



Diversion Authority Public Outreach Committee
Meeting Minutes
1:30 P.M. - Wednesday, April 22nd
Virtual Meeting
Fargo, North Dakota

Permanent, Reliable Flood Protection

The Diversion Authority Public Outreach Committee met virtually for the regular monthly meeting on Wednesday, April 22, 2020. The following committee members were present: Rodger Olson, Cass County Joint Water Resource District; Kevin Campbell, Clay County Commissioner; Mike Thorstad, West Fargo City Commissioner; Jake Gust, Cass County Joint Water Resource District; Rick Steen, Cass County Commissioner; Shelly Carlson, Moorhead City Council Member; John Stand, Fargo City Commissioner; and Katie Mastel, Fargo Moorhead West Fargo Chambers;

The following committee members were absent: Ken Pawluk, Cass County Commissioner.

Others Present include: Joel Paulsen, Executive Director; Tammy Jo Taft, and Rocky Schneider, Advanced Engineering and Environmental Service, Inc.

The meeting was called to order by Mr. Olson at 1:31 p.m.. Ms. Carlson motioned to approve the meeting minutes from January and for the special meeting in March. Mr. Gust seconded the motion. The minutes were approved unanimously.

Updated Information Points

Mr. Schneider explained that the updated informational points were include via email, and the changes from the previous informational points document are highlighted in red. Mr. Schneider explained a section about COVID-19 was added to the document. There are also updates about the upcoming court dates in June, lands acquisition, and construction.

Communications Plan

Mr. Schneider explained that there was a lot of good discussion during focus group meetings. There is work being done to put together a plan of goals and strategies for next steps. Mr. Schneider discussed the 10,000 surveys that were sent out and more than 2,300 surveys have been returned, Mr. Olson asked when we will be seeing the data, and Mr. Schneider explained it will be used to inform the Communications Plan. Ms. Carlson asked if there could be a short description of where the surveys were all sent out to. Mr. Schneider explained that they were split into different groups that went out in the upstream area in both ND and MN, along with Fargo, Moorhead, and West Fargo.

Analytics

Ms. Taft explained that our numbers from our social media's last month are doing very well and keep going up in numbers on impressions and views. Ms. Taft explained that we are getting back into the season where UAS flights can happen, so there will be more tweets of those and live footage from the construction sites.

Video Products

a) UAS Flyover

Mr. Schneider showed the updated construction flyover video and explained what is shown in the video. Ms. Taft explained that there is going to be a longer and more educational video explaining more aspects of the inlet structure. There was some discussion about having more words and information about what we are looking at. Ms. Taft explained that there is a new three questions video and would encourage people to look at it.

b) The Relentless Red (30-Minute Production)

Mr. Olson explained that he would like to show the entire video at the end of the meeting. Mr. Schneider explained that the Fargo Communications team has been asking for a 30-minute video of public content that they can play on Public Access TV. There was discussion about how the video was made and how powerful this video will be for the community.

Drain 27 Wetland Restoration Public Meeting

Mr. Schneider explained that the residents near drain 27 will receive a mailing in the next few days explaining what it is and what it has to do with the project. Mr. Schneider explained that after working with the Corps of Engineers that this area would be a prime spot to keep a wetland into the future. Some of the area is the already in the current drain but there are benefits that it is being proposed to be a wetland again. Mr. Schneider explained that there will be a public meeting about it on April 30. Mr. Olson explained that there are farm fields that use that drainage and what the plan is to accommodate that drainage. There was some discussion on how the meeting will be conducted.

North Dakota Legislature Water Topics Overview Committee – Postponed

Mr. Schneider explained the effort put into the presentation for this meeting, but it was postponed. The presentation was used last week for the business leaders flood task force. There was some discussion about that meeting.

