

Science Newsfront

Edited by DAWN STOVER

Beach saver

As the population of the United States continues to migrate toward its coasts, experts are searching for ways to defend structures shortsightedly erected next to shifting shorelines. A beach dewatering system tested at Sailfish Point near Stuart, Fla., appears to be a promising new weapon in the battle against shoreline erosion.

Traditional beach defenses such as seawalls and jetties not only diminish the recreational and aesthetic qualities of a beach, but also frequently cause more damage than they prevent. And replenishment projects, where sand dredged from other areas is dumped on eroding beaches, provide only temporary fixes.

In the new dewatering method, called the Stabeach System, a drain pipe perforated with small holes is buried in about 11 feet of sand, parallel to the shoreline. With each wave, some water seeps into the pipe rather than washing back down the beach.

Some of the sand carried by the wave is deposited on the beach, and the drained water is pumped out to sea through a discharge pipe.

After a two-year test of the system at Sailfish Point, Robert G. Dean of the University of Florida reports that the beach segment where the system was installed "experienced a gradual increase [in sand] and has been relatively stable compared with adjacent segments." Aram Terchunian, a coastal geologist formerly with Coastal Stabilization, the system's in-

staller, says that during the monitoring period, "the treated beach withstood three storm events better than the untreated beach."

An improved version of the Stabeach System, designed by Jim Parks of Tampa, Fla., received an installation permit in late October for a demonstration project in Long Beach, N.C. The town is interested in the technology because seawalls and jetties have been banned in North Carolina, explains public works director Charles Derrick. He says replenishment is prohibitively expensive, "approximately \$1 million per mile compared with \$600,000 per mile for the beach-face dewatering system."

"There is no question the system will trap sand," says Spencer M. Rogers Jr., a coastal engineer at the University of North Carolina's Sea Grant College Program, who reviewed the permit application. But Rogers says he and other engineers aren't sure what effect the system will have on offshore sand bars. The demonstration will be closely monitored for potential negative impacts and removed if necessary.

A similar dewatering system may be installed in Fort Pierce, Fla. Permit applications for demonstration projects have been submitted for Long Beach, Md.; Vero Beach, Fla.; and St. Petersburg Beach, Fla.—*Carol Brighton*

Educational Olympics

This month, students representing more than 15 countries and ranging in age from kindergarten through college will flock to the University of Colorado for a three-day educational competition that has all the ambience of an Olympic event.

The World Finals are the culmination of an annual problem-solving competition called Odyssey of the Mind. The IBM-sponsored program began with 28 schools in 1978. Today half a million students at more than 10,000 schools around the world participate.

Each year, Odyssey of the Mind poses five interdisciplinary problems designed to be solved creatively by teams of up to seven students. The problems are developed by Samuel Micklus, founder of the program and a technology professor at Glassboro State College in southern New Jersey.

Students work on the problems during the school year, competing in local and regional, then state and provincial, and finally national competitions that determine who goes to the World Finals. "The problems get [students] involved in science and mechanics—they create interest," says Dan Semenza, a computer science teacher who coaches 28 teams in Edison, N.J.

One of this year's problems, Atlas, challenges students to build a balsa

In a drainage system designed to prevent erosion, water rushing onto a beach soaks through the sand and into a perforated drainpipe buried parallel to the shoreline. A pump discharges the water offshore.

