

LOWER ST. JOHNS RIVER (LSJR) TECHNICAL ADVISORY COMMITTEE (TAC) MEETING
Friday, July 16, 2021
10:00 AM – 12:02 PM
[Via Teams](#)

MEETING SUMMARY

Attendees

Jessica Beach, St. Augustine
Katie Bizub, JEA
Russel Brodie, FWC
Derek Busby, SJRWMD
Tiffany Busby, Wildwood Consulting
Ed Cordova, JEA
Barry Cotter, COJ
Darrell Damrow, CCUA
Dean Dobberfuhr, SJRWMD
Kristen Farrell, Jones Edmunds
Kelly Flowers, Jones Edmunds
Alan Foley, Jones Edmunds
Celeste Goldberg, CCUA
Madeline Hart, FDACS
Cori Hermle, FDACS
Mike Hollingsworth, USACE
Brian Icerman, Jones Edmunds
Tricia Kyzar, Wildwood Consulting

Kevin Ledbetter, CCUA
Bill Lucas, SWIG
Jim Maher, DEP
Lori McCloud, SJRWMD
Mark Merkelbach, SWIG
Margo Moehring, NEFRC
Geoffrey Sample, SJRWMD
Stacey Simmons, FDACS
Kelly Smith, UNF
Jennifer Sagan, Wood
Lucinda Sonnenberg, JU
Jason Sparks, St. Johns County
Eric Stoermer, SWIG
Eric Summa, USACE
Steve Swann, Atlantic Beach
Riley Timbs, SJRWMD
Pam Way, SJRWMD
Heather Webber, CCUA

Welcome and Introductions

Pam Way, St. Johns River Water Management District (SJRWMD), welcomed everyone to the meeting.

Hybrid Wetlands Treatment Technology (HWTT) System in the Tri-County Agricultural Area (TCAA)

Maddy Hart, Florida Department of Agriculture and Consumer Services (FDACS), presented on the Deep Creek HWTT system in the TCAA. The presentation began with a discussion of HWTTs in general. HWTTs are a water treatment system comprised of wetlands and chemical methods (possibly coagulants). This can reduce costs for the chemical process and uses less land. Also, the system is made up of vegetated and non-vegetated zones that use both floating and submerged plants. When chemicals are added to the system they can create "flocs." These may be passively or actively reused and allow for additional total phosphorus (TP) removal without additional chemical treatments.

Maddy explained that HWTTs can be installed in existing stormwater or wetland systems so they have a smaller footprint compared to conventional wetlands systems, such as Sweetwater Wetland Park in Gainesville. HWTTs can also introduce new habitat or restore existing habitat that can provide additional environmental benefits.

The Deep Creek HWTT came online in 2016. The system was in testing mode at that time, so they don't have full data for the 2016 period. The project is located east of Hastings and is connected to both the Deep Creek and Sixteen Mile Creek basins. Maddy showed a map of the system and reviewed the inflow, outflow, and multiple ponds that comprise the system. The system includes contact ponds, settling ponds, floating aquatic vegetation (FAV) and submerged aquatic vegetation (SAV) ponds, and a floc drying bed for removed floc. Maddy also provided a map of the location within the LSJR Main Stem Basin Management Action Plan (BMAP) which shows the Deep Creek HWTT in southeastern area of the BMAP. The system is between Deep Creek and agricultural fields; the project mostly provides treatment for water from the agricultural fields.

For total nitrogen (TN) and TP removals, Maddy shared a table that showed inflows and outflows for the periods spanning 2016 through 2020. This indicated a total TP removal of 15,733 pounds per year TP and a total TN removal of 55,126 lbs/yr. Data for 2021 were not available yet and are still in review. Data on this project are also included in the Florida Department of Environmental Protection (DEP) Statewide Annual Report (STAR). Maddy noted that the project reporting is performed on the state fiscal year (July – June) while the STAR report is based on a calendar year, so the two results in the two reports will not look the same. Maddy noted that this is one of the newer HWTTs that FDACS operates. There is another in Central Florida while most of them are in the Lake Okeechobee Basin.

