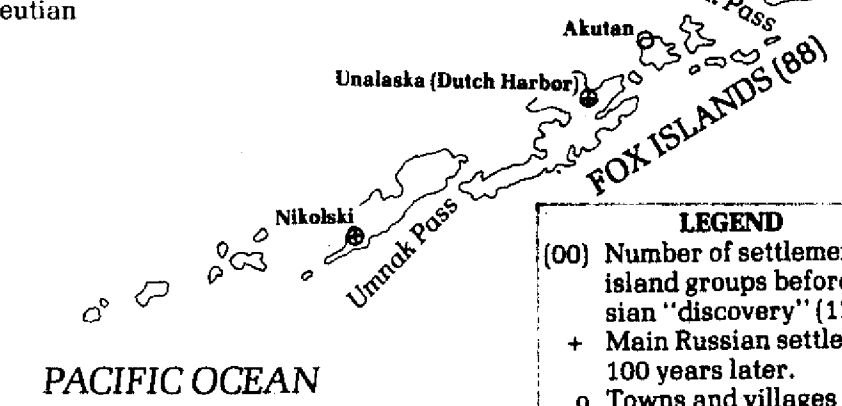
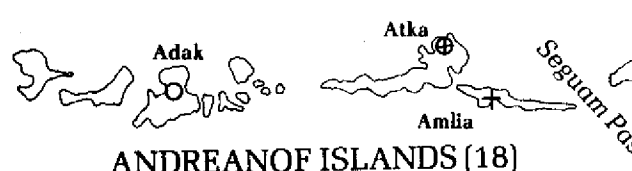
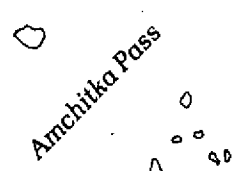
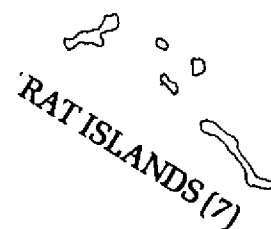
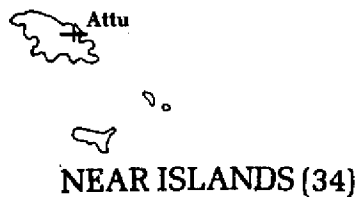
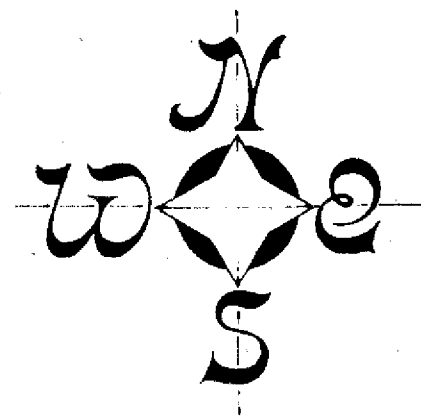
4. It wasn't an easy place to live. Swept by rain and winds of up to 100 miles-an-hour, the islands were still being formed by the volcanoes of the undersea mountain range that separates the deep basins of the Pacific Ocean and the Bering Sea. But the Aleuts, greatest of all the open-sea hunters, found it much to their

liking. When the Russians came in 1741, the tiny islands were among the most densely populated areas on the North American continent. This map shows the number of villages in each island group at that time. What was the total number of villages in the region? \_\_\_\_\_

5. The Russian fur hunters quickly took over the islands, wiping out villages, enslaving the skilled Aleut hunters, kidnapping women and children, and killing all who resisted. Within 70 years, of an original population of 10,000 to 20,000 Aleuts, only 2,000 remained. How many settlements (see legend) were there in the area 100 years later? \_\_\_\_\_

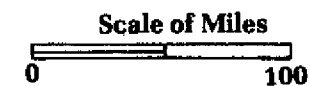
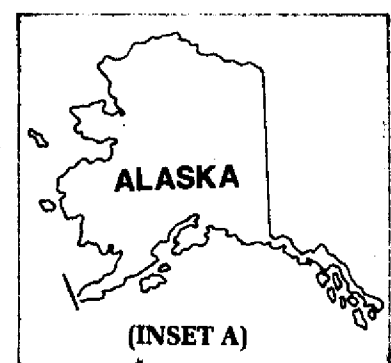
6. All the Russians were not like the early wave of wild freelance fortune-seekers. And with so few Aleuts left, marriage was common with the Russians in later years. Still today only 3,350 people of Aleut ancestry remain. Only 3,350 in the whole world. And the largest Aleut community is on St. Paul Island in the Pribilofs. Counting St. Paul, how many towns and villages are left in the Aleutian region? \_\_\_\_\_

(Answers on page 8.)



