Rodman Reservoir: A Complex of Opportunity

SAVE RODMAN
RESERVOIR, INC

October 2021 Visit us at rodmanreservoir.org or at
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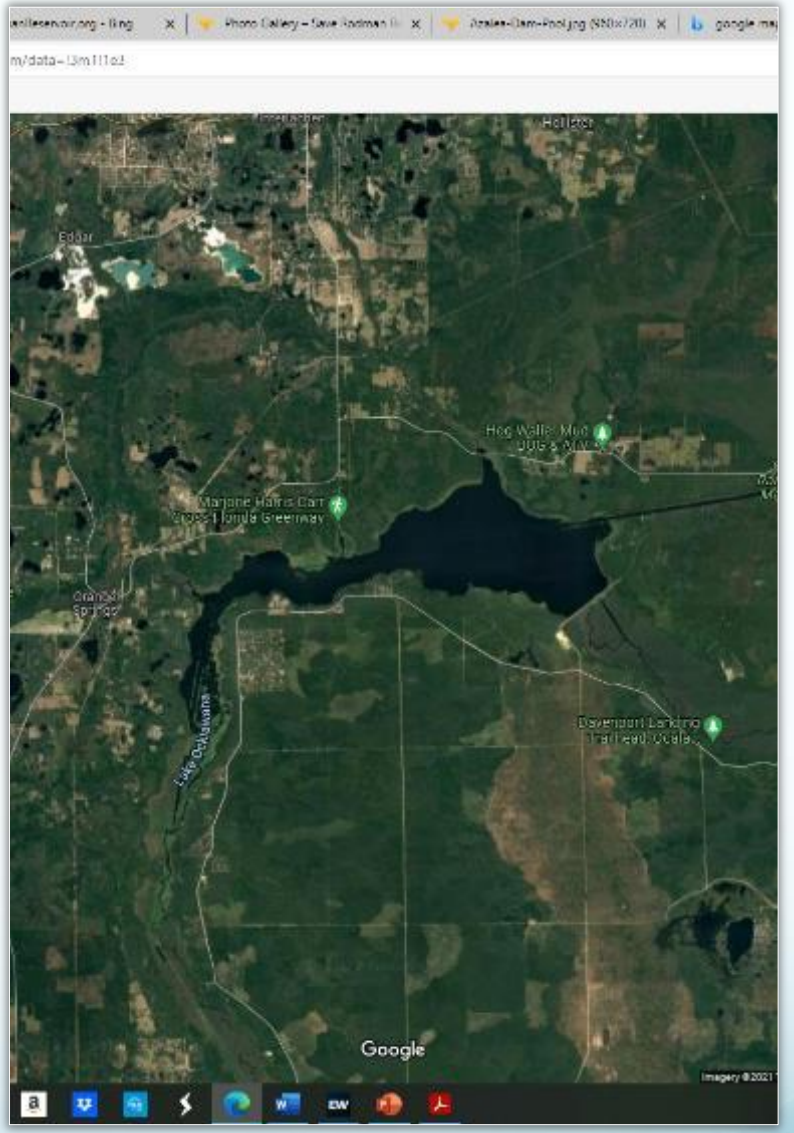
What is Rodman Dam and Lake Ocklawaha?

Rodman Reservoir lies in Marion and Putnam Counties on the northwest corner of the Ocala National Forest on the eastern end of the Cross Florida Greenway.

It was created in the 1960s during the construction of the once planned Cross Florida Barge Canal. The history of the Barge Canal dates to the 1930's. It was devised to shorten the shipping time from the oil producing Gulf states as well as other shipping interests in America's heartland to bring products to ports on the east coast for export. Construction began in force in the 1960's after years of planning and land acquisition. In 1968 Rodman Dam, later The George Kirkpatrick Dam was completed, and Rodman Reservoir/Lake Ocklawaha was created.



What is Rodman Dam and Lake Ocklawaha continued…

The project was eventually defunded by the Federal Government for several reasons. Some claim this was due to environmental concerns, which held merit. Another factor was shipping methods had changed with the advent of supertankers and equally larger cargo vessels. In hindsight, the project was ill conceived and in today's more enlightened mindsets a project like this would have never been given a second thought. After 50 years since first being flooded, an entirely viable ecosystem has evolved.

