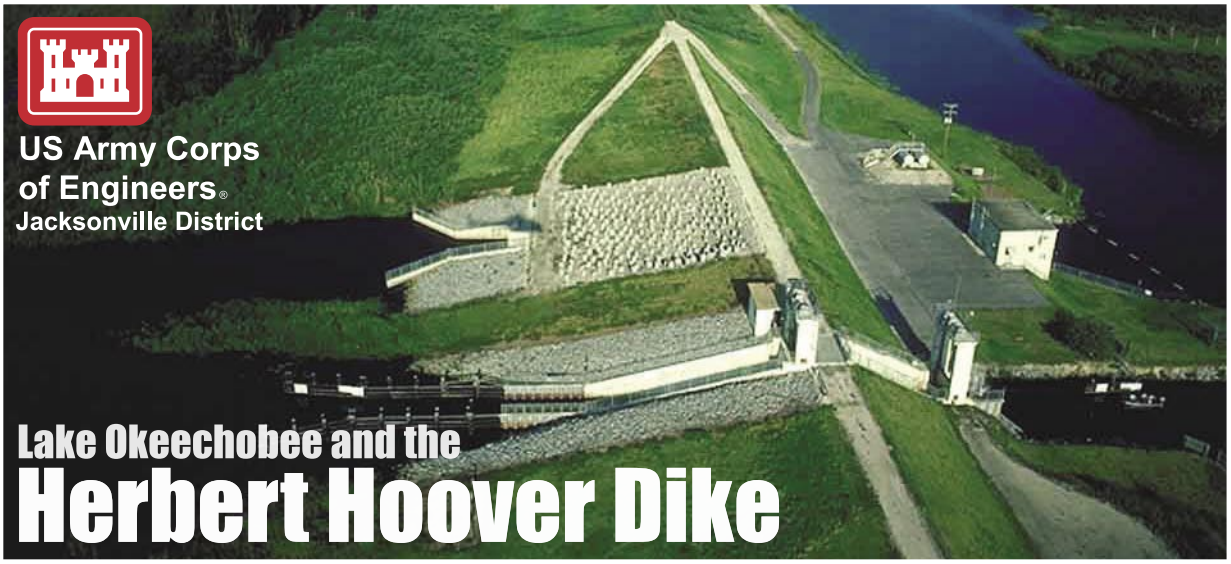

Lake Okeechobee and the Herbert Hoover Dike

August 2006

Frequently Asked Questions

In January 2006, the South Florida Water Management District requested that a private engineering firm perform an independent assessment of the condition of the Herbert Hoover Dike (HHD). In May 2006, the report was released and Governor Jeb Bush expressed his concern over the panel's findings.

The report included the expert reviewers' assessment that the HHD is not strong enough and that it now represents a "grave and imminent danger." While the Corps does not agree that the HHD is dangerous, we do agree that the HHD is in need of improvements. In fact, we conducted our own technical review in 1998 and developed a plan to improve and reinforce the HHD based on our findings. That plan was approved in 2000 and construction has started.

Q. Can a hurricane cause the Herbert Hoover Dike to fail?

A. Because of all the precautions we take every day, we do not believe a hurricane will cause the HHD to fail. However, no one can predict what destruction a storm may bring, which is why we work hard to ensure the HHD is strong and area residents are safe as hurricanes approach. We know a lot about the HHD and we have more than 70 years of experience in managing it. The HHD is an earthen dam, built of gravel, rock, limestone, sand and shell. These materials do allow some water to slowly seep through. Seepage occurs more often when the water levels are higher because the weight of the water is greater. Water levels are most likely to rise during the wet season in Florida, which also coincides with hurricane season. Because the Corps keeps water levels low on Lake Okeechobee, and because we regularly monitor lake and dike conditions, leaks develop slowly and we repair them immediately.

Q. Even if the HHD does not break, can water go over the top?

A. Water has never gone over the top of the HHD and it is not likely that this will happen in the future because the dike is so tall. For comparison, the levees in New Orleans were approximately 13 feet high and about 100 feet wide. In contrast, the HHD at its highest point is about 45 feet above sea level, and at its lowest point is about 32 feet above sea level. The top of Herbert Hoover Dike is about 20 feet wide, and the base is about 250 feet wide – almost the size of a football field. This makes HHD, at its shortest height, more than three times as high and, at its narrowest width, more than twice as wide as the New Orleans levees. Furthermore, the Corps manages the lake to keep water levels low before we enter the rainy season.

