

Presentation to the Prince Edward Island Legislative Committee on Natural Resources and Sustainability by the Coalition for the Protection of PEI Water, October 1, 2020

Opening Remarks - Catherine O'Brien, Chair

The Coalition for the Protection of PEI Water is a community-based organization made up of representatives of other coalitions, groups, and individuals with the common goal to protect and preserve clean, healthy water for all life on PEI for generations to come. We believe that water is a common good and a public trust. Water should not be seen as a resource, simply to be extracted and exploited, but as an essential part of living ecosystems that support all life.

The Coalition for the Protection of PEI Water brings together individuals and organizations to share knowledge, ideas, resources, skills and time to offer an informed, unified public voice in discussions about water, water policies and water issues in Prince Edward Island. Our members include Watershed professionals, farmers, fishers, and many volunteers who share their experience and knowledge with us.

In 2013, the PEI Potato Board & Cavendish Farms asked the PEI government to lift a longstanding moratorium on high capacity wells in the province. Concerned that the voice of community needed to be heard, the Citizens' Alliance of PEI organized the first meetings that led to the formation of the Coalition. Over the course of the following year, the Coalition mobilized groups and individuals to make presentations to the PEI Standing Committee on Agriculture, Environment, Energy and Forestry, in opposition to lifting of the moratorium. One of the Coalition's main recommendations to the committee was the following: *We recommend the establishment of a multi-disciplinary commission to develop a comprehensive, integrated water policy for PEI.*

When eventually the Government of PEI announced its intention to develop a Water Act for PEI, the Coalition for Protection of PEI Water regrouped, this time for the expressed purpose of encouraging and supporting public participation in the process leading to the development of the Act. The Coalition has acted on at least three different levels: Communicating with government officials about process & content; Engagement of community groups and individuals, encouraging people to take part in the process and have their voices heard; Using media to convey key messages. Thanks to the enthusiasm and commitment of its members, the Coalition has been very effective in all three areas.

It is imperative that respect for protecting fresh water be at the forefront of decision making when it comes to water extraction. PEI is one of only a small number of places entirely dependent upon groundwater. This makes PEI unique and also vulnerable to any disturbance in the ecosystem.

When considering water as a common good it requires all of us to conserve and protect it. All water use is not equal. Humans need clean drinking water and that should be our first priority. Ecosystem health should always be a priority since it must be preserved in part to provide the life-giving essence mentioned above. Domestic use and emergency use for fire-fighting are next. Agriculture and Industry are generally far down the priority list for access to water.

Problems and Solutions - Andrew Lush

I'm going to outline some of the problems we are having with our water, and some possible solutions. Nitrates in groundwater and surface water continue to be a problem. There have been a number of studies commissioned by the government, and all contain recommendations that have not been implemented – for example the Report of the Commission on Nitrates in Groundwater from 2008 recommended that there be no exceptions allowed to mandatory three-year crop rotation. The answers are out there. For a start, we need to enforce the rules that we already have. And we are not even doing that.

The recognized maximum safe level for nitrates in drinking water is 10ppm. Since 2014, over 7 percent of drinking water samples from the Wilmot watershed that were submitted for testing at the PEI Analytical Laboratories, were above this level. ¹

A 2016 study found that not only was 6% of our drinking water above the safe level, but forecast that by 2050, with current farming practices, accumulation of nitrates in the aquifer, and the effects of climate change, over 12% of our drinking water would be unsafe to drink.² And a number of studies have called the 10ppm level too high, finding that even 5ppm causes increased rates of cancer and birth defects.³

The drinking water supply for Cardigan School, as of 2018, contained five pesticides at detectable levels⁴. Even though the worst was only at 1.8% of the recommended safe level, we don't know the cumulative effects or the effects of combining these chemicals together. I personally don't want to take this risk, and have installed a filter in my home, that removes 99% of pesticides.

