



LOXAHATCHEE RIVER MANAGEMENT COORDINATING COUNCIL
MEETING

Monday, March 27, 2017 2:00 pm

The River Center

805 N. US Highway 1

Jupiter, FL 33477

MINUTES

I. Call to Order

Tom Howard called the meeting to order at 2:00 p.m. and welcomed everyone.

II. Roll Call

Albrey Arrington, Loxahatchee River District
Michael Dillon, South Indian River Water Control District (SIRWCD)
Deborah Drum, Martin County
Rebecca Elliott, Florida Dept of Ag & Consumer Services
Michelle Ferree, South Florida Water Management District (SFWMD)
Sam Heady, Village of Tequesta
Tom Howard, Jupiter Inlet District
Chad Kennedy, FDEP
Tom Lanahan, Treasure Coast Regional Planning Council
Ivette Leiva, Florida Department of Transportation
Pat Magrogan, Gulfstream Council
Sam Payson, North Palm Beach County Improvement District
Gary Ritter, Florida Farm Bureau
Dick Roberts, Martin County Conservation Alliance
Hal Valeche, Palm Beach County
Herb Zebuth, Florida Native Plant Society

III. Approval of Minutes from the January 30, 2017 meeting

Revision to the meeting minutes for January 30th are as follows:

On page 6 under member issues, item A, the paragraph needs to be amended as shown below:

Questions arose about jet skis being operated in the river. After talking to Riverbend Park staff and others, it was determined that there are no issues with jet skis. Mr. Bailey who rents canoes has seen motor boats in the river racing and raising waves that could affect the shoreline. They have reportedly witnessed these boats intentionally creating waves big enough to tip over canoes. Riverbend insists that it is impossible that a boat could come to the park from the north but they might come from the side since there are some properties that have access. The issue needs to be addressed by the Park and the County. Rules and regulations need to be strengthen to protect the public. Need direction on what authorities (Commissioner and Park Director) can do in order to regulate and/or prohibit specific vehicles from entering the park. It was assured that there are no signs prohibiting motor boats to enter the park.

Also, on page 5 under **Funding of Lox River Projects** in paragraph 2. The paragraph needs to be amended as shown below.

*An ancillary discussion occurred regarding RAP projects. Pattie Gertenbach asked if the projects can occur anywhere in the RAP study area. Julie responded affirmatively. Tiffany briefly explained the difference between the WBID and RAP boundaries and stated that if the RAP boundary is proposed to change, the change will need to be approved by the LRMCC. David Brown stated that projects in the Town's stormwater master plan are appropriate for inclusion in the RAP. Albrej stated that the Lox River ~~Protection~~ **Preservation** Initiative (LRPI) project list submitted for legislative funding this year is also pertinent to the RAP. Tom asked when substantive activity will occur in RAP development and project collection since the goal is to have a final plan by the end of 2017. Julie responded that the March meeting will be pivotal in determining the path forward based on the model assessment.*

Minutes were approved with these corrections.

IV. Public Comment

Albrej shared that the Loxahatchee River District received some public comments requesting they improve the LRMCC website and wanted to let the public and LRMCC members know they appreciate their comments and that there have been some improvements made to the website. They will continue to work on making it better. Any additional comments can be directed to Bud Howard. <https://loxahatcheeriver.org/river/lrmcc/>

V. Project Updates

Tom Howard requested an adjustment to be made to the agenda to add an update on the US1 Bridge by FDOT as that came up as an inquiry.

A. US1 Bridge – FDOT Consultant

The consultant gave an overview of the US 1 Bridge project and discussed some of the issues with the current bridge. It is structurally deficient - substructures are poor and it is functionally obsolete as it has no shoulders or sidewalks. The new bridge will be higher and wider on both sides so that two large boats can go through at the same time with sidewalks on both sides. This will increase efficiency and the operation of the system. A public hearing will be coming up in May 2017. The PDE (environmental portion of the project) will be finished by the middle of the year. The design team has already been selected and they are already moving forward with some of the designs.

Albrej asked, when widening from 90 to 125 ft., will there be any dredging associated with that. By dredging that channel and making it deeper, will that lead to additional salt water intrusion? This is a technical question that the committee has been concerned about.

