

FROM	COMMENT	AGENCY	RESPONSE
<b>TARGETS AND LOAD DISTRIBUTION</b>			
AGL-OEC-FF, UARF, Ohio Corn & Wheat and Ohio Soybean Assn, ELPC, Hess, NWF, Reutter, LE Waterkeeper, Stephens	More focus on DRP or bioavailable phosphorus...Include explanation on bioavailable P, that TP has not increased significantly over the years but DRP is up over 130%, and it is the increase in DRP that is driving the problem of HABs in the Western Basin.	Ohio EPA, OLEC	We agree that DRP reductions are very important. Practices that aim to retain/slow the flow of water, two of which are included as priority practices, will reduce both TP and DRP. At this time, we are waiting on additional research and federal guidance in regard to the ability of various other BMPs to specifically reduce DRP. Once there is more certainty in which practices are best for DRP reduction, Ohio will promote these to their fullest extent possible.
AOMWA, Ohio Corn & Wheat and Ohio Soybean Assn, ELPC, NWF, LE Waterkeeper	Adjust goals for HUC12 reductions based on individual watershed characteristics.	Ohio EPA	<p>The far-field load targets methodology, explained in Appendix A, does utilize the unique mix of land use and hydrology within each HUC12 in its calculations. The actual number of acres within the three categories of land use for each HUC12 are used to determine its existing (2008) load. Further, the phosphorus yields (i.e., pounds per acre) determined for the whole Maumee River watershed are adjusted in each HUC12 based on hydrology. This is done utilizing the hydrologic weighting factor (HWF). New material in the methods and results section of Appendix A have been added to better explain this. This includes an example HUC12 calculation in new A2.6.3 subsection. New results tables (Tables A12- A18) are provided that show the actual land use, HWF and adjusted phosphorus yields for every HUC12.</p> <p>The HUC12 targets are meant to serve as a starting point to be used in detailed pollutant reduction plans. Individual nonpoint source implementation strategies (aka 9-Element Plans) should take into account the field scale variations.</p>
AOMWA, Ohio Corn & Wheat and Ohio Soybean Assn, NWF, Reutter, Alexander	We request further elaboration on the narrative in A2.6.2 and the methodology for watersheds that are less agriculturally dominated. ...is it based on models or measurements of concentrations within the tributaries ...(land use) analysis should also be made available for review.	Ohio EPA	The method groups all land uses into either agricultural, developed, or natural. A basin wide phosphorus yield was determined for each of those three land use types. Hydrology is used to weight the basin wide phosphorus yield values for each HUC12. Then the adjusted yields are applied to each HUC12 multiplied by the amount of area of the three grouped land use types. This method is applied to all HUC12s; there

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			<p>are no additional steps carried out in watersheds that are less (or more) agriculturally dominated.</p> <p>Ohio EPA will share the calculations/data with parties that requested to it be made available for review.</p>
AOMWA	<p>The results in Tables A5-A11 are not reproducible. Some of these inconsistencies are likely due to rounding, but others appear to be related to differing assumptions with the load for a land use less than 100 pounds per acre.</p>	Ohio EPA	<p>The results for the far-field existing loads and targets were only presented with two significant digits, in integer pounds. This was done to reflect a reasonable level of precision when calculating yield values based on academic studies (most studies only report runoff concentration or yields to the hundredths place). As mentioned earlier in these responses, the load targets are meant to be a starting point for more detailed nonpoint source pollution planning at a finer scale. The intent was not to overstate the level of precision in these calculations.</p> <p>Because of only maintaining two significant digits, results under 100 pounds are presented as “&lt;100”. These could have been calculated as 99 or 0.1 pounds. The result of this is that summing of the report values will not always add up perfectly. Ohio EPA will share the calculations/data with parties that requested to it be made available for review.</p>
Hess	<p>Tonnage of nutrients from facilities permitted and constructed since 2008 should be added to the base year total to be reduced.</p>	Ohio EPA	<p>The load reduction targets presented in Appendix A are only applicable to nonpoint sources and non-wastewater treatment plant permitted sources (i.e., stormwater from MS4 permitted developed areas and HSTs that are covered by Ohio EPA’s general permit).</p> <p>Appendix E documents an overall reduction in wastewater treatment plant facility total phosphorus springtime effluent load in the Maumee River watershed from 2008-2018.</p>
AOMWA	<p>Adjust goals for all Annex 4 priority watersheds based on individual characteristics.</p>	Ohio EPA, OLEC	<p>The state has prioritized the Maumee River watershed. This is in accord with Annex 4’s recommendations that the phosphorus loads from the Maumee River dictate the size of the seasonal HABs in the Western Basin of Lake Erie. The other priority watersheds will be addressed as time and resources allow.</p>
Reutter	<p>Elevate FWMC targets into the text, not just footnote.</p>	OLEC	<p>We have made this change.</p>

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Toot-Levy, Bihn	Parts of the DAP include revisions that were made to the way the Nutrient Mass Balance determines nutrient loading. When will the next Nutrient Mass Balance report be available?	Ohio EPA	The extra steps in the Domestic Action Plan will not be included in the 2020 Nutrient Mass Balance report. It will be released in the 2020 calendar year.
<b>AGRICULTURAL LAND MANAGEMENT</b>			
<b>MANURE</b>			
Reutter, LE Waterkeeper	Until ... improvements are realized, the state should consider enacting a moratorium on any new CAFO permits in the WLEB watershed.	ODA	Approval of all Concentrated Animal Feeding Facility permits in the State of Ohio must be in accordance with Ohio Revised Code chapter 903 and the rules promulgated thereunder; Ohio Administrative Code chapter 901:10. Operational practices and procedures of all CAFFs in the State of Ohio must be in accordance with the same. ODA does not have authority to enact a moratorium.
Reutter, LE Waterkeeper	Include the information that current guidelines allow animal manure to be spread at about 4 times the rate recommended for commercial fertilizer/limit to agronomic rate.	ODA	<p>Current guidelines for both manure and fertilizers recommend the application of phosphorus at crop removal rates. Phosphorus application rates for typical crop rotations in Ohio will range from 50 to 60 pounds of phosphate per acre annual depending on the planned crop rotation and yield. Current guidelines do not allow increased phosphorus applications through manure beyond the crop removal rates.</p> <p>Tri-State Fertilizer Guide nutrient recommendations generally go to zero in the 40 to 50 ppm soil test phosphorus range depending on the crop rotation. This is an economic threshold developed by Extension researchers. This avoids the purchase of fertilizer that would not provide an economic return to the producer.</p> <p>Manure application guidelines allow the application of phosphate at removal rates at higher soil test levels. Ohio NRCS Nutrient Management Standard (590 Standard) establishes an environmental threshold of 150 ppm in the Phosphorus Soil Test Risk Assessment Procedure (P-STRAP). In addition, the 590 Standard requires additional management considerations at the time of application once the soil test phosphorus level is above 40 ppm.</p>