Q. A low lake water level is important to keeping the HHD strong. How are lake water levels kept low?

A. Every day, all year long, teams of expert engineers and scientists from the Corps and the South Florida Water Management District work hard to manage the lake's water level. The two agencies closely follow a regulation schedule which tells them where water levels should be throughout the year. If the lake level is above the desired level, managers will generally release water out of the lake to bring the water level down. This may be done even during the dry season, so that the lake can handle more water during the wet season. Safety is a priority for the Corps of Engineers. We are studying ways that will allow more flexibility in the management of the lake throughout the year. Under a new interim regulation schedule, planned to take effect in January 2007, the Corps will maintain the lake at 12 feet and work to ensure it gets no higher than 17.25 feet in extreme weather conditions.

Frequently Asked Questions

Q. Daily inspections of the HHD have been requested by the governor. What inspections are done by the Corps? Are daily inspections done?

A. The Corps' schedule for inspections corresponds to lake water levels; the higher the water level, the more frequent the inspections. At a lake level below 14.5 feet, we inspect at least once every 90 days. At a level of 15.5 feet, we inspect certain areas monthly; and at 16.5 feet, weekly. When the lake water level is 17.5 feet or higher, we do inspections daily. We have identified vulnerable areas that are inspected more frequently. It must also be noted that our daily work on the dike helps us to see significant changes in the HHD and take action to address them.

Q. What is the Corps doing now to strengthen the HHD?

A. The first phase of the repair project, which began in December 2005, reinforces a 4.6-mile section of the dike near Port Mayaca. Phased construction within this length is scheduled to be completed within four years. Another 22-mile section of the dike is scheduled for repairs in 2009. The entire repair project will take about 25 years.

Q. If a breach were to occur, what would happen? Would there be a flood like what happened in New Orleans after Hurricane Katrina?

A. No, a breach of the HHD would cause a very different and far less extreme situation than what happened in New Orleans. The biggest difference is that the communities close to the HHD are OUTSIDE the lake's confining levee, not inside a levee as the residents of New Orleans were. Most of New Orleans is situated in a "bowl" between two bodies of water, and after Katrina, floodwaters flowed down into and began to fill this bowl. Flood waters outside the HHD would fan out into shallower pools across larger areas. Finally, our water managers have some ability to control lake levels in Lake Okeechobee. New Orleans water managers could not control surrounding water levels, which were being fed by Lake Pontchartrain and the Gulf of Mexico, endless sources of water.

Q. So overall, what actions is the Corps taking to ensure the HHD is strong and the people of the lake communities are safe?

A. Safety of the lakeside communities is the Corps' highest priority, and we take great care to ensure the safety and stability of the HHD. As with all man-made structures, the dike is not failure-proof. We have always recognized that there are conditions under which the HHD could be weakened, so we work hard to make sure those conditions don't occur. We carefully monitor and regulate water levels on Lake Okeechobee so that they don't get too high (because the water pressure may increase seepage) or too low (because dry soil may also affect the structure). We regularly inspect the dike so seepage or erosion problems are identified early. We store sandbags, rock and repair materials at various locations around the dike so that we can immediately strengthen any weak areas discovered during our inspections. This year, we began improving the section of the HHD that extends from Port Mayaca to Sand Cut. Future repairs are planned for seven more sections of the HHD. Further, a study is under way to consider whether the lake regulation schedule can be changed to maintain the lake at a lower level year round.

If we see that the lake water level is rising too high to maintain a safe HHD, or if we see any other weakness that may lead to a breach, we will immediately inform the state and local governments so that they can proceed with a warning to communities or an evacuation, if needed.

Q. What can we do to help ensure that we are safe?

A. County and local emergency managers are developing evacuation plans and will keep the community informed throughout extreme weather situations. We advise that you learn how and where this important information is provided, and that in the unlikely event that evacuation is recommended, you follow their directions immediately and completely.

US Army Corps of Engineers®
Jacksonville District
701 San Marco Blvd. • Jacksonville, FL 32207
904.232.2234 • 800.291.9405
http://www.saj.usace.army.mil