

Cullen Bay Wetlands

December 17 Public Meeting Q&A

All questions submitted during the meeting are included in this Q&A document, including those that were not answered live due to time constraints. To make the document easier to use, we've arranged questions by their topic. The following links will help guide you to each topic.

[Project Area](#)

[Modeling/Water Flow](#)

[Efficacy of the Projects](#)

[Wetlands Ecosystem](#)

[Technical Design](#)

[Maintenance](#)

[Recreation](#)

[Funding](#)

[Community Involvement](#)

[Meeting Logistics](#)

Question	Answer	Asker Name
Project Area		
Will any of the BayView Retiree's Golf Course Be lost?	The existing Cullen Park project does not include any property that is now part of the Bayview Retirees Golf Course.	Tom Stagner PPBA
Is this project going to be only in the existing Cullen Bay Area?	The Cullen Park Wetland project design does not extend beyond the existing Cullen Bay. The Grassy Island Nutrient Reduction Wetland project is a separate project to the north of Cullen Bay.	Tom Stagner PPBA
Will the interior of Grassy Island be utilized?	No, neither the Cullen Park nor the Grassy Island Nutrient Reduction Wetlands projects will affect the interior of Grassy Island.	Ken
What will happen to the Pinkley Trail?	Neither of the current concept for the Cullen Park nor the Grassy Island Nutrient Reduction Wetlands projects will have any impact to the Pinkley Trail.	Anonymous Attendee
Currently is there any provision for reducing and treating run-offs from the phosphorus and other nutrients that are contained in the water that is pumped directly into the Cullen Bay from the Detwiler Golf Course acerage? Thank You	The Cullen Park Wetland project is being designed to intercept the flow from Detwiler Ditch, which is the discharge point for runoff from the Detwiler Golf Course.	Kenneth
Along Summit Street near the entrance to Cullen Park, the shore line is disappearing in some spots. One area is near a bench along there. The cement is cracked and starting to cave in. There are exposed cables. It has been reported to the City and other agencies. No one will repair it. Would you repair and make sure the shoreline is safe before starting any more work along there?	The Cullen Park Wetland design project includes shoreline stabilization and enhancement parallel to Summit Street, and will also provide physical features that should effectively reduce wave action that results in shoreline erosion. The current plans for the project do not presently include any structural improvements to existing infrastructure.	Joyce Ejhinger
Will the Cullen Jetty be restored or the small wetland area on that side of Cullen Park?	Neither of the current concepts for the Cullen Park nor the Grassy Island Nutrient Reduction Wetlands projects include any design features that affect the causeway or the water area between the existing recreational boat channel and the causeway.	Lindsey
With the recent erosion of the Cullen Park causeway, what is the plan to reinforce or remove that causeway as part of this project?	The causeway between Grassy Island and Cullen Park is an area we are looking at with the design of the Grassy Island Wetland project. We do not yet know if we will pursue any modifications to it. We anticipate making that recommendation in the spring when the conceptual design of the Grassy Island Wetland project is complete.	Anonymous Attendee
What is your plan for the causeway?		Gene Kidd
Will any part of the manmade dike be taken out?		James
Are there any plans to open up (make openings) in the causeway off Cullen Park to increase water flow?		Tim Leslie-Pilner