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Hess	Would a (CAFO) permit program with a low de minimis inclusionary threshold with multilevel and increasingly more stringent regulatory requirements provide greater benefit with minimal burden?	ODA	Ohio authorities related to agricultural pollution abatement, specifically, Ohio Revised Code 939 and Ohio Administrative Code 901:13-1, and Ohio Revised Code 903 and Ohio Administrative Code 901:10, are referenced on page 8 of the draft DAP 2020. The statute allows regulation of smaller operations if it is deemed necessary as described in ORC 903.082. ODA does not have authority to enact a lower general threshold.
NWF	The DAP needs to more clearly specify how existing and any new actions will address phosphorus runoff from animal feeding operations (AFOs).	ODA	Ohio authorities related to agricultural pollution abatement, specifically, Ohio Revised Code 939 and Ohio Administrative Code 901:13-1 are referenced on page 8 of the draft DAP 2020. Since the transfer of Division of Soil and Water Conservation from Ohio Department of Natural Resources to Department of Agriculture in 2016, these authorities have been enhanced and administrative procedures have been strengthened. The Division of Soil and Water Conservation can now assess civil and administrative penalties for violations of the Agricultural Pollution Abatement Program rules and laws. This new authority penalizes the individual for the violation that occurred, deters future acts of agricultural pollution, and minimizes the economic benefit that may have been gained by polluting waters of the state.  Also see related authorities, Ohio Revised Code 903 and Ohio Administrative Code 901:10.
NWF	Develop better estimates of phosphorus loading from manure from non-permitted AFOs.	ODA	ODA agrees more research and information is needed regarding phosphorus loading from livestock manure and supports related research proposals submitted for state review.
Hartman	What is addressing the confined animal feeding operations (CAFO)? Why don't you address the CAFOs?	ODA	<i>Refer to</i> Table 2 on page 8 of the draft DAP: Ohio Revised Code 903, and Ohio Administrative Code 901:10. Concentrated Animal Feeding Facilities can be participants in the H2Ohio program and Senate Bill 299 program.
REGULATION/ENFORCEMENT			

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Hess	Expand on Agricultural Regulatory Programs (possibly appendix)	ODA	<i>Refer to Table 2 on page 8 of the draft DAP: Ohio Revised Code 903, and Ohio Administrative Code 901:10.</i>
Hess	Why not include tighter rules (based on other jurisdictions efforts) for existing (animal) sources or BMPs in the plan?	ODA	<i>Refer to Table 2 on page 8 of draft DAP: Ohio Revised Code 903, and Ohio Administrative Code 901:10. ODA does not have authority to include tighter rules.</i>
ELPC	Existing enforcement is inadequate, consider devoting funds to improving the enforcement of existing regulations	ODA	<i>Refer to Table 2 on page 8 of draft DAP: Ohio Revised Code 903, and Ohio Administrative Code 901:10. Since the transfer of Division of Soil and Water Conservation from Ohio Department of Natural Resources to Department of Agriculture in 2016, these authorities have been enhanced and administrative procedures have been strengthened. The Division of Soil and Water Conservation can now assess civil and administrative penalties for violations of the Agricultural Pollution Abatement Program rules and laws. This new authority penalizes the individual for the violation that occurred, deters future acts of agricultural pollution, and minimizes the economic benefit that may have been gained by polluting waters of the state.</i>
AGL-OEC-FF	Develop agricultural performance standards in statute and rule within TMDL framework	ODA	<i>TMDLs are key guidance documents for improving regulations. TMDLs will be considered in any future regulatory changes to OAC 901:10 or statutory changes to ORC 903.</i>
<b>SPECIFIC BMPS</b>			
UARF	Add prairie vegetation in strips or as buffers as a BMP	ODA	<i>ODA agrees that prairie grasses or warm season grasses have a place in conservation delivery and are listed in USDA-NRCS standards and specifications for buffer strips. Prairie species develop deep rooting systems that aid in water infiltration. However, many species grow in a bunching pattern, which when planted in strips, is a characteristic that limits their ability to filter sheet flow and trap sediment. Typically, producers prefer planting wider buffer strips that can be harvested. These buffers are better at filtering sheet flow and trapping sediment. Another advantage of these grasses is their ability to be a sink for nutrients. When harvested, nutrients taken up by grasses are recycled back into production rather than remain as a potential runoff source.</i>

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Reutter	Focus on the four nutrient management BMPs, not the other 6 BMPs; this meets the target (if universally applied) and is cheaper	ODA (OLEC)	<p>ODA has identified 10 conservation practices which will reduce nutrient loading into Lake Erie. ODA-DSWC has developed guidelines for 7 of these practices and these are being implemented as part of the H2Ohio Program. The goal of these practices is to reduce nutrient loss through better nutrient management and application practices, reduced soil erosion, and better water management. ODA will continue to evaluate the impact of these practices moving forward and adjust practice requirements or employ different practices as new information is available.</p> <p>To achieve the maximum reduction in total phosphorus, cooperating producers are encouraged to “stack” multiple practices on cropland acres. For example, currently most of the livestock manure is applied in the fall or early winter after the harvest of Corn or soybeans. This is not an ideal time for two reasons. First, with no growing crop to utilize the nutrients, available N &amp; P is more readily lost. Secondly, greater precipitation and potential frozen or saturated soils increases runoff and nutrient loss. Optimizing the nutrient management BMP of Manure Incorporation requires opening additional application windows either during a late spring application into a growing crop or in late summer early fall prior to harvest. The Conservation Crop Rotation practice opens a window in the summer when drier field conditions normally exist and lower the risk of offsite movement of nutrients. When followed with use of an Overwintering Cover Crop this suite of practices will provide greater environmental impact.</p>
UARF	Filtration beds not cost effective	ODA	Filtration beds are not a cost-share eligible practice under current state incentive programs to agricultural producers, i.e. Lake Erie Phosphorus Reduction Program and H2Ohio
Hartman	Skeptical that manure injection will work because of field tile	ODA	ODA believes incorporation of manure in conjunction with additional criteria in the USDA Nutrient Management standard, decreases the risk of nutrient loss when compared to surface application.

