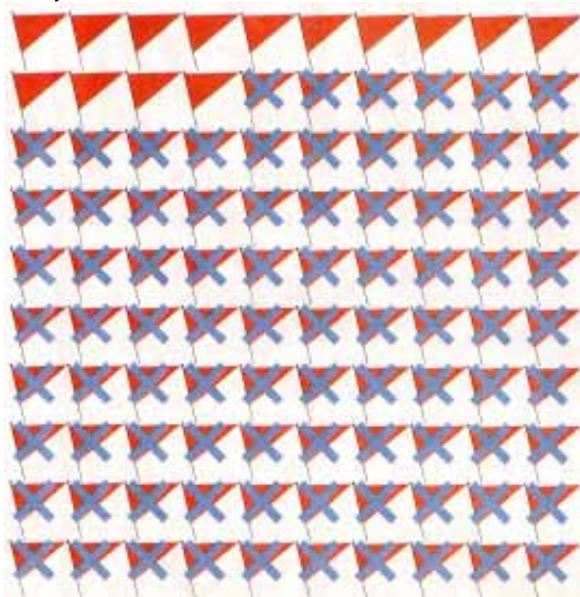


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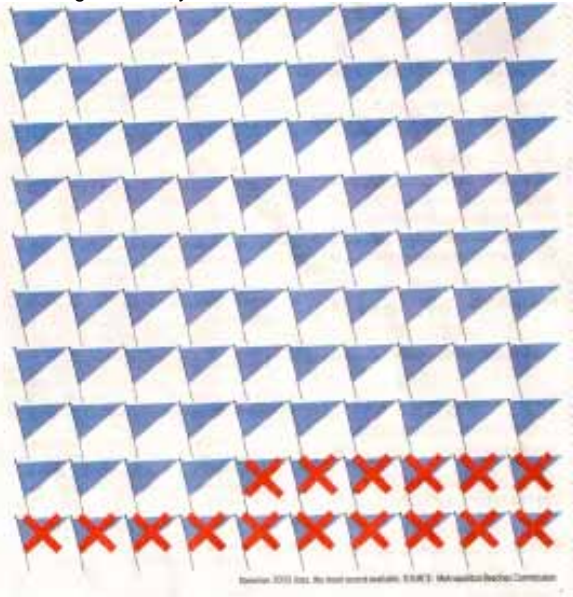
Flagging a problem

Yes (it's OK to swim). No. Maybe? Water gets tested, but exactly when it's safe is hard to tell.

When red flags are flying at Boston beaches, swimmers are warned to stay out of the water. Flags are **wrong up to 85.7%** of the time, depending on the beach – water is actually OK.



When blue flags are flying at Boston beaches, swimmers are told the water is safe to go in. Flags are **wrong up to 15.6%** of the time, depending on the beach – people are swimming when they shouldn't be.



By Robert Preer, Globe Correspondent | April 22, 2007

In summer, Elena Black of East Boston is a frequent visitor to the beaches of Boston Harbor. She goes with her 15-year-old daughter and takes along children from East Boston's Paris Street Community Center, where she works.

"We shuttle between Constitution Beach and Revere Beach," said Black. "We go swimming at Revere Beach, but I don't feel comfortable about the water at Constitution. We go there mostly for the sand and play and watching the airplanes."

Her doubts about the East Boston beach's water are not unfounded. Constitution was technically unsafe for swimming 13 out of 52 days in the summer of 2005. And to make matters

worse, the water quality notification system -- blue flag for jump right in, red flag for stay out -- misinformed beachgoers 15 percent of the time.

There were seven days when the flag flying next to the Constitution Beach lifeguard station was blue but bacteria levels in the water exceeded acceptable limits. On one day when a red flag was posted, the water actually was fine for swimming.

One problem for beach-goers is that the accuracy of flag postings varies from beach to beach. For example, at M Street Beach in South Boston, red flags were posted on seven days in 2005, but the water was actually safe for swimming on six of them. The Metropolitan Beaches Commission, a panel set up by the state Legislature to study the condition of Boston Harbor beaches, reported M

Street's accuracy rate for red flags that year at just 14.3 percent -- its red flags were wrong 85.7 percent of the time, the worst accuracy rating of any Boston beach that season. On the other hand, one beach that did much better was Constitution Beach in East Boston, which, like M Street, posted seven red flags, but all of the red flags except one accurately warned swimmers to stay away.

At Carson Beach in South Boston, six blue flags and six red flags were wrong in 2005. Quincy's Wollaston Beach had nine incorrect red flags and seven incorrect blues.

The beaches commission described the faulty-flag problem in a report issued last month. State Senator Jack Hart of South Boston, the

commission's cochairman, said it is not easily solved.

