

## **Lake Okeechobee and Caloosahatchee Freshwater Discharges Frequently Asked Questions**

**Q: Why are we seeing so much freshwater being discharged to the Caloosahatchee during the dry season?**

**A:** A strong El Niño weather pattern is present and influencing rainfall patterns throughout the United States. As a result, recorded rainfall throughout South Florida was more than 300% above average for January and February.

The Caloosahatchee River is part of a much larger water management system developed as part of the Central and Southern Florida Project, draining over 7,000 square miles south of Orlando, including the Kissimmee, Lake Okeechobee, Caloosahatchee and St. Lucie watersheds. South Florida's water management system was designed to drain the interior of the state for agricultural and development purposes. To our detriment, the system is very effective at draining the landscape and moving water quickly to tide.

Lake Okeechobee is managed by the U.S. Army Corps of Engineers. The Army Corps manages the Lake according to the Lake Okeechobee Regulation Schedule (LORS 2008). Under the Lake Regulation Schedule, the Army Corps attempts to maintain water levels within the Lake between 12.5 and 15.5 feet. When water levels exceed the optimal level the Army Corps conducts regulatory discharges to the Caloosahatchee and St. Lucie estuaries. Because of high rainfall within the Kissimmee and Lake Okeechobee watersheds in January, the Lake level exceeded 15.5 feet prompting the Army Corps to begin sending larger volumes of freshwater to the estuaries. In February, water levels within the Lake reached a peak elevation of 16.38 feet requiring the Army Corps to discharge maximum practicable discharges the estuaries. As a result, the Caloosahatchee received weekly average discharges exceeding 10,000 cubic feet per second (cfs) at the Franklin Lock and Dam (S-79).

For more information on the current discharges please visit the City's H2O Matters website at: <http://www.mysanibel.com/Departments/Natural-Resources/Protecting-Our-Water-Quality/Sanibel-H2O-Matters>

**Q: Where is all of the freshwater coming from?**

**A:** During the past week (as of 3/9/16), approximately 86% of the water delivered to the Caloosahatchee came from Lake Okeechobee. However, prior to February the majority of the freshwater flows came from the Caloosahatchee watershed, with watershed flows alone providing more than 14,000 cubic feet per second (cfs) on January 29, 2016. Drier conditions within the Caloosahatchee watershed during the past two weeks have allowed local runoff to dissipate. Average discharges at the Franklin Lock and Dam (S-79) have dropped from more than 10,000 cfs a month ago to approximately 5,000 cfs (as of 3/10/16). While this is a substantial reduction in flow compared to last month's discharges, flows remain almost two times the high-flow ecological harm threshold for estuary. It is likely that we will continue to see impacts to ecological resources, local fisheries and our coastal beaches until flows drop below approximately 2,800 cfs.

**Q: Why is the water not being sent south into the Everglades and Florida Bay where it is needed?**

**A:** The Comprehensive Everglades Restoration Plan (CERP) includes a suite of projects that are aimed at restoring freshwater flows south to the Everglades National Park and Florida Bay. Because of a number of lawsuits and water quality restrictions on the amount of phosphorus that can enter Everglades National Park, water managers cannot move water south unless total phosphorus concentrations are less than or equal to 10 parts per billion (ppb). In addition, there are physical constraints to moving water south that can result in flooding of private property or tribal lands and impacts to endangered species, further complicating our ability to move water south. A number of CERP projects must be completed before we can move additional water south. These projects include the Central Everglades Planning Project (CEPP), Tamiami Trail Bridging, and several non-CERP projects like the State's Water Quality Restoration Strategies project to help clean the water before sending it south.

To restore freshwater flows south and to reduce the high-flow impacts to the estuaries the CERP plan outlined storage of approximately 1 million acre-feet of water storage north of Lake Okeechobee, 1.3 million acre-feet of storage north of the Lake, 500 thousand acre-feet east of the Lake, and 450 thousand acre-feet of storage west of the Lake. Until the necessary storage is achieved and the projects needed to clean and move the water, the St. Lucie and Caloosahatchee estuaries will continue to receive damaging high-flow discharges from the Lake and our respective watersheds.