It has to start with the farmers	Water quality is a large-scale problem that requires multiple solutions. The H2Ohio program is an integrated approach designed to do exactly that. Within the H2Ohio program, there are more than 40 projects focused throughout the state, including those designed specifically for farms. In 2020, more than 1 million acres of farmland began a volunteer nutrient management plan. Locally, H2Ohio is funding more 20 projects throughout the Maumee River Watershed, only two of which we're discussing here.	Joni Kidd
Its my understanding that all these issues are coming from runoff from farms and other things up stream. Why would we not correct this upstream instead of letting the water flow the entire river and then trying this experiment?		ChristopherSlaght
Why do you think we want to live next to a wetland (swamp)? Go upstream with your project funding. There are thousands of people you will affect.		Jamie Matuszak
What is facility 3?	Facility 3 is a large Confined Disposal Facility built in the 1970s to hold dredge material from the federal shipping channel. It is located on the eastern bank of the Maumee River, at the mouth of the river. For a period of time, the US Army Corps of Engineers stopped placing dredge material into Facility 3 and instead placed it in the open waters of Lake Erie. Recent improvements to Facility 3 increased it's capacity to hold more than 10 years' worth of dredge material. Beginning in 2020, no dredge material from the federal shipping channel will be placed in the open waters of Lake Erie.	Anonymous Attendee
Where is facility 3?		Hunt Sears
Modeling/Water Flow		
You claim that this project will in some way scrub the watershed yet you have no completed modeling. Momentum saws water from the Maumee will bypass these projects. How are these to clean water into the lake, if that water never flows though the project?	Thank you for recognizing that water movement through these areas changes over time. Modeling has been conducted for the Cullen Park project, and preliminary modeling has been conducted for the Grassy Island project. This modeling shows how much water moves through the proposed project areas under various conditions: during high Maumee River flow events, at various lake levels, during a variety of seiche conditions, and for nor'easter wind-wave conditions. Significant quantities of water and nutrients move through both project areas which is one reason why these locations were selected as potential locations for water quality improvement projects.	mjarvis
The Cullen Park bay has been settled by decades of industrial and agricultural polutants. What effects due to the disruption and reapplication of this settlement have been modeled?	The modeling has been focused on water flow and nutrient reduction within the proposed wetlands areas. However, the Cullen Park Wetland has been designed to avoid those areas specifically identified in the "Site Sampling Technical Memorandum Phase 2 of the Lower Maumee River Site Characterization" report (prepared under contract to the U.S. Environmental Protection Agency, 2013) as having the highest concentrations of reported contaminants in sediment and being recommended for remediation. This design approach will reduce the disruption of that sediment.	mjarvis
Cullen receives a "little" less Maumee water flow than Grassy? This was a shamefully disengenuous statement by Mr. Grush. It is insignificant relative to what passes Grassy. If the public servants with their hands in the money cannot be honest, how can we expect affordable returns from this project?	Data-based estimates of water and nutrient movement into the Cullen Park project area show that there is significant water and nutrient movement into Cullen Bay, and so there is significant opportunity to remove nutrients by establishing a wetland in the bay. Lower amounts of water moving into Cullen Bay than into Grassy Island can make for a more effective wetland in Cullen Bay by increasing the amount of time that the water and nutrients remain in the Cullen Bay wetland, allowing more time for the nutrients to be removed. By making these nutrients less available to the bay water, this would help to reduce algal blooms in Cullen Bay.	mjarvis
In Jeremy's presentation he showed a graph of flows in the project area. What flows are they and where do they flow?	The bars present flow calculations for the opening between the Cullen Park causeway and Grassy Island (referred to by local boaters as the "cut" or the "cut through"). Orange bars represent water movement from south to north, (i.e., from the Maumee River toward Maumee Bay) and the blue bars represent water movement from north to south, (i.e., from Maumee Bay toward the Maumee River). [Note: refer to slide 23 of the PowerPoint presentation for the meeting, which is available at https://www.cullenbaywetlands.com/publicmeeting]	Anonymous Attendee

Can you provide a list of the organizations that Limno Tech used to collect the data it has used in its modelling?	Primary data sources used in the modeling are:	Anonymous Attendee
Please site the sources mentioned by Mr. Monemee and Mr. Grush for the Engineering information on which these projects are shouldered. And state how these are specific to this particular geography.	1) Hourly Toledo Harbor water level data, NOAA, 1960-2020 2) Daily Maumee River flow and suspended sediment data (Waterville), USGS, 1930-2020	mjarvis
Please site the sources mentioned by Mr. Krusnir and Mr. Grush for the Engineering information on which these projects are shouldered. And please state how these are specific to this particular geography.	3) Maumee River water quality data, Heidelberg University, 1975-2020 4) Toledo Harbor bathymetric data, multiple sources including USACE and MSG, multiple vintages including 2009 and 2020 in project areas	mjarvis
You describe eroding wind and water flow from the NE. There is an entire neighborhood and the barrier peninsula to the NE. River flow will momentum right on by. Any flow comes from tide and lake level change, that's it.	Frequent change in lake levels is indeed an important factor bringing water and nutrients into Cullen Bay. Flows directly from the river are also an important factor, which we have accounted for, along with indirect flow during seiche events. Higher wave conditions in Cullen Bay are primarily generated by winds out of the east which are relatively infrequent but are important to consider during the design of the structure.	mjarvis
How will you get the river to make a hard left from its natural flow to flow through the wetlands?	Water from the Maumee River flows both directly and indirectly through the two project areas. Typically, seiches (i.e. fluctuations in water levels within Lake Erie that move water throughout the lake) bring about three times more water into Cullen Bay than direct flows from the Maumee River. While it's true that direct flows through the Cullen Park project area are lower (typically <1% of the total Maumee River flow) indirect flows via seiche conditions bring substantially more water to the project site. Because seiche conditions occur during windier conditions that cause resuspension of solids and nutrients, these indirect seiche flows actually bring significant quantities of nutrients into Cullen Bay.	Anonymous Attendee
Similarly the effects of a noreaster on your grassy project. It will crush it.	There is a long history of reliable coastal structure design in the Great Lakes, and many of these structures have functioned well for several decades as intended. Furthermore, detailed wave modeling is being conducted for the Grassy Island project area using state-of-the-art modeling tools and reliable data sources. Throughout design, we are considering the most effective wetland designs to improve water quality. That includes designing structures according to current standards and practices, and the design will consider the sizing of similar structures in similar wave environments as reference information.	mjarvis
If the flow of the river into the Maumee Bay is slowed down to drop sediment in the swamps on both sides of the Cullen Park Causeway what causes the slowed flow from dropping more sediment in Maumee Bay and increase the rate at which it is getting shallower?	The main factor presently controlling depths in Maumee Bay are wind-waves, especially during nor'easters. Sediments do presently drop out in Maumee Bay but they generally do not remain in place very long until they are resuspended, typically by wind-waves. Over time, these resuspended sediments make their way toward deeper locations that are not as impacted by resuspension. So, a key factor of the wetlands design is a protective structure on the perimeter which will reduce wave action within the wetlands.	Anonymous Attendee
How is stagnant water going to be controlled in the hot summer months?	Maumee River flows are generally lower and winds are much lighter during the summer months. Based on hydrodynamic (i.e. flow) model results, the proposed wetlands are not expected to appreciably change rates of circulation outside of the wetland perimeter in Cullen Bay during the summer months. Circulation within the proposed wetland will be reduced, but primarily just along the inner edges of the protective structures. Channelized areas entering the wetlands are expected to flow more freely.	Connie

