

Water Quality Board (WQB) [Manure Management Report](#) By-Invitation Webinar Agriculture and Environmental Nongovernment Organizations Audience (April 15, 2020)

Summary of WQB panelist responses to webinar questions

On April 15, 2020 a by-invitation webinar was held with participants from agricultural organizations and nongovernment organizations to obtain targeted feedback from this audience. Below is a list of questions posed by webinar audience members with the responses from the WQB panelists. The list also includes responses to questions that were not able to be answered during the available webinar time (beginning on page 8 below). A list of organizations that joined the webinar is provided at the end of the question list.

WQB Member Panelists: *Gayle Wood (Ontario Conservation Authorities – Retired)*
 Mark Wales (Ontario Federation of Agriculture)
 Joe Tomandl III (Dairy Grazing Apprenticeship)
 Sandy Bihn (Lake Erie Waterkeeper)

QUESTIONS ANSWERED DURING THE WEBINAR

Question: **Has the IJC/WQB received any comments or reactions from the governments of US and Canada on this report?**

Response: **[Gayle W.]** Not yet, however we look forward to one. The report was shared with Environment and Climate Change Canada and US Environmental Protection Agency in late January. No response has been received to date. We hope for a response, but may not be as swift given COVID-19 issue. As mentioned at the start of the webinar the WQB intends to have a webinar with government agencies and regulators, at later date, which is an opportunity to receive feedback from them.

Question: **Possible misconceptions in report, the numbers of pigs, beef, dairy and sheep are nowhere close to the numbers of each livestock entity in the 1950 and 60's. Only reference to 2010 numbers never looking at previous numbers. The only increase in animal numbers is horses which Ohio has 3X the number of horses than in 1910 when everyone had at least one.**

Response: **[Sandy B.]** In terms of animal numbers, there are some recent reports with updated numbers, but this report was undertaken/written a few years ago, so there are updated reports and numbers now. A 2013 USEPA report notes the number of animals is doubled but the number of farms has decreased. The numbers are part of the problem - the report recommends counting the number of animals to know the amount of manure and where it is being produced. In Ontario 300 units (~300 dairy cows) in the US it is 700 cows (except Indiana). The recommendation is to count the number of animals so that animal numbers in jurisdictions is not in dispute.

Question: I'm concerned that the workshop and review notes from the report in many places vary significantly from the recommendations - many of the recommendations and findings received "mixed" feedback or did not receive broad support by participants, but were still included in the report. How does the WQB feel this reflects the partnership and inclusiveness the board says it supports?

Response: [Sandy B.] The process also considered comments from governments and people outside of the workshop. The workshop was held to help refine the recommendations. The umbrella recommendations are really what it is about - that is promoting consistency in management, consistency in knowing the numbers of animals, and consistency in reducing the runoff. In general, the recommendations together are to create a framework that everyone understands, to have common rules, that animal numbers are known, that runoff is known. The WQB considered workshop comments and tried to incorporate as appropriate/to extent possible.

Question: Why does the WQB believe U.S. states and producers would be able to follow a Canadian supply management system for livestock production when the U.S. agricultural system does not use this model?

Response: [Mark W.] Definitely not suggesting that US producers shift to supply system. Just highlighting this as one of the reasons Ontario has had limits on uncontrolled growth is because of those supply systems, which limits farm sizes in Ontario. For example, there is quite a bit of difference in farm size in Ohio (larger) vs. Ontario (smaller). The supply management system is one of the reasons why. Ontario producers chose to go to this system and it is not necessarily something that would work in the U.S. What the WQB is recommending is looking at the Ontario Nutrient Management Act as a model; as a way to understand how much manure is being produced and some ways that will work to ensure not too much manure is put on the ground. It is not recommending a supply management system for the US.

