

Atchafalaya Basin TAG meeting
June 22, 2017

Meeting was called to order at 9:30 am by the Vice Chair, Glenn Constant.

A roll call was conducted and showed the following members in attendance and that a quorum was present:

Charles Reulet, Bijan Sharafkhani, Glenn Constant, Bill Kelso, Dan Kroes, David Walther, and Richard Keim

Sign-in sheet is attached to document all attendees.

A motion to approve the agenda was made by Charles Reulet, seconded by Bill Kelso, and passed unanimously by voice vote of the members.

A motion to approve the minutes from the last meeting (June 2015) was made Charles Reulet, seconded by David Walther and was passed unanimously by voice vote of the members.

Legislative update. Don Haydel—The 2018 plan, which contains no new nominations, only previously approved projects, was approved unanimously by the House and Senate. Currently the ABP has 5 or 6 projects moving forward. Another development in the legislative session was that the Senate passed a resolution for DNR to form a study group about spoil banks. A report is due February 1, 2018, so we will have 6 months to do research and give input from all groups named in SR 154. The Secretary of DNR will ask each group to appoint a representative and then schedule a meeting. The effort will get going as soon as possible.

A legislative audit of the ABP began in October of last year and is expected to finish in the next month or two. We expect that one of the recommendations will be an update of the master plan, which is from 1998 and overdue for an update.

Glenn Constant—Is there anything we can do to support the resolution?

Haydel—The resolution includes a list of about 17 organizations to participate. DNR will approach them to ask them to participate. The secretary will send out a letter requesting appointment of a representative, and we will get in touch with the representatives and schedule a meeting via Doodle poll.

Project updates. Don Haydel—The TAG hasn't had a formal meeting since 2015, and we are happy to report progress. Recreation/access projects completed since 2012 include Wilson's Landing boat launch, Big Alabama Launch/ Pier, Catahoula Pavilion, Veteran's Park phase

IV and V, Bayou Amy boat launch, Bayou Sorrel Boat Launch, Primitive Campsites, Belle River Building, Lake End Park Lake Houses, Stephenville building, and Cajun Coast Welcome Center. Three Water Quality/Management projects have been completed since 2012: Bayou Fourche, where the channel was dredged a foot or two deeper for about 1600 feet from the GIWW, Henderson Channels, and Dog Leg Sediment Trap. Act 606 of the 2008 legislature required that 75% of funding must be used in water management projects. ABP hasn't received any new construction funding since 2012. This year's capital outlay bill carried over \$5.6 million in priority 1 funding; ABP has spent \$500k on Wilson's Landing, and have obligated \$700k on Butte LaRose, some will go to dredge Grand Lake and some for The Nature Conservancy, so much of it is being spent. This year, there is an additional \$3 million in the capital outlay bill for the ABP. If it makes it through the whole process, we will ask the Research and Promotion Board to allocate that funding.

Projects for fiscal year 17-18 are: depth restoration of Grand Lake, East Grand Lake Project with TNC, and Butte La Rose boat launch. We are also implementing a Geo Cache trail, which includes 25 sites; those who visit all of them can receive a geocache award coin. ABP plans to announce the Geocache trail next week. We are excited about this very low cost project that will be educational. Additionally, ABP is contributing to the Boy Scouts swamp base at Henderson using money originally allocated to Camp Atchafalaya; ABP will contribute \$200,000 to make sure docks and ramps are handicap accessible. The last project is a walking trail at the Atchafalaya Welcome Center in Butte La Rose; it has been a long process to get authorization from the federal highway authority, state lands, etc.

Depth Restoration of Grand Lake. Don Haydel—The sand bar grew significantly between 2012 and 2016, when it had reached nearly all the way across the lake. ABP has been working with stakeholders for 5 years on this problem. The first step was to rebuild the blockage, which finally took place in January 2017. As for the milestones, the project was nominated in 2014, and Little Pigeon was originally in the plan, but the adjacent landowners objected, and we dropped it off to avoid having it held up in a legal battle. Currently, we are planning to put all of the dredge spoil in the pipeline canal, because we learned that putting it back into the Atchafalaya River would require a Section 408 permit from the Corps, and that could take two years. We are working with the pipeline company on the disposal plan; they need their pipe covered. We will dredge as much as we can from the lake and stop when the canal is full.