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			<p>All manure application must follow the USDA standard for Nutrient Management (590). This standard acknowledges a potential increase in risk of nutrient movement with subsurface drainage. To address this increased risk, the standard has criteria specific to tile drained fields, specifically:</p> <ul style="list-style-type: none"> <li>• Do not apply application rates (volume) that would exceed the lesser of the AWC in the upper 8 inches or ½ in per acre or approximately 13,500 gallons/acre per application.</li> <li>• If injection is used, inject only deep enough to cover the manure with soil. Till the soil at least 3 inches below the depth of injection prior to application, or all tile outlets from the application area are to be plugged prior to application. This criteria may be waived if the producer can verify there is no prior history of manure discharge via subsurface drains. However, if there is a discharge the producer is liable for damages.</li> <li>• In addition to tillage prior to surface liquid manure application or injection, install in-line tile flow control structures or inflatable tile plugs that can mechanically stop or regulate tile flow either prior to application, or have on site if needed to stop tile flow. Use caution not to back tile water where it may impair the functioning of an offsite subsurface drainage system. This criteria may be waived if the producer can verify there is no prior history of manure discharge via subsurface drains. However, if there is a discharge the producer is liable for damages.</li> <li>• Monitor fields during and after application for runoff or subsurface drainage discharge.</li> </ul> <p>Additionally, OAC 901:10 requires monitoring of tile outlets and concentrated surface flow areas during manure application.</p>
TNC	Need BMPs that can address high flow events	ODA	<p>State programs including H2Ohio provide funds for wetlands construction and enhancement for this purpose. Programs also include establishment of buffer strips between fields and water courses as a means of slowing sheet runoff and capturing silt and nutrients. ODA is</p>

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			supportive of additional research to continue investigation of such practices.
Hess	A list of all 100 of the BMPs under consideration plus the cost and effective(ness) would be beneficial as a footnote to commenters and for future updates to the DAP.	ODA	A full cost benefit analysis was not performed for all 100+ BMPs due to limited information, often on effectiveness of P reduction by the BMPs. This list will be provided as supplemental information on the Ohio DAP web page (see Cost Curve Analysis PDF)
AGL-OEC-FF	Focus H2Ohio on structural practices/plan to phase out for annual practices	ODA	ODA has identified 10 conservation practices which will reduce nutrient loading into Lake Erie. ODA-DSWC has developed guidelines for 7 of these practices and are being implemented as part of the H2Ohio Program. The goal of these practices is to reduce nutrient loss through better nutrient management and application practices, reduced soil erosion, and better water management. Not every practice is optimal for an individual farm field, and providing a range of practices will promote producer participation. ODA will continue to evaluate the impact of these practices moving forward and adjust practice requirements or employ different practices as new information is available.
<b>GENERAL AGRICULTURAL OR H2OHIO PROGRAMS RELATED</b>			
AGL-OEC-FF, ELPC, Reutter	Voluntary measures by agriculture are inadequate, too lenient.	ODA	Ohio is prioritizing voluntary implementation of nutrient management practices with significant authorities in place to address reported cases of agricultural water pollution. Those authorities are referenced on page 8 of the Draft DAP 2020. Ohio will also practice adaptive management to determine future action. Ohio EPA with many partner institutions are monitoring and assessing changes to water quality as H2Ohio and other voluntary delivery programs are implemented. This information will be considered as state decision-makers determine changes in policy and program direction.
Ohio Corn & Wheat and Ohio Soybean Assn	We request the specifics associated with the development of individual cost-curves and assumed nutrient load reductions per practice be provided.	ODA (OLEC)	Pages 48-58 of the DAP have cost curve data for 20 selected BMPs. There are footnotes at the bottom of each figure to identify the source information. See Cost Curve Analysis PDF.

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TNC	Stack or bundle practices to maximize effects, include treatment trains	ODA	<p>ODA is currently encouraging the bundling of several conservation practices to increase the effectiveness and impact of conservation program funds. H2Ohio programs were developed specifically with the intension of stacking of conservation practices in.</p> <p>Voluntary Nutrient Management Plans (VNMP) are required on all acres. Nutrients applied from manure or commercial sources must be based on the VNMP and follow Tri-State Fertilizer Recommendations. Additionally, the use of Conservation Crop Rotation and Overwintering Cover Crops provide year-round benefits.</p> <p>Wetlands constructed or enhanced in the watershed add an additional opportunity for treatment. Ohio Department of Natural Resources is currently focusing H2Ohio program efforts on the development of wetlands designed to improve water quality.</p>
NWF	Develop cost curve for DRP related BMPs.	ODA (OLEC)	<p>At this time there is limited information on the effectiveness of best management practices at reducing dissolved reactive phosphorus (DRP). This lack of data for DRP reduction is why the analysis focuses on tracking total phosphorus, although dissolved reactive phosphorus is a better indicator of HAB development.</p> <p>Ohio has supported projects to improve the understanding of DRP sources and transport. We hope that these projects will allow future iterations of the Domestic Action Plan to include DRP in a more rigorous fashion.</p>
NWF	Improve cost curve graphics in Appendix C.	OLEC	Slide deck with graphics added as a separate file on the web page.
Hess	What is the percentage of the phosphate - nutrient loading (from regulated CAFOs) compared to the total basin loadings?	ODA	This is currently an unknown. ODA agrees more research and information regarding phosphorus loading from livestock manure is needed and supports related research proposals submitted for state review. However, the amount of edge-of-field monitoring required to answer this question definitively is likely cost-prohibitive.

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Hess	Require new sources (generally) to meet more stringent rules that minimize or eliminate the creation of pollution	ODA	<p>Relevant state authorities are referenced on page 8 of the Draft DAP 2020.</p> <p>Approval of all Concentrated Animal Feeding Facility permits in the State of Ohio must be in accordance with Ohio Revised Code chapter 903 and the rules promulgated thereunder; Ohio Administrative Code chapter 901:10. Operational practices and procedures of all CAFFs in the State of Ohio must be in accordance with the same.</p> <p>Ohio is prioritizing voluntary implementation of nutrient management practices with significant authorities in place to address reported cases of agricultural water pollution, Ohio Revised Code 939 and Ohio Administrative Code 901:13-1.</p> <p>Ohio will also practice adaptive management to determine future action. Ohio EPA with many partner institutions are monitoring and assessing changes to water quality as H2Ohio and other voluntary delivery programs are implemented. This information will be considered as state decision-makers determine changes in policy and program direction.</p>
OABA	The 4R Nutrient Stewardship Certification Program and other privately run voluntary activities should be included in the Plan.	OLEC	Will add to private actions table.
OABA	Call out Certified 4R Retailers, who will be taking the burden of developing a Nutrient Management Plan off their farmer customers and streamlining the overall process.	OLEC	Will add to private actions table.
OABA	Reference the 4R Nutrient Stewardship Certification Program (as part of H2Ohio partners).	OLEC	Added to text about nutrient management planning on page 7 of the DAP 2020.
Reutter	A high tax on fertilizer could solve the problem and revenue could be used to assist farmers with costs in inserting fertilizer and manure, and the tax would make it more economical to transport manure great distances.	ODA	<p>Ohio is prioritizing voluntary implementation of nutrient management practices with significant authorities in place to address reported cases of agricultural water pollution, Ohio Revised Code 939 and Ohio Administrative Code 901:13-1.</p> <p>Ohio will also practice adaptive management to determine future action. Ohio EPA with many partner institutions are monitoring and</p>

