

**STRUCTURE OPERATIONS**  
Southwest Florida Water Management District

Title: **OPERATIONAL GUIDELINES  
FOR THE THIRTEEN MILE RUN CHAIN-OF-LAKES:  
KELL, KEENE 1, 2, and 3, SHERRY'S BROOK, HANNA, AND STEMPEL  
WATER CONSERVATION STRUCTURES**

Bureau: **OPERATIONS & LAND MANAGEMENT**

Number: HR-3

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Effective Date: September 1, 2014

**PURPOSE:** To provide guidelines for the operation of the water conservation structures for Lakes Kell, Keene, Hanna, and Stemper in Hillsborough County, Florida. This document serves as a general guideline for the routine operation of the structures and may be modified, as necessary, to ensure the environmental health, recreational and aesthetic value of the lakes, or in response to specific weather events or conditions.

#### **General Statement of Intent**

During non-flooding conditions the structures will be operated within their Normal Operating Ranges (see Table 1). The operational goal is to allow each lake to fluctuate between its established Low Guidance Level and Target Water Conservation Level without causing flooding or damages to lake front properties. The filling to their respective Normal Operating Levels will typically begin in June, with the goal of "topping off" each lake at its Target Water Conservation Level by the end of September to conserve water going into the dry season. Lake levels may increase above the Target Water Conservation Level and possibly reach the High Level for short durations in response to rainfall events; however, these higher levels will not be intentionally sustained.

#### **Low Water Conditions – Water Levels Below Low Guidance Level**

Low Water Conditions typically occur during the dry season (November through May). At the end of the rainy season (June through October) water levels will naturally decline over the dry season months. During Low Water Conditions as a general guideline, the structures will remain closed.

#### **Normal Operating Range – Water Levels Between Low Guidance and Target Water Conservation Levels**

The Normal Operating Range will typically occur during the rainy season. The structures will remain closed until each lake reaches its Normal Operating Level. The structures will be operated in coordination with each other to maintain the respective Normal Operating Level of each lake through mid-September, allowing excess water to be discharged downstream to Cypress Creek. The operation of the Sherry's Brook, Keene 1, and Keene 2 structures depends on the levels of the lakes affected by the respective structures. For instance, if Lake Hanna and Stemper are near their target levels, Sherry's Brook structure is opened to release water to the Cypress Creek wetland system. Keene 1 is used to provide or withhold water from Stemper and Keene 2 is used to control water to Hanna. Typically, Keene 3 is left open and not used in the management of lake levels.

In mid-September when the probability of significant rainfall is reduced, the water levels in the lakes will be allowed to rise to their Target Water Conservation Levels prior to entering the dry season.

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If it becomes necessary to create flood storage in the lakes in anticipation of a high rainfall event such as a tropical storm or hurricane landfall, the structures will be operated to lower water levels to increase available storage below the respective Target Water Conservation of each lake in advance of the event.

### **High Water Conditions - Water Levels Greater than the Target Water Conservation Level**

The infrastructure around Lakes Kell, Keene, and Hanna can tolerate water levels up to the High Guidance Level. During high water or flooding conditions the structures will be operated to minimize the impact and duration of flooding conditions.

Flood levels are generally determined by the lowest permitted dwelling slab elevation adjacent to a lake. Outbuildings, docks, and non-living areas of dwellings could be subject to flooding under high water conditions.

**Table 1 – Normal Operating Ranges for Thirteen Mile Run Lakes**

Operating Level	Elevation (NGVD)			
	Kell	Keene	Hanna	Stemper
High Guidance Level <sup>2</sup>	66.4	62.8	62.0	61.2
Target Water Conservation Level	65.6	62.5	61.8	60.8
Normal Operating Level	65.3	62.3	61.5	60.8
Low Guidance Level (P <sub>90</sub> ) <sup>3</sup>	63.2	59.9	58.1	59.1

<sup>1</sup>NGVD = National Geodetic Vertical Datum of 1929

<sup>2</sup>Adopted High Guidance (Stemper); Proposed High Guidance Level (Kell, Keene, Hanna )

<sup>3</sup>Low Guidance Levels: the Low Guidance (P<sub>90</sub>) is the level the lake should equal or exceed 90 percent of the time on a long term basis. Stemper-Adopted. Kell, Keene, Hanna-Proposed

NOTE: Final Guideline will be revised to include NAVD 88 elevations when data is available.