<p>Excuse me if I missed something since this is going fast. 1) Can you clarify that this is the first project on an actual lake? 2) Was the flow data based on real flows or projections. If real flows, what devices were used to collect this data? 3) Also, the data ends in 2018. Since then we have experienced the highest water in many years if not history. How will the increased depth effect the wetlands performance? 4) Why would you believe that water would want to flow through that area instead of the easier path down the channel?</p>	<p>The multiple questions have been numbered in the original question and in the following responses.</p> <p>1) The H2Ohio program has more than 10 active projects along the Lake Erie coastline.</p> <p>2) The flow data that were presented in the public meeting are based on actual data and on projections. USGS flow data at Waterville, Ohio were used as a starting point. Next, the percentage of Maumee River water moving into each project area was calculated using a hydrodynamic (i.e. flow) model. These percentages were calculated for a wide variety of flow and lake level conditions to estimate long-term variations in flow through the project areas. Water level data at the mouth of the Maumee River from the National Oceanic and Atmospheric Agency (NOAA) were used to compute flow volumes into and out of Cullen Bay during seiche conditions.</p> <p>3) Recent high water conditions are being modeled to evaluate their effect on wetlands performance and to design the wetlands to withstand the higher wave conditions that occur during higher water conditions. Higher water depths are expected to have a greater effect on wetlands performance on the Grassy Island project which is currently being evaluated and designed. This project area is obviously more exposed to the open lake and so it sees higher wave conditions than Cullen Bay. The effects of higher water conditions on wetlands performance in Cullen Bay are expected to be marginal. The protective structures, as designed, surrounding the Cullen Park wetland have been shaped to reduce wave action inside and behind the wetlands, even under most of the highest water level conditions recorded in the bay which occurred in the 1970s and 1980s.</p> <p>4) Water from the Maumee River flows both directly and indirectly through the two project areas. Typically, seiches (i.e. fluctuations in water levels within Lake Erie that move water throughout the lake) bring about three times more water into Cullen Bay than direct flows from the Maumee River. While it's true that direct flows through the Cullen Park project area are lower (typically <1% of the total Maumee River flow) indirect flows via seiche conditions bring substantially more water to the project site. Because seiche conditions occur during windier conditions that cause resuspension of solids and nutrients, these indirect seiche flows actually bring significant quantities of nutrients into Cullen Bay.</p>	<p>Christopher Slaght</p>
<p>Currently, when we have a NE or E wind, the water rushes into the bay with 2ft waves. It already builds up at the cut causing the water to raise right up to the edge of the bank. If that is further blocked, is that water going to build up and flow into the homes along the bay.</p>	<p>Nor'easters and high water conditions are certainly the most critical conditions for coastal flooding in the bay and are being modeled during the design process. Based on our experience modeling the bay, we expect that these wetlands should slightly reduce coastal flooding and will not increase the potential for flooding. As part of the permitting process, the United States Army Corps of Engineers (USACE) will require that we illustrate the expected effects of the proposed wetlands on coastal flooding due to the combined effects of high Maumee River flows, seiches, and wind-waves. In the Grassy Island design process, we will model existing conditions and the proposed design conditions, and show projected changes in water level. Preliminary model results comparing existing and a preliminary design condition show that the proposed Grassy Island Wetland would marginally reduce coastal flooding on the lee side of the wetland (i.e. generally from south of the wetland toward west of the wetland) and have practically no effect on flooding elsewhere.</p>	<p>Carole Winterfeld</p>