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			assessing changes to water quality as H2Ohio and other voluntary delivery programs are implemented. This information will be considered as state decision-makers determine changes in policy and program direction.
LE Waterkeeper	All BMP projects need to report phosphorous, total and dissolved, before and after the BMP.	ODA	Requiring edge-of-field monitoring for every practice installed would likely be cost-prohibitive. However, USDA-Agricultural Research Service is conducting BMP nutrient reduction performance investigations using edge-of-field monitoring, and data will become available as published. Phosphorus concentration and loads are monitored and reported by Ohio EPA and partner institutions.
LE Waterkeeper	The Ohio DAP needs to identify sources to be reduced rather than relying on BMP's.	ODA	Ohio has developed mass balance reports and determined far-field loads and reduction targets for sub-watersheds (12-digit hydrologic units). These values are used to locally develop Nonpoint Source Implementation Strategies (NPS-IS), which will help guide future implementation of nutrient management practices. NPS-IS development in the Western Lake Erie Basin is a state priority and efforts continue to support local development with funding, technical support, and guidance.
<b>RESTORATION OF ECOSYSTEM SERVICES / WETLANDS</b>			
<b>INLAND WETLANDS</b>			
UARF	Wetlands are not a cost effective way of reducing nutrients.	ODNR	One recent cost benefit analysis of restored wetlands and their ability to reduce nitrogen, phosphorus and sediment showed that restored wetlands were ranked second, among 19 different practices, in terms of cost/benefit for reducing nitrogen, phosphorus and sediment. In other words, TNC's analysis reinforces our understanding that restored wetlands are a low cost and effective nutrient reduction approach. An additional benefit of wetland restoration is that these systems become permanent features on the landscape. Agricultural commodity markets may influence adoption, maintenance and overall lifespan of many important on-farm BMPs while permanent practices like wetland or floodplain restorations are insulated from changing market conditions. ODNR is focused on wetlands projects that are cost effective.

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Hess	A citation and an explanation for those statements (in Appendix B about wetlands functions) is warranted.	ODNR	<p>Research has demonstrated that wetlands are capable of reducing nutrients. See “Ability of Restored Wetlands to Reduce Nitrogen and Phosphorus Concentrations in Agricultural Drainage Water” C.J. Woltemade. Journal of Soil and Water Conservation. July 2000, 55 (3) 303-309.</p> <p>Coastal wetlands along Lake Erie have an ability to capture nutrients and sediments according to this study: “Using Turbidity Measurements to Estimate Total Phosphorus and Sediment Flux in a Great Lakes Coastal Wetland” Joseph J. Baustian, Kurt P. Kowalski, Alex Czayka. Wetlands (2018) 38:1059-1065.</p> <p>Wetlands contribute to reduced flood elevations due to their ability to retain water on the landscape. Wetland size, design and placement can influence the level of flood water retention as in “Flood Reduction through wetland Restoration: The Upper Mississippi River Basin as a Case History” Donald L. Hey, Nancy S. Philippi. Restoration Ecology. Vol. 3, Issue 1, March 1995, Pages 4-17.</p> <p>Wetlands have documented benefits for various wildlife species: “Fish and Wildlife Benefits Associated with Wetland Establishment Practices” Charles A. Rewa. USDA NRCS, Resource Inventory and Assessment Division.  <a href="https://www.fsa.usda.gov/Internet/FSA_File/chap_5.pdf">https://www.fsa.usda.gov/Internet/FSA_File/chap_5.pdf</a></p>
TNC	New wetland project sites should be carefully selected	ODNR	<p>Wetland restoration sites are selected based on their watershed location, connectivity to other protected lands, wetland: watershed ratio, acres of ag. drainage captured and total acreage protected. Wetland: watershed ratio and acres of ag drainage captured are estimated using USGS Stream Stats. Projects are also selected based on a suite of qualitative parameters: public outreach potential/visibility, ease of project execution, local support, confidence in long-term operations and maintenance, unique project partnership and cost share.</p>
TNC	Restoration of riparian corridors and floodplains, including floodplain reconnection in streams and rivers, should be promoted	ODNR	<p>Floodplain restoration, alongside wetland restoration, is currently being funded in the H2Ohio program. For example, the Redhorse Bend Project is a 55-acre floodplain restoration taking place along the</p>

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			Sandusky River. In this project, farmed floodplain is being returned to riparian habitat. Other similar floodplain restoration projects have also been under consideration. There are also H2Ohio projects that include design elements to restore stream corridors in Williams and Paulding Counties in the Maumee River Watershed. These are the St. Joe Confluence and Forder Bridge Projects, respectively.
<b>COASTAL WETLANDS</b>			
Baumker, Dieball, Ehmann, Fahle, Foeller, Matuszak, Peters, Spear, Stange, Stackpoole	Oppose coastal wetlands in Maumee River/Bay area	ODNR	<p>The primary goal of these wetland projects to improve Lake Erie water quality by reducing nutrient and sediment loads in the Maumee River and in Maumee Bay. These projects are designed to function in a manner similar to the historic coastal wetlands that once existed along the banks and adjacent to islands within the Maumee Rivermouth prior to extensive filling of these wetland areas and creation of the navigation channel.</p> <p>These projects will complement ongoing inland agricultural initiatives in the Maumee River watershed, contribute to the reduction of nutrient and sediment loads, and enhance and restore functional fish and wildlife habitats. Secondary project goals, are to maintain and support commercial and recreational navigation, enhance public access, and provide recreational opportunities, while maintaining the natural character and beauty of the Cullen Park embayment and Grassy Island areas.</p> <p>These projects are in the early stages of engineering and design, and final design details will continue to take into account extensive public input. We understand, respect and value the passion the Point Place community holds for its waterways and Cullen Park. We will continue to seek open dialogue with area residents to ensure that their concerns are considered during the design of these projects.</p>
UARF	Oppose coastal wetlands in Sandusky Bay	ODNR	Ongoing research by Bowling Green State University, Kent State University, and Heidelberg University and three-dimensional hydrodynamic and nutrient modeling work funded, in part, by U.S. EPA suggests that in addition to a reduction in nutrient and sediment loads, improvements in water clarity (reductions in turbidity) are necessary to reduce the frequency and magnitude of harmful algal blooms (N-

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			<p>limited <i>Planktothrix</i>) in Sandusky Bay. The coastal wetland projects proposed for the Inner Sandusky Bay are designed to trap and process nutrients and sediments along with attenuating (absorbing) wave energy that causes resuspension of bay sediments degrading Bay water quality. More recent wave modeling work suggests up to an 80% reduction in wave energy in the western portion of Inner Sandusky Bay resulting from the creation shallow wetland shoals and islands.</p> <p>These projects will complement ongoing inland agricultural initiatives in the Sandusky River watershed, contribute toward the reduction of nutrient and sediment loads, and enhance and restore functional fish and wildlife habitats. These projects will also enhance recreational opportunities and provide critical quiet water fish and wildlife nursery habitat.</p>
UARF	Oppose constructing coastal wetlands generally	ODNR	<p>The ability of Lake Erie coastal wetlands, including several of ODNR’s projects, to capture nutrients and sediments has been documented and is outlined in the following studies, as examples: “Using Turbidity Measurements to Estimate Total Phosphorus and Sediment Flux in a Great Lakes Coastal Wetland” Joseph J. Baustian, Kurt P. Kowalski, Alex Czayka. <i>Wetlands</i> (2018) 38:1059-1065.</p> <p>Krieger, K.A., 2003. Effectiveness of a Coastal Wetland in Reducing Pollution of a Laurentian Great Lake: Hydrology, Sediment, and Nutrients. <i>Wetlands</i>. Vol. 23, No. 4. pp. 778-791.</p>
Hess	The use of dredging spoils that contain phosphates (to create wetlands), without mitigation/containment, needs a thorough evaluation.	ODNR	<p>All of the proposed coastal wetland projects are being designed with appropriate containment structures to hold, stabilize, and protect the dredge material from erosion due to wave activity, currents, and ice during the winter months. Uncontained placement of dredge material has never been considered to be a viable option for these coastal wetland projects.</p> <p>With respect to phosphorus, Ohio EPA continues to sample dredge material for contaminants and nutrients. Only clean uncontaminated sediments will be used for coastal wetland projects. ODNR is also collaborating with the USACE Engineering Research and Design Center (ERDC) to assess phosphorus concentrations in coastal and inland wetlands to assess wetland soil P concentrations and potential for P</p>