Question: Why does the WQB think that setting limits on numbers of acres per animal unit is more effective than the current practice under CAFO regulations that require farms to develop nutrient management plans showing the rates and acreage of manure that will be applied on the farm's land or transferred to other farms? Transfer of manure to other farms is a much more effective way to distribute manure to lower-nutrient soils than specifically restricting siting of farms.

Response: [Joe T.] Some of this is coming from the model of what is effective in Ontario and looking at some of the more sensitive areas in the Great Lakes. In many cases there are a lot of animal units in a small area where it is difficult to transport (economically). Something to look at in these areas is a metric for the number of animals per acre. May not be adaptable to every area, but in the consultants' review it was seen that some areas have that metric to be more effective at regulating runoff and manure distribution in areas. Not necessarily easy to do, but should be looked at. Ohio and H2Ohio program is paying \$65/per acre for liquid manure to be transported further away and applied to soil with 50 ppm P (or less) and for poultry \$35 per acre for 50 ppm P soils (or less). This is evidence

of the permitting process in where numbers are not going down and now paying to transport it further away.

Question: **If the study referred to about Ohio's increase in livestock numbers is the Environmental Working Group study, that study was not conducted with scientific validity - it counted barn numbers by satellite photography. Why does the WQB not use a reputable source for livestock numbers like the USDA Ag Census instead of referring to documents created by an advocacy group with specific goals to eliminate large livestock farms?**

Response: **[Sandy B.]** Those are just reports that have been done. We do use USDA reports in the WQB report. In terms of the number and counts of animals, as we've discussed there is a lot of ambiguity in numbers because the USDA numbers are by county. We have also looked at numbers from pork council. What is consistent is that the numbers of animals has been growing and still more are coming into the Maumee watershed, in some of the most sensitive areas. No matter what report you look at the reality is the number of animals in this particular basin has gone up and therefore the amount of manure has gone up. This is why the report recommends creating a good database so this dispute on numbers does not continue.

Question: **Agronomic rates of fertilizer application are not equivalent to agronomic rates of manure application, because fertilizer agronomic rates take into account the cost of fertilizer so aim to reach the absolute minimum amount of nutrients that can be added without hurting yield. Manure agronomic rates are aimed at soil holding capacity to allow those organic nutrients to cycle naturally through the soil. Why would the WQB want to peg manure application rates to fertilizer rates instead of recommending research to determine better scientific data for manure application rates?**

Response: **[Mark W.]** That's a good question. Primarily the recommendation is around making sure there is uniform understanding of what is needed for crop production and using manure. There was an earlier report released last year by IJC's Science Advisory Board that looked at fertilizer and manure application and recommendations. The soil test recommendations in Ontario (via Ministry of Agriculture, Food and Rural Affairs), seems to do a better job of ensuring we, as farmers, do not over apply either granular fertilizer or manure. The WQB recommendation is really about making sure we get it right. Certainly both of those resources are valuable to farmers and we want to ensure we use them in the best way possible while ensuring that as little as possible ends up in the lakes. Also wanted to mention, that in Ontario there is a coalition (Thames River Phosphorus Reduction Collaborative) that has been working for several years on new technologies to look at tile runoff; as Ontario has a lot of tile drainage from farmland. They are looking at technologies that capture and remove phosphorus from some of the tile drain water so that cleaner water goes back into the tile drainage system and thus eventually to the lakes. That is some new technology that is being explored in Ontario and it is something that could be used on either side of the lakes and every state as well. Wanted to make sure that this was added to the conversation today.

Question: **There is a difference between a permitting requirement for nutrient management run at a state or provincial level and full-blown NPDES permits. Does the Water Quality Board have a plan for how their recommendations will impact those regulatory programs and the pressure on medium sized farms to comply with NPDES standards?**

Response: **[Joe T.]** That is a good question too. These systems and the management and storage systems that would be needed to mitigate some of these issues are expensive, so a lot of this comes back to the financing and cost-sharing piece. If we look at integrating some of these types of systems and manure management systems on the farm level then it will need some sort of resource support from the state and federal governments. And what that would hopefully do is keep some of those medium sized livestock facilities viable and allow them to implement those types of practices.