Consultant will get more data on the salt water intrusion issue and get back to the committee within 30 days.

B. Lainhart and Masten Dam Refurbishment Project update – Lucine Dadrian (15 min)

Lucine Dadrian provided an update on the Lainhart and Masten Dam refurbishment project. Lainhart and Masten Dam was designated as the National Wild and Scenic River back in 1985.

Lainhart Dam functions as the stage and flow monitoring location for the Minimum Flow and Level rule (MFL) from back in 2003. As the dam deteriorates, there will be a loss of flow around the dams so the numbers will not always be accurate. This construction project should fix that issue and help get some better MFL numbers. Lucine shared about the existing issues with the dams. The project was awarded in February of this year and all permits have been received from DEP and the Corps. Project duration is approximately 500 days. The Project completion date is scheduled for July 2018. The construction cost is \$2.5 million. The District is coordinating with Riverbend Park on the necessary measures to minimize impacts to the park. The District has put up signage in the area to inform everyone about construction activity.

Dick Roberts said he worked with Patti Gorman on the plant list. When will the contractor want the specifications on the replanting on the area of the construction path?

Lucine said the plantings should already be specified in the plans and specs.

The District will coordinate with Patti on the plantings.

C. FDEP Update on water quality targets, modeling efforts, and potential stakeholder projects for the Reasonable Assurance Plan (60 min)

(Note: Minutes below from FDEP Minutes dated 3/27/17)

Recap of Lox River RAP Process

Tiffany Busby, consultant to the DEP, provided a recap of the Lox River RAP process. DEP recently determined that both the Northwest Fork and Southwest Fork are impaired because they do not meet the site-specific numeric nutrient criteria (NNC). Total phosphorous (TP) and total nitrogen (TN) are contributing to elevated chlorophyll *a*. She reminded attendees that the RAP is a voluntary plan which the LRMCC decided to undertake in lieu of DEP establishing a total maximum daily load (TMDL) for the Lox River system. The heart of the plan will be stakeholder projects to reduce nutrient loading. However, before projects can be selected, nutrient loadings need to be determined through watershed modeling. At the October 2016 meeting, DEP advised that upon further review of the existing U.S. Environmental Protection Agency (EPA) model, DEP determined that significant effort would be required to calibrate and update the model at a cost of ~\$350,000 and take two years to complete. Therefore, as an alternative, DEP determined that it could use portions of the existing model in a simpler platform to calculate the pollutant loading. Amie West, environmental specialist, and Ansel Bubel, environmental administrator, will present results of the DEP alternate modeling scenario.

DEP Regression Analyses and Application of the Pollutant Load Screening Model (PLSM)

Amie began her PowerPoint presentation by explaining that an estuary system, such as the Lox River system, is very complicated due to dynamics associated with tidal flow, salinity, precipitation, seasonal variability, water color and light penetration, and land use characteristics. The DEP analysis is based on data from three waterbodies (waterbody identifications [WBIDs] 3226A, 3226C, and 3226D) that drain into the estuary. Some of the existing data are from stations in the WBIDs that may not be representative of water quality in open water. Impairments exist for TP in WBID 3226A and for chlorophyll *a* in WBIDs 3226A and 3226C. There are no impairments in 3226D. DEP used the NNC for TP, TN, and chlorophyll *a* for the WBIDs in the analysis.

The first step was to evaluate regression relationships for measured data at primary data stations (those that are more likely to be representative) within the three WBIDs for the time period of 2006–2014. DEP looked at the relationships of TP, TN, color, salinity, and temperature to chlorophyll *a*. DEP then input land use and annual precipitation into the PLSM to estimate