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			<p>uptake and release. More than 70 cores have been taken to date to assess wetland sediment nutrient concentrations. Based on these data, possible remediation measures may be evaluated for consideration.</p> <p>For the Sandusky Bay and Maumee Rivermouth projects, it is anticipated that most of the dredge material will be sourced from local bottom sediments. It is not anticipated that material dredged from the Federal navigation channels will be used for construction of these projects due to distance and/or placement factors. By stabilizing these sediments and establishing submergent and emergent aquatic vegetation, soil P will be processed by submergent and emergent wetland vegetation during periods of growth and subsequent removal.</p>
<b>WETLANDS GENERAL</b>			
Hess	Concerns about/enhancements to the economic cost-benefit calculations for wetlands specifically	ODNR	<p>One recent cost benefit analysis of restored wetlands and their ability to reduce nitrogen, phosphorus and sediment showed that restored wetlands were ranked second, among 19 different practices, in terms of cost/benefit for reducing nitrogen, phosphorus and sediment. In other words, TNC's analysis reinforces our understanding that restored wetlands are a low cost and effective nutrient reduction approach. An additional benefit of wetland restoration is that these systems become permanent features on the landscape. Agricultural commodity markets may influence adoption, maintenance and overall lifespan of many important on-farm BMPs while permanent practices like wetland or floodplain restorations are insulated from changing market conditions.</p>
AGL-OEC-FF	Analyze wetland needs for targeting locations for placement; O&M needs; quantify expected P reductions; conduct cost-benefit analysis	ODNR	<p>Wetland restoration sites are selected based on their watershed location, connectivity to other protected lands, wetland: watershed ratio, acres of ag. drainage captured and total acreage protected. Wetland: watershed ratio and acres of ag drainage captured are estimated using USGS Stream Stats. Projects are also selected based on a suite of qualitative parameters: public outreach potential/visibility, ease of project execution, local support, confidence in long-term operations and maintenance, unique project partnership and cost share.</p>

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			<p>One recent cost benefit analysis of restored wetlands and their ability to reduce nitrogen, phosphorus and sediment showed that restored wetlands were ranked second, among 19 different practices, in terms of cost/benefit for reducing nitrogen, phosphorus and sediment. In other words, TNC's analysis reinforces our understanding that restored wetlands are a low cost and effective nutrient reduction approach. An additional benefit of wetland restoration is that these systems become permanent features on the landscape. Agricultural commodity markets may influence adoption, maintenance and overall lifespan of many important on-farm BMPs while permanent practices like wetland or floodplain restorations are insulated from changing market conditions.</p> <p>A plan is in place to monitor and quantify nutrient reduction on each H2Ohio wetland project site. Research has shown that wetlands are capable of reducing nutrients. See "Ability of Restored Wetlands to Reduce Nitrogen and Phosphorus Concentrations in Agricultural Drainage Water" C.J. Woltemade. Journal of Soil and Water Conservation. July 2000, 55 (3) 303-309. In this paper, researchers estimated that wetlands could remove 68% nitrate-nitrogen and 43% phosphorus from agricultural drainage water, but results were highly site-specific.</p>
Hess, Foeller	Evaluate, with citations, the addition of supporting data and calculations to reinforce ... (the benefits of) tangential wetlands rather than flow-through wetlands where the flow is minimal	ODNR	<p>Flows are maximized at the mouth of the Maumee River. The proposed coastal wetlands are located within the Cullen Park embayment and west of Grassy Island and north of the Cullen Park Causeway. These are flow-through wetlands where water will be able to flow around and through the wetland complex, but are located tangentially to the main Maumee River channel due to 1) excessive water depths associated with the Federal navigation channel and 2) high flow velocities within the main channel during significant discharge events. A portion of the flow from the Maumee River will be redirected through the Cullen Park and Grassy Island wetland projects to process nutrients and improve Lake Erie water quality.</p> <p>These wetlands will be designed to maintain functionality across a range of water level and flow regimes due to an undulating low-relief</p>

FROM	COMMENT	AGENCY	RESPONSE
			<p>bottom topography. Building on earlier flow modeling work funded by the USACE, a 3-D hydrodynamic flow model will be used to assess flow dynamics and wetland retention times under different discharge and water level regimes. The results of this modeling work will assist in the overall design, internal configuration, and location of these wetlands within the designated project areas.</p>
Alexander	<p>Is wetland construction focused on coastal wetlands, or will there be an equal number of wetland construction projects located upstream in the watershed? Are coastal wetlands prioritized higher?</p>	ODNR	<p>Wetland construction is not purely focused on Coastal areas. The first phase of H2Ohio wetland projects are about 50% coastal and 50% inland. 'Inland', in this context, means the project is taking place in the non-coastal zone of the Maumee or Sandusky watershed. Our inland projects are focusing on wetland restoration, stream restoration and floodplain restoration. Coastal wetlands are not prioritized higher or lower than other project types.</p>
Foeller	<p>If a flow through wetland is created in a residential area within urban city limits, who is responsible for maintaining it once the project is complete and the H2Ohio funding used to build it is no longer available?</p>	ODNR	<p>The State of Ohio, working with local project managers, recognizes the long-term need to manage and maintain these projects in to maintain wetland functionality, including water quality and nutrient reduction benefits. Various funding options are being considered to support long-term monitoring to assess project performance and to manage the wetland to maintain that performance. Responsibility for implementation of an Operations &amp; Maintenance (O&amp;M) plan is project specific and may include a third-party entity with expertise and experience in managing these types of projects.</p> <p>A required deliverable for all of the proposed wetland projects is a long-term O&amp;M plan and associated cost estimates for each of the projects. Typically, a long-term O&amp;M plan is required by Federal and State regulators before final regulatory authorizations are issued.</p>
Hess	<p>The plan would benefit from a description of the methodology in selecting the Restoration Projects in Appendix F.</p>	ODNR	<p>Wetland restoration sites are selected based on their watershed location, connectivity to other protected lands, wetland:watershed ratio, acres of ag. drainage captured and total acreage protected. Wetland: watershed ratio and acres of ag drainage captured are estimated using USGS Stream Stats. Projects are also selected based on a suite of qualitative parameters: public outreach potential/visibility, ease of project execution, local support, confidence</p>

