

Fur

OBJECTIVE

Students will learn the structure and uses of fur seal pelage.

TIME REQUIRED

10 minutes

BACKGROUND

Pelage is the fur, hair, or wool of a mammal. The word is often used by the fur industry and scientific community.

All marine mammals in the Bering Sea need to maintain their core body temperatures in frigid waters. Fur seals and otters use air trapped in their thick fur to keep warm; harbor seals use a thick blubber layer under their fur; humans use clothing and shivering.

Russian fur traders discovered the northern fur seal herds on the Pribilof Islands in 1786. Millions of fur seals were harvested by Russia and the United States until the commercial fur harvest ended in 1972 on St. George Island and 1984 on St. Paul Island.

Fur seals have two types of fur: guard hairs (stiff long hairs that protect the underfur) and underfur where warm air is trapped to prevent loss of body heat. Fur seals have 300,000 hairs per square inch; sea otters have 1,000,000 hairs per square inch. Humans have a total of 100,000 hairs on the entire head.

Fur seal pelage became extremely fashionable once a commercially viable process for removing the guard hairs was discovered.

Highly skilled Unangan workers were used by both the Russians and Americans to kill and skin fur seals and then remove the blubber and pack the skins for further processing off the Pribilof Islands. Both St. Paul and St. George housed a processing plant where the following steps took place:

1. Skins were soaked in sea water
2. Blubbered, to remove all blubber from hide
3. Salted, to draw moisture from the pelage
4. Packed in wooden barrels and shipped off island

Furs were processed in factories in London and St. Louis (cleaned, stretched and dried, guard hairs removed, and dyed). The final processed fur was sold at auction to the clothing industry.

MATERIALS

- Natural fur seal pelage
- Processed and dyed fur seal pelage
- Harbor seal pelage (if available)
- Sea otter pelage (if available)
- Other fur found locally (e.g. caribou, fox, wolf, rabbit, raccoon)

PROCEDURES

- Let all of the students touch, explore and handle the pelages.
 - ◆ Discuss how the animal kept warm.
 - ◆ Discuss how humans keep warm.
- If you have fur seal or sea otter pelage push the guard hairs against the grain to expose the light colored underfur.
 - ◆ Discuss the difference between the natural and processed fur.

DISCUSSION

How many layers of fur does the fur seal have?

Two – the guard hair and the underfur

What made the fur so desirable?

Once the guard hair was removed the underfur was very soft, dense, and warm.

EXPLORE AND EXTEND

If harbor seal and otter pelts are available, compare their fur to the northern fur seal fur.

- Discuss which pelage belongs to which animal
- Discuss the unique properties of each pelage and how the fur keeps the animal warm
 - Sea otters and fur seals trap air in the underfur.**
 - Harbor seals have blubber under their fur.**
- View videos from *The Pribilof Island: Preserving the Legacy* regarding blubbering: http://docs.lib.noaa.gov/noaa_documents/NOS/ORR/TM_NOS_ORR/TM_NOS-ORR_17/HTML/Pribilof_html/Pages/pribilof_video_gallery.htm