PRESENTATION: Agricultural Risk and Prevent Plant by NDSU

This portion of the meeting was done in conjunction with the Diversion Land Management Committee)

Mr. Bangsund said this study includes lost revenues to producers if forced into a prevent plant (PP) situation as a result of the Diversion. The analysis has a focus on the ag supply

sector and what the addition of having more PP in the staging area would mean for those businesses actively supplying inputs to producers operating in that area. He said there is a set of decisions that are part of the modeling and it is a complex set of decisions that every producer goes through. The economics of those decisions, he said, vary by producer and vary based on insurance provisions; however, in general, producers go through a period where they can obtain optimal yields if they can get a crop planted at a certain time in the spring. Then, he said, as producers progress outside of that window, their yields will start to decline. Ultimately, he stated, they come to point where they have to make a decision on whether they want to continue to plant the crop at a substantially increased yield loss, or switch to another crop that is more suited to being planted or claim PP. He said the study has dates from the analysis that correspond with federal crop insurance provisions and are specific to the region. He said they do not have a distribution around all kinds of what-ifs with producer decisions; the study is forcing all the decisions on PP and switching crops to follow the same set of guidelines. All of the output that the study is using comes from the simulation modeling that was covered in detail at the last meeting, he said, and the team did add a database that looks at input costs from actual producer records and that data is important. He said to simplify the analysis, if any part of the staging area is flooded, the study assumes it is *all* flooded. He said the study did not include land rent in the analysis due to the fact that is something that would be uniquely negotiated between tenants and landowners. The study also did not account for any repurchase of inputs prior to the spring planting season, he said, no weed control or cover crop requirements on the PP acres, as those expenses would offset some of the lost inputs if the land was not planted to a crop. He said the study does not include any of the acreage lost to the Diversion infrastructure and the big issue that is hard to quantify is crop insurance sales that would be foregone within the staging area and sales that would be lost on acres that cannot be planted. He said there are many coverage issues; therefore, the study took a limited look at this issue that could be revisited when and if the provisions for that type of coverage become better defined. He said there are three scenarios with this analysis: the baseline is the report given at last month's meeting and that means corn and wheat acres not planted by May 31, which is the switch date, where 20 percent of those acres would become PP and 80 percent would be switched to soybeans. The reason for some of that being PP, he said, is the team recognizes that not all lands are going to be available to plant at the switch date and in some cases, some lands would not be suitable for planting soybeans. All the sugar beet acres will be planted as those acres are under a contract and there is no switch crop for soybeans due to the fact that, according to federal crop insurance guidelines, soybean acres not planted by June 10 automatically go to PP. In scenario two, he said, the study enters into a more pessimistic framing of the question assuming there is no switch crop for corn and wheat, if corn and wheat do not get planted by May 31, that acreage goes to PP. He said scenario three is a worst-case scenario where there is no switch crop for corn or wheat, all of those acres go to PP and if it is too risky for producers to try to raise sugar beets. He said the team is modeling that sugar beet acreage be displaced and corn and soybeans would be raised on those acres and those acres would be treated like all the other corn and soybean acres. He said with the PP acreage, 10 flood sizes were evaluated, with a 25th percentile worst-case and a 5th percentile worst-case based on the number of simulations that were run with the modeling. When the study got to the larger floods, he said, it was at that time there was a noticeable increase in the amount of PP acreage caused by the Diversion, not to be mistaken with the total amount of PP due to the fact that is a different issue and the team only looked at the margin and how

