

Bay watcher outlines Pilgrim problems in Cotuit talk

Contributed by Lee Roscoe
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Says nuclear plant a threat to Cape

Karen Vale of Cape Cod Bay Watch, Plymouth, spoke at Cotuit Library last month at a talk hosted by the Barnstable Land Trust. A wildlife biologist and ecologist, Vale has a decade worth of campaigning for the environment behind her. She just returned from surveying whales in the Arctic for the National Oceanic and Atmospheric Administration. As fun as that is, Vale said her source of real pride is working with CCBW. I spoke to her by phone, prevented from attending the Sept. 3 talk by extreme downpours and flooding.

Vale said the most urgent issues facing Cape Cod Bay stem from Pilgrim Nuclear Generating Station in Plymouth, and are fourfold.

One is the contamination of groundwater around the facility, which eventually finds its way to the bay. Water tests conducted by Entergy Corporation, which owns the plant, found nitrogen in 80 to 120 ppm (parts per million) released by wastewater from the plant. Vale said 8 or 10 ppm is considered normal. CCBW has requested state Department of Environmental Protection inspection reports monitoring the facility, but these have not been received to date.

The state Department of Public Health has recorded 25,000 picocuries of radioactive tritium per litre in many test wells around the facility. The levels should be 20,000. Other states and nations, Vale said, consider much lower levels as "safe," stressing, "There is no safe level of any radionuclide."

"These high levels are a red flag," she said. "They indicate leakage, and CCBW wants to know where these leaks originated. They found one by accident at a junction box. Almost certainly they relate to the plant's age. It's 40 years old. It is likely underground pipes have corroded."

The second looming issue is waste storage. The facility was licensed to store 880 spent fuel assemblies, which house multiple rods in what Vale said is "basically a big bath tub" on top of the building. Water must constantly cool the assemblies, Vale explained; exposed to air, they will heat up and begin to melt down. Now some 3,200 spent rods rest in the pool. "When the plant refuels in 2015, it will be over the limit allowed by the Nuclear Regulatory Commission," she said.

In order to avoid mandatory shutdown, Entergy wants to build dry cask storage for nuclear waste; these are concrete bunkers that are allegedly impenetrable. Vale said the casks are not being designed to operate under the highest standards, but rather to be built quickly and cheaply. A citizen lawsuit is requesting that Entergy receive a special permit from the Town of Plymouth to build the casks. Many (including the Union of Concerned Scientists, CCBW and Pilgrim Watch) want to insure the casks are secure against terrorist attack, and will be put on higher ground. At present they will be only 24 feet from mean sea level, near the shore, dangerous in a time of sea level rise, said Vale. "Even if the plant shuts down tomorrow, the waste will be with us for hundreds, even thousands, of years," she said.

The third issue is the direct effect of thermal pollution on the life of the bay. The "once-through" cooling system, Vale explained, boils water for generating electricity from steam and cools the fuel pool and the reactor. Every day, Vale said, Pilgrim sucks in up to 510 million gallons of water and releases it heated up to 32 degrees higher than the surrounding

sea water. Overheating water can cause a shift in predator/prey relationships, home ranges of species, and can increase disease such as parasites. In addition, millions of crab and shellfish larvae, fish eggs and plankton get sucked through screens protecting the reactor from debris and die. An average of 14.5 million fish a year are killed smashing upon the screens, in particular species of concern such as herring, menhaden and rainbow smelt.

The fourth problem, climate change, affects all others. Pilgrim, according to Vale, "is inherently unsafe because it is located in a flood plain. People don't realize that reactors need outside electricity to function in order to pump the water to cool the plant. It is not "if," but "when," power is lost, as it has been many, many times — how long will backup diesel generators be able to fill in or stay working? What happens if we have a high tide with an east wind and storm surge, if the generators flood?"

Vale emphasized that these issues are regional, affecting all of Cape Cod to Plymouth and beyond. Marine tourism and commercial and recreational fishing depend on a healthy bay. Entergy, Vale said, has reported that a thermal plume from Pilgrim covers five miles of water, circulating counter-clockwise to the Cape. What will the synergy between thermal pollution and climate change inevitably produce, she wondered?

More information is available at capecodbaywatch.org/

Editor's note: The writer is active in the movement to close the Pilgrim plant.