



## Pacific Northwest

### Guardians of the Sea: Orcas

Film: 10 minutes

*Amidst the San Juan Islands - an archipelago of more than 170 islands in upper Puget Sound - live several pods of orcas known collectively as the Southern Residents. Though the species is often referred to as "killer whales", this group of orcas eats fish, not marine animals. Scientists Kenneth Balcomb and Paul Spong are recording the movements of these incredible creatures, with the hopes that their findings will help protect future generations.*

---

## CURRICULUM CONNECTIONS

Grades 3-12

Science

### **Science - Standard 6. Understand relationships among organisms and their physical environment**

- Know that an organism's patterns of behavior are related to the nature of that organism's environment (e.g., kinds and numbers of other organisms present, availability of food and resources, physical characteristics of the environment)
- Know that all individuals of a species that exist together at a given place and time make up a population, and all populations living together and the physical factors with which they interact compose an ecosystem
- Know how the interrelationships and interdependencies among organisms generate stable ecosystems that fluctuate around a state of rough equilibrium for hundreds or thousands of years (e.g., growth of a population is held in check by environmental factors such as depletion of food or nesting sites, increased loss due to larger numbers of predators or parasites)

**Resource - [McREL Content Knowledge – Standards & Benchmarks](#)**

---

## DISCUSSION QUESTIONS

- 🗣️ *Orcas are called "killer whales". Why is this not an accurate name?*
- 🗣️ *How is an orca pod like a human family? How do they help each other?*
- 🗣️ *Paul Spong, founder of [OrcaLab](#), believes that humans should not interact with orcas. He feels that people should observe marine life from the shore, not from boats. Why do you think he feels this way? Do you agree?*
- 🗣️ *Paul Spong has worked very hard to keep whales from being captured and sold to marine animal theme parks. Do you think people develop an appreciation for marine life when they see them at these kinds of theme parks? Why would Paul Spong not want people to see marine animals at these types of places?*

## ACTIVITY

### Give a Persuasive Speech

Topics might be....

- Viewing Marine Life from the Shore or from a Boat - Which is Right?
- Animals in Theme Parks - Who Benefits?
- Or....choose your own topic

Write a 2-3 minute persuasive speech advising your audience which decision is the right one. Remember to include facts to back up your opinion.

☞ Have you ever seen a whale from the shore or from a boat? What was it like?

☞ Kenneth Balcomb, executive director of The Center for Whale Research, conducts an "Orca Survey" in which he photographs orcas in the San Juan Island area of the Pacific Northwest. How does he identify the orcas? Why is documenting the orcas that live in one area over many years important? What can we learn from this kind of research?

☞ Kenneth Balcomb comments that sometimes it's nice to put the camera down and just be there, with the whales. What does he mean by this?

---

## BACKGROUND INFORMATION

### Excerpts from interview at [explore.org](https://www.explore.org)

***Ken Balcomb is often recognized as the scientist who discovered that Navy sonar might be responsible for beaching the whales. He has been involved in documenting the population and behavior of orcas, or killer whales, in the Greater Puget Sound since 1976.***

#### ***What is the purpose of the [Center for Whale Research](https://www.cwr.org)?***

We promote and conduct studies of Cetacean (whale, dolphins, and porpoises) species in their natural environments for public education and conservation purposes.

#### ***What are some things about your organization that you wish people knew?***

1. We are a small dedicated organization that does not have dreams of getting any bigger than necessary to accomplish the necessary research (keep the footprint small, since that is also what we are asking of society).
2. The largely volunteer staff personnel are not only passionate about their research, they are also college educated and bright (two PhD's!) – could easily find other paying work, but choose to be "environmental", even if that is considered by some to be job-averse. This research is not as easy as it looks – certainly not any easier than many other remarkable human achievements. We build upon what we have done, and we constantly strive for perfection.

#### ***Do you agree with Paul Spong that we shouldn't let people (outside of scientists/biologists that are studying them) interact with orcas in nature, in boats?***

I do not agree with Paul Spong regarding benign interaction with orcas in nature, mostly because I would not know where to draw the line and I do not think that scientists/biologists are a special class of people. The reality is that millions of people go out on the water in boats for a myriad of reasons, and the interactions will occur ad hoc whether or not we "let" people participate.

I think that it is sufficient that people be aware of the risks to both people and whales by certain types of interactions; that they be courteous; and, that they back off when the whales or an experienced authority indicates they should back off. These whales will bow ride vessels underway, investigate or avoid vessels in their path according to their 3-D whim and abilities, and they will do both the expected and the unexpected at times of their choosing.