Maddy took questions from the audience.

Kelly Smith asked what type of floating vegetation you use in the system. Maddy said that she was not sure but would find out and report back.

Jim Maher asked if the flow across the system was all rain-driven and what was the amount of flow that provided the removals noted. Maddy responded it is both rainfall driven and pumped in from the Deep Creek inflow and that the flows vary year to year. She also noted that the 2019 to 2020 flow averaged about 4,300 gallons per minute (gpm). Flow into the system is rainfall-driven and then augmented through pumping. Jim also noted that he is interested in both the FAV and SAV plants used. Maddy responded that she would find out and provide that information to Tiffany Busby so she could share it with everyone.

Dean Dobberfuhl asked how the removal efficiencies hold up over time and do you have any data on this. Maddy responded that they do have some long-term data from systems in the Lake Okeechobee Basin and that they seem to retain their efficiency if they are maintained. She added that sometimes the systems can be overwhelmed with significant rainfall, but when the systems are properly maintained they seem to perform well. She added that these systems are funded by the Florida Legislature, the members of which are also interested in the results. Lucy Sonnenberg had asked in the chat, "Do you see removal capacity stays stable over time, with the older systems?" Tiffany asked Lucy if Maddy had answered her question. Lucy responded that it did answer her question.

Alan Foley with Jones Edmunds, the design engineers for Sweetwater Wetlands Park, noted in the chat that to clarify the size comparison with Sweetwater Wetlands Park that it is an "inline"

system as opposed to the Deep Creek HWTT which is an "offline" system. Also, the Sweetwater project was designed to handle 100-year flood events and provides tertiary treatment for municipal wastewater, in addition to handling stormwater from a good portion of downtown Gainesville. Tiffany asked Alan if he wanted to speak further on his comment. He added that Sweetwater--as an inline system--cannot avoid receiving flow, so it must be much bigger, compared to Deep Creek (East) HWTT which can avoid receiving flow if you turn off the pumps. Also, since Sweetwater is discharging to Paynes Prairie, it must meet certain nutrient criteria, so is sized to meet all of those requirements.

Lori McCloud asked what are the typical annual operational costs. Maddy provided that from the 2019-2020 report it was about \$200/lb of TP removed, and that operations and maintenance were about \$2 million.

Alan added that, "For comparison, the Deep Creek East 2017 removal numbers are in the same ballpark (according to the 319 report) as the St. Johns County Masters Tract facility (pond, wetland) across the creek to the west."

Pam asked Maddy if there was another report that documents the operation, cost, and performance of the HWTT, other than the DEP STAR report. Maddy responded that she did not know of one, other than the reports they receive from the contractor, but is not sure if FDACS posts those reports on their website. There are reports that go over the efficiencies and those may be on the website. Alan added that it would be interesting to do a comparison of the costs among Deep Creek, Sweetwater, and Masters Tract. Tiffany added that in the STAR, usually DEP tries to show longer term average reduction so the project reduction represents the overall reduction to the river instead of the yearly values, which vary. She added that they see that especially with street sweeping values because they know those vary from year to year like rainfall changes from year to year, so just recall that STAR reports are generally overall reductions and may not provide the calendar year reduction number.

Lucy wanted to know what are the maintenance procedures for the project because the cost is significant. Maddy responded that the amount of chemicals can influence the costs, as well as draining any of the ponds, sediment removal, or taking the flocs offsite when they are removed. Additionally, the Florida heat can deteriorate equipment so there are replacement costs. The costs also include the reporting costs. Lucy followed up asking if the aquatic vegetation has to be maintained--such as replanting--or does it self-maintain. Maddy responded that she believes the planted areas have to be replanted at some point.