Rodman's Recreational and Economic Impacts

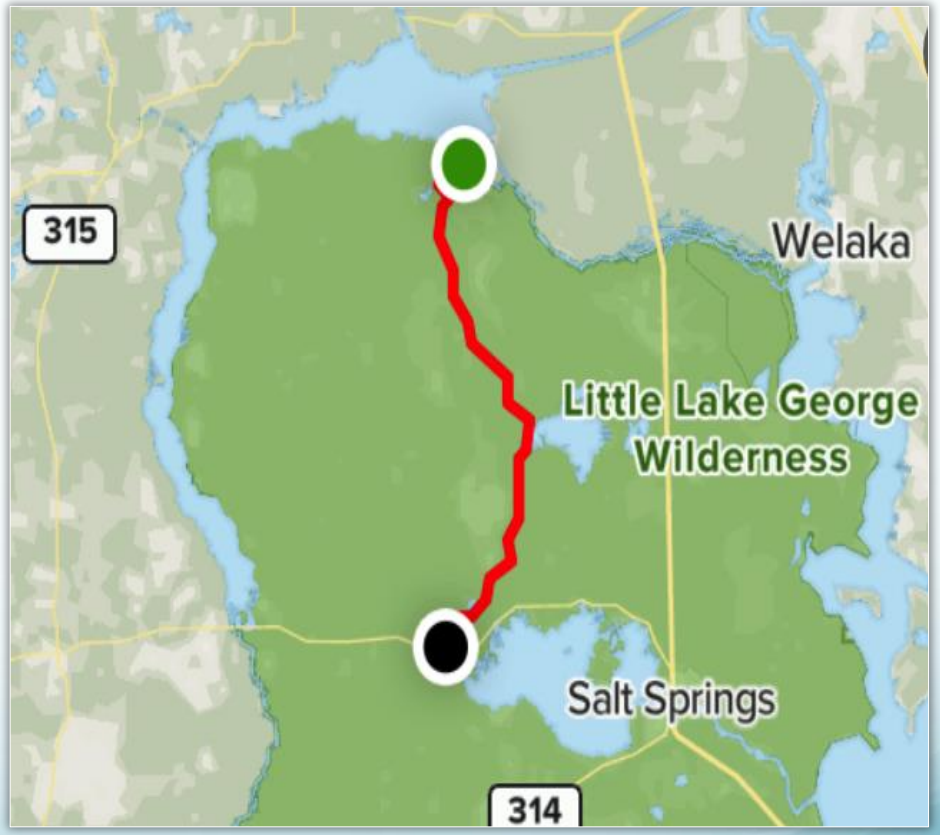
The **recreational** values of the entire Rodman Complex are significant and abundant. As is widely known, Rodman is a world class fishery producing everything from Stripers to crappie, catfish, abundant pan fish and a significant number of trophy size large mouth bass.

Many fishing tournaments are run from the Kenwood Recreation Area on the northwest corner of Lake Ocklawaha and many folks who fish tournaments based nearby regularly enter the Rodman Complex through the Buckman Lock, which connects the St Johns River and Lake Ocklawaha. Fishing from Kirkpatrick dam and the docks on each side below the dam provides access to the fishing that is unlike anywhere else in the region. Many folks use this as a means of sustenance that provides regular meals.

Rodman's Recreational and Economic Impacts Continued…

The Florida Trail crosses the dam and the Buckman Lock. There are several campgrounds as well as Bed and Breakfast and cabin lodging rentals in the area. There are at least 8 boat ramps (plus a few private launches in the upper area towards Eureka) so boater access is always available.

The economic benefits provided by the users of Rodman Reservoir are a significant driver for revenues in Putnam County, the third poorest county in the state of Florida and to Marion County. The revenue generated by users for hotels, restaurants, bait and tackle shops, fishing guide services and other retailers plus the added tax revenue is irreplaceable.



Economic Impact Highlights

- Rodman Reservoir has more visitors than all but 12 of Florida's State Parks, supports over 3 times the recreational use of the Ocklawaha River, and will support over 50% more recreation than a restored river.
- Rodman Reservoir provides between $6,000,000 and $7,000,000 per year to the economies of Putnam County and Marion County.
- Rodman Reservoir, after operational costs, provides at least $18,000,000 in positive economic benefits over the next 20 years and these benefits exceed those of any Ocklawaha River restoration alternative by more than 225%.
- Removal of Rodman Reservoir produces negative net economic benefits over the next 20 years ranging from -$3,895,646 to -$18,295,500 depending on the restoration alternative chosen.
- A restored Ocklawaha River is not a free Ocklawaha River. Land management costs will be at least $550,526 per year.
- Users of Rodman Reservoir are willing to pay $985,752 to $1,160,680 for Rodman Reservoir, thus paying for annual operating and maintenance costs.
- Removal of Rodman Reservoir has unknown costs and threatens the boundaries of the Cross Florida Greenway.

Economic Impact Continued…

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Economic Impact Continued…

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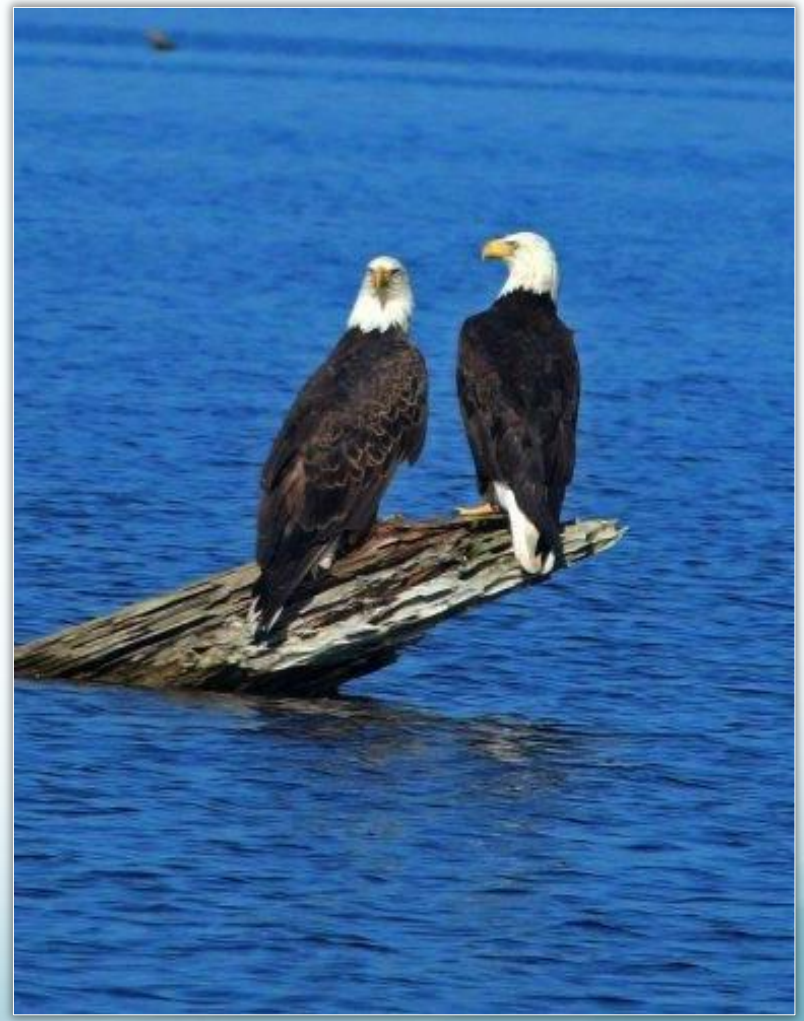
Habitat