Efficacy of the Projects		
This is not a question. I just want to say that this is an amazing project and I want to thank everyone involved. I know that you are fighting an uphill battle with some people's perceptions of the project. I teach environmental science at Whitmer High School and I am very impressed with the design and the benefits that our area will experience as a result of this project.	Thank you for your comments. We, too, are excited about the benefits these wetlands will provide to the area.	Jeff MacKenzie
What percentage of the sediment being deposited is phosphorous?	We expect that 2,500-5,000 tons of sediment removal will be necessary to get to 10 tons of phosphorus removal. Based on data from Heidelberg University and collected in the Maumee River at Waterville, between 0.2% and 0.4% of suspended sediments are comprised of phosphorus – this is the expected phosphorus content in deposited sediments.	Anonymous Attendee
How much phosphorus and nitrates are already in the sediment in Cullen Park Basin?		Anonymous Attendee
How many tons of sediment will it take to get 10 tons of phosphorous?		Anonymous Attendee
What about blue green algae collecting?	Bluegreen algae (cyanobacteria) is the source of Harmful Algal Blooms (HABs). HABs are created when there is too much soluble phosphorus in the water, which allows the cyanobacteria to grow and prosper. A healthy wetland, which comprises a strong ecosystem, contains plants that trap the phosphorus, thereby denying it the ability to become soluble to feed cyanobacteria. Green algae, which is different from bluegreen algae, contributes to a healthy wetland, as it takes up nutrients such as phosphorus and nitrogen to assist in nutrient reduction in the water. Further, green algae serves as a valuable food source for many small organisms that exist at the base of the aquatic food chain. The complete ecosystem in the wetlands support sufficient wildlife and vascular plants that keep algal blooms in check. To say that more simply – wetlands create conditions that reduce cyanobacteria as well as maintain adequate amounts of green algae to support the food chain.	Ellen
Trapping the phosphorous is supposed to reduce the algal bloom in the lake. Why won't it make the bloom worse in Cullen Park if it's being more highly concentrated there?		Anonymous Attendee
Why are the projects proceeding before hydrology modeling has been completed to support whether or not the project will even be effective?	Modeling and engineering design are not endpoints unto themselves, but rather dependent upon one another. Preliminary engineering design is based upon the general understanding of water flow (i.e., hydrodynamics) and the physical constraints of the project site. This preliminary design is then further modeled to evaluate how it functions and then modified, as necessary, based upon the model output to enhance the effectiveness of the design. In short, modeling is a critical component throughout the design; some modeling has been done and more will be completed along with the design.	mjarvis
While you have no modeling to support the efficacy of these projects or to measure the dangers, we families have over a hundred years of experience. These design changes you wish to revert to were put in place to make North Toledo habitable for humans. What is the logic in trying to revert to the dangerous situation that existed before?	Some modeling has been done and more will be completed along with the design. The project goals are looking to restore natural features and provide a balance between the community and the environment.	mjarvis
Mr. Cappel reiterates that this will somehow "clean" the water before it enters the lake. It is easy to say anything. Please provide support that these projects, placed in stagnant areas, out of the flow of the river have any hope of cleaning the water?	The waters are not stagnant but do offer different levels of movement based upon wind and wave conditions. The design is intended to maximize the amount of water cleansing that can occur over a variety of these wind and wave conditions.	mjarvis
Just because it looks good on paper, doesn't mean that it will work in reality	We recognize this and are therefore using data-based modeling to modify the design where appropriate. We will also establish metrics to monitor wetland performance and make modifications to enhance performance as appropriate.	Joni Kidd