Question: **Does the WQB feel that the legacy P issues challenging the Maumee River basin not require a separate strategy for that particular basin, or has progress been made in that basin to address the problems there.**

Response: **[Sandy B.]** Legacy phosphorus in terms of soil and the runoff is certainly a factor, but not sure what percentage of the source it is into the lake. It merits more assessment and research. It is certainly another piece of the puzzle.

[Follow-up response by Mark W.] I think the question may also be referring to the legacy phosphorus in the sediments of Lake Erie itself – that is of course an on-going challenge. We can do as much as we can to prevent more phosphorus from going into the lake, but there are reports that on a yearly basis when the bottom gets stirred up, as much as 40% of the loading is from that legacy phosphorus in the sediment. That is a problem that no amount of regulation and good practices by farmers is going to be able to do anything about. So that is a different issue for society to deal with.

[Follow-up response by Sandy B.] Tom Bridgeman from the University of Toledo is doing sediment samples in Maumee Bay, and the results are not showing phosphorus suspension and legacy being much of an issue. Last year in the basin when half the crops weren't planted and commercial fertilizer was not applied, it was one of the worst years for algal blooms. It was severe from July 4 to Labour Day, with a lot of foam produced, which indicated cyanobacteria and toxins. In terms of legacy phosphorus and resuspension and how much it is contributing - I have not heard this loading being 40%.

Question: **Two part question: 1. To what extent has the WQB analyzed the extent to which states' regulation of AFOs and manure is consistent with the report's recommendations? 2. To what extent does Ontario's manure management law provide for confidentiality protection to farmers who report information pertaining to their operations?**

Response: **[Sandy B.]** Part 1 - The state-by-state permitting requirements were reviewed and listed by the consultant. It is difficult to look at state-by-state regulatory and rule-making requirements as there are often exceptions and footnotes. It would be better if it was more straight-forward in the state rules and regulations so we could more easily compare and understand those rules. But they were compiled by the consultant and then

reviewed by the WQB to ensure they were tabulated correctly.

[Mark W.] Part 2 - Glad someone asked about confidentiality because this is always a concern to farmers when there are government programs. In Ontario, since 1992, a funding program called the Environmental Farm Plan has been in place. This involves individual farmers doing a study of all environmental practices on their farm from chemical storage to manure storage to tillage practices to wells. This information is then confidentially reviewed by a farmer peer review group in the community, who do not know whose farm they are reviewing. This allowed farmers to get cost-share funding from different levels of government. When this was introduced in the early 90s, one the biggest issues for farmers was - "I don't want to share this information so it doesn't get used against me by a government agency". After almost 30 years of this program being in place over 70% of Ontario farmers have done one, so they have become confident that their information has been kept confidential and that it has not been shared with those that it should not be shared with. When the Ontario Nutrient Management Act was brought in, that template for not sharing personal information was used as well in the act. The Ontario ministry sees the nutrient management plan, which has to be reviewed by an independent 3rd party certified reviewer. That's as far as it goes – it's your plan for your farming operations. As your operations change the plan needs to be updated. This is a very good management practice. The NMA program has worked very well and I have heard few, if any, complaints from farmers about breeches of confidentiality. The NMA has been in place for 17 years, since 2003, which I think shows that we have satisfied farmers' concerns about confidentiality.

[Supplemental question from panelist Sandy B. to panelist Mark W. – in the permitting process in Ontario, do you have to disclose where the manure is being applied and on how many acres? Is that public information?]

That information has to go into the plan, but it is not public information. That was one of the initial concerns that people had.