The Rodman Complex, with its 12 different environmental diverse habitats, provides abundant opportunities for a variety of land and water based wildlife in exactly the right place, bordering the Ocala National Forest, and is home to many endangered and threatened species. One of the species often cited by opponents of the dam in order to drum up support for their cause is the Manatee. As of October 1st, 2021 over 950 Manatee Deaths have been recorded in Florida. While there are many contributing factors to this die off the lack of river grasses, disappearing due to diverse environmental factors related to water quality degradation, and the cold temperatures. Despite their size, manatees do not store a significant amount of fat and the lack of abundant food sources only compounds that fact and leaves them more vulnerable.



Habitat Continued…

Over the half century Rodman has been in existence the **manatees** have figured out their way around the dam and use the Buckman Lock as their means of ingress and egress. These crossings are recorded by the Lock Tenders. In 2021 there have been more lock throughs than any year recoded to date for the months through September 27th 709 pass throughs have been recorded. Historically, prior to Silver Springs flow being reduced to half by the 1990's of its historical flow from the 1960's, the manatees didn't travel far up the Ocklawaha due to the velocity of the water, making it difficult to swim against the current, according to sources with the University of Florida and based on a lack of fossils of manatees. Manatees appear to be relying on the robust food source contained within the Rodman complex and have been recorded at Silver Springs, Lake Griffin, the Harris Chain of Lakes as well as several reports of sightings in Lake Apopka by boaters.

Habitat Continued…

Striped Bass are regularly caught both above the dam all the way into the Harris Chain and below the dam, yet they have been cited as a species that doesn't exist above the dam by the opponents who want the dam gone, regardless of the number of documented reports of catches. The American Eel, another species of concern cited has seen a reduction in population statewide comparable to the losses in the Ocklawaha basin, possibly indicating a bigger environmental trigger.

https://www.news4jax.com/weather/2020/07/02/rodman-resovoir-named-top-southeastern-bass-lake-of-the-decade/

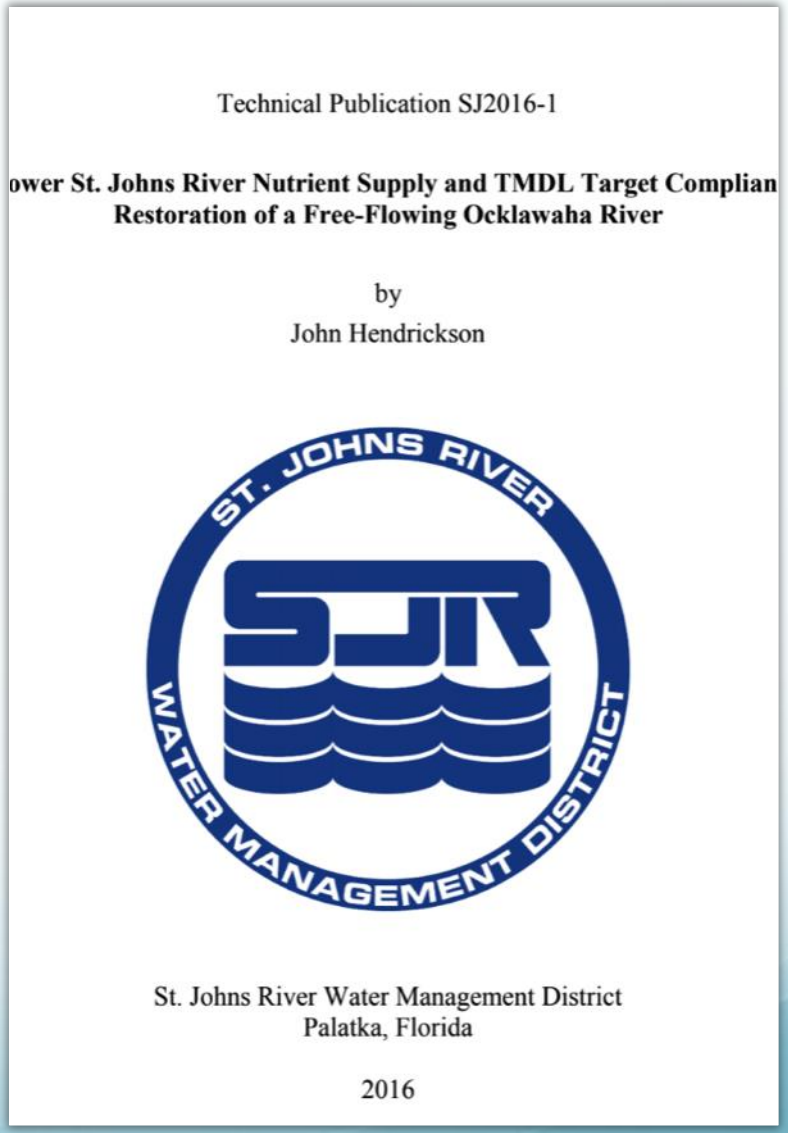
Rodman Resovoir named top Southeastern bass lake of the decade - News4Jax