**LEGEND**

- (00) Number of settlements in island groups before Russian "discovery" (1741).
- + Main Russian settlements 100 years later.
- o Towns and villages in Aleutian region today.



Sources: "Alaska Regional Profiles, Southwest Region," AEIDC, University of Alaska; "Alaska's Native People," The Alaska Geographic Society, 1979.



"The issue to us is the people. If there weren't people on the Pribilof Islands, there wouldn't be an issue. And if it weren't for the convention (treaty), there probably wouldn't be any seals there either."

## Career Corner: MEET PAT PLETNIKOFF

Pat Pletnikoff is the young, hard-working executive director of the Aleutian/Pribilof Islands Association, a non-profit corporation concerned mainly with the health and social problems of the Aleut people.

When Pat was growing up on St. George Island, the fur seal industry was strictly a closed operation, run for the federal government by the Bureau of Commercial Fisheries.

Nobody could visit the islands without a permit. People were paid in rations from the government store, instead of in dollars. And their houses were inspected once a week to make sure that they were clean, and that "government property" was being taken care of.

With his six brothers and sisters, Pat helped with the seal harvest during the summers and went to the eight-grade government school in the winter. He left the islands

to attend Sheldon Jackson High School at Sitka, and then went on to college Outside, graduating from the University of Washington in 1971.

Pat majored in political science and economics, and he got back home just in time to put his education to work. Congress had finally passed a law extending full citizenship rights to the Pribilofians, including the right to run their own local government. The creation of 13 Native corporations under the Alaska Native Claims Settlement Act led to even greater responsibilities.

He helped with the formation of the city of St. Paul, the first local government on the islands. And he went on to hold positions on the local, regional, state and national levels, including appointment as one of the 15 American members of the International Fur Seal Convention.

As you might expect, he is firmly convinced that the

treaty should continue. But he is realistic enough to know that the economy of the Pribilofs cannot be tied only to the seals forever.

Studies already have been made for construction of a boat harbor on the islands. Last September a major bottomfish conference was held at St. Paul. And the oil industry may be moving in after the St. George Basin lease sales are held in 1982. But all this will take time—and careful planning.

"In each case we will consider the effects on our people and our lifestyle," Pat told Tidelines. "We want to limit development so that the local population can handle it without a lot of outside labor. We don't want our people to become a minority in their own land, as has happened with the fishing industry at Dutch Harbor.

"Because we plan to stay. And as long as we stay there will always be fur seals and bird on our islands."

# WHAT'S THE DIFFERENCE?

Fur seal or hair seal—a seal is a seal. Right? That's what you would gather from their common name.

But so far as the Northern fur seal is concerned, maybe we should have stuck with its Russian name, "sea bear." For one thing, that would go nicely with the name of its nearest relative, the "sea lion." And for another thing, the fur seal isn't any more closely related with the hair seal than it is to the walrus.

They do have some things in common, however. All are members of the marine mammal group called pinnipeds (PIN-i-peds). The name comes from the Latin *pinna*, meaning "wing" or "feather" plus *pedia*, meaning "feet," referring to their four fin-like flippers.

There are three branches of the Order Pinnipedia:

1. *Phocidae* (FOE-suh-dee), meaning "seal". These are the hair seals or "true" seals, the largest of the families. Species common in Alaska are harbor,

spotted, ringed, ribbon and bearded seals. Occasional visitors include elephant seals and hooded seals.

2. *Otariidae* (oh-tuh-RYE-uh-dee), which means "little ears." This family is made up of the fur seals and sea lions. Species found in Alaska are the Northern fur seal and the Steller sea lion.

3. *Odobenidae* (oh-doe-BEN-i-dee), meaning "tooth walker." The walrus has this family branch all to itself. It is found only in the arctic.

