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just the **FACTs**

This fact sheet is provided as a reference to encourage a greater understanding of the various issues related to managing water in South Florida.

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Lake Okeechobee Water Control Structures: Emergency Improvement Projects Completed

South Florida's 2007-2008 drought created potential for instability and/or failure conditions at Kissimmee River and Lake Istokpoga water control structures due to very low water levels in Lake Okeechobee. The South Florida Water Management District (SFWMD) has completed four water control structure improvement projects to raise downstream water levels and prevent failure conditions.

- In January 2008, the SFWMD Governing Board gave District staff an emergency authorization to proceed with protective measures and emergency expenditures of up to \$25 million to address structural stability concerns caused by the 2007-2008 drought. A Governing Board resolution in February granted emergency authorization to extend the amount to \$32 million.
- The funding was used to:
 - Design and build S-72 tailwater weir and pumps
 - Design and build S-71 tailwater weir
 - Design and repair scour at S-65E lock and spillway
 - Design and build the S-65E and S-84 tailwater weirs
- The new S-65E tailwater weir on the Kissimmee River north of Lake Okeechobee – the largest single water control structure the District has ever built – was completed August 2, 2008, about two weeks before Tropical Storm Fay swept into South Florida.
- The new S-65E weir successfully weathered the record-breaking impacts of Tropical Storm Fay. The weir protects the S-65E lock and spillway on the Kissimmee River from being harmed by extreme water level differences upstream and downstream of the structure during major storm events or droughts.
- Peak water flows of up to 22,000 cubic feet per second (cfs) passed over the structure during the height of Tropical Storm Fay. The structure takes water from both the S-84 and S-65E spillways.
- The construction projects have restored stability to four at-risk structures, assuring that the District's flood control system can operate safely and effectively, under even extreme conditions.



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S-65E Tailwater Weir Detail

- The S-65E lock and spillway controls water flows from the Kissimmee River basin, an area greater than 3,000 square miles. It is the SFWMD's largest water control structure, designed to discharge 24,000 cubic feet of water per second (cfs).
- In January 2008, District surveys identified a 10-foot-deep scour 200 feet downstream of the S-65E lock and spillway apron that was beginning to cause minor undermining of the apron. The scour was 1,000 feet long and 200 feet wide. District divers found an undermined void in the side of the scour 3 feet deep and 10 feet long.
- The new tailwater weir at S65-E allows combined flows of up to 30,000 cfs, or 13.5 million gallons per minute; that's about 1,000 backyard swimming pools of water flowing by in one minute. Located 4,400 feet downstream of S65E, the weir is constructed of earthen fill, rip rap, concrete and steel sheet piles; it protects both the S-65E lock and spillway and nearby S-84 flow spillway and allows recreational navigation.
- S-65E tailwater weir by the numbers:
 - **700 feet across** – width of the Kissimmee River where the weir was built
 - **16.5 miles** – distance of sidewalk that could be built using the concrete in the weir
 - **110 million pounds** – amount of stone riprap used to protect the weir
 - **36 million pounds** – amount of riprap and bedding stone used to fill the scour hole

S-72 Tailwater Weir Detail

- The weir serves a dual function: to provide structural stability during discharge through the S-72 flow spillway to the Brighton Seminole Indian Reservation, located just northwest of Lake Okeechobee, and to provide a plug in the C-40 canal so that a pool can be maintained as a water supply for pump station G-208, which is located by S-72.
- The discharge rate is 3,120 cfs; the weir is 1,800 feet downstream of the spillway structure.

S-71 Tailwater Weir Detail

- With a design capacity of 6,000 cfs, the S-71 flow spillway is one of the major discharge structures to Lake Okeechobee from Lake Istokpoga.
- Protective measures for this structure consist of a sheetpile weir with earthen fill downstream of the structure with rock rip rap. The weir is approximately 3,100 feet downstream of the S-71 spillway structure.