Bassmaster also broke down the top 25 best bass lakes of the decade per region, which is where Rodman Reservoir topped the list for top Southeastern bass lake of the decade.

www.news4jax.com

Beyond the Rhetoric

Beyond the Rhetoric Rodman has had its small, yet very vocal opponents from before it even existed, Marjorie Carr was a leader of the opposition and is largely credited with putting a stop to the ill-conceived Barge Canal project. There are not many people who do not believe it was a short sighted idea, yet what we were left with is a remarkable joint venture between man and nature. Many "facts" are espoused to support one side or the other of the conversation of the merits of retaining Rodman or removing it forever. The biggest study used to support the narrative is this one, Effects on Lower St. Johns River Nutrient Supply and TMDL Target Compliance from the Restoration of a Free-Flowing Ocklawaha River by John Hendrickson, done for the SJRWMD dated 2016.



Technical Publication SJ2016-1

ower St. Johns River Nutrient Supply and TMDL Target Complian
Restoration of a Free-Flowing Ocklawaha River

by
John Hendrickson

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
SJR

St. Johns River Water Management District
Palatka, Florida

2016

Beyond the Rhetoric Continued…

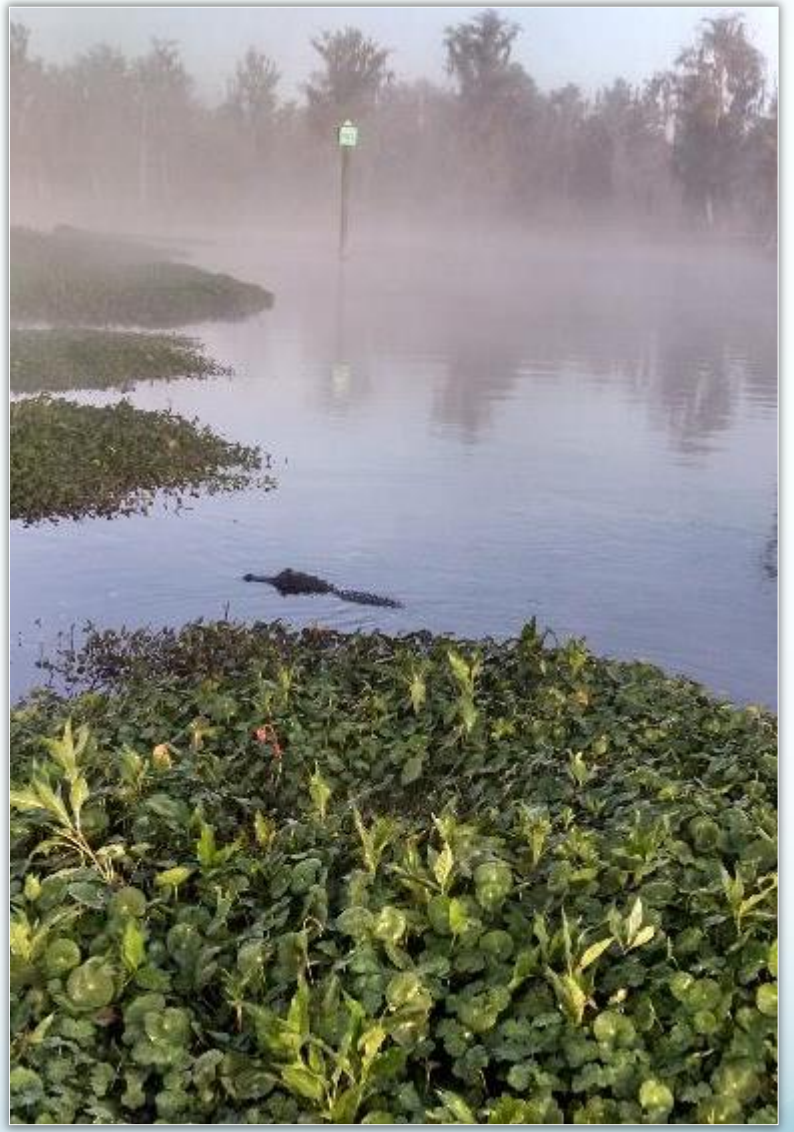
The following are excerpts from that study that are not widely publicized by those who want you to believe it is the justification for removing the dam.

"Under the assumption of complete downstream delivery and incorporation of NOx, scenario bloom durations and exceedance rates increase. Under the perpetual drawdown condition, mean bloom duration increases from 52 days to 67 days, an increase of 4 days over the TP-driven-only increase. For the FFR (Free Flowing River) scenario, mean calculated bloom duration increases to 129 days, more than twice the duration of the TP-driven-only increase. The drawdown scenario rate of criteria exceedance increased to 75.1 percent, compared to TP-only rate of 71.8. The FFR scenario rate of exceedance rises to 87.7 percent, compared to the TP-only rate of 65.1 percent. In nine of the twelve years, the additional NOx was calculated to be sufficient to drive phytoplankton biomass to the point of phosphorus limitation at some point in the bloom cycle. In comparison, theoretical P limitation occurred in five of the 12 years in the reservoir-year ambient data."