Like other marine mammals, pinnipeds are air-breathing and warm-blooded, and give birth to living young. It is their flippers, which allow them to move around on land or ice as well as at sea, that primarily set them apart.

Pinnipeds also have large eyes, smooth round heads, streamlined bodies, thick hides with heavy layers of fat, and fur or hair which in some cases is just whiskers or bristles.

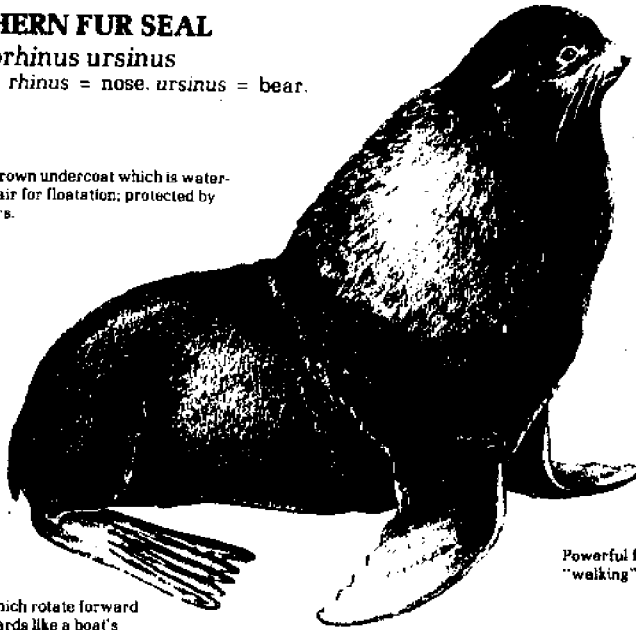
But now to pin down the differences between the fur seal and the hair seal, let's take a closer look...

## NORTHERN FUR SEAL

*Callorhinus ursinus*

*Callo* = beautiful + *rhinus* = nose. *ursinus* = bear.

Very thick soft brown undercoat which is waterproof and traps air for floatation; protected by longer guardhairs.



Short rolled ears outside the head.

Average size: females 65-110 pounds; males 300-600 pounds.

Range: Pribilof Islands, southwest to the Sea of Japan; southeast to the Mexican border. Most of the year is spent far out at sea; returns to the Pribilofs in the summer to breed and bear young.

Powerful front flippers used for swimming and "walking" on land.

Long, leathery hind flippers which rotate forward for moving on land and backwards like a boat's rudder for swimming.

## HARBOR SEAL

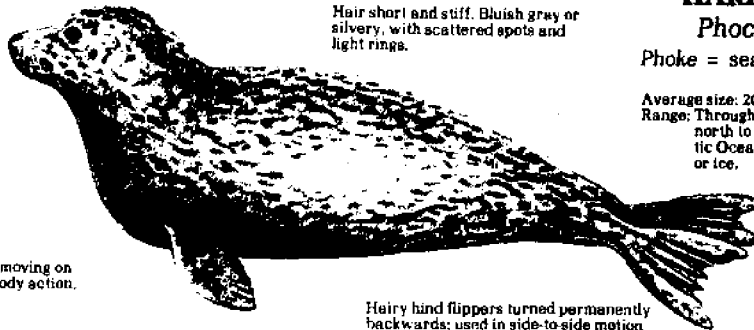
*Phoca vitulina*

*Phoke* = seal. *vitulina* = calf.

Average size: 200 pounds.  
Range: Throughout Alaska waters, north to Wainwright in the Arctic Ocean. Never far from land or ice.

No outside ear flaps.