TN and TP loading. DEP used the annual averages of the WBIDs to allow them to carry equal weight in the model, as some WBIDs had more water quality data than others. DEP then compared the annual mean chlorophyll *a* concentrations (actual data; the average of the average annual means of the three WBIDs) to the simulated nutrient loads (model data) and plotted the ten averages. The regression suggests that 52 % of the variability in chlorophyll *a* could be explained by nutrient loads. By combining the three WBIDs in this regression analysis, DEP relied on some of the strength of the regression in 3226D, which may be more representative of the natural conditions, and temper the slope of 3226C, for which DEP has less confidence in the representativeness of the data because of the sample locations. The chlorophyll *a* criterion was then adjusted based on the average difference between the annual arithmetic mean (AAM) and the annual geometric mean (AGM) for the 10-year period. The AAM is generally greater than the AGM; DEP added the difference to the chlorophyll *a* criterion for WBIDs 3226A and 3226D to be protective of the main estuary. Next, DEP calculated the 80th percentile of nutrient loading and identified the reduction that would bring the 80th percentile of loads to the adjusted chlorophyll *a* criterion. Using the 80th percentile allows DEP to consider some exceedances, but suggests the watershed will be in compliance with NNC. DEP determined a target load reduction of 37 % for TN and TP. For comparison, in other basins DEP identified reduction targets of 58 % TN in the Lower Suwannee basin; 21 % to 51 % TN reduction and 41% to 48 % TP reduction in the Indian River Lagoon; and 21 % to 51 % TN reduction and 41 % and 78 % TP reduction in the St. Lucie Estuary.

Amie concluded the presentation with recommendations and/or observations. The 37 % reduction targets for TP and TN are for the watershed, but should be focused on anthropogenic land uses. DEP does not expect reduction from areas with natural land uses. Future data collection should be representative of an open water estuary. DEP recommends applying adaptive management, standards, and reductions.

Questions/Comments by Attendees

1. Herb Zebuth: Did you evaluate the regression relationship of flow on chlorophyll *a*?
Amie: DEP did not evaluate flow on chlorophyll *a* due to tidal flow being such a strong control and it is very complicated to complete such an evaluation.
2. Dick Roberts: Did you rely on data from only one weather station? Amie: Yes, DEP used only one weather station since the other one in the area had issues. Dick: I believe the weather station you used also has issues.
3. Albrey Arrington: DEP has taken a lot of variability and distilled it down to a summary slide/simple message. Do you have any parsed-out data to assess reliability? Do you have interim assessment information we can review? It appears that you are casting aside a lot of great information. Amie: Yes, we indeed have much more detailed information that we can share. Ansel: Keep in mind that regression analyses in an estuary are limited since we know where the water is, but not where it came from. A complex model could produce more granular data, but it would take a lot of time and money.
4. Albrey: Your PLSM model is driving the hypothesis. Your regression hypothesis is dumbed down to a linear hypothesis. The complexity of the data is belied by simplicity.
5. Tony Janicki: The chlorophyll *a* NNC is expressed as an AGM, but yet you are using an AAM? And you are placing all three WBIDs into one regression? You are taking the average of the three WBIDs and placing into another average? Amie: Yes, to each of your questions. We took the average of the three WBIDs since the data sets were uneven among the WBIDs. We did adjust the NNC from the AGM to the AAM, so we were comparing apples to apples.
6. Tony: Why was your period of analysis only 10 years? Amie: The 10-year timeframe was a result of limited water quality data sets and precipitation records.

7. Sam Heady: Have you seen improvements in other areas with TMDLs? Ansel: Yes, there have been improvements in the St. Lucie River Estuary and Caloosahatchee Estuary. Tiffany: There have also been improvements observed in the Lower St. Johns River.
8. Albrey: Is the goal nutrient load reductions or achieving the chlorophyll *a* concentration? Julie Espy: The goal is to achieve the NNC chlorophyll *a* concentration.
9. Albrey: Three years of real data will likely resolve the chlorophyll *a* issue. Some stakeholders will choke if they have to sign up to reduce TP and TN by 37 %. Tiffany: The end goal is to improve water quality in the Lox River system. Since there is not an established TMDL, there is not an overall final loading number that has to be met. The 37 % target reduction is likely not the exactly right number, but we need to be on a path to meet the chlorophyll *a* NNC. If we achieve the chlorophyll *a* target before we get to a 37 % reduction that is perfectly acceptable. We can also adjust our efforts and the reduction percentage as we progress.