Beyond the Rhetoric Continued…

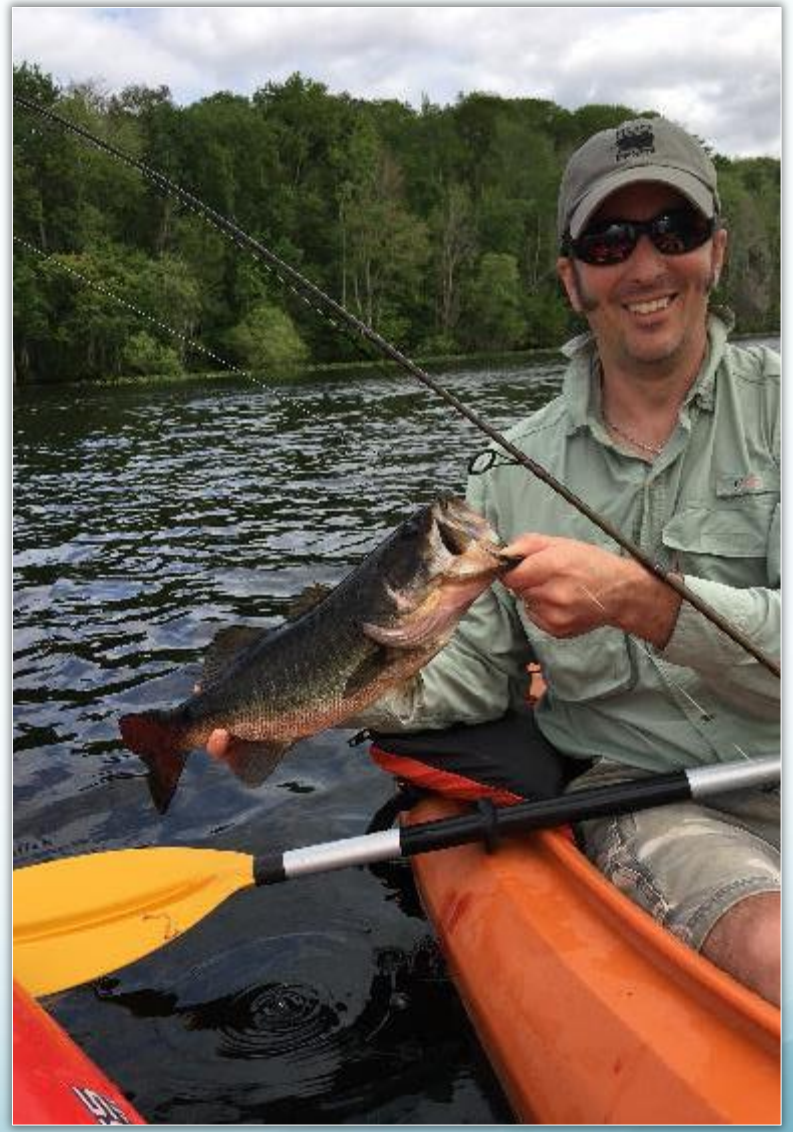
"The water budget calculations indicate that discharge exiting the LOR will increase, due to the resumption of flow from as many as 20 submerged springs, a finding that is supported by previous modeling studies (Wycoff, 2010; Tibbals, 2010). This analysis presumes that reduced artesian discharge elsewhere will offset the LOR spring flow increase, resulting in no net increase in load to the St. Johns."

This means no new flow to the St Johns as other springs in the basin's flow is reduced by the same amount now flowing from the springs submerged by Rodman.



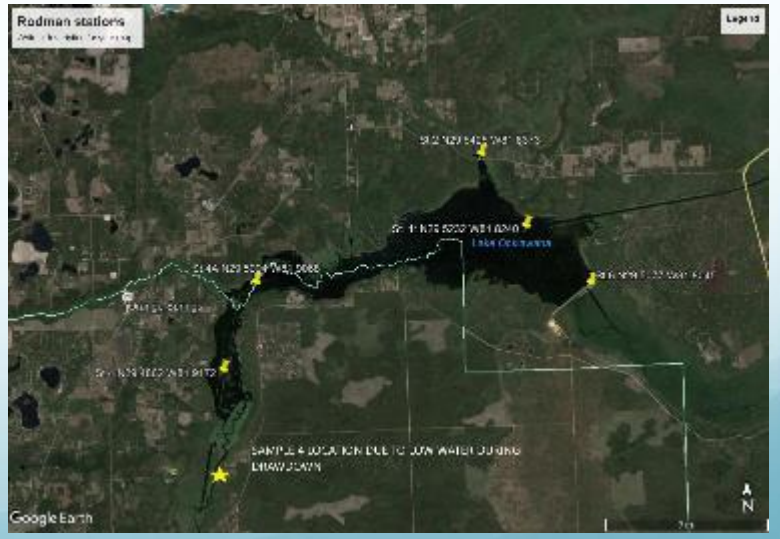
Beyond the Rhetoric Continued…

The changing ecology of the water from Florida's springs such as Silver Springs, the major tributary to the flow of the lower Ocklawaha, including higher nutrient loads, reduced dissolved oxygen levels and basic chemistry changes are a significant challenge going forward. While the Hendrickson Report provides a snapshot in time, none of the changes occurring recently and none of the projected population growth for the Ocklawaha and St Johns River Basins, with the year 2045 population potentially increasing by 3.5 million people (per UF's Liberal Arts College Bureau of Economic and Business Research) in the SJRWD area alone, or the resulting anthropogenic contributions to the changes in the groundwater ecology and chemical makeup are addressed.