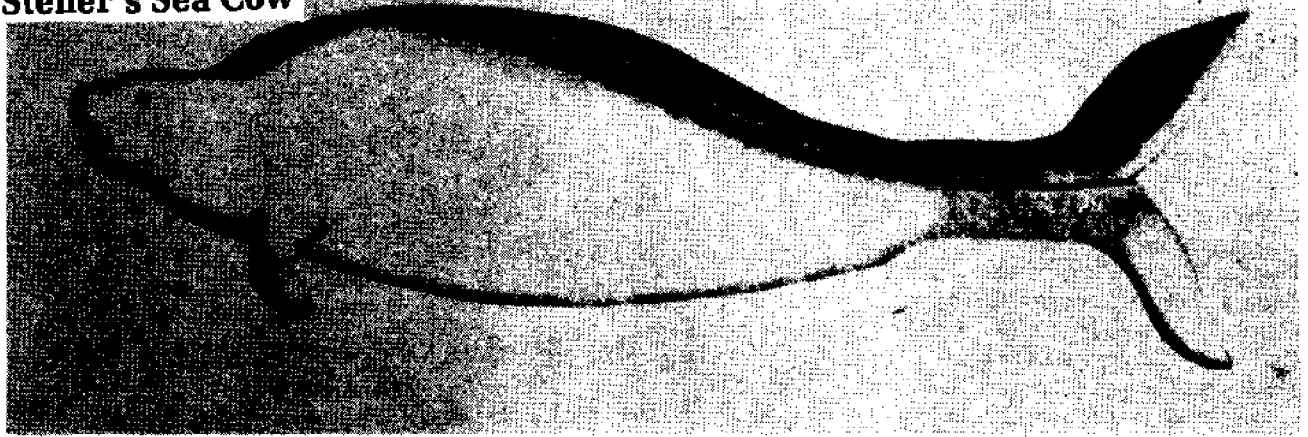
Hair short and stiff. Bluish gray or silvery, with scattered spots and light rings.



Small front flippers; help in moving on land, along with wriggling body action.

Hairy hind flippers turned permanently backwards; used in side-to-side motion for swimming, but can't be used for walking.

## Steller's Sea Cow



Attributed to Plenisher, Bering's clerk on the 1741 voyage  
From *Zoographica Rosso-Asiatica* Vol. 1, Plate 30.1626

# GONE FOREVER — Or Is It?

The sea cow wasn't as lucky as the fur seal. Within 30 years after the Russian "discovery" of Alaska in 1741, it was literally eaten up by waves of hungry fur hunters headed for the Aleutians.

Explorer Vitus Bering and his crews were the first to find the huge sea mammal when they were shipwrecked in the western Commander Islands on their way back to Siberia. Weak and starving, they were ready to try anything. And they found to their great delight that its flesh tasted like beef and its fat like sweet butter.

Georg Steller, naturalist with the Bering expedition, left the only scientific description of the sea cow — one of the many Alaska species which bears his name. Like other plant-eating marine mammals, it was classified in the order *Sirenia* (sigh-REN-ee-uh), which in Latin means "mermaid."

### Some Mermaid!

According to Steller's notes, it had a huge black body, 25 to 30 feet long, with a flat lobed tail at one end and a surprisingly small head at the other. Its short paddle-like forelimbs, used for moving about in the shallow waters, had no "finger bones" like the usual flipper. Instead, Steller said they looked like horses hooves, except that they had "closely set bristles like a scratch brush" on the bottom.

The inch-thick hide of the sea cow was wrinkled and rough like an elephant's and pitted with

parasites, which were often picked out by flocks of gulls perched on the sea cow's back. Its lidless eyes were no bigger than a dog's and its thick lips were fringed with bristles. Instead of teeth, it had two flat plates, grooved to fit together for mashing seaweed.

But it was the sea cow's appetite — and that of the Russians, of course — that was its undoing. Steller wrote:

"They are occupied with nothing else but their food.... They tear the seaweed from the rocks with the feet and chew it without (stopping).... Where they have been staying, even for a single day, there may be seen immense heaps of roots and stems. Some of them, when their bellies are full, go to sleep lying on their backs, first moving some distance away from shore so as not to be left on dry land by the outgoing tide....

"(They have such) slight concern for their life and safety that one may pass in the very midst of them with a boat and single out from the herd the one he wishes to hook." Once hooked, Steller noted, it took some 40 men to haul it to shore, while the animal moaned and struggled weakly. The last sea cow killing was recorded in 1768, and the animal disappeared — the only North Pacific sea mammal to become extinct in historical time.

### Or Is It Extinct?

Perhaps it is only the wild hope that we didn't actually kill off an entire species. But from

time to time over the past 200 years there have been vague reports of animals that just could be Steller sea cows.

