

FACT SHEET LCWA-NuRF PROJECT

The Friends of Lake Apopka continue to oppose the Nutrient Reduction Facility (NuRF) project proposed by the Lake County Water Authority. This project, to be installed adjacent to the Apopka-Beauclair Canal at the point where the canal leaves Lake Apopka, includes the addition of an alum compound to waters flowing downstream to remove nutrients, primarily phosphorous.

Objections are based on the following details:

1. Infrastructure required for this project is proposed on the CC Ranch, a 250- acre parcel that was purchased using P-2000 funds in 1991. This ranch is a key parcel in the Lake Apopka Northshore Restoration Area because it is the only parcel that was never tilled and the only section that can be restored to a wet-prairie ecosystem.

LCWA Response - Historic aerial photography indicates that farming and tilling has occurred on the property, though not to the extent of much of the agricultural land in the surrounding area. The 255-acre property is located in an area once occupied by the Lake Apopka shoreline. The lowering of Lake Apopka throughout the early 1900's combined with the current regulation schedule for Lake Apopka prevents restoration of the site to its original, or so-called "wet prairie" condition. The site has already been impacted by decades of cattle ranching and other agricultural activities.

The NuRF project will impact less than 20% of the total acreage on the property and will have only one acre of wetland impacts. The project was redesigned several times to minimize the footprint and impacts to adjacent wetlands.

2. The restoration plan for Lake Apopka included a cost to taxpayers of 105 million dollars to purchase the farmlands on the northshore and this included a requirement for restoration back to marsh habitat. This proposed industrial use of the CC ranch should not be allowed. The SJRWMD agreed to a lease of this land for 1 dollar/year!

LCWA Response - Although the NuRF project's building code classification is described as "special use industrial," it is important to note that the project is designed to facilitate restoration in over 23,000 acres of lakes downstream of Lake Apopka. The project is more accurately described as a surface water treatment facility designed to assist in restoration of the Harris Chain of Lakes.

3. The LCWA has options for this construction downstream which would treat more discharge than the current location. Costs would be greater because of additional pumping required and the land may not be free but it should be more effective.

LCWA Response - The LCWA has investigated several other options for the location of the NuRF. The owners of the various properties either wanted significantly more than the appraised value or were not willing to discuss purchase at or near the appraised value. As designed, the project treats approximately 85% of the total average annual inflows to Lake Beauclair and moving the project to another location further downstream would neither be economically feasible nor significantly more effective.

4. There are some questions about the effectiveness of this expensive project: as phosphorous levels in Lake Apopka fall, the removal percentage will be less than calculations proposed when the Phosphorous levels in the lake were very high. When the lake levels fall (as they do routinely), the system is not functional because it requires gravitational flow.

LCWA Response - Data from the St. Johns River Water Management District indicates that recent average total phosphorus in Lake Apopka is significantly less than it was a decade ago. However, the current concentration of total phosphorus in Lake Apopka is three times the Total Maximum Daily Load for the lake and five times the Total Maximum Daily Load for Lake Beauclair. There is no indication that the removal percentage will be less if the total phosphorus concentration in Lake Apopka continues to decline. Furthermore, the system only ceases to function when water level is too low to flow over the dam. This has happened only once in the fifty-year history of operating the dam.

5. Infrastructure proposed includes 2 nine-acre ponds that are twenty feet deep, 2 new canals, 6 12,150 gallon alum tanks, an equipment building, a building to hold a large centrifuge, a 200,000 gallon floc storage tank, a gravel access road and a 21-acre dewatered storage area “for later use or disposal”. Wet detention will be required to treat stormwater but no details are given about design.

LCWA Response - This is an accurate description of the project. The wet detention is provided as required by the FDEP based on the coverage of crushed concrete road.

6. The predominant subsurface soil type is heavy clay. Construction will generate at least 300,000 cubic yards of fill that will be retained on site. Without immediate stabilization, erosion of this material could impact many adjacent areas.

LCWA Response - According to the geotechnical reports, the material to be excavated consists of soils of many different characteristics. The soil descriptions include, for example, light gray clay with fine sand and gray clayey fine sand mix. Dense clay is never used to describe the material. The contractor will follow the appropriate measures to stabilize the slopes.

7. The proposal from LCWA includes a promise to restore the site when the project is finished. This will be impossible because of the delicate hydrologic regime associated with the wet prairie system and the heavy clay soils found on site.

LCWA Response - The current “hydrologic regime” bears no similarity to the historic condition of this site. Restoration, in this case, involves returning the site to an upland pasture vegetated primarily by bahia grass. Efforts to further restore the site once the NuRF project is completed will not be impacted because there are no plans in existence.

8. Construction and operation costs are high and will be paid from several sources. The low bid, by Gibbs and Register, Inc. was \$7,272,000 and the initial consultant contract, to ERD, Inc. was \$71,973.44. Operation costs will range from \$825,555 to \$1,499,695.

LCWA Response - Relative to other restoration techniques of similar effectiveness within the expected range of operation, the NuRF is by far the most cost effective and the only project capable of achieving such large scale nutrient mass removal.