Beyond the Rhetoric Continued…

The following are excerpts from a research paper titled "Springshed Nutrient Loading, Transport and Transformations" by Matthew Cohen, University of Florida. These excerpts highlight the uncertainty as to the cause of the changes, the timing of when the contributing anthropogenic activities occurred due to questions regarding residency time of the water emanating from the springs, and the challenges in dealing with those unknowns to provide and implement mitigation strategies. (Sample 4 was taken at star location on 11-10-2019. All samples shown during drawdown)



Beyond the Rhetoric Continued…

"Water quality is changing in dramatic ways. Because of the intrinsic vulnerability of Florida's karst geology to contaminant transport, this fact is well documented. What is perhaps not as well documented is the uneven manner in which water quality is declining. Much emphasis on nitrogen (in nitrate form) enrichment has ensued from as much as350-fold increases above background concentrations in some springs; overall, spring nitrate concentrations appear to have increased by a factor of 10. In contrast, phosphorus concentrations have not markedly increased, presumably due to high exchange capacity with the limestone matrix. Other water quality parameters have also changed; hardness appears to have increased systematically since the 1970's, perhaps a signal of changing subsurface flowpaths that deliver increasingly old groundwater. Similarly, dissolved oxygen concentrations have declined since the 1970's, in many cases crossing ecologically significant thresholds (~ 1.0 mg/L); this cause for this decline is unknown, but may also be related to the age of the water emerging at spring vents. Finally, regular observation of trace quantities of pharmaceuticals and other chemical by-products of modern society (e.g., DEET, caffeine) illustrate the degree of connectivity between the groundwater and nearby human activities."

Beyond the Rhetoric Continued…

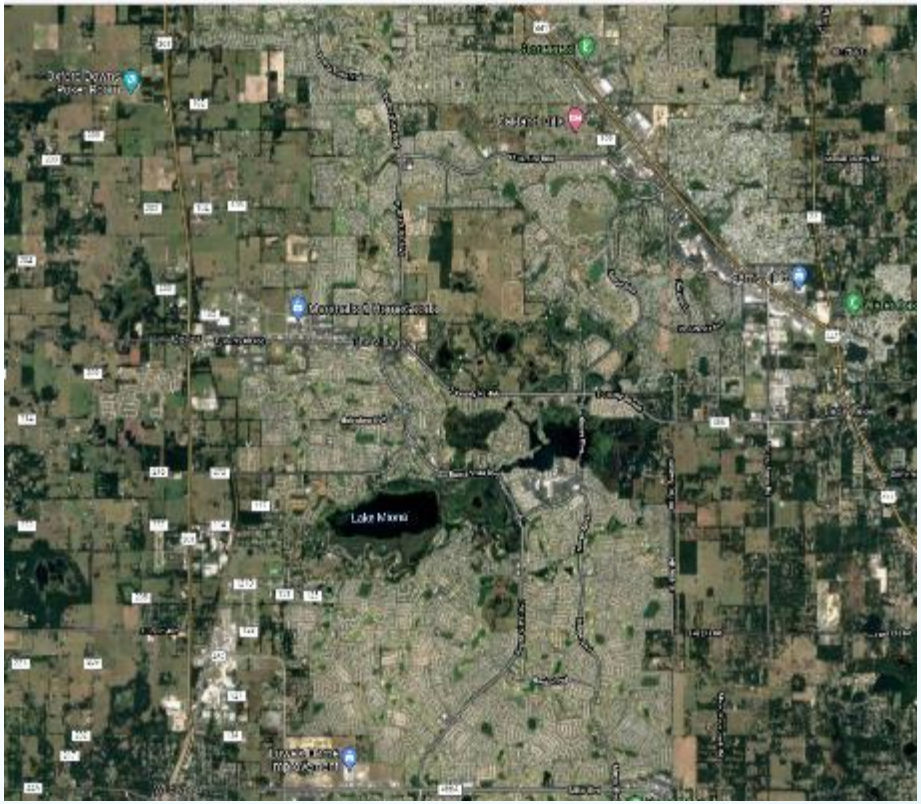


Figure 33 – Concordance between springshed development and observed NO3-N

Concentrations in Silver Springs (Munch et al. 2006). The strongest signal appears to be from urbanization since agricultural lands decline in importance over the period of record.

"In less than 15 years from now, the three-county, Marion, Lake and Sumter, population total is projected to climb past 1 million, according to a LawnStarter analysis of forecast data from the University of Florida's Bureau of Economic and Business Research. To be precise, the three-county population is expected to rise from 788,020 in 2015 to 1,043,803 in 2030, our analysis shows. That would represent a population spike of 32.5 percent."

The population growth and the impact trends are of significant concern.