Excess nitrates are a contributor to anoxia in our estuaries. Oxygen is removed from the water, with obvious results. Gunn's Bridge on the Trout River from mid-July to mid-September 2019, had a dissolved oxygen level of zero for 41% of the time.⁵

There have been 51 documented fish kills due to pesticides since 1962, nearly all caused by Chlorothalonil, a fungicide⁶. A fungicide that also kills mites and ticks. And mold and bacteria. And mildew, algae, and fish. And bees, and invertebrates, and frogs.

On the Wikipedia page for Chlorothalonil, it mentions that it has caused fish kills on PEI, and it is detectable in the air on PEI. It is banned in the EU, so perhaps we can do without it here, a move that would eliminate the vast majority of fish kills.

¹ <https://data.princeedwardisland.ca/Environment-and-Food/OD0039-Drinking-Water-Quality-Summary-Results/jq4v-y6dv>

² <https://esd.copernicus.org/articles/7/183/2016/>

³ <https://www.mdpi.com/1660-4601/11/2/1803>

⁴ <https://data.princeedwardisland.ca/Environment-and-Food/OD0004-Pesticide-Analysis-For-Drinking-Water/iy5f-uq43>

⁵ [https://atlanticdatastream.ca/explore/#/dataset/5dd8bd24-fbac-48d1-9674-9118e8a97135/?ref=map&locations=7492&guideline=&percentiles=&characteristic_media=Surface%2520Water&characteristic_characteristic_name=Dissolved%2520oxygen%2520\(DO\)&characteristic_method_speciation=&characteristic_sample_fraction=&characteristic_field=true&characteristic_unit=mg%252FL](https://atlanticdatastream.ca/explore/#/dataset/5dd8bd24-fbac-48d1-9674-9118e8a97135/?ref=map&locations=7492&guideline=&percentiles=&characteristic_media=Surface%2520Water&characteristic_characteristic_name=Dissolved%2520oxygen%2520(DO)&characteristic_method_speciation=&characteristic_sample_fraction=&characteristic_field=true&characteristic_unit=mg%252FL)

⁶ <https://www.princeedwardisland.ca/en/information/environment-water-and-climate-change/fish-kill-information-and-statistics>

Clothianidin, a neonicotinoid, is regularly detected in streams across PEI, at many times the safe guideline levels⁷. It kills bees, and is banned in the EU – so perhaps we don't need this one either. Siltation is an ongoing issue, and the reason that some watershed groups – including Hunter-Clyde Watershed Group - were formed. A soil loss level of 3 tons per acre is apparently acceptable on PEI. So for a small stream with 250 acres of tilled farmland, that is 750 tons, or 20,000 cubic feet, per year. If a watershed group builds an in-stream sediment trap of, say, 80 by 18 by 9 feet, that can catch only 13,000 cubic feet of sediment. So you see the problem, it's a big one, and again the solutions are out there – and we probably need all of them.

Soil organic matter has been falling on PEI for a while. Organic matter holds water and nutrients, helps prevent run-off, and is a component of healthy soil in a healthy ecosystem. One study finds that from 1998 to 2015, the area of land on PEI with a soil organic matter level of between 3 and 4%, fell from 70% of our land, to 24% of our land. Land with a soil organic matter of greater than 4%, fell from 19% to just 0.8%.⁸ This same study suggests that an increase of 1% in soil organic matter can allow one acre to hold an additional 20,000 gallons of water. To put this in context, fields that are in a potato rotation on PEI, with a 1% increase in soil organic matter, could hold the same amount of water that Charlottetown uses in three months. So perhaps we could use some strong incentives to increase soil organic matter.

Studies show that agriculture could contribute 6% of the CO2 reductions needed in order to reach the Paris climate change target⁹. Across the world, soil stores four times more carbon than the plants, trees, and all the living things that live upon it. Perhaps we can investigate paying landowners for carbon credits, as a way to encourage an increase in soil organic matter.