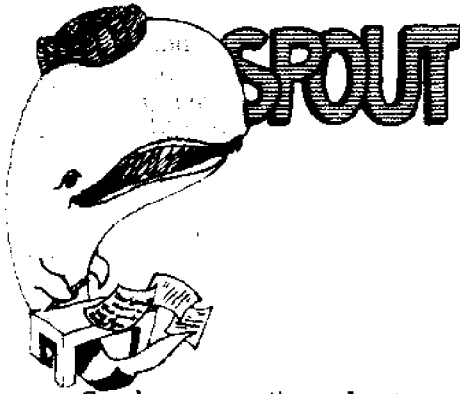
In 1962 six strange-looking animals were spotted by a Soviet research vessel near Cape Navarin northeast of the Kamchatka Peninsula. And as recently as 1977 a fisherman in the same general area got close enough to touch a huge creature stranded on a tidal belt, which he said had short flippers, a forked tail and an odd looking head. When shown a drawing of the Steller sea cow, the fisherman said that was it — and was surprised to hear that it "no longer existed."

Scientists say the unknown animals could have been elephant seals, which have been seen as far north as Ugamak Island in the Aleutians. And it does seem unlikely that an animal that big, which grazes in shallow water and leaves heaps of seaweed piled on the beach, could go unnoticed for so long.

But today there are those who talk of organizing an expedition out through the isolated Western Aleutians in search of the sea cow. And that might not be as silly as it sounds. A sea cow bone dating back 130,000 years has been found on a beach at Amchitka, so they were out there once. And who knows? By some miracle of survival, they might be there again.

—Lael Morgan

Adapted from material for the forthcoming book, "The Aleutian Islands," published by The Alaska Geographic Society.



Send your questions about Alaska's water world, letters, opinions, puzzles, pictures, recipes, jokes to SPOUT:  
 c/o Alaska Tidelines  
 Alaska Sea Grant Program  
 University of Alaska  
 Fairbanks, AK 99701

Dec./Jan. Issue:  
**The Great Arctic Ice Machine.**

## Seals & Such

Starred (\*) words are based on information in this issue.

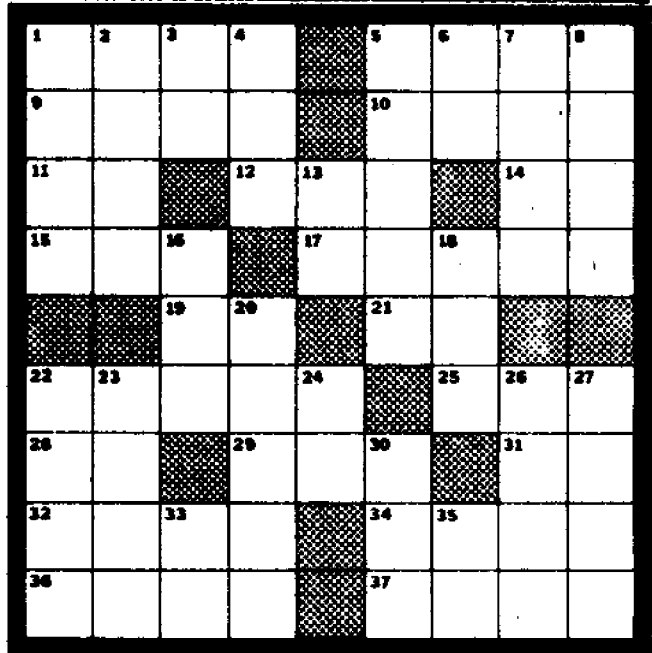
### ACROSS

- \* 1. The Pribilof Island fur \_\_\_\_\_ herd is the largest single herd of marine mammals in the world.
- \* 5. The westernmost island in the Aleutians.
- \* 9. Unless U.S. officials \_\_\_\_\_ action very soon, the International Fur Seal Convention will run out in October, 1980.
- \*10. Only within the past 15 years have \_\_\_\_\_ been passed granting the people of the Pribilofs full rights of citizenship.
- 11. Ordinary Seaman (abbr.).
- 12. Exclamation, as in "\_\_\_\_\_ whiz!"
- 14. Latin for "id est," (abbr.) meaning for example.
- 15. Points (abbr.).
- \*17. Each of the fur seal's hind flippers \_\_\_\_\_ forward for moving on land and backwards for steering like a rudder in the water.
- 19. Elevation (abbr.).
- 21. Tight End, as in football (abbr.).
- \*22. The string of islands stretching westward from the Alaska Peninsula is called the Aleutian \_\_\_\_\_.
- 25. Daniel's friends call him \_\_\_\_\_.
- 28. Oh-oh (abbr.).
- 29. The kind of paddle you use for a rowboat.
- 31. Short for your Physical Education class.

