

Whose Fish Is It?

OBJECTIVES

Students research literature and other resources for information and logically argue a viewpoint. They demonstrate a real-life decision-making process and evaluate its outcome.

MATERIALS

- Whose Fish Is It?* Player Cards on page 21
- resource materials from the library
- Internet access

BACKGROUND

Fishermen and killer whales compete for blackcod, a type of fish. In Prince William Sound, Alaska, killer whales can determine when a fishing boat is backhauling (retrieving) the longline used to catch blackcod. When fishermen haul in their longlines, killer whales congregate near the boat and feed on the hooked fish.



Killer whales feeding on the catch of fisherman is a growing problem in fisheries worldwide.

Scientists from the Hubbs-SeaWorld Research Institute studied this conflict. They watched to see when killer whales approached a blackcod boat, and they recorded the boats' noises in all phases of the fishing operation. When they analyzed their recordings, they identified several sounds that are unique to the backhauling process. It seems that the equipment fishermen use to backhaul their longlines makes sounds that are different from other boat noises. It is likely that killer whales recognize these sounds and associate them with blackcod. In fact, the sound of backhauling equipment may be like a "dinner bell" that alerts the whale to a free meal!

The scientists investigated several methods to reduce the conflict between killer whales and blackcod fishermen. Their goal was to identify ways to reduce the fishermen's losses while at the same time not harming the killer whales.



ACTION

1. Familiarize yourself with the environmental situation by reading all three Player Cards and the synopsis.
2. Divide your class into three groups. Each student group represents a different faction of this issue.
 - ◆ Group One is comprised of the local fishermen.
 - ◆ Group Two is a team of biologists who have been brought in to study the conflict.
 - ◆ Group Three is a coalition of environmentalists.
3. Copy and distribute Player Cards to student groups.
4. Give students a chance to familiarize themselves with the situation and to gather additional resources about this or similar fisheries interactions. They research the killer whale population and the longline fishing industry in Prince William Sound, Alaska. They can use library resources such as scientific journals, books, and newspapers; the Internet; and information from special interest groups and other sources.
5. Stage a "Town Meeting" with all three groups to discuss the issue. Mediate between the groups.
6. At the end of the meeting, develop a plan that will be acceptable to all factions. Try to develop a plan by group consensus if possible. If consensus isn't possible, vote on a plan.
7. After the activity, discuss how environmental issues are complex problems of society that affect people as well as animals. Ask the following questions to prompt students to discuss the decision-making process:
 - ◆ Were all three groups satisfied with the outcome of the meeting and the new policy?
 - ◆ Is it always possible to come up with a solution acceptable to all concerned? Is it easy? It is worthwhile?
 - ◆ Would it ever be beneficial to compromise your point of view? If so, when and why? If not, why not?
 - ◆ What role does science play in policy-making?
 - ◆ What role does public education play in awareness and action?

Whose Fish Is It? Player Cards

LOCAL FISHERMEN

You live in a small fishing community. Since the first settlers, your family has made a living by fishing. In fact, it's the only trade you've ever known. Like your parents, you fish to survive. Blackcod and other fish provide food and money for your family. You sell or trade the fish to get other materials you need.

Fishing is also part of your culture. You used to think killer whales were signs of luck. But in the last few years they have become an expensive nuisance. They take blackcod directly off your lines and destroy your equipment in the process.

You have lost money – as much as \$2 million in one year. Your life's savings are invested in your fishing boat. You fear that governmental interference to protect killer whales would disrupt your way of life and result in financial devastation.

Fishing is the basis of your economy, and right now unemployment in your area is very high. Some fishermen in your community will go to any extreme to get rid of the killer whales. Certain desperate fishermen have even shot the whales.

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BIOLOGISTS

Your job is to manage the populations of local marine species and to develop plans to keep healthy populations abundant and to restore depleted species. You fear the killer whales are hunting blackcod from longlines because their other prey items have been overfished.

You have been assigned to find ways to deter killer whales from hunting off the fishermen's longlines. You realize that the local fishing community is totally dependent on the blackcod for its economy. The blackcod provides food and income for other necessities. The blackcod is not only economically important but culturally important to these people.

Your team has come up with a proposal to study the killer whales and investigate methods to reduce losses to the fishermen – methods that won't harm the killer whales. You and your team have already come across opposition from several organizations as well as some of the members of the fishing community who claim that the blackcod is theirs.

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ENVIRONMENTAL ALLIANCE

Your organization is a group of "take action" individuals dedicated to protecting wildlife and the environment. You identify conservation needs, design conservation actions, and lobby decision-makers.

You and your organization are concerned about the killer whale population. If fishermen continue to shoot the whales and harvest the ocean's fisheries resources, the blackcod stock will be depleted and the killer whale population will suffer.

As you understand it, the Marine Mammal Protection Act states that marine mammals may not be harmed or harassed. Your goal is to protect killer whales from harm and harassment.

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