We should also look at defunding poor farming practices and funding good farming practices. For example, those who go beyond the three-year crop rotation should benefit, as they are doing a community service. The same could happen with soil organic matter – if you have high levels, you could have access to increased financial support, including a lower rate for loans. Again, these farmers would be benefitting the community by storing carbon and should be rewarded. Organic farmers, and those striving to move to organic, and those exceeding the recommended best practices, should receive increased support and incentives.

And farmers who go beyond the existing narrow riparian buffer zones should be compensated for the loss of farmland, based on fair rates. Most riparian buffer zones should be widened in any case. So here are a few solutions – but there are many more out there in the reports and commissions that the government has done over the years. This includes the excellent presentations made at the public forums on the Water Act – which were five years ago, and I recommend that you listen to those if you haven't already done so. And I personally find it very frustrating that, after all these years, we still don't have a water act.

⁷ <https://data.princeedwardisland.ca/Environment-and-Food/OD0001-Pesticide-Analysis-for-Stream-Water/jj4n-qqq2>

⁸ <https://www.nrcresearchpress.com/doi/full/10.1139/cjss-2017-0033#.X3UERXV7m9I>

⁹ <https://qz.com/1188241/farmland-could-be-used-to-sustainably-offset-americas-entire-carbon-footprint-if-the-will-exists/>

On Process - Don Mazer

As Catherine indicated, the Coalition has been deeply involved in the process of developing the Water Act. We formed in response to the Cavendish Farms proposal to lift to the moratorium on high capacity wells in 2014. In our presentation to the previous Standing Committee, we urged that the moratorium be maintained, and proposed the development of a comprehensive Water Act for PEI. It seems more than ironic that the current standing committee is now confronted with the same request 6 ½ years later, when the Water Act itself has not yet been proclaimed, and the regulations are still being reviewed and revised.

The Water Act and the draft regulations are clear about keeping the moratorium in place. And yet, here we are to talk about undoing the spirit of this Act before it can be enacted.

This is particularly discouraging because the Water Act was the product of a robust and exemplary process of public consultation, where there was meaningful collaboration between government and citizens, and a high degree of citizen engagement. Government was responsive to our requests to develop a transparent process, and flexible in providing good opportunities for people and groups to voice their ideas. And kudos to Min. Robert Mitchell who was deeply committed to this process. The result was a series of excellent public presentations to the Environmental Advisory Committee (EAC) all across the Island. There were 57 presentations, along with written submissions from a diverse range of groups and individuals, and from industry. Everyone had a chance to have their say. We were proud of this collaboration and this process. One of our colleagues said it was like going to a series of Massey Lectures. Colleagues in other provinces were even envious of our process on PEI.

The resulting report of the EAC was an accurate reflection of the views presented. The vast majority of these presentations wanted the moratorium on high capacity wells to kept in place. This was also the recommendation in the EAC report.

We were then very hopeful that this spirit of collaboration, responsiveness, transparency and encouraging public engagement would continue... into the actual development of the Water Act, drafting of regulations and in developing processes of water governance. The promise of a new era of collaboration.

There is much we appreciate in the Water Act. A good document, particularly in its purposes . . . a commitment to protecting water, seeing water as a common good, being guided by the precautionary principle and the need for water for future generations.

But then the relatively open door between government and concerned citizens began to close again. The consultations on the Draft of the Act were much more limited. A month after the Act was passed in December of 2017, Minister Mitchell was gone for another portfolio. Then it took us a full year to get a meeting to discuss regulations with the new Minister. Then, a far less public process in the development of the regulations. Rather than inviting public presentations, govt structured citizen input and asked people to give their opinions through “dot democracy”, and once again opened up the HC wells question when public opinion was so clear.

And now we find ourselves before the standing committee again, still not having seen the revisions to the regulations which we should be talking about, still talking about whether the moratorium could be lifted.

There certainly have been other instances where government responded decisively to strong public concerns—we have banned bottled water and not permitted fracking. But the high capacity wells issue keeps coming back.