Discussion Regarding Next Steps

Tom Howard stated that the LRMCC needs to make a decision regarding next steps on the RAP and inquired of DEP as to options. Amie responded that a more complex model could be undertaken, but it is not a favored option due to time and money. Another option is to proceed with this tool and use adaptive management through monitoring. Tom asked Albrey for alternative options. Albrey responded there is a solid correlation of nutrient loading to chlorophyll *a* concentrations; however, there needs to be more certainty and precision of the targets. Albrey suggested that a technical subgroup work with DEP to analyze the data to refine the targets. Ansel responded that DEP is receptive to working with a technical subgroup which should lead to more precision in the PLSM. Chad Kennedy stated that he did not think that DEP has the manpower to focus immediate energy on revised modeling. Chad made a motion to table the issue until the next LRMCC meeting scheduled for June 26, 2017 and Commissioner Hal Valeche seconded the motion. Albrey suggested amending Chad's motion to allow the DEP environmental administrator (Ansel) to engage with a technical subgroup prior to the next RAP meeting. The amended motion was accepted by Chad and seconded by Commissioner Valeche; the amended motion was approved by the LRMCC with no dissenters.

The technical subgroup will be comprised of Albrey Arrington, Deb Drum, Dianne Hughes, Alan Wertepny, Rebecca Wilder, Brian Gentry, Tom Behlmer (for DEP), and possibly Amy Eason and Tony Janicki. Julie stated that a meeting of the technical subgroup will need to be noticed in the *Florida Administrative Register* since there will be members of the LRMCC in the discussion.

Upon a statement from David Brown that stakeholders should start compiling their project list for discussion at the June LRMCC meeting, Julie responded that it may be premature for project collection since the model is not yet finalized. DEP typically requests projects once the type of information is known that is needed for the model to calculate load reduction credits. Albrey stated that DEP should move forward with sending out project requests to stakeholders, even if all needed information is not known at this point. Albrey inquired as to the acceptable time frame for completed projects to be counted for reduction. Julie responded that projects completed since 2008 can be submitted for reduction credit by a stakeholder. The model is based on 2008 land use. Deb Drum requested that projects be allowed since 2005 rather than 2008 because Martin County has two projects worth \$5 million that should be counted for credit. Tiffany responded that 2008 is the year to be used since the loading calculations from the model are based on 2008 land use. However, older projects could possibly be submitted if they are in contrast to the 2008 land use. Rebecca Elliott stated that allowing prior projects for credit hedges what really needs to happen to address water quality. Albrey responded that a lot of good projects have already been completed through the Lox River Preservation Initiative and by

allowing the model to predict the value of the projects increases the confidence level of meeting the water quality targets.

Questions/Comments by Attendees

1. Herb Zebuth: If a TMDL is established for Lox River, would the current DEP model be used in the establishment? Julie: Yes, DEP has used similar model data to establish TMDLs.
2. Deb: If you are provided additional time, can you look at each WBID individually rather than average the three together? Amie: DEP already completed a preliminary analysis based on individual WBIDs, but because of the complexity of the system and weak relationships by individual WBID, DEP used an average which strengthened the relationships.
3. Deb: Is Lox River a candidate for a range rather than a precise target such as the 37 %? Based on the table in the PowerPoint, some TMDLs list ranges. Julie: We can talk more about how to characterize the target in the Lox RAP; I am not sure if EPA would accept a range or not. [Editor's note: TMDLs are not usually listed as ranges, but where there are multiple TMDLs being addressed in a plan, we sometimes list the range of reductions across the individual TMDLs--such as the range of IRL TMDLs shown in the PowerPoint.]
4. Tony: The regression analyses are a good start and a number of things can be done to improve them, such as looking at monthly flows. Did DEP consider other sources such as septic systems or atmospheric deposition? Ansel: Since DEP had only three months to complete the regression analyses and PLSM, no other sources were contemplated. However, DEP has the tools available to analyze other sources.
5. Tony: The culprit may not be surface water. Make sure the end point is addressed. For example, if AGM is the end point, then the analysis needs to take into consideration AGM rather than AAM.
6. Deb: How quickly can DEP figure out reduction credits for projects? Tiffany: I will need to confer with Ansel and Amie on the complexity of the calculations, since the PLSM will be used to determine credits. Ansel: We will need maps of the treated areas from the local entities—preferably in a geographic information system (GIS) format—in order to perform the PLSM calculations.