Bill Lucas asked what the size of the entire facility is. Maddy is working to find out the size and will provide that once she finds it. Pam volunteered that this was originally SJRWMD property and they can't say how much of that property is in use by the HWTT, but the district's property was about 60 acres. Derek Busby offered that the preliminary design plans for the HWTT indicated a total acreage of 64.33 acres and that this appears to include impervious and water surfaces.

Bill also asked if the \$200/lb represent the net present benefit cost of installation and operations and maintenance. Maddy responded that she believes it does based on the table in the contract.

Tiffany asked if the inflow concentrations vary quite a lot and does the contractor measure them. She asked if the concentrations dropped a lot would the system still work. Maddy responded that yes, per the table she displayed, it is measured daily and the concentrations vary quite a bit. The question was asked how frequently the inflows are measured. Maddy responded that she believes it is continuously monitored because she does not believe staff does any measuring, and the table indicates how long the system has been online over the last 366-day period, which at the time of the meeting displayed 354 days.

Maddy asked if she could follow up on some of the questions during her presentation to which she has found answers. She relayed that the contractor states with appropriate maintenance the HWT systems can last 50 years. Vegetation is typically stocked with water hyacinths for the floating vegetation and guppy grass for the submerged vegetation. She added that there is a chance for invasives to come in but with the way the ponds are separated they can't really go anywhere. Also, there are continuous measurements but there are also sometimes weekly or bi-weekly samples that are taken and analyzed.

Doctors Lake Septic-to-Sewer Project

Brian Icerman, Jones Edmunds, presented on the Clay County Utility Authority (CCUA) Doctors Lake Septic-to-Sewer project. This project was funded under legislative appropriations and administered through a SJRWMD grant. Doctors Lake has a total maximum daily load (TMDL) and septic systems are a big part of that, so the goal is to move the wastewater from septic systems onto centralized sewer. The funding was a 2018 legislative appropriation of \$1.5 million, administered through a SJRWMD cost share agreement. The funds cover design and construction, inclusive of homeowners connections, and required 50% homeowner participation. The project location includes parcels on Windwood Lane, Eagle Bay Drive, Woodveil Lane, Inlet Lane, and Quail Run Lane / River Place Lane on the northwest side of Doctors Lake. Due to the low number of properties, adverse grade and narrowness of the streets, the project design called for the use of grinder pump stations, small diameter transmission mains, and service laterals and stub-outs. The septic tanks were abandoned as needed. Challenges of the project included narrow, private roads, some of which were stamped concrete. Other challenges included the homeowner sign up, which required them to hire the plumber to do the homeowners' side work themselves. Homeowners are required to get three quotes to keep costs down. Brian said that eighty-five percent of homeowners signed up.

He also noted that current project status is that the design is complete, bids for work in the rights-of-way opened on July 14th, and they expect construction to begin this fall. Project updates are available on the CCUA webpage (www.clayutility.org) and that outreach is so important to CCUA that this project is presented on the utility's homepage. Brian noted that they've had at least four public meetings so far, with another scheduled in the near future. This project also has several future phases to perform similar projects. Brian expects most of the future projects will include grinder pumps again because of similar project area characteristics. At least one future project will require a lift station to get everything pumped back to the wastewater plant.

Brian provided current project estimates of expected nutrient reductions including 1,700 lbs-N/yr for the current project and 6,000 – 8,000 lbs-N/yr for future projects, assuming 90% participation. This could remove up to 9,000 lbs-N/yr from Doctors Lake if all systems are removed, about 450 homes.

Brian took questions from the audience.

Eric Summa asked, “How was the 2-inch line determined to be sufficient? Any concerns over maintenance of the line or the pumps?” Brian responded the 2-inch lines were modeled with the CCUA main line system and with the worst case of all the streets, including the elevations and flushing connections for maintenance. Based on these efforts, the 2-inch lines were preferred because the next line up that CCUA maintains is 3-inches and you may have maintenance issues if you try to flush a 3-inch line because you wouldn’t get as good a scour velocity.

Steve Swann asked, “Are all these septic tanks failing or are the loads to Doctors Lake based on properly functioning systems?” Brian responded that the load equations are based on properly functioning systems. They do not have enough data to estimate actual loads.