It is difficult not to feel an erosion of trust in govt to protect our water in response to powerful interests, like industrial ag. ... There is this continued pressure for HC wells, the recent permission to extract surface water on the Dunk river when water levels were dangerously low, and the ongoing fishkills caused by pesticides. Or from big municipalities such as Charlottetown whose high capacity wells have contributed to 10 straight years of dry stream beds on the WR in Brackley, an average of more than 2km of dry stream bed over the past 5 years. This habitat destruction is another form of fishkill. And the Water Act will allow the City to extract more water than they are permitted, in perpetuity.

And now we are considering a research project to determine how much water can be safely extracted from our vulnerable waterways, and where one of the goals is to improve potato productivity. We are all hopeful that we will have clear, definitive and impartial science to guide us in our decisions. This is a laudable goal.

But it is important to realize that all science is grounded in particular interests. The proposed UPEI project is an outgrowth of a 2018 version sponsored by Cavendish Farms. We are unlikely to learn what we need to learn about protecting our water from this study. How likely is it that the findings would recommend keeping the moratorium in place?

We believe it is important for government to find ways to restore public trust, to make commitments to taking actions on many of the recommendations we are presenting. To develop approaches to water governance where the voices of citizens concerned about water can contribute meaningfully to decisions made about water.

Certainly, we need to enact the Water Act, to maintain the high capacity wells moratorium, and prohibit holding ponds. But we also need to find a way out of the unsustainable cycle we're in. Climate change will likely bring hotter and drier summers. The need for irrigating potatoes will be greatest when water is less and less available, and when the need for water to maintain ecosystem health is the greatest. At the same time that water is needed for agriculture, we should be taking less. More high capacity wells will only sustain this increasingly unsustainable cycle. We need to find ways of doing agriculture differently.

On Regulations - Ann Wheatley

The engagement of people in the community during the public consultations leading up to the first and second drafts of the Water Act resulted in a piece of legislation that reflects for the most part, our collective values or interests. This is particularly evident in Section 2, where we see recognition of the precautionary principle, water as a common good, and the need to protect water for future generations and where the goals are described as sustainable use of water, preservation of water quality and the ecosystems that depend on it, access to safe and sufficient water for future generations, public access to information about water and how it is being used, and water management and allocation based on a science-based approach.

The degree to which the Act fulfils its purpose and goals is largely dependent on the regulations that are connected to it. This committee's role with regard to the regulations is unusual, I think, and important. Your work will have a significant impact on the implementation and effectiveness of the

Act. The Coalition for Protection of PEI Water has provided detailed commentary and suggestions for amendments to the water withdrawal regulations. We met with government staff and successive Ministers on several occasions to discuss the regulations and subsequently participated in the public consultation process.

One of our members, Marie Ann Bowden, Professor Emerita of Environmental Law, provided a line-by-line analysis and offered to consult with the drafters of the regulations. At the end of today's session, we will provide copies of our submissions, and we urge the members of this committee to review all of the submissions by other individuals and organizations, including one by the East Coast Environmental Law Association. They are all online still.

I'd like to take my time here today to emphasize some of the points related to the regulations that we feel are most relevant to the discussions that are happening in this set of committee hearings.

Too few categories:

In the regulations, two categories of wells are defined. And these are critical definitions. "Low capacity" refers to wells that are designed to be pumped at rates greater than 25 cubic metres per day but less than 345 cubic metres per day. And "high capacity" refers to wells that are designed to be pumped at a rate of 345 cubic metres per day or more.

This means that a well that is designed to be pumped at a rate of 344 cubic metres per day will undergo the same assessment and permitting process as a well that is designed to be pumped at a rate of 26 cubic metres per day. That's a big difference. When a low capacity well nears the 340 mark, it might be expected to have a comparable impact as that of a high capacity well. We feel there is justification to divide these two very broad categories even further (East Coast Law makes some good suggestions about how this might be done in their submission) and make the assessment process for those in the "higher" categories more rigorous.

The regulations should reflect the purpose and goals of the Act.

Section 2 of the Act (Purpose and Goals) provides a framework to govern the spirit and direction of the Act. The principles - including the precautionary principle - contained in this section should form the basis of decision-making and implementation of the Act.