Beyond the Rhetoric Continued…

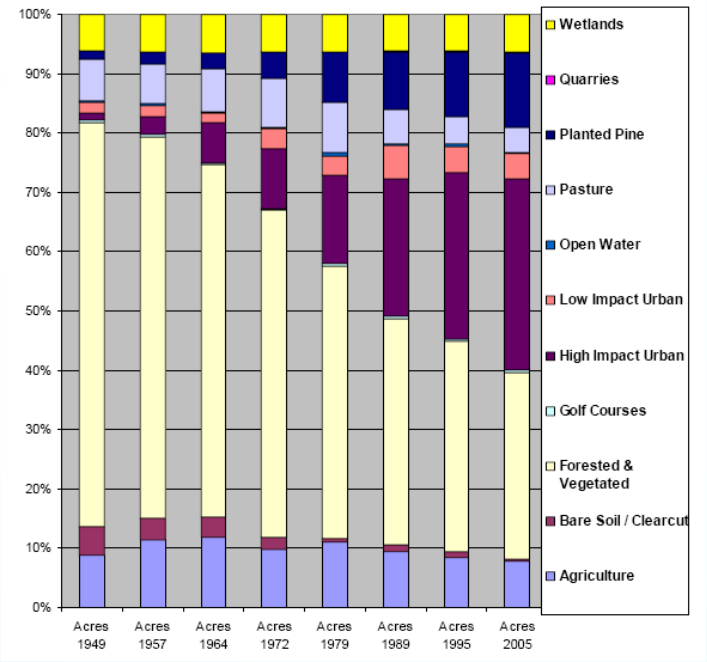
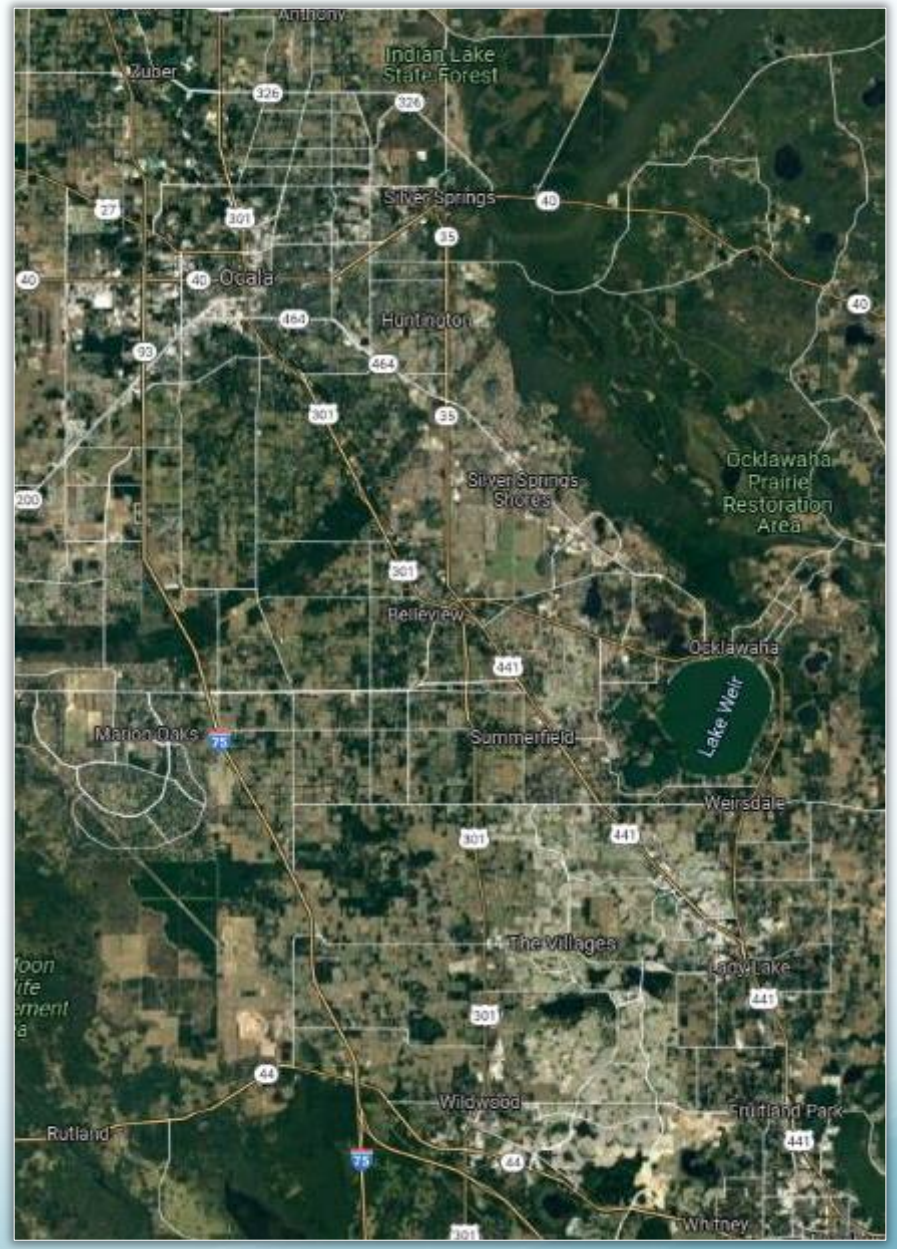
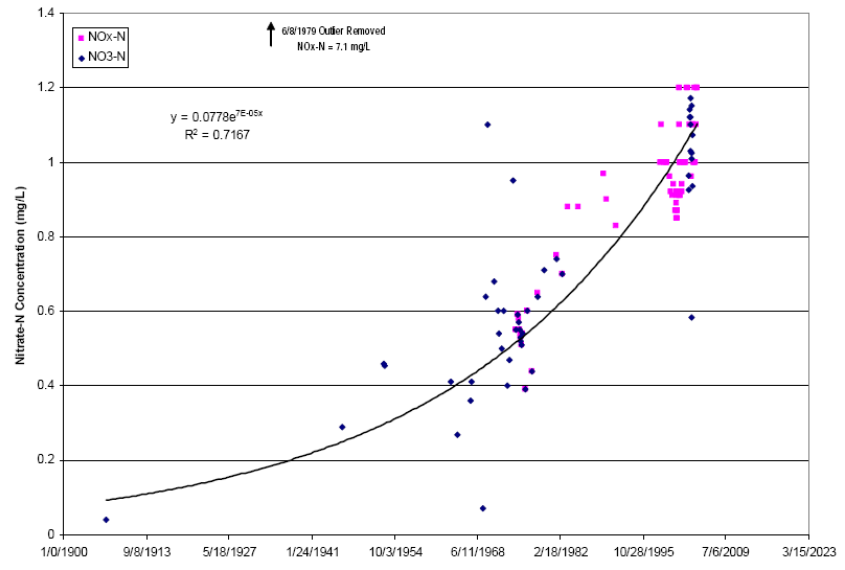