Constant—Are you still pursuing the 408?

Haydel—No.

Walther—There is an expedited 408 process being considered right now.

Haydel—We want to move forward while Enterprise is under order to cover their pipeline. The best scenario is to share the cost and do what we can do now.

Constant—Does the spoil bank study include looking at projects like this?

Haydel—This would potentially fall into the scope.

Constant—What we can do with the sediment has been a problem for a long time, and this seems like something that should be included.

Bill Kelso—how much sediment is expected to be dredged?

Haydel—It was estimated at 116,000 cubic yards in 2016. The plan is to dredge from east to west and do as much as we can, and the intention is to leave Schwing Chute open, so there are two blockage berms to act as a sediment trap. We are waiting for survey results for more accurate numbers.

Kroes—According to my estimates, only half of the sediment will fit in the canal.

Dean Wilson—Have you considered barging it out?

Haydel—Yes, but we expect that it would cost about \$75 per cubic yard based on our experience with the Bayou Fourche project, and it would be too expensive. We have mentioned it to CPRA, but cost is prohibitive to them as well.

Kroes—Could we pile it on top of the spoil bank?

Charles Reulet—The plan is to fill the canal all the way to the top. This is a good question for the resolution on spoil banks as far as what to do with the material: do we build mounds, fill canals etc.?

East Grand Lake Project. Joe Baustian—I wanted to give some background on why we are thinking what we are thinking. The ecological situation is not ideal. The East Grand Lake plan was developed to move more flow to the backswamp to increase DO, move water from north to south, increase nitrogen uptake, improve forest health, and improve wildlife and bird habitat. Our main goal is to demonstrate measurable results. We are measuring conditions prior to and post restoration, so we can make a comparison of pre- and post-restoration conditions. We've set up series of monitoring stations comparable to the CRMS network, which doesn't have any monitoring stations within the Atchafalaya Basin. Monitoring stations are spread out among AU 1, 2, 3, 5 and 6 of EGL plan, plus one additional. They include continuous monitoring of water level, turbidity, specific conductance, temperature, and dissolved oxygen. We are getting good data so far; we measured a one-foot increase during last August's flood. We want to know if we are getting

river water into the backswamp. The next data retrieval will be in July, which will be our first time measuring an overbank flood. Monitoring effort includes a conservation fellows program: Sarah Wood, who is here today, is studying denitrification. Another fellow is studying historic and current sedimentation rates using feldspar marker horizons. Alicia McAlheney, who is also here today, is looking at forest health. And there is a student at Nicholls State working with Chris Bonvillain on crawfish.

On tract 1, we have 3 to 5 input features planned. The area suffers from water stagnation and low to no oxygen. There are no drains planned for this tract, because the Bayou Bridge pipeline is coming through, but we don't think that the pipeline is holding water in unit, because the problems are further afield. Feature *Ip50*: the original feature was a straight line, but we have added sinuosity and an area of vegetation clearing. By "clear vegetation," we don't mean trees; we would improve flow by removing grass. The original features had a 6.5-foot bottom elevation. We are using a 6-ft bottom elevation. For this feature, 939 cubic yards would be removed. The footprint for spoil disposal was estimated with a 6ft-pile of spoil.

Keim—Are the elevations in feet above sea level?

Baustian—Yes, the datum is mean sea level. We went with a single spoil pile to avoid a continuous pile (aka spoilbank).

Keim—What color on the map is 6 ft?

Baustian—The medium green color. The LiDAR lines up well with on-the-ground observations. For feature *5p9*, we located spoil so as to prevent flow from continuing south along the levee.

Walther—Will the water flow north?