much additional acreage is created by the operation of the staging area. Relatively low amounts of acreage and these numbers are very consistent with what was talked about at last month's meeting, he said, regarding lining up of when the lands would be ready to plant and when the effects of flooding are largely over. Translating those acres into lost crop production inputs from the perspective of the ag supply businesses providing such things as fertilizers, chemical seed and custom work, he said, and the amount of dollars that are forgone, there is a big spike as the area gets bigger, longer, deeper, stronger and bigger floods; however, not so much with the smaller floods and that is going to be directly linked back to what the study is finding out with the acreage. He asked what is the way that the study could put this into context and try to figure out due to the fact that they know the dollar amounts and is that a lot or is it not a lot? He said if the team looked at the staging area and it was corn, wheat and soybeans, it would be about \$18 million to \$20 million in input purchases to put those crops in the ground, raise the crop for the full season and harvest. He said the worst-case scenario is about \$400,000.00 in lost inputs or about two percent of the total inputs that would be purchased from lands in the staging area. One of the things that the team is trying to help people understand, he said, is that if the crops are switched, there is a slight trade-off between, for example, corn and soybeans, the inputs that would have been purchased for corn now get substituted for soybeans and that is why in the first scenario, there is not much of any consequence to lost inputs. However, he said, the percentages increase when the ability to switch a crop is eliminated. Looking at the range of lost production, he said, this has a bearing for local elevators and grain handling systems and the study did not estimate a margin for those crops. There is a sensitivity between the 10-day and the 14-day dry down, he said, and the number of bushels goes from less than 50,000 up to 300,000, depending on the scenario and the sensitivity on some of the floods when it goes from the top 25th percentile worst cases to the 5 percent worst cases. He said the team sees a bit more responsiveness in the model in the amount of grain that is not going to get produced in the staging area. What is the relative effect of that, he asked, and can the team put that into context if the study eliminated sugar beets to make this a simpler, more conceptually consistent analysis? He said the study looked at about 5.7 million bushels that would be corn, wheat and soybeans coming from the staging area using current yields assuming no major planting delays and absent of a Diversion-type of condition. The amount of grain production that is going to be forgone is a combination of lands that are prevented from being planted and yield reductions on lands that are delayed; therefore, anywhere from 20,000 to 100,000 bushels, which is a 0.5 percent to about a two percent change in the amount of grain volume coming out of the staging area. When the study looked at worst-case conditions, he said, the team upped that by several factors; however, even at 300,000 bushels, it is a reduction of five percent to six percent. This is only due to the Diversion, he said, and it is known there will be additional reductions in flood years; however, the study is identifying just what the team thinks is attributable to the Diversion. Large flood years are going to produce a lot more PP than what is modeled, he said, only because of the way the team is looking at measuring it. He said the team just looked at the additional incremental amount that comes from the Diversion. To summarize, he said, under average spring planting conditions the Diversion is not producing a substantial increase in PP. In the worst 5 percent of those simulations, he said, when the study looked at a 500-year flood, there is a very low probability of occurring and the team says an additional 1,000 acres of PP is a result of the Diversion in those most diverse conditions. He said there is a larger range of effects on grain volumes due to the fact that

the team included not just the lands that are prevented from growing the crop, but lands that are grown that have yield reductions because they were put in late.

Mr. Olson said he thinks this a very complete study and the NDSU team has captured what he wanted to see from the farmer standpoint. He said it is surprising that there is not a bigger percentage of losses.

Mr. Bangsund said he thinks one of the concerns is that the study limited this analysis to a 14-day dry down period and if there are going to be conditions when perhaps that is not realistic and would evidently push those lands further into the spring, there could be an increase in numbers. Unfortunately, he said, the team could not model that as a number that varies, similar to what they did with the others. He said the team is still working with this particular environment where the two periods coincide closely and if the team wants to see a bigger influence of the Diversion, they have to have conditions that either extend the flood further into the spring or things that change when the producers can get in the field and that is driven by the data. He said now what they are seeing is a very strong result from the data they have and if that data changes, they would potentially have a much different set of conclusions.

In response to a question from Mr. Olson asking to explain the 25-year flood and why that is showing more impact than the 100-year flood, Mr. Bangsund said one of the conditions that the team modeled with the hydrology data is the duration of the flood: how long the flood actually lasts as opposed to the overall peak magnitude of water. He said the 25-year extra-long flood is synonymous with the 1997 flood and as a result, that was a flood that did not see peak flows as in 2009; however, what the team did see was flows that were large enough to operate the Diversion for several weeks. In that case, he said, the 25-year long and 25-year extra-long is representative of a change in the duration of the flood and not the overall peak flow.

Mr. Dodds said every flood is unique and looking at the hydrograph from the 1997 flood, it is quite a bit different than most of the flood events. He said what is being pointed out in that 25-year extra-long flood, which was modeled after the 1997 flood, that goes to show that the duration of the flood will have impacts on the planting dates, and keep in mind that the hydrograph for the 2009 flood was extraordinarily unique.