Figure 33 – Concordance between springshed development and observed NO3-N concentrations in Silver Springs (Munch et al. 2006). The strongest signal appears to be from urbanization since agricultural lands decline in importance over the period of record.



Beyond the Rhetoric Continued…



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Beyond the Rhetoric Continued…

"Lands for holding or storing water are desperately needed because the only short-term solution to the algae crisis is to capture large amounts of fertilizer-laden (nutrient-sic) water and cleanse it with wetlands and natural processes in new water retention and storage areas. Analyses have shown that more water storage and treatment is needed. Funding limitations have prevented state acquisition of lands for that purpose."

(fladefenders Posted on September 20, 2018 at 2:40 PM https://fladefenders.org/category/legal-actions/)

Beyond the Rhetoric Continued…

Then there is the largest group that continues to work for the dam's removal, The Florida Defenders of the Environment. It seems quite ironic that their staunch opposition to retaining Rodman is in direct conflict with their stated goals of a lawsuit they have filed against the State of Florida. This suit aims to have more of the revenues collected from the Florida Forever funding approved by Florida voters in 2014 election, Florida Constitutional Amendment 1, spent for creating reservoirs like Rodman and Lake Ocklawaha. Their web page says in part, "If the order were reinstated pending appeal, as much as $600 million per year would be freed up to acquire lands to address the algae crisis throughout Florida". Rodman should be the poster child for how these systems effectively filter nutrients and function with the side effect of creating unique ecosystems and environments.

Beyond the Rhetoric Continued…

In the case of the Rodman Complex, you already have that facility defined above, alive and well and functioning, reducing nutrients through natural processes.

How can these two positions by FDE be reconciled? Believe me, we've asked, repeatedly, only to be told "you just don't understand', "you'll never understand", "your mind is already made up so I'm not going to waste my time". Dubious responses at best as explaining the unexplainable is, well, unexplainable we suppose.

Why retaining Rodman should be supported by All Floridians.

The Rodman Complex supports a wide variety of threatened and endangered species as well as a diverse community of native fish, wetland plants and land mammals. Manatees are abundant and have been seen and photographed year round. The abundant food source as well as the warm water current in the Ocklawaha River historic channel and barge canal channel provide access to Silver Spring, Blue Springs, Cannon Springs and the upper Ocklawaha.

Fish stocks are plentiful and the bass fishing is phenomenal, with Lake Ocklawaha listed as the best fishing lake of the decade by Bass Masters. Those who wish to see this dam destroyed along with the entire ecosystem that has evolved around it in the half century of its existence seem to look at anglers, specifically the bass fishing community as a pariah. The bass fishermen and women who fish the tournaments here and throughout the state provide significant funding through donations to charities and nonprofits to the tune of hundreds of thousands of dollars annually. Rodman supports these tournaments and in the current season of the FWC's Florida Trophy Bass program which tracks catches 8 pounds and bigger statewide as a way to gauge the health of Florida's lakes and waterways, Lake Ocklawaha has over 800 confirmed entries this year alone, proving it to be a healthy fishery.

The camping, hunting, bird and wildlife viewing is impeccable and unrivaled regionally. People travel from all parts of the US and the world to enjoy the opportunities this unique facility presents. Add in the potential to install a hydro-electric generation facility at the dam and it's an opportunity to provide maintenance and enhancement funding for the entire Greenway far into the future while providing clean, renewable, green energy.

The Future Improvements

Things we'd like to see in the future at Lake Ocklawaha include the reopening of Kenwood Campground. An observation deck on the point west of the dam. A Kayak launch and dock on the north side of the dam as well as a slide system to make traversing the dam with a kayak easier, then add a kayak launch on the downstream side of the dam. Protection of the great ecosystem that has evolved because of the dam protected in perpetuity and recognized as a regional wildlife and aquatic preserve and manatee refuge and lastly, recognition that the 21 billion gallons of fresh water stored at 20 feet above sea level may be an important factor and resource for drinking water should sea level rise projections come to fruition.