Baustian—It's a possibility, but I don't think so; my observations are that water tends to flow south. Feature *5p11* was re-opened in 2015. It is already operating as the EGL plan said it should, so we don't need to do anything there except maybe some clearing of Cow Bayou; mainly the hyacinth may need to be cleared in some places.

Kelso—Clearing hyacinth is not worth spending money on.

Baustian—In AU5, we designed a small input to get water into the unit.

Dean Wilson—The Corps has installed a pipe [culvert] in the bank of GIWW right there.

Baustian—Sometimes the water is stagnant here because there is no impetus for it to move. For example, in the Williams canal, there are gaps in the spoil bank, but water is not moving.

Water comes off of the canal about 100 feet and stops. By putting in more water at the top, you will create the necessary gradient to move water from north to south.

Kelso—Some of that is that is because of damming the water, and putting more water in will just exacerbate the damming.

Baustian—At some water levels, it does work. We want to expand the window in which that happens, so instead of it happening when Butte La Rose reaches 18 feet, maybe it would happen at 12 feet.

Reulet—Have you reached out to stakeholders on these features?

Baustian—Yes, we have had many meetings with local stakeholders and crawfishermen, Dean Wilson and Jody Meche, and fishermen in the Bayou Sorrel area. They have told us that this whole area turned off.

Ryan Mabile—For 10 years it's been bad in there. Kyle Bayou comes all the way through, but until you can break over Cannon or Florida Gas, Sorrel has to be about 10 feet before it really starts pushing through there.

Baustian—On the 6 vs. 6.5 ft bottom elevation, you don't get flooding back there until Bayou Sorrel Lock gage is at 9.5 feet. Overbank flooding occurs at 9.25 feet. We looked at 62 years of gage data to see how that extra six inches would have affected the amount of time of overbank flooding. There are 20 days per year under current conditions. There would have been 106 days per year with a 6.5-ft. bottom and 127 days with a 6-ft bottom. By lowering the bottom elevation of the features six inches, you get three additional weeks per year, which mimics the natural spring flooding scenario. It would be ecologically beneficial.

Tract 2 (AU 2 and 6): In this unit, water comes in from the south through the Williams Canal at times, but when Sorrel gets high enough, water flows southward. During high water, water flows across the pipeline canal. The proposal is to bring water in at the north end and open up the south in to let water flow through. These input features are much longer, because the bank is much larger. That means increased cost and increased spoil to deal with. We changed the footprint to utilize existing low spots to minimize the amount of dredging required. These are over-estimations if anything of how much spoil needs to be removed. The west input was moved over to avoid existing obstructions.

Walther—Is it possible to utilize the existing low areas on *2p9b*?

Baustian—Yes, the current track is also low, and we have feldspar there, so we will see what the current sedimentation rates are. On *2p25*, the spoil disposal areas show a footprint for 6-

ft-deep piles. At the southwest area of the drain features, when water flows from north to south, the spoilbank is under water; otherwise, it is flowing northward.

Keim—How much hydraulic modeling has been done?

Baustian—Ann, at Southern Illinois is looking at a few different scenarios, including some that are very similar to what we are planning.

Keim—Presumably we will have an opportunity to feed in those results to our plans. This kind of work has potential unintended consequences, and we need adaptive management. We need indicators to monitor and a plan to adjust.

Baustian—Looking at a macroscale, there is the potential that a gap could fill right back in, or it could get deeper, although I don't see that happening based on what we have seen there. Leslie [one of the fellows] has looked at historic openings that mimic our plans, including examples where small cuts from the late 90s are actively building. She found that approximately 4 acres was built in 20-ish years. We've said from the beginning that if things aren't functioning as we want them to, we will adjust and be nimble. That's why monitoring is so important

Keim—On the nature of cuts themselves, are bank shavings, big broad inputs, still on the table?

Baustian—The thinking is that channelized inputs will self-maintain.

Keim—The biggest worry is filling in backswamps. Bank shavings would allow rapid deposition near the bank and less delivery into swamps.

Kroes—What we have seen is that those features fill with sediment rapidly; willows grow, and then they quit working. So you expend a lot of money for a short term gain. And it increases mitigation, etc.

