

Orange Creek Basin Management Action Plan

Basin Working Group Meeting Summary

Wednesday, December 17, 2014

1:30 PM – 4:00 PM

Gainesville Regional Utilities – Multi-purpose Room
301 Southeast 4th Avenue, Gainesville, Florida

Attendees

Sally Adkins, Gainesville	Karen Kohoutek-Luckin, FDOT
Tiffany Busby, Wildwood Consulting	Jody Lee, FDACS
Vicki Busseno, Gainesville	Laura Line, Water & Air Research
Kevin Coyne, FDEP	James Link, Alachua County
Paul Davis, GRU	Wayne Magley, FDEP
Anthony Dennis, FDOH in Alachua County	Whitey Markle, Sierra Club
Jian Di, SJRWMD	Patrick McCord, FWC
Holly Edmond, FDACS	Kraig McLane, SJRWMD
Judy Etzler, Sierra Club	David Moritz, Alachua County EPAC
Katie Hallas, FDACS	Gail Mowry, Marion County
Robin Hallbourg, Alachua County EPD	Greg Owen, Alachua County
Ryan Hamm, FWC	Bob Palmer, Alachua County EPAC
David Hamstra, Plum Creek	Mary Paulic, FDEP
Janet Hearn, ATM	Marcy Policastro, Wildwood Consulting
Robin Holland, Florida Forest Service	Buford Pruitt, Citizen
Bruce Jagers, FWC	Alice Rankeillor, GRU
Harriett Jones, Sierra Club	Andrew Roberts, Gainesville
Tom Kallemeyn, FDEP	Dave Wilson, Florida Springs Inst.

Welcome and Introductions

Tiffany Busby welcomed everyone to the Orange Creek Basin Management Action Plan (BMAP) meeting. She thanked Gainesville Regional Utilities (GRU) for the use of their meeting room. Tiffany introduced Kevin Coyne who is the new Administrator for the Florida Department of Environmental Protection's Watershed Planning and Coordination Section. The participants introduced themselves and the entity they represent.

Stakeholder Updates

Alachua County

Robin Hallbourg stated that the Envision Alachua project will be going back to Alachua County for review in February or March. The St. Johns River Water Management District (SJRWMD) cost-share program is looking for project proposals, and the county is coming up with ideas. If a stakeholder has project ideas that they would like to cooperate with the county on, they should let Robin know.

City of Gainesville

Andrew Roberts stated that the City of Gainesville is in the process of working through a proposal for the Little Hatchett and Lake Forest management plans. As the city has a better idea of the schedule for these plans, Andrew will pass along this information to the stakeholders. The goal for these plans is to determine projects along the portion of the waterbodies within the city to help with flooding and to meet the total maximum daily loads (TMDLs). The city's sediment trap project on Tumblin Creek is moving

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forward, and the city has a potential easement for the project. The sediment trap would be in a good location to help rehydrate wetlands in this area. The city is waiting for the final approval from the property owner on the easement before moving the project from 60% to 90% design. This has resulted in a slight delay in the project schedule. This project may also impact the Innovation Square District because there have been discussions about straightening out the pipe along Southwest 5th Avenue and adding a stormwater system. Paul Davis noted that there is a pipe where Tumblin Creek reaches the surface after coming out from under 5th Avenue and the hospital area. The goal of the project would be to capture the stormwater at this location. Andrew added that the city is working with the property owner on the other side of 5th Avenue because the stormwater pipe crosses their property, and straightening out the pipe would help them with development of their property. The city is waiting to hear from the developer about the costs of this project so that the city can determine what they can and cannot do on the developer's timeline.

GRU

Paul stated that as part of the Innovation Square District, GRU is implementing projects to improve the existing wastewater and water pipes, as well as add reclaimed water pipes for this area. GRU has already sliplined some of the wastewater pipes in this area, and additional work is planned as part of the renovation of the District. Paul showed pictures of the current construction in the District. Stormwater vaults have been added and are planned. GRU has reclaimed water going to the development. Bob Palmer asked who is paying for the Innovation Square District infrastructure. Paul responded that a lot of the infrastructure is being paid for by the University of Florida. Andrew added that the City of Gainesville and GRU are also partners.

