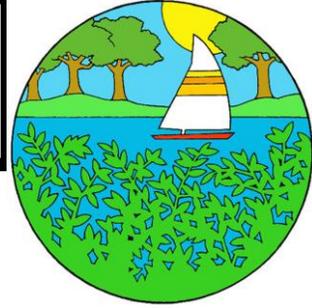


SAVE OUR LAKES ORGANIZATION, INC.
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KEYSTONE HEIGHTS LAKE REGION FACT SHEET

I. ETONIA CHAIN OF LAKES

The Etonia Chain consists of the following lakes: Blue Pond, Lake Lowry, Lake Magnolia, Lake Brooklyn, Little Lake Keystone and Lake Geneva, Old Field Pond and Halfmoon Lake. This chain of lakes is located in the Keystone Heights/Camp Blanding area and are connected by Alligator Creek.

Why are Lakes Brooklyn and Geneva and the K.H. area important! These are sand bottom lakes and also have many sinkholes (some say 9 or 10 in Lake Brooklyn). These sinkholes send water directly into the Upper Floridan Aquifer, making the K.H. area one of two major recharge areas for the Floridan Aquifer.

II. CONSUMPTIVE USE PERMIT (CUP)

CUPs are required if a certain volume of water is to be pumped from the Floridan Aquifer as outlined in Chap. 40C-2FAC (Florida Administrative Code). CUPs are issued by the Water Management Districts. Examples of CUP holders in the K.H. area: Chemours, Florida Rock (now Vulcan), Clay County Utility Authority, Gainesville Utility Authority.

How Do Local CUP's Affect the K.H. area? - When a CUP well is in place and pumping, there is a natural "draw down" of water in the area of that well. One very large CUP holder **not** in the immediate area is the Jacksonville Electric Authority (JEA). Due to JEA's ability to pump in excess of 125 million gallons per day from the Floridan Aquifer, they also have local "draw down" impact. The combined pumping of these CUP holders over decades is a large part of the cause of our lower lake levels.

III. MINIMUM FLOWS AND LEVELS (MFLs)

In answer to a lawsuit many years ago, the Water Management Districts were required to establish MFLs for some of Florida's rivers, lakes and springs. Florida law was established that required the Water Management Districts to adhere to these set MFLs declaring that "expeditious" recovery efforts were to be initiated should a water body fall below its established MFL (again, established by the Water Management District) within a certain time frame and duration.

What is an MFL? - Using a specific set of criteria, the Water Management Districts set the Minimum Flows and Levels at which the water body could remain healthy.

Why are MFLs Important to the K.H. Lake Region? - The concept of setting an MFL on a water body is to protect it from over pumping. Rainfall cannot be managed but pumping by CUP holders **can** be managed/regulated. Remember, Lakes Brooklyn and Geneva provide major recharge to the Floridan Aquifer.

The K.H. Lake Region is in the St. Johns River Water District (SJRWMD). SJRWMD set MFLs for Lakes Brooklyn and Geneva in January 1996. Lake Brooklyn's MFL was set at approximately 101ft elevation and Lake Geneva at approximately 98ft elevation. Lake Geneva's water level was 8ft below this MFL elevation when set.

In the fall of 2010, the SJRWMD declared Lake Geneva and Lake Brooklyn were in "recovery" status. That declaration required the SJRWMD to "expeditiously" move toward establishing and implementing recovery strategies for both lakes. Florida law states "expeditious recovery efforts are to be initiated should a water body fall below its established MFL". While "expeditious" seems to be the operative word and intent of the Florida law, Lake Geneva has been below its MFL and in a state of "recovery" since 1996. Lake Brooklyn has also been below its set MFL of 101ft the majority of that time.

(Update August 2021)

In 2010, the Save Our Lakes Organization began what turned into a 12-year effort to have both fair and protective MFLs set for both Lake Brooklyn and Lake Geneva AND find meaningful recovery project(s). The main "players" in these efforts were the Save Our Lakes Organization, SJRWMD and the Utilities Consortium (8 utilities including JEA, CCUA and GRU). After 12 years of meetings, negotiations, and some political and legal wrangling, at their June 2021 SJRWMD Governing Board meeting, the Board voted unanimously to approve the MFL for Lake Brooklyn (average 106.9ft NAVD) and Lake Geneva (average 99.9ft NAVD).

IV. WHAT RECOVERY ACTIONS HAVE BEEN TAKEN?

2002 - SCHREUDER REPORT

The Schreuder company was hired by the SJRWMD around 2002 to study the K.H. Lake Region and develop possible recovery strategies. The "Schreuder Report" was submitted to the District and an earlier Stakeholders Group. This report developed six strategies (Options 1 through 6). Mr. Schreuder prioritized these six "Options" for the "best combination". A combination of Options 1, 3 and 5 had the best potential recovery results.

Option # 1 – A general cleanout of the "rim ditch" around the berm in the DuPont area. This project was completed in the (2002-2004) time frame.