9. Monies will be sought from sources other than the LCWA. The Florida Department of Environmental Protection has pledged \$3,700,000 and plans call for further requests from the Florida Legislature and the SJRWMD. Some concerns have been expressed that this project will cause some diversion of emphasis on the restoration of Lake Apopka. Until these headwaters are clean, downstream pollution will occur.

LCWA Response - There is no reason to believe that emphasis for Lake Apopka restoration will be diminished. On the contrary, the LCWA will be financing the NuRF until Lake Apopka is restored, so LCWA will be most interested in seeing that restoration of Lake Apopka continues.

10. The lease with SJRWMD requires that the project must comply with the USFWS Avian Protection Plan. Review of this requirement indicates the requirements only apply to those species which use woody plants for nesting and the LCWA report only reviewed 4 upland species: Carolina Wren, Mockingbird, Loggerhead Shrike and Fish Crow. The site is more valuable for wetland species and newly hatched sandhill cranes and killdeers have been observed on site with utilization by many other species.

LCWA Response - The LCWA is complying with the USFWS / SJRWMD Avian Protection Plan, as required. The bulk of the construction will occur outside the nesting season for most bird species and all parties are aware of the importance of minimizing impacts to wildlife.

11. A required survey of protected species reported occurrence of five protected species observed on or adjacent to the site: bald eagle, sandhill crane, tricolored heron, white ibis and Sherman's fox squirrel. Another survey reported 17 species of birds, 1 mammal, 2 reptiles, 1 amphibian and 2 fish species. More extensive surveys will indicate the presence of many more species. In fact, other sections of the assessment reported "many other aquatic avian species foraging in and around wetlands" but then declared that proposed site work will have no impacts!

LCWA Response - The surveys indicated that there would be minimal to no impacts to wildlife because the facility will be constructed on the open pasture with little suitable habitat for the listed species. Those species identified by the surveys were found in areas of the property outside of the construction zone.

12. The proposed treatment process involves exposure of lake water to a solution of aluminum sulphate in the large settling ponds. This process allows the A solution to flocculate nutrients and other particles from the water column, forming a layer of thin "slurry" on the bottom of the ponds. This slurry will then be pumped to large storage tanks and remaining water in the pond will be allowed to flow back to the A-B Canal and downstream. The stored flocculent will then be centrifuged to separate water, leaving a semi-dry cake material which will be stored on site.

Concerns center on several facts; the effects on downstream lakes are unknown if the alum is allowed to leave the system. The fact that sudden pH changes can alter the flocculent, creating a potential toxic situation is known. No concrete disposition plan for the dried alum compound has been proposed. Plans call for storage areas that will hold up to 20 years of production. One proposal calls for use of the sediment to fill in the existing 20-foot deep ponds as part of the restoration program. All this is proposed in an environmentally sensitive site!

LCWA Response - The facility is designed to capture all of the alum (aluminum sulfate) so that it does not enter the natural ecosystem. Alum is commonly used very successfully in lake

management to control excess nutrients in both the sediment and the water column and there are no application regulations for whole-lake treatment. Research regarding the use of aluminum sulfate in whole-lake applications indicates the primary impacts are physical not chemical.

Alum application can cause rapid pH drops in poorly buffered systems. Water flowing out of Lake Apopka has sufficient buffering capacity so that pH will not fluctuate beyond safe ecological limits. This has been demonstrated empirically.

Once fully cured, alum forms an inert residual product which is resistant to degradation in natural environments. The benefits of this residual product have been demonstrated empirically and the St. Johns River Water Management District has already agreed to accept 48,000 tons in their restoration efforts within the North Shore Restoration Area.

13. Liquid alum will be delivered to the site on a routine basis in large tanker trucks. Operation of the various pumps, dredges and centrifuge will cause noise pollution that will impact wildlife habitat value in all surrounding areas.

LCWA Response - Truck deliveries will only be “routine” during high discharge events. These events are normally short-lived and last only a few weeks. The site is directly adjacent to County Road 48, a major industrial trucking route handling hundreds of trucks each day.

14. It seems clear that execution of this project will entail use of taxpayer dollars to destroy a parcel bought with taxpayer dollars for preservation (P-2000) and more taxpayer dollars will be used to construct a questionable project and still more to attempt restoration of the site if the project does not work.

LCWA Response - The project has been accepted as vital for the continued restoration of the Harris Chain of Lakes by every local government and interested citizen action group in the Upper Ocklawaha River Basin. The project is part of the Florida Department of Environmental Protection’s Basin Management Action Plan adopted by Secretarial Order.

Restoration of the site will take place once the conditions in Lake Apopka have improved enough to achieve TMDL goals for Lake Beauclair. The current restoration efforts of the St. Johns River Water Management District are expected to achieve this at some point in the future but there is no indication that this will take place anytime soon without the assistance of the NuRF.

Every effort should be made to stop this project since permits have been issued, the lease is to be signed right away and contracts are being let. The only hope we have is that Governor Crist and/or Michael Sole, Director of FDEP will intervene. Please write them ASAP!

- Office of Governor Charlie Crist
State of Florida
PL-05 The Capitol
Tallahassee, FL 32399-0001

Michael Sole, Director
Florida DEP
3900 Commonwealth Blvd., MS 665
Tallahassee, FL 32399