Tiffany asked if fats, oil, and grease (FOG) are problematic with the lines and the grinder pumps. Brian responded that he is not sure and would need to ask a design engineer.

Eric asked how the homeowners were incentivized to participate in the project. Brian responded that the grant includes homeowner connections. Money has been set aside for the homeowners' property work. When the homeowner side work is completed, they can submit their invoices and be repaid. Also, if the homeowners are using a CCUA-approved provider, the contractors are allowed to invoice CCUA directly, so the homeowner never has to outlay the cash, although they are responsible for hiring the plumber and overseeing the work. There is a \$15,000 allocation per lot that is intended to be used by the homeowners for the private connections and impact fees. Brian explains this is why you see such high homeowner participation. Tiffany noted that homeowners were likely to realize that their septic systems were going to need to be replaced soon, so accepting a new monthly bill was likely a reasonable trade-off.

Derek Busby noted that he felt CCUA and the consulting team did a really good job of public outreach, including that homeowners were able to speak one-on-one with people if they had questions. Derek also noted that this was the only project the district has been involved in where the impact fees were covered in the funding and felt that helped encourage homeowner signup and helped CCUA be able to participate more fully.

Lucy wanted to follow up on the interest in water quality and asked if any long term monitoring was planned to see if there are any water quality improvements, and what are the impairments in Doctors Lake. Brian responded that he does not know of any other monitoring plans other than current monitoring and doesn’t think the impairment is for fecal bacteria but would have to look it up because the project is focused on nitrogen removal.

Brian thanked everyone for having them present and for attending. Tiffany added that she wanted to thank Teri Shoemaker at CCUA who worked with her to get Brian set up for the

presentation. Brian added that the CCUA team was outstanding to work with and made the public outreach meetings run smoothly.

Tiffany added that Teri recently moved from the St. Johns County Utility Department to CCUA, and that Heather Webber used to be at DEP and has recently joined CCUA as well. Tiffany asked if Heather wanted to introduce herself and her role at CCUA. Heather responded that CCUA created a new position, Environmental Compliance Manager, they felt the position was useful to take some of the work off of the water and wastewater superintendents because of how fast Clay County is growing, and that is her new role at CCUA.

Advanced Phosphorus Effluent Removal at Fleming Island Regional Wastewater Treatment Facility

Mark Merkelbach, SWIG (Sustainable Water Infrastructure Group, LLC), wanted to thank Teri Shoemaker as well for inviting him to this meeting and presenting on the Fleming Island project. Mark said the project is about advanced phosphorus removal, part of a SJRWMD project through an innovation technology grant that was issued in 2019 to demonstrate new phosphorus recovery technologies. He will walk the audience through the project and show where they are today at roughly their one-year anniversary.

SWIG is a nutrient removal company. They have projects in Florida, Louisiana and Virginia and are really focused on areas with big drivers for nutrient removal to help meet TMDLs.

Doctors Lake Advanced Phosphorus Removal project is within the Fleming Island Regional Wastewater Treatment Facility, which is owned by CCUA, and the project is funded by SJRWMD. This is a unique project in that it is pay for performance. SWIG funded the up-front costs and managed the operations. They actually own the facility and invoice the client (SJRWMD) on a monthly basis for pounds of TP removed. The project currently has funding through 2023 and was designed for an extra five-years or more of operation.

The system was designed to fit within the existing stormwater ponds within the water treatment plant. The plant had excess treatment area, so SWIG was able to install within the existing ponds. The facility is a little over an acre in size and is designed to remove about 4,000 pounds of soluble phosphorus per year.

Wastewater from Fleming Island enters the plant on the downstream side of the sand filters. Next, they pump water from the sand filters to the treatment beds where it is distributed over the beds with a short contact time of approximately 30 minutes. After the contact process, the water gets pumped back to the treatment plant where it gets chlorinated and then distributed as part of the reuse system. Mark added that Doctors Lake has experienced harmful algal blooms 34 out of the past 36 years, which was part of the reason an innovative phosphorus project was considered.