Option # 3 – A pipeline connecting the Southwest Quadrant (a DuPont man-made lake) to Blue Pond. This would allow the water in the SW Quadrant to move more quickly into Blue Pond and into the Etonia Chain of lakes. This project was also completed in the (2002-2004) time frame.

Option # 5 – A drawdown of Lake Lowry by approximately 1-2 ft. of its elevation. This project was not implemented.

2011 – STAKEHOLDERS GROUP

The SJRWMD established a stakeholder's group (Clay/Putnam MFL – Prevention/Recovery Strategies Stakeholders Work Group) in June 2011. This Stakeholders Group met for approximately 18 months, developing ideas and concepts for recovery. An Implementation Work Group (IWG) formed from the original MFL Stakeholders Group finalized a list of 21 **Recommended Recover Strategies**. The IWG finished its work May 9, 2013. Unfortunately, no strategy recommended would have had significant recovery impact on Lake Brooklyn or Geneva.

2013 - LAKE LOWRY REVISITED

Even though Option # 5 did not move forward in that (2002-2004) time frame, the concept was very sound. The Save Our Lakes Organization continued to revisit the Lake Lowry drawdown concept with the SJRWMD. In April 2013, the SJRWMD began a pilot project to study the Etonia Chain of Lakes (evaporation, seepage, etc.). As part of this Pilot project, the SJRWMD drew down the elevation of Lake Lowry by approximately .5ft., releasing the water at the Lake Lowry outlet into Alligator Creek. This project sent approximately 200 million gallons of water into the Etonia Chain at the Lake Lowry outlet. The Lake Lowry drawdown began May 6, 2013 and was completed on July 3, 2013.

Our hope was that the Lake Lowry withdrawal of 200 million gallons would show an improvement on the level of Lake Brooklyn and little to no real impact on the actual level of the Lake Lowry. Should that occur, it would give a potential future water resource supply that would help in the stabilization of Lake Brooklyn and other lakes in the area. **The results far exceeded our expectations!** Lake Brooklyn responded very quickly with increased elevation AND the elevation of Lake Lowry had actually increased slightly at the end of the withdrawal.

OTHER PROJECTS

OPTION # 7 (Chemours Pipeline)-This is NOT a Schreuder option but called Option # 7 as a continuation of a combination of the recovery strategies. In the (2002-2004) timeframe, an agreement was reached that required Chemours to return some of the groundwater it pumped back to the Keystone lakes. The requirement was that the volume of water pumped annually from Chemours Wells #1 and #4 would be returned to the Etonia Chain via a pipeline. This agreement is still in effect and being implemented.

EXPANSION OF OPTION # 7 – An expansion of Option # 7 was recommended in 2012 after two tropical storms (Berle and Debbie) hit the area, causing major damage to the area. Bradford County and Clay County experienced devastating floods (as did other areas). At the height of Tropical Storm Debbie, the outflow from the DuPont area into Alligator Creek (WEST) was approximately 30 million gallons per day (mgd). This 30mgd of storm water was heading directly to an already flooded community of Starke! Two Water Management Districts (St. Johns and Suwannee River) must agree for this project to move forward. To date (August 2021), no agreement has been reached.

2016 – KEYSTONE HEIGHTS WATER SUMMIT

The City of Keystone Heights hosted a Water Summit (organized by City Manager Scott Kornegay). Attendees included federal, state and local elected representatives and officials, senior staff from two Water District, Save Our Lakes Organization board and members and local citizens.

Peter Schreuder, hydrologist out of Tampa, Florida made a presentation and the floor was then opened for discussion. State Senator Rob Bradley was very involved in the discussions. The Keystone Heights Water Summit was the catalyst that FINALLY brought about probable recovery for the Keystone Heights Lake Region.

2017 – BLACK CREEK WATER RESOURCE DEVELOPMENT PROJECT

State Senator Rob Bradley asked the SJRWMD staff to bring a project forward that would actually put water back into our lakes and he would help with funding. With a few delays to permitting over filtration issues, as of August 2021, the Black Creek Project is in final stages of permitting, engineering is 90%+ complete and construction is expected to begin in early 2022. Water should begin flowing in mid-2024.... **RECOVERY!** Senator Rob Bradley has been a real champion in the recovery of the Keystone Heights Lake Region.

V. LOOKING FORWARD

The Etonia Chain Flow - The lakes in the Etonia Chain are connected by Alligator Creek. The maintenance of this connecting Creek is extremely important to the health of the Keystone Heights lakes. This includes the flow from Lake Brooklyn into Little Lake Keystone and into Lake Geneva.

Revitalization of the Lake Region – The Keystone Heights Lake Region has been devastated by years of low and unstable lake levels. The Non-Profit Lake Region Development Corporation was established in January 2021 to help our Keystone Lake Region grow wisely and well.

Thank you for your interest.

Vivian

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