Paul stated that GRU recently invested in a camera system that can go up into the wastewater laterals to look for problems, which will help to minimize wastewater leaks. GRU received a \$200,000 grant from SJRWMD for the Oakmont recharge wetland project. This project will use stormwater and/or reclaimed water to hydrate the wetlands in this area.

Florida Department of Agriculture and Consumer Services (FDACS)

Holly Edmond stated that she brought a map with the updated agricultural enrollment. FDACS currently has about 6,000 acres, representing 28 different farms, enrolled in agricultural best management practice (BMP) programs. Holly noted that it is difficult to enroll smaller farms in the BMP program, and there are mostly smaller farms in the basin. It takes a lot of time for the FDACS field staff to convince smaller growers to enroll. Jody Lee added that FDACS is in the process of hiring two field technicians to help with enrollment in this basin. The new staff should start in early 2015, and they will be able to help spread the word about the FDACS BMP program and to enroll producers. FDACS also now has cost-share funding for this area, which should also help with enrollment. FDACS is almost out of cost-share funding, so they put in a request for additional funds to implement more projects.

Holly stated that the FDACS BMP programs are meant for commercial agriculture. In the Orange Creek Basin, there are a number of non-commercial equine farms that would not be appropriate to enroll in the FDACS program. The Department has an equine BMAP manual for hobby farms, which may be more appropriate than the FDACS equine BMP program in this area. Buford Pruitt asked what acreage within the basin would be considered commercial versus hobby farms. Holly responded that she was unsure of an exact acreage. In most areas, the majority of agriculture is commercial but in some areas, such as

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Marion County, there are smaller farms. FDACS field staff will have to go out to each farm to look at the amount of land and the number of horses to determine if they should implement FDACS BMPs, which are designed for agriculture on a commercial scale. Jody added that the new technicians will help FDACS gather more information about the farms in this area. Buford asked if FDACS will achieve 100% enrollment. Jody responded that the goal is always to achieve 100% enrollment but FDACS will rarely achieve 100% because there will always be a few producers who will not enroll. Holly added that another reason 100% enrollment is not achievable is because the land use coverage does not always match what is actually occurring. Jody noted that commodities on a farm do change over time, producers will let some of the land go fallow for years at a time. Buford stated that he asked the question because the forestry enrollment was about 95%, and it would be good to have a reasonable target for enrollment of the rest of the agricultural lands. Jody responded that the BMAP implementation includes a programmatic target of 60% enrollment over the next five years. Even if a producer is not enrolled in the BMP program, it does not mean that they are not implementing the appropriate BMPs.

Whitey Markle asked how FDACS knows when an operation changes what they are growing. Jody responded that FDACS would like for the growers to contact them but that does not always happen. While FDACS staff are in the field, they follow up on any changes they see to determine if the grower changed their crop or if a new grower owns the land. FDACS also has the Implementation Assurance Program to follow up with the growers. Judy Etzler stated that she used to work for a drip irrigation company, and the growers are always trying to figure out the bestselling crop to grow for that year, so she understands the changes on the farms. Bruce Jagers asked if the BMPs go along with the property when it changes ownership. Jody responded that FDACS will enroll the new owner in the FDACS program, and explain to them what the past owner was implementing.

Next Steps after BMAP Adoption

Mary Paulic stated that she provided a handout with some language from the BMAP. The BMAP was adopted in July 2014, the Department did not receive any challenges. In the past, the annual updates on the BMAP were done on a calendar year basis. However, for this second iteration, the annual updates will occur around the BMAP adoption date so updates will be requested for July 1st through June 30th each year. In about May 2015, Mary will start contacting the stakeholders for updates.

Mary stated that based on the comments and concerns raised in February/March 2014 about the draft BMAP, the Department made some updates. The third bullet on the handout is the BMAP language that makes the impaired lakes the priority for this BMAP phase. The Department also included an 18-24 month timeline to identify additional projects for the lakes. Mary noted that the projects will not be completed during this timeframe, only identified. This timeline is from BMAP adoption so it is already six months into this schedule. Later in this meeting, there will be presentations about what is being planned for the lakes with the other agencies. One of the BMAP goals is better coordination between the Department and the Florida Fish and Wildlife Conservation Commission (FWC) on lake management because improving water quality might have less to do with reducing nutrient loads into the lakes and more to do with how the lakes are managed. This is especially true for Orange Lake, and the Department and FWC have already enhanced their coordination on this lake. FDACS is working on agricultural BMP implementation during this BMAP phase, and is aiming for at least 60% enrollment. Alachua County, GRU, Gainesville, and the Florida Department of Health (FDOH) in Alachua County

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have continued their bacterial work on the impaired creeks. The Department is assisting with this effort by sampling for human indicators to help identify the sources of the fecal coliform bacteria.

Mary noted that one of the major lakes, which has ongoing water quality issues is Newnans Lake. There has been some research done on the lake and experts have provided input. Mary stated that she will be working to gather information and expertise to determine what can be done to improve the lake. The loading from this lake is a source of loading to the other lakes, especially Orange Lake. Mary noted that she hopes to have some information for the next meeting. There may also be ideas in the Surface Water Improvement and Management (SWIM) Plan for the basin, which is currently shelved. In addition, Mary is working on finalizing the water quality assessment document, which was prepared towards the end of 2013. This report will be available soon.

Whitey asked what Mary meant by the SWIM Plan is “shelved.” Mary responded that the Orange Creek Basin SWIM Plan implementation is currently not a priority for SJRWMD. However, elements of the SWIM Plan may be useful for the BMAP or covered through other SJRWMD programs. Tiffany added that the SWIM Plan lays out ideas that could be implemented in the basin; however, the elements included are not required like they are in a BMAP. Kraig McLane stated that the SWIM Plan outlines an approach and potential actions for the basin but the actions are not the responsibility of SJRWMD. If there are actions the stakeholders would like to see move forward, it would help if they could link those back to the North Florida Water Initiative or Springs Initiative, since these are SJRWMD priorities. SJRWMD cost-share funding could also help with implementing projects related to either of those initiatives. The funding is focused on water quality, water supply, and water conservation projects. Kraig suggested that even if a stakeholder does not think their project will rank high on the priority list, they should submit it so that SJRWMD has it on file in case funding becomes available. Judy asked if Kraig could provide a list of the ranked projects. Kraig responded that he would send the list to Judy, and the projects are also on the SJRWMD website on the cost-share page. The projects are ranked against each other based on the pounds of nutrients removed or water saved versus the dollars spent.

Lochloosa Lake Water Quality and TMDL Update

Wayne Magley stated that Lochloosa Lake drains through Cross Creek into Orange Lake in Alachua County. The lake has a network of historical monitoring stations, some of which have been cut back recently, and the data from these stations were used to develop the draft TMDL. The Department assesses the waterbodies in the state on a rotating cycle, and the Ocklawaha Basin, which includes the Orange Creek Basin, is a Group 1 Basin. The Group 1 waterbodies have gone through three water quality assessment cycles. All three cycles used the Trophic State Index (TSI) to assess nutrient impairments in the lakes. The first cycle used the period of January 1, 1995 through June 30, 2002, and this is when Lochloosa Lake was identified as impaired. The second cycle used the period of January 1, 2000 through June 30, 2007. The most recent cycle used the period of January 1, 2005 through June 30, 2012. The list from the last assessment was adopted by the Department last year. The Department recently adopted numeric nutrient criteria (NNC), which evaluate the lakes using total nitrogen (TN), total phosphorus (TP), and chlorophyll-*a* criteria instead of TSI.

Wayne presented the historical TSI results for Lochloosa Lake by year. The TSI exceedance is based on the lake's color. If a lake's color is less than 40 platinum cobalt units (PCU), the TSI standard is 40. If the lake's color is greater than 40 PCU, the TSI standard is 60. Over the data period, Lochloosa Lake consistently exceeded the TSI. The NNC are based on annual geometric means for TN, TP, and

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chlorophyll-*a*, which are set based on the lake's color. The color in Lochloosa Lake is typically above 40 PCU; therefore, the NNC that apply are a chlorophyll of 20 micrograms per liter ($\mu\text{g/L}$), TN of 1.27 milligrams per liter (mg/L), and TP of 0.05 mg/L . These criteria cannot be exceeded more than once in a three-year period, and there are specific data requirements to calculate the geometric means. When the historical data are evaluated using the NNC, Lochloosa Lake still has a lot of exceedances.

Wayne stated that in looking at the chlorophyll-*a* trends over time, there are periods with high values. The TN data also show periodic spikes. Bob asked if there is a theory for why there are spikes in the data. Wayne responded that Jian Di evaluated phytoplankton in the lakes and found that cyanobacteria were dominant. There are periods of low water levels, which increase residence times allowing increased algal production and nitrogen fixing bacteria to add a lot of nitrogen to the lake. The biggest peaks in TN concentrations were in 2000, 2007-2008, and 2012. The data in the plots are from 1998 through 2013. There were also peaks in the TP data in 2000, 2006, and 2011. Wayne noted that the TMDL document includes regressions of the nutrient and chlorophyll-*a* data against annual rainfall and rainfall deficit (difference between the annual rainfall and the long-term average rainfall). There is a fairly strong relationship with chlorophyll-*a* and the cumulative three year deficit because the lake levels have remained low and the residence time is longer. There are also peaks in the color data, and when the color is high, chlorophyll-*a* is lower.

Judy asked what area drains into Lochloosa Lake. Wayne responded that the entire area is about 58,000 acres, and he will show a map later in the presentation. Wayne noted that he also evaluated the Secchi depth, which indicates water clarity, and it had a similar pattern of peaks and valleys over time. The data were also evaluated using annual geometric means, where there were adequate data. The chlorophyll-*a*, TN, and TP annual geometric means had the same peaks in the data.

Wayne noted that the TMDL is being developed by identifying targets using multiple lines of evidence: NNC, paleolimnological data, Central Valley lake region assessment, lake morphology approach, empirical models, and watershed loading models. For the paleolimnological data, SJRWMD funded a study in 2009 to evaluate the sediment condition in Lochloosa Lake. This report is available on the SJRWMD website. This study collected 20 cores at different stations, and five cores were selected for the paleolimnological work. The cores went back about 100 years. The TP range in the cores was 47.83-58.95 $\mu\text{g/L}$. The range for chlorophyll-*a* was 8.9-43.6 $\mu\text{g/L}$; however, the high end of this range did not go back 100 years so is not representative. None of the four other cores was above 20 $\mu\text{g/L}$, which is the NNC target.

For the Central Valley lake region assessment, lakes within this region with the minimum data requirements were used. A statistical evaluation was done using annual geometric means to calculate an upper 80th percentile with a 90% confidence that the criteria would not be exceeded more than once in a three year period. There were 35 lakes in the region that met the data requirements. Since these were not all considered reference lakes, the Department used the 25th percentile. From this evaluation, the targets were 1.049 mg/L for TN and 0.039 mg/L for TP.

The lake morphology approach used a 1983 study of Florida lakes, which included about 150 lakes. Based on surface area, mean depth, and watershed area, these lakes were filtered to 34 that fell within the ranges for Lochloosa Lake. The geometric means for these lakes were calculated following the same procedure described for the Central Valley lake region and the 25th percentile was determined. This

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resulted in a TN of 0.92 mg/L and a TP of 0.043 mg/L. Jian asked what period of time was used in this approach. Wayne responded that the data period varied depending on the information available to determine the geometric means for each lake. The timelines range from five to 50 years of annual geometric means.

The Department also used empirical models as a line of evidence. This model was a linear regression of the annual chlorophyll-*a* geometric means versus the TN geometric means. The result was a TN of 1.31 mg/L with a chlorophyll-*a* of 20 µg/L. When color is added to the equation, both color and TN explained 82% of the variance and resulted in a TN of 1.47 mg/L.

For the watershed/receiving water model, the Department worked with SJRWMD to use the Hydrologic Simulation Program – FORTTRAN (HSPF) model from the 2012 Water Supply Impact Study. The model was enhanced and calibrated for the Lochloosa Lake system. The Department is still working with SJRWMD on this model. The modeling includes two scenarios: (1) current conditions based on the period of 2004-2012, and (2) pristine conditions where all anthropogenic lands are converted back to water and wetlands.

Bob asked when the TMDL would be ready. Wayne responded that the Department will send a notice with a link to the draft TMDL in January. About a month after the notice, a public meeting will be held to discuss the draft document. David Moritz asked why it has taken 11 years after the lake was listed for the TMDL to be drafted. Wayne responded that the Department drafted a TMDL in 2002, but there were issues and concerns with the water budget. The Department was developing TMDLs based on the consent decree schedule at the time and had to move onto other waterbodies. In 2006, SJRWMD funded development of an HSPF model of the watershed and the Department collected seepage measurements. SJRWMD funded work by Dr. Brenner and others to assess sediment accumulation rates, nutrient storage in the sediments, and internal nutrient loading in Lochloosa Lake. Therefore, additional data were gathered between 2006 and 2009 to refine the TMDL. David noted that it seems as if it would have been better to have an imperfect TMDL in place to help with the National Pollutant Discharge Elimination System (NPDES) permits. Wayne responded that there are no NPDES facilities in the Lochloosa Lake basin. It is better to have a TMDL in place but there were a lot of questions about the hydrology in the original draft so the Department wanted to gather more data. Tiffany noted that at the Florida Stormwater Association conference last week, there were some people with complaints about TMDLs that were adopted with less information because TMDLs are now the NNC for those areas. Wayne added that the Department is working with the U.S. Environmental Protection Agency (EPA) to approve using some of the TMDLs as site specific NNC. While EPA approved the TMDLs, they were not approved as standards. Whitey noted that the BMAP has been in place for six years, and there still is no TMDL for Lochloosa Lake. Mary responded that the stakeholders would have a draft TMDL in the next few months.

Orange Creek Basin Interagency Process

Mary stated that the Orange Creek Basin Interagency Working Group (IAWG) includes FWC, the Department, Alachua County, Marion County, City of Gainesville, Florida Department of Transportation (FDOT), FDACS, SJRWMD, U.S Fish and Wildlife Service, and U.S. Army Corps of Engineers. The IAWG is using the BMAP process as a mechanism to bring information back to a centralized group. In September, there was a public meeting with about 200 stakeholders to explain the agencies' roles in the basin and to hear stakeholder concerns. The main concerns were related to aquatic

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plants and access to the lakes. To address the main issues raised during this meeting, the IAWG created community working groups. The community working groups will meet to discuss solutions to the issues, as the Department continues with the BMAP effort. The primary focus of the BMAP is to implement the TMDLs by reducing the nutrients going to the lakes. However, through the BMAP process, the Department can facilitate communication between the organizations working in the basin and can report on the IAWG activities.

David asked if there is no TN TMDL for Orange Lake, how it help will to reduce nutrients. Mary responded that the TP was determined to be the limiting nutrient in Orange Lake, which is why there is no TN TMDL. David asked what will occur if TN enters the system from Newnans Lake. Mary responded that the BMAP will address the Newnans Lake watershed loading to prevent this from occurring. Newnans Lake has both a TN and a TP TMDL. Most of the actions that reduce TP also address TN loading.

Mary noted that she provided a handout on the community working groups that have been identified. The Orange Lake habitat management group is led by FWC. The Highway 301 issue with the weir will be addressed by the IAWG. The herbicide workshop will be led by FWC, but no date has been set yet. A hydrology/geology workshop will also be scheduled, and the Florida Geological Survey will help with the workshop. There were questions about the airboat curfew and who should be contacted in case of a problem, and this was addressed by a letter. All nutrient/BMAP questions will come to the Department. Mary noted that the IAWG set up a website at <http://orangecreekbasin.wordpress.com/> to post documents from the community working meetings. Ryan Hamm stated that this site also has informational links and documents.

Ryan noted that during the stakeholder meeting, there were a lot of comments related to the airboat curfew. The comments ranged from the need to enforce the curfew to the fact that a curfew is not needed. Alachua County sent the comments received to the Alachua County Sheriff's Office, and they sent a letter back with contacts. This letter is posted to the website.

The Orange Lake habitat management plan community working group is led by FWC, and its goal is to create a fully vetted habitat management plan for the lake. This plan would then be in place to address habitat and access needs as issues arise. FWC would like the stakeholders involved in the process from the start so that they have full buy in to the process. FWC already held one meeting with the stakeholders, and they plan to ramp up their efforts in the spring with more meetings. This process will take at least a year; therefore, the community working group is a long-term solution. FWC has prepared an interim plan for short-term work using current funding. FWC is currently limited on large-scale tussock removal because of limited funding (only through June 2015) and lack of agreement among stakeholders. FWC's Invasive Plant Management Section will maintain two points of access to the lake: (1) Marjorie Kinnan Rawlings/Cross Creek on the east side, and (2) Mike's Fish Camp on the west side. These are considered priority level 1 trails. There are also priority level 2 trails, which will provide access for hunting and viewing: (1) Macintosh Bay/Tower to Tower Trail, and (2) Essen/PG Run. For the priority level 2 trails, FWC will do an initial cut of the trails, and will conduct some maintenance but not to the extent of the maintenance on the priority level 1 trails.

After access, habitat enhancement is FWC's next priority. They will take four sites (three known rookeries and one new site) and will use a mechanical shredder to remove tussocks from the perimeter to

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create more open area for wading bird nesting. FWC is also working on the Essen Run deep marsh restoration, which will involve mechanical removal of about 10-15 acres of heavy mud tussocks from Essen Run. The goal is to restore the natural spatterdock and submerged aquatic vegetation in this area. Jian asked if the picture in the presentation is a recent photograph of Essen Run. Patrick McCord responded that it is a picture at the entrance of Essen Run from about 2009. The purpose of the picture is to represent what habitat FWC wants to see return to this area. Judy asked if FWC will help to maintain the Mike's Fish Camp site for fishing. Ryan responded that this is a priority 1 trail for FWC, and they will fund access from the camp into the lake. Judy noted that she was there recently and she saw people cutting down trees. Ryan responded that this might have been maintenance by the fish camp. Buford noted that he hopes all five community working groups will not meet on the same night so that if someone is interested in attending more than one working group, it is possible to attend. Ryan responded that the groups will function independently of each other, and will not meet at the same time to allow people to be involved. The airboat curfew letter resolved that issue to the extent that the IAWG can address it. The Highway 301 issue will be a longer process.

Buford asked what a heavy mud tussock is. Ryan responded that there are different scales of tussocks. There are vegetation tussocks that do not have much mud associated with them. A heavy mud tussock has a lot of mud associated with it. The tussocks can develop all the way into a tree island, which would be a very heavy mud tussock. Patrick added that this description is meant to represent tussocks that are not just floating mats of vegetation. Sometimes after a lake level rises, wind and wave action will dislodge mud from the lake bottom. Vegetation will then grow on this exposed mud. The majority of tussocks that FWC is targeting in Essen Run have about two to four feet of material that was dislodged from the lake bottom.

Payne Prairie Update

Alice Rankeillor stated that the Paynes Prairie Sheetflow Project is a cooperative project headed by GRU and Gainesville, with contributions from SJRWMD, the Department, FWC, and FDOT. The project is located adjacent to Williston Road, just south of Gainesville. The Division of State Lands provided an easement for most of the project area, and the city owns the rest of the land. Sweetwater Branch drains about three square miles of downtown Gainesville. There is a manmade canal dug by ranchers in the 1930s that drains Sweetwater Branch directly into Alachua Sink. This canal created issues with wetlands drying out and nutrients going from the city into the sink. When the Alachua Sink TMDL was developed, it included an allocation to GRU's Main Street Water Reclamation Facility (WRF), as well as Gainesville and FDOT stormwater systems. GRU and the city decided to partner on a project to achieve the nutrient reduction goals for the TMDL. They also worked with the Paynes Prairie Preserve State Park to include their goals into the project. These goals include releasing clean water into the impacted wetlands on Paynes Prairie, and filling in the canal to restore the historical sheetflow.

The project is primarily an enhancement/treatment wetland, but there are also public park aspects. A sediment facility and trash removal facility were added where Sweetwater Branch comes into the project area. Water then flows through a pipe by gravity into three wetlands cells, which each have deep areas and shallow emergent marsh areas. The water takes about three days to pass through a wetland cell, which removes TN through natural denitrification. The project has been under construction for two years, and construction is anticipated to be completed in May. The project includes an entry building with restrooms, boardwalks, and viewing structures. Prairie wildlife have access to the project so wild horses and buffalo are found in the area.

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GRU and the city conceived of this project in 2007 to address the Alachua Sink TMDL. Since that time, NNC were adopted. While the TMDL for Alachua Sink will stand, GRU was concerned about the 1.3 mile section of Sweetwater Branch located downstream of the Main Street WRF that will not meet the NNC. GRU started collecting data in this area about four years ago. They found that the biology is impaired, but it is also impaired upstream of the WRF. Therefore, GRU feels that the impairment is not due to nutrients but to the urban characteristics of Sweetwater Branch. This is a flashy urban stream where sediments get churned up and smother macroinvertebrates. The stream is also channelized and straightened for most of the system, which creates habitat deficiencies. If GRU does not establish alternative criteria for this stream, GRU may need to pipe the WRF discharge to the Paynes Prairie project at a cost of about \$8 million, and this may not benefit Sweetwater Branch. One option is to reclassify the stream as Class III-Limited; however, this would have been the first waterbody that was reclassified. Instead, they are looking at Level II water quality-based effluent limits (WQBEL), which is a modeling process a facility can undertake to show that nutrients are not impacting a system. The Department approved the plan of study for the WQBEL, and GRU is moving forward with a stressor identification study to determine the cause of the impairment.

Bob Palmer stated that he was looking forward to the public opening of the Paynes Prairie project next month, but now it will not be opening. He asked what is occurring with public access to this facility. Alice responded that the funding to staff the site for public access is still under discussion, and there is a meeting on January 8th to discuss the short-term option of opening the park on weekends for the next six months while figuring out a long-term plan. There have already been groups that toured the project, and GRU and the city would be happy to give tours to groups of ten or more people. Bruce asked if the existing canal is near the Hawthorne formation. Alice responded that a study was conducted in 2004 and there are a few places where the Hawthorne is exposed.

Alachua County Bacteria Sampling

Greg Owen stated that FDOH, Gainesville Clean Water Partnership (GCWP), GRU, and the Department are partners in the bacteria sampling. The urban creeks are impaired for fecal coliform so Alachua County is using water quality monitoring, codes and enforcement, the Illicit Discharge Detection and Elimination Program (IDDEP), special studies and reports, and public outreach as tools to address the impairment. The county has 13 ambient stations that they sample quarterly, and 17 hotspot locations that are also monitored quarterly. The county's wastewater and water quality code requires that any wastewater releases be reported to the county so they can go and assess the impacts. The county works with FDOH, GRU, and private wastewater collection systems on the follow up, and the county has the ability to take enforcement action. Since 2008, there have been 122 wastewater releases, some of which have impacted the creeks. The IDDEP is implemented through the GCWP. The county also has special studies, including the outfall reconnaissance inventory (ORI) to look for cross connections and conflict boxes. They county also documents wildlife and other sources of pollutants.

The county walks the creeks during dry weather periods to try and catch illicit sources that are flowing. Before walking an area, they put together maps with information about the stormwater and sewer infrastructure in the area. They then identify and sample flowing outfalls during the walk to determine if the outfall is illicit or not. Along Rattlesnake Branch, they found a suspect outfall, which turned out to be a leaking lateral that GRU then repaired. They also found a failing septic system, and FDOH met with the homeowner to repair that system. The county also removed sediment and debris from the

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creek, which can act as a breeding ground for bacteria. In Rosewood Branch, GRU used closed-circuit television to examine their lines, and they did not find any leaking laterals. Using game cameras, the county did document a lot of wildlife use of the system. Therefore, it seems that the elevated fecal coliforms are from wildlife. Along Sweetwater Branch, they found several suspect outfalls in the Duck Pond area. One was a leaking lateral that GRU repaired. In Tumblin Creek, 17 of the 49 outfalls were flowing and three of these were considered suspect. The county found a sink with a direct line to the storm drain, and they took enforcement against the owner. They also found turbidity issues, which they resolved with the people doing the construction nearby.

Greg noted that the county conducted a pilot study with the Department in August 2014 to test microbial source tracking techniques. They collected samples to evaluate for acetaminophen, sucralose, E Coli, fecal coliforms, and a human marker (HF183). The human indicators were low in most of the samples but there were some reportable values in Rattlesnake Branch, Tumblin Creek, and Sweetwater Branch. Greg noted that this was only a one-time sampling event so more data are needed to draw conclusions. Additional samples will be collected in the dry period of April or May and the wet period of June or July. The county did some resampling yesterday at several sites to confirm the sucralose or acetaminophen findings.

Public Comments and Wrap Up

Whitey stated that the Highway 301 issue is not just the weir. There is also the road, dam, and railroad trestle. A skyway-type bridge is needed in this area to help the lake. He asked what the airboat curfew letter refers to. Ryan responded that the Alachua County Environmental Protection Department sent the list of concerns about the curfew from the meeting to the sheriff's office. The sheriff's office responded to these concerns, and this is the letter. Whitey noted that FWC opened up a boat ramp right after the September meeting, and there were concerns about getting an airboat out in this location. Ryan responded that FWC started shredding vegetation in Marjorie Kinnan Rawlings/Cross Creek after the December 4th meeting. The ramp should be accessible now and is a priority level 1 trail for FWC. Whitey asked what FWC is doing in Essen Run now for access. Patrick responded that FWC is not doing anything in Essen Run for access because the deep marsh restoration work is not an access trail. The long-term management plan is needed to determine what should be done in this area. Whitey noted that he does not see a reason to give public access all the way up to Highway 301. Patrick responded that there are several hundred acres of open water in that area that people use for a variety of activities.

Bob asked if there has ever been a legal challenge on any of the BMAPs. Marcy Policastro responded that the Santa Fe BMAP was challenged, but the Department worked out the issue with the challenger, so the challenge was dropped. Bob noted that there are a lot of legal requirements for what needs to be included in the BMAPs, and he does not think they are all being addressed.

Mary noted that the next BMAP meeting will be in March. She is thinking of holding quarterly meetings. She will send an email when the next meeting is set and will also try to put the notice on the IAWG Word Press site. Ryan added that people can sign up for automatic notifications as information is updated on the Word Press site.

Adjourn

The meeting was adjourned at 4:11 PM.

Orange Creek Basin Management Action Plan

Action Items

- Mary Paulic will research ideas to improve the water quality in Newnans Lake, and will provide information on potential strategies at the next BMAP meeting.
- Mary noted that the annual reporting schedule will shift from the calendar year to the adoption date so the process to provide project updates will occur in summertime.
- Mary is finalizing the water quality assessment report by January 2015, and will provide it to the stakeholders, once completed.
- The BMAP provides for 18-24 months to identify additional projects to improve water quality in the impaired lakes. The BWG will be meeting regularly as there are 18 months remaining to accomplish this task.
- The SJRWMD cost-share program is looking for projects to fund. Stakeholders should try to link their projects to the North Florida Water Initiative or Springs Initiative to help with ranking. Even if the project may not rank high, it should be submitted so that SJRWMD has it on their list.
- Kraig McLane will send Judy Etzler the list of ranked projects for cost-share funding. - *Completed.*
- The draft Lochloosa Lake TMDL should be sent out in late January, and a public meeting will be held in February/March.
- The next BMAP meeting will be held in March, and Mary will send an email when the meeting has been set and will also try to post the notice on the IAWG Word Press site.