Mark presented a map that showed where the facility is located on Fleming Island within the facility. Mark then walked through the steps of the process referring to it as bioswale on steroids. He indicated that the facility effluent is pumped in after going through sand filters and is cycled through six cells over a period of 24 hours. He noted that this is not a true wetland system because it never goes anaerobic. It's all aerobic and is just passing water through the first layer of

media, which is about 12 to 18 inches in depth. There are amendments which absorb phosphorus. At the bottom is an underlayment which collects the water and sends it back to the plant. The beds are vegetated, which maintains porosity to push up to six feet of water per day through the media. The wetland plants create macro pores which help maintain porosity. There is a manifold around the system which rotates which cells are on or off.

Mark discussed how the facility is built and described each of the layers. He shared that they have to meet all the same requirements of the facility and the National Pollutant Discharge Elimination System (NPDES) process. They will be going through some vegetation removal in a few weeks. They collect daily composites seven days a week and use this to calculate the phosphorus removal and to support the invoices. Everything is able to be monitored and operated remotely.

Mark says the Phosphorus Elimination System (PES) is a series of filter layers that pushes water through the layers and are able to remove a majority of the soluble phosphorus over a short period of time. They mostly rely on plants to maintain the porosity even though they do provide some phosphorus removal. The media can be designed for up to 20-year lifetime. Mark says they are often asked how they know how long the media will last. They are able to determine this based on the combination of amendments and how long the media can maintain low concentrations after retaining high TP. They are able to keep track of how the media is doing, including taking samples, so they can see if the facility is on track with performance estimates. Mark says they are on track with estimates at their one-year mark, which means they have maintained over 90% removal, and they expect phosphorus removal to remain in the 80% range over 5 years.

Mark then presented annual results for the past year. This included the variability of phosphorus entering the system. He indicated that after an issue with fouling of the collection lines was resolved, they were averaging less than 0.060 milligram per liter (mg/L) outflows with 92% phosphorus removal.

Mark said they are often asked what they do with the plants and how they manage the biomass. He indicated that there is a bi-annual plant stalk removal but they retain the roots so they can regrow, and when the media are removed, they are reused as topsoil amendments.

Mark then reviewed the highlights that make this an innovative system. It is able to remove high levels of phosphorus in a small footprint in very little time. The system is resilient to floods and can be turned off during harsh weather. It is considered "Marsh Ready" because there are no chemicals, it is built at or below grade, is passive, and can be remotely monitored and operated.

Mark took questions from the audience.

Kelly Smith asked what wetland plants are used over the media. Mark responded that they started out with a pallet of seven different species including juncus, canna lilies, and spartina, and the canna lilies were the only one able to out-compete the other species. Kelly asked what role the root plays. Mark said they want clumping, deep rooting species because they want the roots to penetrate the full vertical column to create pore spaces.

Jim Maher asked what is in the media that is absorbing the phosphorus and is it inert enough to be used in the aftermarket, or do you have to process the media before reuse. Mark said their base media is water treatment residuals (WTR), treated with alum and then that sludge is combined with additional amendments. The WTR accounts for the majority of the adsorption in their media treatment blends. For the reuse question, the media does not need to be reprocessed but probably needs to be cut 3:1 with topsoil and then reapplied in gardening or field applied in agricultural settings. Mark added that biosolids have mobile phosphorus that leaches, but their media has immobile phosphorus, so it serves as a better amendment to surface soils. Jim asked if it would be treated similar to AA biosolids. Mark responded that it would not need to have that level of regulation as there are no contaminants or organics, so would not have to pass that stringent of a requirement.

Derek asked what the fate of the removed vegetation is. Mark said they work with a removal company that sends it to a compost facility.

Cori Hermle provided the project blog address in the chat: <https://www.swig-llc.com/doctors-lake-enhanced-phosphorus-removal>.

Riley Timbs asked what happens to the longevity of the system if there are no plants there to maintain porosity. Mark answered with the big, nutrient rich, exposed system, there is no way to exclude plants from the system, and they may use natural recruitment to vegetate the system. He added that while the plants will remove a portion of the phosphorus, they believe there is a symbiotic benefit between the plant roots and microbes.

Kelly commented that if the seed bank contains invasive plants, plantings may be better even if it is more expensive. Mark said they are tracking the plantings and at present there is nothing noxious or invasive.

Technical Updates and Announcements

- SJRWMD Update – Lori McCloud announced that she has stepped into John Hendrickson’s position, and she wanted to introduce Riley Timbs who had joined the district and will be the water quality person for the Lower Basin. She added that they are continuing their ambient monitoring network in the Lower Basin for water quality, sampling typically is still monthly, and they are coordinating with DEP on the algal sampling. This sampling is twice a month. Also, the Lower Basin SAV survey is wrapping up for this year. Things are looking like they are starting to come back. Derek Busby mentioned that in terms of their cost share program they are working on a tool to identify areas that might be most appropriate for the septic-to-sewer projects and if anyone is interested in the upcoming cycle for the end of the year, they are looking for applicants to use the new tool. If interested, contact Derek.
- Tiffany added that there have been some other retirements that have taken place during the Covid era – Dr. Sherry Brandt-Williams, Dr. Rolly Fulton (who worked on the Upper Ocklawaha Basin), and Casey Fitzgerald (who worked on a lot of things, but springs most recently). Additionally, Hector Herrera (Upper Basin) is retiring at the end of this month. Also, if you have suggestions or ideas for presentations, please let Tiffany know.

- DEP Update – Jim Maher relayed that DEP has a new Interim Secretary--Shawn Hamilton. Shawn had been the Director of the Northwest District DEP regulatory office in the Florida Panhandle and spent a couple years as the Deputy Secretary for Land and Recreation (including the state parks). Jim added that an important topic coming up is Senate Bill (SB) 64. This new legislation requires all surface water dischargers to determine how they can stop discharging to surface waters. Jim mentioned that the NPDES was designed to remove surface water dischargers. All utilities that have surface water discharges that are considered not beneficial are subject to this bill. These entities will need to provide by November 2021 a plan to cease discharge and to go to reclaimed water or to become an indirect recharge of an aquifer that can be used as a drinking water source. This plan is due to Jim's office for their review and approval by November 2021 with the goal to eliminate not beneficial surface water discharges by January 2032. Bill Lucas mentioned that reuse water is very high in nutrients and asked if there are any plans to regulate these flows. Jim responded that the legislation is specifically aimed at domestic wastewater facilities with surface water discharges. Jim also added the U.S. Environmental Protection Agency (EPA) is putting a lot of emphasis on environmental justice, so DEP is trying to see how they can be more proactive in this area. Jim says that his office is working on an environmental justice web page and they are looking for environmental justice partners, including the Florida Brownfields Association and Groundwork Jacksonville. They are looking for ideas including an environmental justice screening tool to find where environmental impacts are having disparate impacts on communities that have been underserved. The screening tool will be ArcGIS-based and data driven. Stay tuned for more information. Councilwoman Pittman (City of Jacksonville) reached out to Jim and was concerned about some news reports in which some infants had died in retention ponds and wanted to know if there was more DEP could be doing about this. Jim said they have had one meeting with the DEP stormwater folks and will likely have another one. At present the only rules around protection are if the stormwater pond is 4:1 slope then you are required to have security fencing. They would like to brainstorm for more ideas. If you have any thoughts, please share them with Jim.
- U.S. Army Corps of Engineers (USACE) Update – Mike noted that they currently have three dredges that are getting in the way of water quality sampling efforts. The first one is the Jacksonville Harbor deepening. This is about halfway through their third and final contract which will be finishing up sometime next summer. It is currently working in the Blunt Island terminal area. Also, they have a dredging project in the Mayport area and the Mayport Naval Air Station training basin, and are continuing their monitoring efforts for salinity which are taken every 30 minutes. This is managed by the U.S. Geological Survey (USGS) and the data are available on the USGS site. The annual report will be posted to the USACE site soon and Mike will send the link to Tiffany for sharing with the group. SAV and wetland monitoring are also ongoing, and they are about to post the year four annual report. The principal investigator is Jennifer Sagan. Russ Brodie with the Florida Fish and Wildlife Conservation Commission (FWC) is conducting the fisheries sampling and USACE will be posting those reports as well. Mike noted that the construction on Mile Point was completed four years ago and they were able to complete the marsh planting in October. The report will be out soon. The planting was successful and it was enjoyed by a large flock of Canadian geese. The site will be monitored for five years. The USACE is currently doing a feasibility study on Fort George inlet and modeling sediment dynamics to see if there are any measures to help with the erosion and sedimentation in Fort George River. Lastly, the Big Fishweir Creek