D. Assessment of Implementation of 2010 LRMCC Plan Objectives – Tom Howard (10 min)

Tom Howard asked if anyone had any updates on the spreadsheet. He received a request from an agency about withdrawing an item from the spreadsheet. Since the spreadsheet is part of the latest version of the management plan, an item cannot be deleted without the Council, SFWMD and DEP agreeing. Tom asked the agency to send a letter with that request to Kathy LaMartina. Deb Drum said she had an update. The very last project on the last page, number 63 has been completed.

E. Proposed Loxahatchee River Watershed Science Symposium—Tom Howard (10 min)

Dick Roberts had suggested that the Council have a Symposium. Tom Howard put together a draft letter inviting agencies and individuals to submit abstracts of any research studies or papers they have done to see if there are any interests in having a Symposium. Chad Kennedy made the motion to table any further discussion on Science Symposium until there is closure on the reasonable assurance plan. Motion was seconded. However, Chairman will draft letter and send to all the agencies to initiate planning of Symposium after the reasonable assurance plan is complete in January 2018.

VI. Watershed Status Updates

A. Loxahatchee River Dashboard Overview, Albrey Arrington, LRD (5 min)

No updates were available.

B. Water Quality, Bud Howard, LRD (5 min)

Bud Howard reminded everyone that they have some new tools on their website for water quality. He encouraged everyone to look through the website - <https://loxahatcheeriver.org/>. Overall, not a lot of rainfall happening so water is looking good through the estuary. We started the dry season with very low flows. The South Florida Water Management District has been very responsive in trying to route as much water to the river as possible and keep the MFL value where it needs to be. Hats off to their efforts as they are working hard to keep us above the red line.

VII. Member Issues (brief, verbal status update)

A. Land Management – discuss getting land managers together

Tom Howard mentioned that at the previous meeting the Council was going to discuss getting the land managers together.

Dick Roberts shared that historically the Council had asked the government agencies (Florida Park Service, South Florida Water Management and Palm Beach County) to initiate a Loxahatchee Annual Operating Manual. Council came up with a list of things that they thought should be in the manual. Part of that initiative was land managers would get together and meet every couple of months.

Mark said that they have been meeting with the other agencies, every quarter or so and discuss things such as what's working and events coming up.

Deb Drum mentioned that they are already communicating with land managers throughout the agencies and she doesn't feel that there is a need for an additional meeting request. She believes the coordination is taking place.

B. Motor Boat Ordinance – follow-up from last month

Herb Zebuth shared that he received information from several sources that there was a problem with power boats on the Loxahatchee River within the park causing problems for canoers. The Commissioner's alternate who was at the last meeting was going to look in to the matter and come back with some recommendations.

Ken Todd shared that Parks and Recreation and Commissioner Valeche were all in agreement that there is something that can be done. Ken passed out a couple of signs that will be put out at PBC's boat ramps and the other near the bridge.

Tom Howard mentioned that the issue is that the power boats should not be allowed on the Loxahatchee River not the park.

Tom Howard said that if the Council wants to take up the issue of power boats on the Northwest Fork of the Loxahatchee River outside the jurisdiction of PBC then that's a major step. He urges that if there is a Council member who wishes to pursue that give plenty of heads up in advance because the agencies themselves need to vote on that.

Tom said the Council is not endorsing placing any of those regulatory signs anywhere at this time. It's not up to this Council to do this.

- C. Flood Control
- D. Environmental Issues
- E. Recreation Opportunities
- F. Permits

Kathy LaMartina asked that the agencies notify her with a written request when there is a change in Council members.

Dick Roberts reminded everyone that the Wild and Scenic Film Festival will be held at the Lighthouse on April 8th from 6-9:30 p.m.

Tom Howard gave an update on Moonshine Creek – South Florida Water Management District gave them the permit very quickly. However, the Corps asked for additional information so there will be a slight delay.

Next meeting is scheduled for June 26, 2017.

VIII. Adjourn