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			<p>in long-term operations and maintenance, unique project partnership and cost share.</p> <p>In general, the greatest emphasis has been placed on the Maumee River Watershed, versus the Sandusky or Portage because of the known output of particulate and dissolved reactive phosphorus from the basin.</p>

### COMMUNITY SOURCES

AGL-OEC-FF	<p>The Division of Drinking and Ground Waters should request both pretreated source water and finished water monitoring data from utilities. This data should then be tracked via their HAB database that maintains an interactive map where the public can assess this data. Furthermore the state should provide sufficient funding for these systems to do this monitoring.</p>	Ohio EPA	<p>All public water systems (PWS) using surface water sources are required to monitor for harmful algal blooms (HAB) in accordance with the OAC Rule 3745-90-03 and detailed in the current PWS HAB Response Strategy. These requirements focus on monitoring for total microcystins and cyanobacteria screening for specific cyanotoxin-production genes.</p> <p>PWS are required to submit sampling results to OEPA-DDAGW to ensure compliance with the HAB monitoring rule. Additionally, PWS are encouraged to report any additional HAB results as “special purpose” to OEPA-DDAGW, who maintains a dedicated HAB database with all cyanotoxin and cyanobacteria screening results from PWS and Division of Surface Water (DSW). As stated in the draft DAP, cyanotoxin data from PWS and other Ohio EPA Surface Water Monitoring are accessible to the public through an interactive map at <a href="http://wwwapp.epa.ohio.gov/gis/mapportal/HAB_Monitoring.html">http://wwwapp.epa.ohio.gov/gis/mapportal/HAB_Monitoring.html</a>. Additionally, an Excel table of cyanotoxins (algal toxin) data is available at <a href="http://wwwapp.epa.ohio.gov/dsw/hab/HAB_Sampling_Results.xlsx">http://wwwapp.epa.ohio.gov/dsw/hab/HAB_Sampling_Results.xlsx</a>, and all results of water samples reported to Ohio EPA by PWS are available at <a href="https://epa.ohio.gov/ddagw/reporting">https://epa.ohio.gov/ddagw/reporting</a>.</p> <p>To assist PWS with the costs of HAB monitoring, Ohio EPA-DDAGW provided grants funds (\$1,285,000 during 2014-2017) for PWS to purchase analytical and monitoring equipment and training for HABs. PWS also are eligible for the HAB-discounted interest rate under the Water Supply Revolving Load account (WSLRA) program.</p>
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FROM	COMMENT	AGENCY	RESPONSE
			<p>Additionally, Ohio EPA made \$100 million available at a 0% interest rate through the Water Pollution Control Loan Fund (WPCLF) in 2015, 2016 and 2017 for equipment to reduce phosphorus and other nutrients.</p>
Alexander	Please confirm that this (DAP) will not include a 1.0 mg/L phosphorus concentration limit statewide	Ohio EPA	<p>Major municipal facilities inside the Lake Erie watershed already operate within a 1.0 mg/l phosphorus limit. The DAP, which is Lake Erie basin focused, would not be the vehicle to require statewide obligations.</p>
Antosch	Will Ohio EPA modify the discharge permits for discharging home sewage treatment systems? Add P limits?	Ohio EPA	<p>Ohio rule (OAC 3701-29) only allows discharging home sewage treatment systems (HSTS) when on-site treatment is not an option. Properly working on-site treatment systems have substantial phosphorus removal (80% removal is documented and used in Ohio's nutrient mass balance work as seen in Appendix A of the DAP). When site evaluations determine that on-site treatment is not possible, a statewide general NPDES permit can be obtained for a discharging system that does not contribute to a violation of a water quality standards in OAC 3745-01. Permitted discharging systems are designed to meet best available demonstrated control technology (BADCT) for new sanitary wastewater discharges. At this time BADCT does not include limits for phosphorus.</p> <p>Ohio EPA's Nutrient Mass Balance work has found that HSTS contribute 4% of the average 2013-2017 total phosphorus load to the Maumee River watershed (Figure 1 in the DAP). State and region-wide strategies are the focus for reducing phosphorus loads from HSTS in the Maumee River watershed. The reduction of phosphorus in home dish soaps in 2010 reduces phosphorus in all wastewater influents by around 10%, no doubt reducing the HSTS effluent load. Additionally, part of the H2Ohio strategy is to identify and address high densities of discharging systems where community-based solutions are feasible. An example project where this is happening is the work in the community of Kunkle, Ohio documented in the DAP. Community based wastewater treatment facilities remove sludge and the associated phosphorus is removed from the effluent.</p>

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			Ohio EPA's Division of Environmental and Financial Assistance has provided Lake Erie communities with over \$3.5 billion in non-drinking water, water resource infrastructure project loan funds since 2009. Nearly \$160 million of these funds have been provided as principal forgiveness. Just under \$1 billion of these loans and over \$90 million of this principal forgiveness has been provided to areas draining to the Western Lake Erie Basin. These loans include 171 non-point source projects the Lake Erie watershed, most of which involve the repair or replacement of HSTS.
<b>9-ELEMENT WATERSHED PLANNING</b>			
NWF, TNC	Prioritize development of the plans in the HUC-12 watersheds with the highest total phosphorus yields. In addition, a timeline for development of these plans should be included in the DAP.	Ohio EPA, ODA, OLEC	Watershed planning prioritization across the state includes prioritization for highest nutrient loading watersheds. Future opportunities for plan development will place higher priority on higher P-yielding watersheds, but also include prioritization for almost all WLEB watershed. Increased implementation and installation is needed across the region in most (if not all) HUC-12 watersheds. So, almost every NPS-IS that is developed will be important. The goal is to have all HUC-12 with strategic implementation plans in hand. Lastly, the planning process is contingent on local interest and the availability of funding.
NWF	9E watershed planning needs to be comprehensive and include both nutrient management practice priorities and structural practices.	Ohio EPA, ODA	Ohio's 9-Element Nonpoint Source Implementation Strategies are intended to be, and are encouraged to be written to be consistent with these comments.
NWF	Use the Ohio Balanced Growth Program resources to support recommendations for green infrastructure and low impact development and make them more easily accessible.	OLEC	We have added this reference to the document.
<b>MONITORING, TRACKING, REPORTING</b>			
AGL-OEC-FF, Hess, LE Waterkeeper, Hartman	Provide public and readily available reports of reasonable further progress toward the attainment of the 40% reduction mark and an estimated set of milestones for attaining the target	OLEC	Providing information to the public on progress is the goal. We have several mechanisms for this including the Water Monitoring Summary at lakeerie.ohio.gov which is Ohio specific, and ErieStat which is a joint reporting tool for all the jurisdictions in the GLWQA. H2Ohio reporting