Keim—But you're still getting the same amount of sediment...

Kroes—No, because the cross sections you are pulling water from are smaller, so you are bringing in less sediment.

Constant—Kudos to TNC for having all the conversations with stakeholders and planning for monitoring and adaptive management. TNC has the opportunity to implement [restoration features] on a much shorter timescale. They have a great strategy. We've had a lot of these discussions in the past. The EGL plan was done on a larger scale and would not be as reactive for adaptive management, but this plan allows us to build, then look and see if

we can make changes in time. This will be more flexible the way TNC is doing it. You also have to consider the footprint that they can work within.

Baustian—Undoubtedly sediment is a concern, but if we get four acres of deposition in 20 years to rejuvenate 1,000 acres of swamp, it's a worthwhile tradeoff. Big deposition events occur during large [flood] events.

Keim—I would suggest trying more than one cut design. In some cases, you're not going to know what will happen until you do it.

Dean Wilson—The Atchafalaya Basinkeeper has been in opposition to this project for a long time. I tried to get April and Charles to come to the swamp to see our concerns, and Don Haydel told me he would never allow them to come. I would like to invite you to come see what they call marginal swamps. They are some of the most productive swamps in the Atchafalaya Basin. Six hundred thousand dollars an acre to restore wetlands on the coast; meanwhile, this project is filling in wetlands. Three landowners benefit by creating uplands. 100% of people at public meetings were opposed to this project. I am a crawfisherman and have been working for many years to educate fishermen not to cut plugs and open areas, because they are detrimental.

Constant—Do you have comments specific to this project?

Wilson—Two specific things about this project: one is Williams canal where they are going to put the Bayou Bridge pipeline; it is a hydraulic dam. The second thing is Humble Canal. It runs from northeast to southwest and captures water going to Little Bayou Pigeon.

Glenn—Joe talked about that area, but what Dean is saying is that this canal is causing a hydraulic dam.

Wilson—I am working with two scientists to develop a plan. The hope is to stop water coming into the swamps.

Baustian—There is a process for you to submit your plan to the TAG so they can evaluate it.

Dean—We are in opposition to this project.

Walther—You are in a position to do adaptive management quicker than any government institution would be able to do. Levees can build quickly. We learned some things from the Bayou Eugene prototype.

Dan—On Bayou Eugene, downstream controls on flow weren't dealt with in a timely fashion, and channel filled in quickly.

Constant—Can we take a vote on this? Do we have a quorum?

April Newman—There are only four voting members now that one has left, and we need five. So, no.

Haydel—The legislative auditors would like for the TAG to be more involved in the design of projects, but we don't necessarily need a vote.

Constant—I would like for the TAG to voice support even though we can't take a vote. I want to personally express my support.

Reulet—I support the project. So often we hear that scientists don't know; people on the ground know, but TNC is using science to support this decision, and I applaud that.

Kelso—I support the project. There is a trade-off of water quality vs. sediment. We can do a lot of modeling, but until you actually do something, you won't know, so this is an opportunity to learn.

Keim—I support the project inasmuch as it is clearly experimental and represents our best guess as to what will be the right management strategy. I support investigation for sure.

Kroes—I am in support, and I look forward to doing things in a timely fashion (as opposed to the Corps). And I also think it's a good idea to look at Humble Canal, which Dean brought up.

Walther—I support the project. The size of [the restoration features] won't cause a large detrimental impact. Feldspar markers will be able to help answer the question of how much sediment for how much water quality improvement. I also want to say that you need to remove shrub scrub to provide an opening for deposition, not just grasses.

Public nominations. Don Haydel—We don't have any new nominations this year. We need to get some, because according to statute, we can't do anything that doesn't start with a public nomination. Some nominations will probably come out of the spoilbank study.

Constant—The board should comment on the Grand Lake Project as well. Is there any opposition to the Grand Lake plan as described? [none]

Kroes—Is Humble Canal private property?