"It's kind of an interesting and flawed system which we use to test the water at our beaches," said Hart. "The flags represent an analysis of the condition of the beaches on the previous day."

No one at the state Department of Conservation and Recreation hoisted the wrong flag or forgot to change them. The reason for incorrect flags is the way beach water is tested for the presence of the enterococcus bacteria, which is found in human waste and is the most commonly used indicator of water quality.

Beach water samples are collected and sent to a laboratory. Technicians then prepare a culture that allows bacteria in the water to grow to the point where they can be counted, a 24-hour process.

The lab then gives the results to the state Department of Conservation and Recreation, which puts up a red flag if the count is high and blue if it's within acceptable limits. The problem is the 24-hour lag.

"At best you are swimming in yesterday's test results," said Bruce Berman, spokesman for Save the Harbor/Save the Bay, a Boston advocacy and research organization that provided staff assistance to the special commission.

Gary Briere, recreation bureau chief for the Department of Conservation and Recreation, said, "It's a clumsy system at best. Unfortunately it's the only system we have at this point."

A lot can change in 24 hours. Tides come in and go out, rain falls, temperatures spike up or down. Any of these factors can affect water quality, for good or ill.

"This is a well-understood problem in beach testing," said Andrea Rex, director of environmental quality for the Massachusetts Water Resources Authority. "It's not just a problem in Boston Harbor. It happens everywhere."

According to the special commission, the problem is compounded in Boston Harbor because some beaches are not tested often enough. Daily samples are taken during the summer from some beaches -- including Pleasure Bay, Tenean, Wollaston, City Point, Constitution, M Street, and Carson. But other harbor beaches -- Nahant,

Nantasket, Winthrop, Revere, Savin Hill, King's, and Malibu -- are only tested once a week.

The commission recommends that daily testing be conducted at all beaches except for Nahant and Nantasket, which do not appear to have a pollution problem.

Most Boston Harbor pollution comes from sewer overflow pipes that spill untreated or partially treated sewage into the harbor, usually during or immediately after rains when the system cannot process the flow of water and sewage. The MWRA is spending \$850 million to correct this problem.

Still, there is the problem of inaccurate flags. In the 2005 tally of Boston beaches, blue flags were correctly posted from 84.4 to 100 percent of safe-swimming days. Red flags were far less precise, with five of the Boston-area beaches being inaccurate more than 50 percent of the time.

Even the best record for red flags, at Constitution Beach, was inaccurate 14.3 percent of the time, according to the beach commission report.

To help eliminate incorrect blue flags, the Department of Conservation and Recreation decided last year to automatically raise red flags after heavy rain even before test results arrive. Briere said he understands this probably produces some incorrect red flags.

"I would rather err on the side of public safety," Briere said.

A technical solution is what is needed, according to Judith Pederson, manager of Coastal Resources at MIT's Sea Grant program. "Obviously, we need new tests," she said.

Research laboratories in private firms and universities are working to devise faster tests for pollution, but so far none are ready for regular use on public beaches.

"There's no reason it couldn't be done with all of the advances in microbiology and genetics," said Pederson. "It needs to be reliable and commercially viable."

Gen-Probe, a San Diego biotech company, is one of the firms working on a faster test.

Dan Kacian, chief scientist at the firm, said researchers have devised a

process to detect immediately a molecule found in the enterococcus bacteria.

"We think we'll have a commercial version available soon, maybe within a year," Kacian said.

The consequences of swimming in polluted water are most commonly short-term eye and ear infections, stomach aches, and skin rashes.

Before the 1970s, Boston Harbor was widely used by bathers.

"I grew up in the 1960s, and the whole neighborhood would go to Carson Beach in the summer," said Senator Hart. "It was like Cape Cod to us."

Then the harbor became known as one of the most polluted water bodies in America. The public abandoned the beaches, and, for a while, the state didn't even bother to hire lifeguards.

"For 25 years, it was like an invisible wall went up around the beaches," Hart said.

In the decade since a new sewage treatment plant was built on Deer Island and many other improvements have been made to the harbor's water quality, the public has begun to return to the beaches.

But until the intermittent pollution problem is corrected, some people will hesitate to swim there, according to Berman of Save the Harbor/Save the Bay.

"I'm frustrated by the fact that we need flags at all. Maybe someday we won't," Berman said.

John Moran, a resident of Dorchester's Savin Hill neighborhood, walks regularly with his dog along nearby Malibu and Savin Hill beaches and sometimes strolls along Castle Island in South Boston.

"It's a wonderful resource. It's open space, passive recreation," said Moran, a real estate consultant who has enjoyed the harbor for many years. Nevertheless, he heads to Cape Cod when he wants to go in the water.

"I swim at Nauset Beach," he said.

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