And here, because she wasn't able to be with us today, I'd like to offer some of Marie Ann Bowden's comments on the precautionary principle. She says, "Our actions regarding the environment should always err on the side of caution when there is scientific uncertainty. The onus should be on those claiming that the science is indisputable to establish that as a matter of fact. In this case not simply in terms of volume of water but within the context of demands upon water in light of the ecosystem that relies on it and the climatic change that we will face in the future. With the ravages of global warming, it may be very difficult to predict the quantity of water necessary for ecosystem maintenance as well as human-centric water resource demands."

"The precautionary principle is the accepted standard internationally and domestically for activities including water withdrawal. All actions relating to water allocation and protection should be viewed through the lens of sustainability. Period. The regulations should reflect this as well. Any suggested amendments which violate this principle should be rejected out of hand."

So. According to the draft regulations; the Minister is the person ultimately responsible for decisions such as whether or not a Groundwater Exploration Permit or a Water Withdrawal Permit will be

issued. In several places it is stated that decision-making must be consistent with the “policies and objectives of the Minister”. We feel that it’s important to state that decisions must also be consistent with the purpose and goals as stated in Section 2 of the Act. Including the precautionary principle, and the goal of “decisions with respect to water allocation take into account seasonal conditions, climate change and the need to protect the long-term availability of groundwater, the security of aquatic ecosystems and the integrity of wetlands.”

The principle of conservation gets little mention in the draft regulations. In fact, the information presented on the government website – “On the Level – Water Myths” promotes the idea that we have so much water and use so little that we really don’t need to worry at all about water conservation, about our wells running dry, or about the impacts of climate change. It is puzzling and a bit disturbing that this kind of information was and continues to be presented as background information for people who wished to evaluate and comment on the water act regulations.

The obligations of the Minister

And, where the regulations state that the Minister “may” consider certain factors when deciding whether or not the drilling of a well will have an unacceptable adverse effect, we believe the wording should be made stronger – by changing the word “may” to “shall”.

This would set the parameters for ministerial decisions. When the minister "shall consider" certain criteria it reflects the intentions of the legislative body which passed the act in the first place. More practically speaking, it offers certainty for those applying for ministerial consideration. And for the minister, it helps to focus decision making and provide a degree of confidence in regard to the relevant criteria for decision making.

Transfers of permits

In the Section (10) dealing with transfers of permits, we wonder if there should be a provision banning the buying and selling of water permits. This would reflect the Government commitment to the “common good” and the public guardianship role they have assumed. And, as is the case with land holdings, should the regulations specify a limit on the maximum permitted quantity of water that might be held by a person? This would help to ensure that water is not commoditised and that the common good is paramount.

Withdrawal of permits

Added to the conditions that would trigger the suspension of a permit: Permits should also cease to be valid if the permit holder violates the terms and conditions of the permit. It should also cease to be valid if the water is wasted. (see Australian legislation)

Public participation

The regulations have no provisions for ongoing public participation. We would hope that there would be provisions within the regulations for something like a Water Governance Board, as was brought up in the public meetings leading up to the Water Act. This would be a way of ensuring that we have an open, transparent and ongoing process that builds on previous public involvement. And it would be a practical application of the principle as stated in Section 2 of the Water Act: “*every person in the province has a duty to prevent, minimize and repair harm that the person may cause to water resources or the ecosystems supported by water resources*” and help to achieve one of the goals, also stated in Section 2: “*that the public be involved in and kept informed about the state of the water resources, including by access to Government reports and information concerning water resources and public consultation by the Government*”.

Concluding Remarks - Gary Schneider

Islanders have been overwhelmed with royal commissions, round tables, land use panels, fish kill committees, and studies on agricultural run-off for almost 50 years, since the *Report of the Royal Commission on Land Ownership and Use* in 1973. These reports were developed after months – and in some cases years – of presentations and input from the public, organizations, industry groups, and academics. Volunteers spent thousands of hours developing good policies and practices, and these reports had wide support. