

Vanishing of the Bees (DVD, 34 minutes; distributed by Video Project, <http://www.vanishingbees.com>)

Vanishing of the Bees is a documentary about the phenomenon called “colony collapse disorder” and the attempt of beekeepers and entomologists to track its cause. The importance of honeybees to the agricultural industry is underestimated by many, in that one in three foods eaten by Americans contains an ingredient that was pollinated by honeybees. It is estimated that a single hive of honeybees can visit >100,000 flowers in a day and that >\$15 billion dollars’ worth of crops are pollinated by honeybees on a yearly basis. In 2007, colony collapse disorder started infecting hives, baffling entomologists around the world.

The DVD is divided into 12 chapters and also includes a study guide for classroom use. It begins with some basic biology about honeybees, including roles of the queen and the various jobs of the workers. The film opens with a brief tour of the produce section of the grocery store depicting which fruits and vegetables are pollinated by honeybees. Several interviews with entomologists at Pennsylvania State University and beekeepers are conducted wherein they describe the mystery of colony collapse disorder and the efforts of researchers, farmers, and beekeepers to find the cause. In addition to crops, the importance of bees as producers of ointments, waxes, and oils is emphasized as well. The entomologists gradually discover that the bees had weakened immune systems and were suffering from just about every pathogen possible. They employ CSI tactics to investigate hives around the world and conclude that the current practices of most farmers, raising one crop on a large scale with pesticides, are the causes of colony collapse disorder. Prior to that discovery, everything from cell phones to mites to bacteria was suspect.

Vanishing of the Bees is appropriate for the middle or high school level. A brief history of

beekeeping is covered and, after the discovery of the cause of colony collapse disorder is described, an emphasis on organic farming is recommended in order to preserve the environment for honeybees. Ideally, *Vanishing of the Bees* could be used in an ecology unit and students encouraged to research colony collapse disorder, as well as the pros and cons of organic farming. There are approximately a half dozen short interviews with entomologists, beekeepers, and even Michael Pollan, author of *The Omnivore’s Dilemma*. In addition to affecting honeybees, there is evidence that frogs, bats, and even kids in rural communities may be suffering as a result of pesticide use on farms. There is a brief section at the end that describes what we can do in order to help preserve our local communities for honeybees, ending with a scene of Michelle Obama planting an organic garden at the White House, adjacent to a beehive.

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Coral Sea Dreaming Awaken (DVD, 84 minutes; <http://www.coralseadreaming.com/>)

Coral Sea Dreaming Awaken, directed by David Hannan, is appropriate for viewing in a middle or high school classroom. At 84 minutes, however, it is too long to view in a single classroom showing. The DVD includes all branches of sea life, from the corals to sharks and rays. The beginning has a scene selection menu. You can also choose the segment you wish to watch, which is an important feature because you can cover from simple animals to complex vertebrates if you so choose.

Used in an ecology unit, *Coral Sea Dreaming Awaken* will enhance students’ understanding of the importance of the reef to other sea creatures and all of the different types of life in the

oceans. But the biodiversity of the coral reefs has changed over the past 65 million years. They may look mighty, but the corals themselves are very sensitive to changes in the oceans. The rising sea levels, change in temperature, and acid rain along with the increasing amounts of carbon dioxide are killing the corals.

The DVD shows corals reproducing, a scene which can be used to show the students invertebrate reproduction. Then the importance of coral reefs is developed. As the corals die, they become the sand that forms the beaches. The narration also mentions that the corals are actually animals, living in symbiosis with algae, and how the two together produce an enormous amount of energy.

Coral Sea Dreaming Awaken presents concepts such as mutualistic symbioses, camouflage by other sea animals, predator-prey relationships, and organisms like the sea cucumber, which has no natural predators. There is also an explanation of how the reefs are declining, which is harming the sea life that depends on them for survival. In fact, 70% of the reefs have been destroyed, which has eliminated most species of sea turtles.

I think students will enjoy *Coral Sea Dreaming Awaken*, but I recommend that the teacher focus students’ attention by asking questions and show only a section or two at a time.

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