Question: **For recommendations most feasible to implement, I think it's feasible to improve information sharing and regulatory policies, but I am concerned about the feasibility of implementing the Ontario model - even if the supply management system Ontario uses is not part of that program, some of the other recommendations seem less feasible if you don't have a quota system that limits the number of animals and provides financial support for farmers in the system.**

Response: **[Mark W.]** If you look at the Ontario system to implement the Nutrient Management Act, and as pointed out earlier, cost-share funding is very important to making it happen. Using Ontario as an example, when the government of the day brought in the Nutrient Management Act in 2003, they stepped-up and said they would provide immediate funding to those farms that would be affected by this new legislation, which were farms at 300 nutrient units and over - new and expanding. When the funding ran out a number of years later they reassessed the problem and said that even though all types of farms fell under the Act (crops, greenhouses, smaller livestock operations), they solved what they felt was the biggest part of the problem. So that was a far as they went with

encouraging the Act. But certainly it will be very difficult, if not impossible, to enact that type of legislation without some matching cost share funding. The Ontario example shows that it was done in stages. Recently, the greenhouse industry in Leamington area asked to come under the Act to help them better deal with their nutrient wastewater. So the Act was adjusted to allow that to happen and funding was provided to them to get their practices to a better place. So the two go hand-in-hand – you really can't do one without the other. If you go to a worst case scenario, in one of the European countries, they have enacted a quota system for manure to deal with their problem. That is a legislated system and hopefully there is some associated funding to help them get it in place. If we do this cooperatively and governments come to the table with cost-share funding and rules are implemented in a coordinated fashion, it can work.

Question: Rules are easy to make and require no government funding, thus making them the most feasible to implement. Most difficult to implement will be funding for programs, particularly under today's fiscal difficulties.

Response: [Joe T.] A very good comment. When we look at the structure and methods to fund, they are there. We have a lot of them in place, whether through the US EQIP [Environmental Quality Incentives Program] or CSP [Conservation Security Program] and the NRCS [Natural Resources Conservation Service] type of reporting. So a lot of those processes are already in place and you're right the more difficult thing is getting the actual funding appropriated. It helps to keep in mind that we look at consistent rules and treating this as a watershed. It isn't a state border or entity border, it is its own living thing that needs consistency and to be managed consistently. However it's a heavy lift to determine what the policies are and what they look like, then not only to implement them, but to oversee them. It's no easy task, but it's definitely a conversation that we need to have and a direction we need to be moving toward. The more granular pieces and logistics will come out later on in the planning, if this is the direction we are going to go.

Question: Funding to Support Ag is my choice because we have seen it in Ohio with the H2Ohio Program which was implemented very quickly and still has not been officially stalled, contrary to Sandy's earlier comment

Response: [Sandy B.] There was a press release by Ohio Department of Agriculture earlier last week that said it [H2Ohio] was postponed indefinitely. That is why I made my previous comments. I certainly didn't want that to happen, but it is because of the corona virus and I guess because they got so many applications, which is great. Something like 2,000 farmers and the amount of land was 1 million of the 4 million acres, so the farmers participated greatly. It's a great program to get farmer participation and I hope it gets back on track.

[Follow-up response by Mark W.] In Ontario through the Environmental Farm Plan program, since 1992, went a long way to help farms of all size operations to improve all their practices, but particularly around manure storage and handling. When the Nutrient Management Act was brought in in 2003, specifically for the 300 nutrient unit and greater operations, there was additional cost-share funding provided. This allowed a lot of those

operations to meet new requirements around having minimum 275 day manure storage. They were able to get there much quicker despite the economics of their individual operations. Cost-share funding has been a proven model in all jurisdictions that works to get farmers to improve and better their practices.

Question: **By adopting a consistent framework across the geography, manure management rules and polices will be strengthened.**

Response: [Mark W.] Agree whole-heartedly. It is clear that the rules in place within the watershed are not the same. Again, going back to what Ontario has been able to achieve - not everyone wanted to have the Nutrient Management Act when it was first introduced. There was some push-back at the time, however in the end farmers realized it was the right way to go. It sets a good example. Producers in some states of the US have begun to move down that road, but the sooner that you get to a consistent, fair and workable set of rules and funding to help farmers, the sooner they will get there. However, it would be helpful for the entire watershed to have, as close as possible, one consistent set of rules and policies. It will make it easier in the future to determine if any headway is being made on reducing the problem. If you have a consistent set of rules you can figure out if they are working fully or not and then along the way if you need to improve them you can. If you have an inconsistent set of rules you have to figure out that its working here, but not working over there. It's a whole lot easier with better rules, and consistent rules, across the entire watershed.

Question: **Rules need to fit the regional needs for regional outcomes and COMPETIVENESS. Funding needs to follow in lock step. Impossible to have different politics and different watersheds under different management to be dealt with by uniform aspirations**

Response: [Sandy B.] A lot of these recommendations are broad and nutrient management is a huge issue. If the virus has taught us anything it's that we are interdependent on everything - nutrient management and watershed management are the same. We are interdependent on each other for what happens in the water, what comes from the nutrients and especially from harmful algae. Nutrients need to be addressed and they need to be addressed appropriately. As the two WQB agricultural representatives have shared, there needs to be financial incentives to make it happen. The Ontario model is not perfect, it could be tweaked and the downside could be shared as something the US can learn from. It is something they [Ontario] have gone through over a long period of time. Toledo [drinking water intake closure due to harmful algal blooms] was a wake-up call when it happened. I don't know what the next thing in Lake Erie might be, or elsewhere, where these issues are really in the public eye and the people who use the waters, both groundwater and surface waters, are concerned. Maybe it takes more of a push. The hope of the WQB is that these recommendations will be worked on collaboratively rather than get to a contentious point where we are forced to do something quickly. I think it works much better if there is a process with a lot participation and transparency.

[Follow-up response by Gayle W.] It's an excellent comment. The WQB did a previous study looking at nutrient loadings to Lake Erie from both the US and Canadian side and

provided strong recommendations that there needs to be consistency right from making sure data and science is similar and comparable to implementation programs to funding initiatives to reporting and performance requirements. One of our panellists previously commented that this is a big task, but it is important to have this kind of coordination in the Great Lakes basin, otherwise it will be difficult to see progress move forward. I would also like to mention that both Mark [Wales] and I have worked on the Lake Simcoe Coordinating Committee where there is specific provincial legislation that outlines clearly a water management plan and incentive programs, including for the agricultural sector. There has been huge progress made in meeting their targets. The lake was getting nutrient loadings over 120 MT/year, from a variety of sources, and that has been significantly lowered to about 60-70 MT/year and is heading toward their target of 44 MT/year. It's the coordination and working together and incentive programs that are really important and it's a message the WQB will continue to move forward to the Commission and hopefully the two parties involved in the Great Lakes basin.

QUESTIONS ANSWERED AFTER THE WEBINAR

Question: Why will separate webinars be done with government and other public? Does this ensure politically correct, vague, useless recommendations go forward? Two political systems (at a minimum) with strength of population to fund can be applied consistently, especially in a post COVID 19 world?

Response: It is hoped that getting feedback from agriculture, nongovernment organizations and the public will provide feedback to the governments to consider the recommendations and determine a path forward.

Question: Amounts of manure produced by animals report in a lot of instances is not near verifiable. Average amount of liquid manure from pigs is 150 gallon/pig. 6.6 million pigs are marketed annually in Ohio. If we say 7 million that equals 1.05 billion gallons, 1/2 of the CSO's from Detroit in 2011 and still less than they reported in 2019 with all their improvements. It has been stated and assumed by many media reports that manure from 1 hog barn is equal to the waste produced in LA and Chicago combined. What figures was used for this report?