Howard Marsh is a wetlands and now has algae bloom warning signs throughout the park. So how is this helping control algae?	We aren't affiliated with Howard Marsh and, therefore, are unable to provide insight into what's happening there. We're relying on data and best practices to design effective and beneficial wetlands for Cullen Park and Grassy Island Wetlands.	Anonymous Attendee
How do you anticipate measuring the nutrient reduction?	As part of the Operations and Maintenance Plan, we will outline criteria to measure and monitor the effective performance of the wetlands. More details about the monitoring plan will be available prior to construction.	Mike
Wetlands Ecosystem		
Your FAQ states that the increase in mosquito and pest population will be "balanced" by increase in population of frogs, bats and "more." What prevents these frogs, bats and "more" from themselves invading the urban neighborhoods, particularly as they chase the food source blown in by the prevailing winds?	Aquatic amphibians like frogs and turtles must live in and very near aquatic habitats to survive. As a result, any of these animals that wander too far away from their moist environment will soon die due to a lack of moisture. Bats currently populate residential neighborhoods, where they roost in tree cavities, under some bridges, and in the attics of buildings where openings allow them to access these structures. Having bats in one's neighborhood is highly beneficial, because they are the primary predators for night flying insects and many common garden pests.	mjarvis
When have mosquitoes ever lost?		mjarvis
So basically, bigger goose crappers, increasing the pollution of the water?	We appreciate your comment and understand that geese can present nuisances. While we cannot control the movements of birds and other wildlife, the intent is to create habitat for a variety of fish and waterfowl and enhance the local environment for increased recreational opportunities for residents and visitors.	mjarvis
We can put bat houses in at Cullen and Bay View Park if needed. There are many types of Swallows, mostly Tree and Barn that fly over the bay there. They nest at Bay View Park.	Thank you for your suggestion.	Paul Jacyk
Just from the Cullen Park project, we have toads invading blocks into the neighborhood. If you were not introducing more mosquitoes, why would we need bats or the expected quano?	We have acknowledged that wetlands such as those being designed in Cullen Bay and adjacent to Grassy Island will provide habitat for mosquito larvae. The good news is that these wetlands will also produce and/or attract a large variety of animals, including insects, fish, amphibians, birds and other creatures that also eat mosquitos and their larvae. In addition, because of the distance the wetlands will be from the mainland, we do not anticiapte that residents will see a noticeable rise in the mosquito populaiton in nearby neighborhoods. As presently designed, these wetlands are too distant from the shore to cause toad populations to rise on the mainland.	mjarvis
There is already a phragmites issue in these areas. With it being invasive, will the ODNR send crews out to remove existing infestations before it gets worse or invades into the wetland areas?	An Operations and Maintenance Plan is being developed that will identify wetlands management measures and practices to be implemented to control the spread of invasives, including Phragmites, within these project areas.	Anonymous Attendee
What is to keep the aquatic plants from spreading throughout the whole area?	Aquatic plants will not grow in deeper water that is too agitated by wave and wind action or in areas where water clarity is too low. While we may see more aquatic plants in limited areas around the outside of the wetland cells, we do not anticipate expansive beds of vegetation taking over the entire area.	Carole Winterfeld
What's the phrgramites you speak of?	<i>Phragmites australis</i> , or common reed, is a tall, non-native grass that has taken over many of the emergent marshes along the western coast of Lake Erie. Once it invades a wetland, it forms an extremely dense stand of vegetation that excludes other native plant species. To prevent phragmites from overtaking the wetlands we're currently designing, there will be an Operations and Maintenance Plan that will include phragmites control.	Anonymous Attendee

Technical Design		
Has any thought been given to the amount of driftwood and such that will take over the bay, due to it's shallowness. We currently have a problem every spring when these types of materials come down the river and settle in the bay? If you walk the shoreline you will see the large numbers of driftwood and such, which is very extensive now.	The design team is aware of the tremendous amounts of driftwood that flow into the bay on an annual basis from the Maumee River. We have observed the accumulation of this material in the spring, just after the spring ice melt in the river and later in the summer. Our focus is on water quality improvement so we cannot make any guarantees about dealing with driftwood. However, we are evaluating some design options that may reduce the driftwood coming into the area, which would both benefit residents in the area and also protect the structures of the wetlands.	James
How will the CP Wetland Design handle the constant influx of drift wood?		Will
You saw nothing in August. If you want to see driftwood, come in May and June. You can almost step across the Cullen Bay. Your project will push all of that into the smaller boat channel.		mjarvis
You speak of the timber and the damage it causes to our shoreline. What is the plan to the North West corner of the Grassy Island project? Our shoreline being destroyed by this timber. Will that increase with these changes?		Judd Eccleston
Joe Cappel said no dredgings from federal channel will be used in Grassy project. What about dredgings from Toledo/Lucas County Channel?	The Cullen Park and Grassy Island projects will not use dredged sediments from the federal shipping or Toledo/Lucas County recreational boating channels. Both projects will use sediments from within their respective project areas to create the features with varying elevations that will create plant and habitat diversity within the wetlands.	Anonymous Attendee
Seems to be a reason to conveniently get rid of Toledo water channel tailings. If this creates a bigger problem, who's going to rectify the damage?		James
How shallow will the bay be when done?	Depths within the wetland areas will vary depending on the bottom contour elevations within the wetland and water levels that are influenced by Maumee River flows and the water surface elevation of Lake Erie. However, using average high water levels as reference, depths within the wetlands cells would range from 1.5 to 8.4 feet. Areas in the bay around the wetlands will continue to be as deep as they currently are, except for within the excavated channels that connect the wetlands cells for kayaking, canoeing and small boat access.	James
What will prevent shoaling from the wetland area into the channels?	The hydraulic modeling suggests that the opposite of shoaling will occur due to the presence of these new wetland systems.	Paul Miller
Next to Grassy Island is 8 to 10 feet deep now. There is a lot of water moving through there with a good current. How deep is it going to be?	Because this channel functions as the main conduit of Maumee River water to the Grassy Island Wetland site, we want to maintain good flow through the wetland area. We're currently working on the design of the Grassy Island project and information on depth will be available when the conceptual design is complete in the spring.	Jeffrey Pollock
What are the inlets and outlets for the "channels" you described? Your graphic does not describe the water flow. They look more to be stagnant, not flow through channels.	Water movement into and out of the wetland areas will vary in direction, depending on the prevailing wind direction. Once in the wetland areas, the varying topography of the wetland bottom and the emergent vegetation will cause water to slow down and flow in a multitude of directions, as it moves through the vegetation. This slowing down of flow will enhance sedimentation and nutrient uptake in the wetland areas.	mjarvis
How are the wetlands being planned to be resilient given fluctuating lake water surface elevations and potential future changes in precipitation patterns?	All wetlands are continually adapting to changes in hydrology. The variety of wetland plant species is likely to vary over time, as changes in hydrology occur within the wetland. We intend to plant a wide variety of native plant species that can succeed in the wetland. With time we also expect that these plant species will sort themselves out along water depths to create diverse wetland plant communities.	Andrew Sankowski

<p>As the original causeway to Grassy Island was substantial, but now has been eroded away, what will prevent the same thing for the proposed berms in the project?</p>	<p>The project team is designing the wetland structures and determining appropriate rock sizes according to the minimum standards that will be necessary to withstand the wind and wave action in the bay. Like other berms that have been designed to contain high quality wetlands along the west and south shores of Lake Erie, these structures will be monitored for their structural integrity on a regular basis, and measures will be taken to correct structural deficiencies should they arise.</p>	<p>danielkosakowski</p>
<p>How is the rising lake level accounted for in the designs?</p>	<p>The project team is designing the wetland restoration project based on current water levels. We recognize that, with time, water levels will rise and fall. As a result, the character of the wetland will also change, as the wetland plant communities adjust to changes in wetland hydrology. The wetland will also change due to the buildup of plant biomass and sediments, which will settle to the bottom of the wetland basins. We will be addressing various management strategies in the Operations and Maintenance Plan to account for these changes. Over longer periods, as larger cycles of water level fluctuation occur, it may be necessary to regrade and replant the wetland system as conditions change. This is not an uncommon management practice for wetlands that are constructed to improve water quality. Even in wetlands where water levels are strictly controlled over long periods of time, the annual buildup of plant biomass alters the wetland hydrology, requiring the removal of accumulated biomass and the reestablishment of new wetland plant communities.</p>	<p>mjarvis</p>
<p>As the new wetland deep areas fill with new material that settles out of the water like it does in the Cullen rec boat channel, where will that material go if it needs to be cleaned out? Any estimates on how long until the wetlands fill with new material that settles from slow moving water?</p>	<p>This is an excellent question. Over longer periods, as larger cycles of water level fluctuation occur, it may be necessary to regrade and replant the wetland system as conditions change. None of the material that will have to be periodically removed from the wetlands will be redeposited in the open waters of Cullen Bay or adjacent to Grassy Island. Any material removed from the wetlands will be appropriately disposed in accordance with all applicable federal and state regulations.</p>	<p>Anonymous Attendee</p>
<p>The area where the jetty is to be constructed is currently blocked for public access. Will that area be opened up for public access?</p>	<p>The peninsula we showed at the southern end of the Cullen Park conceptual design is still under evaluation, as mentioned during the public meeting. If it remains in the final design, we expect it to be accessible to foot traffic for viewing the water and fishing.</p>	<p>Paul Miller</p>
<p>How will these projects effect the homes on the waterfront near the projects? Will the homeowners have a water view or will it be filled with vegetation the way the waterway along Summit St near the Michigan line? Those marinas are choked with vegetation from July to October.</p>	<p>The intent is to design wetland systems that contain low profile emergent vegetation. These wetland cells will be situated far enough away from the shoreline so as to leave large expanses of open water between the wetland cells and residential properties. From the shoreline, one will be able to look out onto open water, which will transition into a low green band of wetland vegetation followed by more expansive open water.</p>	<p>Rick Popiolek</p>
<p>Maintenance</p>		
<p>How are you going to prevent trees from growing in the new ground, reminding you that you have no funding for maintenance? Anyone who lives here will tell you, even a little land, sprouts trees. The trees grow fast because, you know, marsh and swamp.</p>	<p>The project team understands the need to fund long-term maintenance of these wetlands and are looking into ways to provide this maintenance. Tree growth will damage the structural integrity of the dikes and berms that will be constructed to build the wetlands. The wetland sites will be monitored on a regular basis to, in part, prevent the growth of trees on these structures. Additionally, water depths over most of the wetland areas will be deep enough to prevent trees from germinating and growing.</p>	<p>mjarvis</p>
<p>As mentioned some plants will seed naturally, what are the chances that trees will establish themselves in the project high ground?</p>	<p>The project team understands the need to fund long-term maintenance of these wetlands and are looking into ways to provide this maintenance. Tree growth will damage the structural integrity of the dikes and berms that will be constructed to build the wetlands. The wetland sites will be monitored on a regular basis to, in part, prevent the growth of trees on these structures. Additionally, water depths over most of the wetland areas will be deep enough to prevent trees from germinating and growing.</p>	<p>danielkosakowski</p>

<p>Will you harvest the plants in order to remove the phosphorus, and dispose of the plants inland?</p>	<p>Wetlands that are constructed specifically for water quality improvement may have to be "restored" occasionally by removing the plant biomass that builds up over the years on the bottom of the wetland. While we do not intend to harvest plant biomass on an annual basis, it is possible that we will need to recontour the bottom of the wetland cells and replant the areas with vegetation after a period of time to adjust the wetland to new lake levels and to enhance nutrient uptake and sedimentation.</p>	<p>Daniel Winarski</p>
<p>What will stop the spread of the aquatic vegetation into the rest of the Cullen Park area / Grassy Island cove along 107th and 109th streets so that those with waterfront properties do not end up with wetland / swamp bordering properties?</p>	<p>While some isolated areas of aquatic vegetation will likely become established in areas surrounding the new wetland cells, it is very unlikely they will spread throughout the open water. We do not anticipate that conditions will change significantly over these areas to cause stands of vegetation to proliferate over the entire open water areas. Modeling indicates that wave action due to prevailing winds will cause turbidity to remain high enough in most of these areas to inhibit the establishment of aquatic vegetation.</p>	<p>Anonymous Attendee</p>
<p>How many of these wetland projects are now being supervised. What happens when \$\$ run out--like in the dredging project that left a peninsula which impacted our water flow?</p>	<p>Long-term maintenance is important for the viability of wetlands like these. Through H2Ohio, some funding is set aside for maintenance and monitoring of projects within the program. That said, ODNR's preference is for a long-term maintenance solution for both the Cullen Park Wetland and the Grassy Island Wetland, which would include control of phragmites and other invasive species, maintenance of the structures that comprise the wetlands, monitoring for nutrient reduction and more. Conversations are underway to identify appropriate partners and funding mechanisms to provide the desired long-term maintenance. We anticipate having more information on this topic prior to the construction of the wetlands, as such maintenance will be a required component of regulatory permitting. The costs for such a long-term maintenance plan are variable based on several factors, such as the final design of the wetlands, partners secured and the related scope of the work. We will share these details as they become available.</p>	<p>Carol & Arnie</p>
<p>Boardwalks and other wooden structures are items requiring maintenance costs. Similar structures have shown short life along the marshy shoreline. How will maintenance be paid?</p>		<p>mjarvis</p>
<p>The project website states that you do not have the funds for maintaining the projects, acknowledging that it is not self-sustaining. Who is to pay for this maintenance and if they choose not too, what becomes of a project without maintenance?</p>		<p>mjarvis</p>
<p>What are you going to do to control phragmites.. who is going to do this?</p>		<p>Gene Kidd</p>
<p>The Cullen Park project has already been invaded. If city, county, DNR cannot handle the maintenance of this small acreage, how are you expecting to maintain something the size of the proposed Cullen and Grassy wetland projects?</p>		<p>mjarvis</p>
<p>The Cullen Park project has already been invaded. If city, county, DNR cannot handle the maintenance of this small acreage, how are you expecting to maintain something the size of the proposed Cullen and Grassy wetland projects, given your website states that you do not have funds for maintenance?</p>		<p>mjarvis</p>
<p>What is the long-term maintenance plan for the Cullen park project?</p>		<p>Will</p>
<p>Whats going to keep the invasive reeds from overrunning the new area.</p>		<p>Art</p>
<p>What is the maintenance that will be needed and what is the expected cost of the maintenance?</p>		<p>Anonymous Attendee</p>
<p>Will the current Cullen Park vernal pools be part of the Phragmites control?</p>	<p>Not at this time. The vernal pools in Cullen Park are within land owned and managed by the City of Toledo, and these two wetlands projects are in waters managed by ODNR and the Toledo-Lucas County Port Authority. Although they are geographically very close, these differences limit the ability for combined management of the vernal pools in the park and wetlands within the waterway.</p>	<p>Jim</p>

Recreation		
Will the channel be dredged for the boat traffic and be marked from the Maumee River to the Ottawa River?	We recognize the importance of power boating access between the Ottawa and Maumee Rivers and have committed to maintaining this access. The exact access point and how it will be marked is still being determined as part of the Grassy Island Wetland design project, though we recognize the need for visual markers to guide boaters.	Rick Popiolek
How are you creating fishing opportunities by taking 40% of available shoreline on the causeway ?	Fishing will still be permitted from the entire causeway and into the wetland area. Further, the creation of these wetlands will provide additional cover and spawning habitat for fish, thereby attracting more fish and increasing opportunities for sport fishing.	trott
What will this do to ice boating on Maumee Bay ?	Since the majority of the wetland features are being designed to be below the Ordinary High Water Mark (OHWM) at most water levels and are relatively close to shore, we do not believe that the current design will have any dramatic effect for ice boating on Maumee Bay.	Norman
Are you going to maintain the boating channel from Cullen park?	Yes. The recreational boating channel from the boat launch in Cullen Park is going to be maintained.	Gene Kidd
Am I correct in assuming by one of the pictorials that the boat launch will remain in place for motorized boating?		Carey
Is there a worry about the use of Jet Skis in these areas? E.G. speed and other bad habits by those who will come and go in these wetlands and will this be monitored?	Thank you for your comments. While this is a post-construction consideration, we will take this into consideration with regard to the long-term maintenance and monitoring of the wetlands.	James
Who will insure that these structures are not damaged by snowmobilers and 4-wheelers on the frozen lake during the winter?		Anonymous Attendee
Those shallower waters where you are putting your projects are in the neighborhood. Why do you think we would want hunters that close?	Existing hunting laws will remain in place in these areas. The City of Toledo ordinances will continue to be effective on the shoreline. The lakebed is public trust land and therefore accessible to all.	mjarvis
You noted that these wetlands will promote hunting and fishing. With a lot of illegal hunting currently already taking place (hunters too close to homes, Cullen Park, and Bay Park) that is not being patrolled, what is going to be done with the added boardwalk area and these public areas and homes being close to these possible hunting areas?		Anonymous Attendee
Funding		
Have cost comparisons been made between the proposed way to reduce phosphorus and alternative ways to reduce equivalent amounts of phosphorus? If so, how did they compare?	Wetlands are generally known to be a cost effective method for sequestering phosphorus and reducing nutrient loads in water systems. These wetlands are part of multi-faceted approach throughout the entire watershed that have been identified by H2Ohio as an effective means to address part of the issue.	mfahle
For those at this time opposed, what is the most effective means for preventing and delaying further funding?	As with any State of Ohio project, residents are welcome to submit comments to the state. These projects are part of the H2Ohio initiative, and contact information is available on its website: http://h2.ohio.gov/contact-us/	mjarvis
In what way are the designers accountable if the projects do lead to illness or pest invasion or if the design does not adequately address drift debris from high river and lake levels and winds?		mjarvis
Will we be able to vote on this or will it be shoved down our throats?		Joni Kidd

Community Involvement		
Will there be opportunities for organizations to get involved? I am a member of the Coast Guard Auxiliary. We are looking for activities that allow us to get involved in the community.	The project team has had discussions regarding partnering with local entities to assist with various aspects of the project. There is a continuing dialogue, and we welcome input, guidance and support from other organizations. Please contact us at grassyisland@mannaiksmithgroup.com . Multiple H2Ohio projects are being managed by conservation organizations who own or have conservation easements on the land upon which those H2Ohio projects are being constructed. However, these two wetlands projects are located on State of Ohio Public Trust Lands and ODNR is providing technical guidance through the Office of Coastal Management, the Ohio Division of Wildlife (which is funded in part by the Pittmann Robertson Act) and the Old Woman Creek National Estuarine Research Reserve.	Rebecca Aumiller
Has Ducks Unlimited, Duck Stamp programs and the Pittmann Robertson act been considered for Grassy Island project?		Ken
If this is a "wetlands restoration" plan why are there no conservation or similar organizations partnering with these projects like there are partnering all of the other projects on Scudder Mackey's chart?		Anonymous Attendee
Meeting Logistics		
Does anyone even read these questions? ;)	Yes, we do! Thanks for submitting them.	mjarvis
I see you are recording this. How can I get a copy of the recording?	The recording is available at www.cullenbaywetlands.com/publicmeeting .	Anonymous Attendee
We see the "Recording" light in upper left of screen. Will this webcast be available to view later?		Tim Leslie-Pilner
How do I get a list of attendees of the meeting?	According to Zoom reports, 146 total users logged into the Dec. 17 public meeting.	Anonymous Attendee
How many people attended?		ChristopherSlaght