- \*32. Backers of the fur seal harvest argue that furs have been \_\_\_\_\_ for warmth as long as meat has been eaten for food.
- \*34. Thousands of years ago, people moved from \_\_\_\_\_ to Alaska by way of the Bering Sea Land Bridge.
- 36. You can have a lot of fun on these in the snow.
- 37. What rolls down your cheek when you cry.

### DOWN

- \* 1. Those who are against the fur seal treaty want to \_\_\_\_\_ the killing of animals for their coats.
- \* 2. The direction the people were traveling in (34 across).
- \* 3. Alaska (abbr.).
- \* 4. A fur seal's flippers are used like a \_\_\_\_\_.
- \* 5. The \_\_\_\_\_ people were probably the greatest of all open-sea hunters.
- 6. The first 2 letters of (5 across) backwards.
- 7. Two of a kind.
- \* 8. One of the criticisms of the Pribilof harvest is that \_\_\_\_\_ cannot be found for all the left-over meat.
- 13. Eastern Time (abbr.).
- \*16. The Pribilof Islands lie far out in the Bering \_\_\_\_\_.
- 18. This color makes you think of Christmas. (Have a merry one!)
- \*20. The fur seals' closest cousins are the sea \_\_\_\_\_.
- \*22. Steller sea \_\_\_\_\_ were believed to have been wiped out by the Russian fur hunters.
- \*23. Naturalist Georg Steller wrote that the Russians used a \_\_\_\_\_ to catch the (22 down).



- \*24. In 1741, the Aleutian Islands were among the most densely populated areas on the \_\_\_\_\_ (abbr.) continent.
- \*26. Aleutian/Pribilof Island Association (abbr.).
- \*27. The farthest-out island group on the Aleutian Chain.
- \*30. The second to the farthest-out island group on the Aleutian Chain.
- 33. Rhode Island (abbr.).
- \*35. The easternmost point in Alaska is located in the \_\_\_\_\_ (abbr.) Panhandle.

(Answers in Dec./Jan. issue)



## Answers to October X-Word

Editor Virginia Sims; Managing Editor, Fran Sweet. Address all communications to: Alaska Tidelines, Communications Office, Alaska Sea Grant Program, University of Alaska, Fairbanks, AK 99701. The University of Alaska provides equal educational and employment opportunities. Copyright, University of Alaska, 1978.

Thanks and a spurt from the Spout to Teacher John Bruder of Yakutat who suggested an issue about the Pribilof Island fur seals.

Dear Spout,  
 Thanks for the tips on how to catch salmon (Tidelines, September, 1979). But how did Alaska fishermen do this season?  
 (No name) Kodiak

In most parts of the state, they did just great!  
 Alaska's commercial fishermen hauled in a total of 87 million salmon this year. That's the largest catch since 1941 when 104 million salmon were caught. They're still putting the figures together at the State Department of Fish and Game. But here are some of the highlights

- from the early count:
- Bristol Bay — 22.8 million reds (largest take since 1965) plus record harvests of kings and cohos.
- Prince William Sound — 15.4 million pinks (breaking 1945 record).
- Kodiak Island — 11.8 million pinks (largest since 1969).
- South Peninsula — 6.3 million pinks (largest since 1942).

Not bad! Hope you got in on it!

SPOUT

### READ ON:

- "The Pribilof Islands: A Guide to St. Paul, Alaska," by Susan Hackley Johnson. Published by Tanadgusix Corporation, St. Paul, AK, 1978.
- "Marine Mammals of Eastern North Pacific and Arctic Waters," ed. by Delphine Haley, Pacific Search Press, Seattle, WA, 1978.
- "The Year of the Seal," by Victor B. Scheffer. Charles Scribner's Sons, New York, 1970.

Answers to map questions: 1-1,200 miles. 2-1/2. 3-West. 4-160. 5-9. 6-15.

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