Mr. Bangsund said an additional clarification is that the team did go back to the hydrology modelers and asked if the results from their modeling were consistent with the hydrology that was present in 2009. He said he thinks most people have the memory of a rather quick and high peak in Fargo; however, the hydrology shows that there was actually a second crest and for some of the lands, that kept the producers out of the field based on the way the team was modeling and that extended the opportunity to plant further into the spring. He said they are seeing more meaningful impacts with a 2009-like flood due to the fact that there was a second crest and that is a unique hydrology-based factor in the modeling. He said if there is a flood of any size where there is a quick flush and then another subsequent surge, there will be much larger effects than from a flood that builds up and then drops down and everything gets a chance to dry out.

In response to a question from Ms. Scherling, asking if it is typical to have a second crest, Mr. Bangsund said that would be a question for the engineers and hydrologists and those

that are studying those issues to what extent a second crest is going to be a prevalent problem. He said when looking at the flow data, there are, in some cases, crests or points in time when the floodwaters go down and come back up; however, there was only the one flood where when the waters came back up and were high enough to keep the Diversion staging area active.

In response to a question from Ms. Scherling asking if summer events were analyzed, Mr. Bangsund said obviously the possibility that a sequence of unforeseen events in June or July would result in perhaps the need to use the Diversion. He said that has not yet occurred historically and his team did not model that; however, his understanding is that has been acknowledged and there would be a provision put forth for the producers if the staging area was operated in the summertime after the crop was planted that that would be handled on a case-by-case basis. He said he does not have any data to model that scenario and it has never happened before; however, a hydrologist will say that just because it has not happened does not mean it cannot.

In response to a question from Mr. Olson asking about the impact of the data and if one acre gets backed-up water on it for the Diversion, the whole staging area was considered used and how does that impact the data, Mr. Bangsund said the data the team received from the hydrologists broke the movement of water in terms of when it showed up and when it went down by staging area; however, when they modeled the staging area the water shows up and in a lot of these cases does not encompass the entire storage area; therefore, if the team were to use only actual acres that were inundated and not the storage area, there would be a smaller footprint. He said the problem with that is that ownership among those staging areas could be among multiple landowners and the team does not know if that affects one producer, affects all the producers or if that affects access to land that cannot be accessed when it was ready to plant and without a lot of more complicated detail, it was the safest, most conservative estimate to say if there is some flooding on that storage area it is assumed all of that land is not ready to plant. In reality, he said, that may or may not be true depending on the natural topography of the land, the size of the flood and if all of the lands are owned by one landowner or multiple landowners.

Mr. Olson said the study was conservative in giving a higher level of damage due to the fact more acres were considered to be flooded.

Mr. Bangsund said there are going to be cases where two-thirds of a field is flooded and a farmer is not going to want to try to go in and plant a small percentage of that field until the rest of the field is dry. He said there are producer decisions that cannot be accounted for; therefore, this is a more conservative approach. He said without having definitive boundaries within the storage area to identify those tracts of land that could be accessed by another producer that is not going to wait for the rest of his land to dry out it is hard to separate. The hydrologist can model and show the level of inundation for each of those storage areas for each of those floods and in some cases, the tracts of land on the outside boundary of where the water is inundated would be those that would be the most suspect to that particular question.

Mr. Dodds said the base study that Mr. Bangsund and in his team presented last month was something that the Diversion Authority (DA) had asked NDSU to produce several

years ago and the most recent version was updated to reflect today's project and the information that that is known today. The presentation today on the PP risk was an additional study that the DA asked the NDSU team to analyze in response to comments and questions from co-op businesses that operate in the staging area who had some concerns about the potential for a massive PP risk that would impact the producers but would also impact the ag businesses that make their living by selling fertilizer and seed and hauling harvested grain, he said. This study was done in response to those comments, questions and concerns, he said, and the DA is trying to be responsive and bring forward some factual information that can help answer those questions and concerns.

Mr. Bangsund said one thing driving that concern is over the last nine years, the area has experienced a substantial amount of acreage that has been PP; therefore, the input suppliers perspective are already up against a difficult situation each time it floods. He said there are a number of lands that do not get planted, these are countywide numbers and the staging area is a relatively small portion of the overall size of these counties. He said the numbers translate into thousands of acres of PP across four counties, so the suppliers concerns are justified wanting to know if the Diversion will make an already difficult situation worse.

Meeting adjourned at 3:07 p.m..