Restoration project is in contract advertisement phase and the Florida Department of Transportation (FDOT) asked that they not do any sediment removal around the Herschel Street Bridge just yet.

- Fisheries Independent Monitoring – Russ provided an update that they continue with their monthly fisheries sampling in northeast Florida (Nassau, St. Marys and St. Johns rivers). They are continuing work with the USACE to do some select monthly sampling in tributaries along the St. Johns River, including Mill Cove, Trout River, Arlington River, and the Ortega River. This has been ongoing for four years and Russ thinks they can start looking at the data to detect changes over time.
- Local Government Updates – Jessica Beach with the City of St. Augustine mentioned that the city has just wrapped up a grant funded program in which they engaged the University of Florida to do a vulnerability assessment of septic systems in their utility service areas. The city found the project very informative and thought with all the septic to sewer projects and interests the group might be interested in hearing a presentation on the project. Tricia Kyzar provided a link to the project story map <https://storymaps.arcgis.com/stories/b44a8effd9d943228125c48f2c0151da>.
- Other Member Updates – Margo Moehring, with the Northeast Florida Regional Council, has added an element to their strategic plan referred to as "Cultivation." This includes agriculture, silviculture, and fisheries. They will be reaching out to area experts to help them develop the policy.
- Tiffany wanted to share the statewide stormwater rule TAC group and website (<https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/clean-waterways-act-stormwater>). Tiffany also shared the DEP LSJM BMAP storymap: <https://www.arcgis.com/apps/MapSeries/index.html?appid=f10eae3f01b245cdba8ef1d956ca966>. Next, she shared the separate Springs BMAP storymap <https://fdep.maps.arcgis.com/apps/MapSeries/index.html?appid=68b6aa46526a430189628c9319bbb02f>. She also showed the Florida 2020 Statewide Annual Report (STAR) here <https://fdep.maps.arcgis.com/apps/MapSeries/index.html?appid=07030d9388134673a538ad27455b3029>. This report includes the LSJR BMAP. These reports are posted every year on July 1st per statutory requirement. Tiffany also shared the link for the FDACS Nonpoint Source BMPs <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjJst62tfTxAhV7RTABHULjAo8QFjABegQIBBAD&url=https%3A%2F%2Fwww.fdacs.gov%2Ffezs3download%2Fdownload%2F98382%2F2665697%2FMedia%2FFile%2FAgricultural-Water-Policy-Files%2FBMP-Implementation%2F2021-status-of-bmp-implementation-report.pdf&usg=AOvVaw3v0-EFlcISHB9AXyWIYnCO>.
- Tiffany asked for feedback on meeting format, especially remote meetings and in person meetings. She will suggest some dates (probably late September, early October) for the next meeting and would like input from TAC members. Tiffany thanked the City of Jacksonville Environmental Protection Board for supporting the TAC and facilitation services so we can have these meetings.
- Next Meeting Date: To be determined. Note future presentation ideas are always welcome!

Adjournment

The meeting adjourned at 12:02 PM.