Ryan Mabile—Some is on state land.

Jim Bergan—TNC is interested in adding acres to their property, and we will continue to look for opportunities.

Public Comments. Dean Wilson—I would like to invite everyone to come in my boat. And next time, I would like to give a presentation to give everyone a better idea of what this project is going to do in EGL.

Old Business: Efforts to identify locations of sediment that can be dredged and transported to the coast: April Newman—We had a session at last year’s State of the Coast meeting that focused on our efforts and those of CPRA to utilize Atchafalaya Basin sediments for coastal restoration. We are continuing to talk to CPRA, and Honora is here today [from CPRA]. We try to let them know when a sediment source is available, for example the Grand Lake Project. Also, we have been promoting Flat Lake as a potential borrow source, and I worked on a research proposal with Dan Kroes and Mike Kaller to characterize the sediments in Flat Lake. Unfortunately, there was a short timeline for that, and everyone couldn’t get their agency approvals in time to submit, but I think we now have a strong proposal ready for next time. We recently commented on the Coastal Master Plan, and we are mainly just trying to keep the conversation going.

Honora Buras—I’m wondering where you are getting the \$75 per cubic yard estimate, because we are spending \$12 per yard for Tiger Pass barging and about \$25 per yard from Ship Shoal. Loading and unloading is the main cost. But sediments from the Atchafalaya could be really useful, specifically for ridges. So far cost is the issue.

Constant—Do we have some benchmark numbers on cost effectiveness?

Buras—We are still trying to flesh that out.

Constant—Do we have an idea of what sediment is out there?

Newman—We can assume that there’s about 10 - 15 % sand based on some other studies that have been done in the Basin, but we are trying to get a study funded to get a better idea of what we have, specifically in Flat Lake.

Old Business: Presentation by Dan Kroes on Atchafalaya River channel erosion and river stage: Kroes—The Corps has funded a study to look at water levels and channel erosion and the effects on water quality in the swamp. At one time, the Atchafalaya River historically was not well-connected to the Mississippi River. Corps dredged the GIWW in 1932, and dredging of channels continued until 1968. Originally they wanted an 80,000 sq ft channel, then 100k, but they ran out of money to dredge. However the channel continued to self-scour and eventually surpassed their targets. There is widespread hypoxia and sedimentation in the lakes. Some people say the Corps is holding back water at the Old River Control Structure, but it has always been 30:70. I looked at gage and discharge records and used historical hydrographic surveys and compared them to the 2012 LiDAR. I found a 20% reduction in days per year that the stage is at 10 feet. It’s had dramatic effects on fisheries. The amount

of water needed to achieve bankfull stage has dramatically increased. In most places, channel erosion had stabilized by 1992, but the Atchafalaya River at Butte La Rose and Myette point is still downcutting. There is very little gradient from the north end of Grand Lake to Morgan City. The amount of discharge required to reach the stage where a majority of the floodplain is inundated (3 m or ~10 ft at Butte La Rose) has increased greatly from 85,000 cfs in 1960-65, 162,000 cfs in 1970-75, and 258,000 cfs in 2010-15. So bankfull stage occurs less frequently. Spoil banks go under water at 13 feet [stage at Butte La Rose], and even when they go under water, they still impede flow, causing large areas of hypoxia. There is now 50% less flow across floodplain vs. 1968.

Dean Wilson—Fishermen are saying that Sixmile Lake is getting more shallow.

Kroes—Where?

Wilson—From Sorrel all the way up.

Kroes—It's getting wider, I don't know about shallower. West Access is the deepest in that area. The way the channel is eroding, it is increasing width by bank slump. Carbon deposition is very high, creating tremendous oxygen demand. The way that flow is going through the swamp, by channel flow, it does encourage deposition in the swamp. What it means for restoration plans is that we can't shave a bank two feet and have it provide the flow we need.

Wilson—After 1992, with the powerplant and realignment of Grand River, we've seen huge amounts of sand.

Meeting adjourned at 11:56 am.

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DATE: 6/22/2017

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