Response: Have not heard that one hog barn is the equivalent of the waste produced in LA and Chicago. So that there is no ambiguity in the number of cows, pigs and poultry in any state, the report asks that the states count all confined animals in medium and large CAFOs as defined by USPEA. And the report recommends that the soil phosphorus applied from manure be at the agronomic amount - as is the policy in Ontario and what is used for commercial fertilizer. Additionally, Ontario has determined stated uniform animal units for various animals in various stages, there are no similar uniform animal standards in the US.

Question: **Ohio research indicates that the majority of the phosphorus leaving fields is through the field tile. Why do you call this runoff?**

Response: Manure, commercial fertilizer and any other land application has surface or field tile runoff after it rains. Water leaving the fields via surface or field tiles is runoff.

Question: **A statement was made by a speaker that purchased fertilizer was decreasing in the watershed but the growth of livestock was offsetting this decrease so this is why the lake is not improving. Is there any unbiased research source to justify this assumption?**

Response: The Ohio Farm Bureau states that phosphorus from commercial fertilizer in the Western Lake Erie watershed has decreased by 30-50% over the past decades. The Hog Council report, the EWG report and continuing increases in CAFO permitting all show large increases in animals/manure in the Maumee/Western Lake Erie watershed. In September 2019 ODA issued permits for 28,000 more hogs in the Maumee watershed. In March 2020 ODA is taking comments on issuing 9600 more hogs in the Maumee watershed.

Question: **The Ontario model works only because of the quota system and only domestic marketing. Are you suggesting that the US production of livestock eliminates all export of animal protein?**

Response: No the report is not recommending quotas in the US and is not recommending US export changes. Ontario manure management is based on a determination of animal unit manure production which then is required to have enough land to apply the manure at the soil phosphorus agronomic amount rather than the excessive 150 ppm in the most of the US. The report asks that the problem of over-application of manure that results in phosphorus runoff fueling harmful algae and that the management and reporting of animal number for medium and large facilities. The report also recommends the agronomic soil phosphorus.

Question: **Appears that this report is focused primarily on the Western Lake Erie Basin rather than the total Great Lakes Basin. Are the issues addressed uniform across all of the Great Lakes or do the authors have a bias to WLEB?**

Response: The contractor for the report looked at all Great Lakes states and Ontario along with other states outside the Great Lakes basin and reported on manure practices etc. There is a chart of all Great Lakes states commercial fertilizer, manure and soil test requirements – Table 2 - with citations in the Executive summary. The report has a lot of information on manure policy in the province of Ontario. The report also recommended a follow-up study on the Netherlands which is addressing the manure challenge. Western Lake Erie is used as an example on manure practices because there is more information.

Question: Does the report reference historical phosphorus loading (Phosphorus buildup), which affects the amount of current off-loading?

Response: The report does not address legacy phosphorus/nutrients in the Great Lakes. The report scope was limited to manure in the Great Lakes.

LIST OF ORGANIZATIONS THAT WERE PRESENT ON THE WEBINAR

A total of 49 participants from a variety of agricultural organizations and environmental nongovernment organizations attended the webinar.

Fertilizer Canada	Ohio Pork Council
Healing Our Waters Coalition	Ontario Federation of Agriculture
Illinois Farm Bureau	Ontario Greenhouse Vegetable Growers
Lambton Federation of Agriculture	Ontario Pork
Michigan Farm Bureau	Ontario Soil and Crop Improvement Association
Mid-west Cover Crops Council	Pennsylvania Farm Bureau
Michigan State University Extension	Socially Responsible Agricultural Project
National Farmers Union - Ontario	Southern Environmental Law Center
National Wildlife Federation	Soy Ohio
Ohio Agri-Business Association	Stateler Family Farms
Ohio Corn and Wheat	Thames River Phosphorus Reduction Collaborative
Ohio Ecological Food and Farm Association	The Fertilizer Institute
Ohio State University Extension	University of Windsor
Ohio Farm Bureau Federation	University of Wisconsin Madison – Soil Science Extension