FROM	COMMENT	AGENCY	RESPONSE
	reduction / annual updates / standardize across jurisdictions		tools are under development and will be posted at H2.ohio.gov when available.
Ohio Corn & Wheat and Ohio Soybean Assn, Bihn	We request the tracking system framework/more details be shared with stakeholders.	OLEC	The agencies are tracking number of projects, dollars allocated and spent, project outputs (eg. acreages), and a number of administrative details such as locations of projects and dates of events. Public facing tracking is under development as one or more infographics using data provided by the agencies. When available, we will post the tracking infographic(s) on the H2.ohio.gov website. Tracking of outcomes (system response) is available via the (Ohio) Water Monitoring Summary, (Ohio) Water Monitoring Expanded Report, Annex 4 reporting via the Lake Erie LAMP Annual Report, and ErieStat.
AGL-OEC-FF	Create a visual flow chart that accounts for the 40% reduction by linking management actions from Annex 4 down to field scale	OLEC	Providing clear information about the science and management goals under Annex 4 that is easy to understand by everyone, including field level producers, is important. We will review current materials and consider developing a graphic representation.
AGL-OEC-FF	Develop agricultural performance standards that can be tracked, reported, and tied to reduction targets	ODA, OLEC	Current efforts to improve overall agricultural performance in reducing nutrient losses are focused on getting more producers to use the recommended BMPs. We need to get more practices installed or operational before it is feasible to evaluate performance broadly under Ohio conditions on Ohio fields. While there are some preliminary data on a subset of practices on a few fields from USDA-ARS research projects, in the absence of extensive performance data, it is not possible to develop performance standards at this time. The agencies are tracking number of projects, dollars allocated and spent, project outputs (eg. acreages), and a number of administrative details such as locations of projects and dates of events. Public facing tracking is under development as one or more infographics using data provided by the agencies. When available, we will post the tracking infographic(s) on the H2.ohio.gov website.
AGL-OEC-FF	Develop metrics for SOM, infiltration rates, number of acres with soil tests over agronomic levels, and/or manure spreading	OLEC	The state has been discussing options with the Ohio Agricultural Conservation Initiative (OACI), a coalition of stakeholders, for collecting some of this sort of information in OACI's role as a non-state, interested stakeholder. It may be possible for the state to

FROM	COMMENT	AGENCY	RESPONSE
			<p>coordinate with them and receive some anonymized or aggregated data.</p> <p>These metrics might be informative in an effort to understand system response as part of a modeling effort, which is being conducted in an academic setting with state participation in an advisory capacity.</p>
AGL-OEC-FF	Develop and measure vegetation indices based on remote sensing that are tied to vegetative cover goals	OLEC	We have not developed vegetative cover goals. There has been some experimental development of remote sensing tools for determining the density of structural or vegetative BMPs, but it is a complex task and still under development in an academic setting.
AGL-OEC-FF	Request and report cost of intervention data from utilities	Ohio EPA	The recommendation to survey PWS to learn the costs of HAB monitoring, mitigation, and treatment is useful. As part of the five-year rule review for OAC Rule 3745-90-03 in 2021, Ohio EPA will conduct a Business Impact Analysis, which includes a summary of estimated cost of compliance with the rule and will be publicly available. DDAGW will also explore a PWS cost survey in conjunction with Early Stakeholder Outreach slated for late May 2020.
NWF	Include more information on the work under development for wetland monitoring.	ODNR	It is a high priority from ODNR's perspective to monitor the effectiveness of H2Ohio wetland projects and use the information gained through planned monitoring efforts as feedback in an adaptive management process. ODNR plans to contract with an independent, Ohio-based academic research consortium to carry out nutrient and flow monitoring on its H2Ohio projects. Details of this collaborative effort are currently under development.
ELPC, LE Waterkeeper	Add quantitative metrics for accountability	OLEC	When available, we will post the tracking framework and metrics on h2.ohio.gov with cross links to the Ohio DAP page at lakeerie.ohio.gov. We can consider the feasibility of deriving quantitative load reduction estimates from these, or possibly summing the estimated load reductions for individual projects. Areas with nine-element watershed plans subsequent to this version of the DAP should have quantitative metrics for load reductions developed as part of the planning process.
ELPC	Score metrics by watershed not county (HUC8 or HUC12)	OLEC	Adjustments are planned to the existing tracking to make this possible. This adds a level of complexity since it is not as obvious to the farmers or the SWCD staff where a project is in relation to a HUC12 boundary.

FROM	COMMENT	AGENCY	RESPONSE
Hess	Use media releases with pertinent stories on projects and successes	OLEC	All of the agencies are using news releases to announce progress on H2Ohio specifically and plan to continue to do so.
Klasic	Will (H2Ohio monitoring funds) expand on existing monitoring programs or fund maintenance of existing programs? Is there any plan to expand the monitoring stations throughout the watersheds to capture impacts of agricultural BMPs?	Ohio EPA	A robust/high quality nutrient tributary monitoring program is already running in the Lake Erie watershed, with focus on the Maumee River basin as noted in Appendix G. These monitoring locations cover watersheds with a wide variety of size and land uses. The state also utilizes information from the academic and federal government edge-of-field studies throughout the Lake Erie watershed. Ohio has recently used H2Ohio funding to add rain gages throughout northern Ohio to, among other things, improve the accuracy of water quality/quantity modeling in the future.
<b>PUBLIC INVOLVEMENT</b>			
NWF, OABA	Advisory Group (2)	OLEC	<p>The state will continue to engage interested stakeholders through ad hoc meetings. Meetings will cover a range of topics related to meeting the goals of the Domestic Action Plan, and stakeholders should provide recommendations to the Ohio Lake Erie Commission about specific questions or issues that should be discussed in a broader group setting.</p> <p>The state will continue to explore the feasibility of holding occasional conferences specifically to address the Ohio DAP actions and outcomes.</p> <p>A formal advisory group will not be established at this time.</p>
	Conference (0)		
AGL-OEC-FF, NWF	Ad Hoc meetings (2)		
AOMWA, Ohio Corn & Wheat and Ohio Soybean Assn, OMA, TNC	All three options (4)		
<b>GENERAL</b>			
AGL-OEC-FF, ELPC, Hess, NWF, TNC, LE Waterkeeper	The final DAP should include specific, measurable, and timely goals, objectives, and tactics tied to a timeline and estimates of load reductions, with a margin of safety.	OLEC	We are working towards better quantification. The load distribution to the HUC12 level was a start. This is an Adaptive Management process, and we need more data about practice effectiveness and likely timeframes for practice adoption under the new H2Ohio program before we can be more specific.