**Q: How are the freshwater discharges impacting Sanibel?**

**A:** The freshwater discharges are impacting Sanibel both ecologically and economically. From an ecological perspective, the freshwater discharges are reducing salinity throughout the Caloosahatchee estuary, San Carlos Bay and the nearshore waters of the Gulf of Mexico. Reduced salinity and highly colored water are impacting seagrasses, oysters, economically important sportfish and other marine organisms that depend on these areas for reproduction and survival, including endangered species like the manatee and smalltooth sawfish. In addition to salinity and color, the water delivered to our coast also contains excess nutrients that can fuel harmful algal blooms, impacting ecological resources and local beaches.

The freshwater discharges are also having a measurable impact on our local economy. In Lee County Tourism generates more than \$3 billion annually and supports approximately 54,000 jobs (Lee County VCB 2014). A large portion of those jobs are directly supported by water-related activities. Currently, the low salinity and dark freshwater plume extending into San Carlos Bay and Pine Island Sound is impacting our world-class sport fishery. This is occurring during the peak of our tourist season and our local fishing guides and related marine industries are losing business and seasonal income that they depend on as a result. The City of Sanibel continues to field complaints from visitors and island residents concerned about the appearance of the water. Hoteliers are reporting cancelations and island realtors are reporting failed deals because of concerns about water quality.

**Q: What makes the water appear so dark in color?**

**A:** Organic matter and tannins leached from soils and vegetation runoff the landscape and into rivers, creeks and tributaries making the water appear dark-brown or black in color. Because the lands within the eastern Caloosahatchee watershed are predominately used for agricultural purposes, there tends to be a lot of sediment and tannins in the watershed runoff. This results in freshwater discharges that appear very dark in color. On the other hand, water that is discharged from Lake Okeechobee tends to be lighter in color because some of the chemicals that make it dark are broken down by sunlight. Suspended sediment in the water can also change the appearance of the water, making it appear tired

up or turbid. When discharges exceed 2,800 cubic feet per second (cfs) we often see more sediment in the water and the color of the water is darker in color in San Carlos Bay. When discharges exceed 4,500 cfs the freshwater plume extends out into the Gulf of Mexico during ebb tide and can alter the appearance of the water along Sanibel's eastern beaches.

**Q: Is it safe to swim in the dark water?**

**A:** Because the water is dark it does not necessarily mean that it is unsafe to swim in the water. However, when the water appears dark it is often an indicator that we are experiencing above average stormwater runoff. If stormwater originates from areas with poorly maintained septic systems or from areas that drain intense animal agricultural operations, bacteria levels could be elevated and pose a human health concern. Because Sanibel is almost entirely on centralized sewer and the water that we receive from the Caloosahatchee has relatively low bacterial levels by the time it reaches the coast, we generally do not see elevated bacteria levels along our beaches. Even during the peak of the discharges to the Caloosahatchee, bacteria levels reported by the Florida Health Department through the Healthy Beaches Program were all within the "Good" range for Sanibel's beaches. For more information please see the links below.

<http://www.floridahealth.gov/environmental-health/beach-water-quality/index.html>

<http://www.floridahealth.gov/environmental-health/beach-water-quality/county-detail.html?County=Lee&Zip=33916-2205>

**Q: What are Lee County and the six municipalities of Lee County doing to address the problem?**

**A:** Lee County and the six municipalities of Lee County are working together to address the Lake Okeechobee and Caloosahatchee water resource issues. Recognizing that the problem originates in the Kissimmee watershed, just south of Orlando, and includes Lake Okeechobee and the Caloosahatchee watersheds, the County and municipalities are working with federal and state agencies responsible for water management and are working in their local watersheds to advocate for and implement projects that will address the problem. Collectively, the County and municipalities have developed a list of short-term, low-cost strategies, as well as a longer-term list of state and federal priorities to address water storage and treatment throughout the Kissimmee, Lake Okeechobee, and Caloosahatchee watersheds. The goal is to improve the quantity, quality, timing and distribution of water to the coast of Lee County and restore historic flows to the Everglades and Florida Bay. We are currently working on updating this document and there will be even more of a focus on water storage, treatment and conveyance south in the next iteration.

**Q: Is there anything the Chamber or hospitality industry can do to help reduce the discharges from Lake Okeechobee?**

**A:** Local businesses should work together to ensure that our voices are heard both individually as businesses and collectively by our legislators in Washington and Tallahassee and our local elected officials. Make sure they understand the impacts that poor water quality is having on your businesses and Florida jobs. Hold our legislators and elected officials accountable for the decisions that they make and advocate for projects that are needed to store, treat and move more water south and demand that we change the policies that maintain the status quo.