

DOLPHIN RESEARCH CENTER

Who Polluted the Bay?

The Story

In the 1500s the Spanish explored the area we now know as the Florida Keys. They found a beautiful chain of islands inhabited by much wildlife like dolphins, manatees, and deer (the Key deer). They called manatees “vaca”, the Spanish word for cow, which is where the name Vaca Key comes from and where Marathon is today.

Q: This water is clean and pretty, isn't it? Do you think it was clean for the Spanish explorers?

Let's move forward 400 + years.

It is beginning to rain. The soil from a nearby **construction site** is being washed into the bay. As the storm worsens, the wind blows **tree leaves** into the bay.

Q: Would you boat in the bay? Would you swim in the water? Is it safe for wildlife?

Finally the sun comes out and people head to the beach to have some fun. As one **family** crosses a bridge, a breeze blows newspaper out the car's window and into the bay. As the **motorboat driver** zooms across the bay, a little oil gets into the water. The boat passes by some people having a **picnic** and a **beach party** along the shore. The trash they leave behind washes into the bay during the next high tide. Some of their trash is plastic bags. These look like jellyfish when floating on the water. The plastic bags might be eaten by hungry sea turtles. A **person fishing** from the seawall gets fishing line tangled around a pier and breaks the line.

Q: Would you swim in the water now? Is it safe for wildlife? Would you eat fish caught there?

There are houses with gardens in South Miami and one **gardener** sprays pesticides on his plants to kill insects. A rainstorm carries some of the pesticides into the bay. A **cattle rancher**, NW of Naples has a big barn. As the rain drains out of his barnyard, it carries some manure into a slough emptying into the bay. A **citrus farmer** in Homestead worries about the size of his crop. He decides to fertilize all of his trees. The rain washes some of the fertilizer into the canals where it is carried into the bay.



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Q: Would you swim, fish, or boat in the water now? Is it safe for wildlife?

Rainwater flows into a **phosphate mine** and mixes with mining wastes. The runoff flows into the canal systems and out into the bay. The phosphates cause too much algae to grow in the bay (phosphates are used to make fertilizer). When phosphate rock is mined, it is bound with sand and natural clay. The sand and clay are separated and the clay is put into a pond with an earthen dam to settle and dry. This **old dam** is leaking, causing muddy water to enter the pond. Eventually these turbid waters drain into the bay.

Q: Would you now swim in the water? Is it safe for wildlife? Would you eat fish from the bay?

Overlooking the bay is an old house not connected to the city sewer system. Wastewater from the house goes into a septic tank. The **homeowner** doesn't know that the septic tank leaks and untreated sewage is seeping into the bay. Two blocks from the house is a motel. The tourists are doing their laundry at the **laundromat**. Faulty plumbing lets soapy water get into the bay. There is a major road (Overseas Highway) near the motel. Every day hundreds of **cars** go by. The exhaust from the cars pollutes the air with sulfuric acid. Then acid mixes with the rain and falls back to earth as acid rain.

Q: Would you fish or boat in the water? Is it safe for wildlife?

Along the Mississippi River are **electric power plants**. Coal is burned to produce electricity. The burning fuel produces smoke which is high in nitrogen gases. These gasses are a major component of smog when they mix with moisture in the atmosphere. Nitrogen may also mix with the bay water and cause a plant plankton or phytoplankton bloom (small plant organisms like algae). Next to the power plant is a golf course. The **groundskeepers** use both fertilizers and pesticides to keep the grass green. Near the golf course two men are cleaning out a garage. They find an old unmarked container with a **mysterious liquid** inside. They decide to get rid of it by pouring the liquid down the drain. It's out of sight, but heading straight for the bay!

Q: WHO POLLUTED THE BAY? (Everyone mentioned in the story contributed to the pollution!)