FROM	COMMENT	AGENCY	RESPONSE
AGL-OEC-FF, ELPC, NWF, Reutter, TNC, LE Waterkeeper	Explanation of how the state will respond if timelines and phosphorus reduction goals are not met/no penalty is included/more urgency	OLEC	Under Adaptive Management, we will make decisions based on the latest relevant information. A variety of data are used to inform decisions, and we will evaluate them regularly as we move forward.
NWF, OFBF, Reutter, LE Waterkeeper, Stephens, Klasic	Consider climate change; increases in temperature, rainfall, and water flows; may need to change target	OLEC	Modification of the target is a cross-jurisdictional effort under the Annex 4 Subcommittee. We recognize that the effects of climate change make our efforts to reduce nutrients more difficult. We are still working to get to the original goal, so it seems premature to move the goal farther down than it is now.
AGL-OEC-FF	Coordinate with neighboring states and the province.	OLEC	Ohio continues to work closely with U.S. EPA Region 5 and neighboring states and the province through the Great Lakes Water Quality Agreement and its Annex 4 Subcommittee.
AGL-OEC-FF	Model the projected DAP outcome.	OLEC	We do not have in-house capacity to do this at this time. We do work closely with the watershed modeling community and take information from their results into account in our proposed strategies.
Hess	Include reference to the dredging ban and an evaluation and the contributions to the impact of the reduction of phosphates by the elimination of deep water dumping of dredging spoils effective July 1, 2020.	OLEC	Ohio is evaluating the nutrient content and agricultural benefits of applying dredging material to farm fields. For example, Ohio established the Dredge Research and Innovation in Farming Team, tested the Toledo Harbor dredged material for agronomic parameters, and funded agricultural research involving dredged material. Preliminary results indicate that application of the dredge material from the Toledo Harbor can benefit farmland in Northeast Ohio. Ohio will continue evaluating the extent of the benefits from eliminating open lake disposal of dredge material as the ban on open lake disposal becomes effective on July 1, 2020.
Bihn	How will the TMDL be incorporated in the DAP?	OLEC	The Ohio DAP will include mention of the 2020 Integrated Report re-assignment of the TMDL to high priority. The Ohio DAP is a product of the Great Lakes Water Quality Agreement, while the upcoming TMDL is a product of the Clean Water Act. Ohio will align both efforts as much as possible, but one will not be incorporated into the other.
LE Waterkeeper	Using H2Ohio as the basis fails to meet the GLWQA Annex 4 requirements	OLEC	For the reasons outlined in the source discussion in the Ohio DAP, we maintain that addressing agricultural sources is the most effective

FROM	COMMENT	AGENCY	RESPONSE
			strategy. H2Ohio is designed to support the goals of Annex 4 by addressing agricultural best management practices as directly as possible, by engaging farmers and county SWCDs. We also note that H2Ohio is not the only effort Ohio is pursuing. There are many other programs included in the Ohio DAP.
Reutter	Include information about the dangerous health effects of HABs.	OLEC (ODH)	<p>Since the first occurrence of HABs in Ohio, there has been recognition of potential health effects of HAB exposure on human and animal health. Cyanobacteria including microcystin, cylindrospermopsin, anatoxin-a and saxitoxin are the primary cyanotoxins of concern as they produce hepatotoxins and neurotoxins, and can also cause dermal rashes. Exposure pathways include inhalation, dermal, or incidental ingestion during recreation, or ingestion as drinking water. Human and animal illnesses are reported to local health districts and ODH and follow up sampling is conducted where possible. ODH, Ohio EPA and ODNR coordinate on the development of a Recreational HAB Strategy for statewide application to establish advisory thresholds for the four toxins and related advisory signage. Advisory thresholds for recreation and drinking water exposure are based on U.S. EPA recommendations for microcystin and cylindrospermopsin. Advisory thresholds for anatoxin-a and saxitoxin were developed based on exposure factors used by US EPA for the other toxins and published peer-reviewed research. Based on water sampling results, advisories are posted at state park beaches and on the internet via BeachGuard, a web-based ODH application, to warn the public of potential exposures to HABs. Access to BeachGuard can be found at: <a href="http://publicapps.odh.ohio.gov/beachguardpublic/">http://publicapps.odh.ohio.gov/beachguardpublic/</a>. The state recreational HAB strategy and more information on HABs can be found at <a href="https://ohioalgaefinfo.com">https://ohioalgaefinfo.com</a>. Health effects and key information for physicians and veterinarians can be found at: <a href="https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/harmful-algal-blooms/welcome-to-habs">https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/harmful-algal-blooms/welcome-to-habs</a>.</p>
NWF	Identify how to use the state (H2Ohio) and federal funding sources together.	OLEC	We are trying to do best utilize state and federal funds. For example, we have been working closely with USEPA GLNPO on further GLRI funding for Focus Area 3 (Nonpoint Source) projects which support Ohio DAP activities.

FROM	COMMENT	AGENCY	RESPONSE
Hess	Use best available science.	OLEC	It is the position of the State of Ohio to pursue our nutrient reduction goals using the best available science. Through the ODHE HABRI initiative, Ohio has been spending about \$2M per year into research projects that answer questions posed by the state agencies engaged in nutrient management activities. The H2Ohio program is also based on best available science for determining the cost effectiveness of agricultural best management practices.
OFBF, OMA	Add the privately led programs to the DAP	OLEC	We have worked with the various organizations to update the data in the previous table. It is provided as a supporting file.
Alexander	Can you share any of the issues that are not in the current draft that are under discussion or consideration?	OLEC	The purpose of the Ohio DAP is to put forward the actions that are being implemented by Ohio and its partners. We will continue to produce updated versions of the Ohio DAP as warranted by new sets of actions.
Foeller	Should there be some correlation between the portion of funds available to projects to restore Lake Erie and the cost of a project? For example, would using over 11% of the H2Ohio fund available to ODNR and OEPA on a project to reduce only 1/10th of 1 percent of the phosphorous load be considered a good use of funds?	OLEC/ODNR	Addressing excess nutrients and HABS is a multi-agency effort to prevent nutrient runoff and then treat what does come off the land in wetlands. Ohio has prioritized practices to reduce nutrients for the lowest cost. Implementing agricultural BMPs and water management BMPs involve different factors including landowner participation, weather, and long-term sustainability which makes comparison difficult. Through adaptive management, future funding decisions will be made with the information learned through these early projects. In addition, wetlands have ancillary benefits for habitat protection and enhancement.
Hess	Is there a cost of implementing the DAP?	OLEC	The purpose of the Ohio DAP is to identify actions that are being implemented by Ohio, and there is a cost for each of these state actions. There is uncertainty in the cost and applicability of each item. Thus, a total cost estimate might not be accurate enough to be meaningful.
Antosch	Efforts underway focus on the Maumee River watershed. What actions are planned for the Portage and Sandusky rivers?	OLEC	The H2Ohio initiative will be rolled out across the Lake Erie watershed and other areas of the state in future years. The NPS-IS activity is encouraged throughout the Lake Erie watershed as well, at the discretion of local watershed groups and others. Broader availability of

FROM	COMMENT	AGENCY	RESPONSE
			these plans enables other sources of federal funds regardless of their location.
Bihn	What is the status of the Collaborative agreement with Ontario and Michigan?	OLEC	All three entities have re-committed to these goals at this time.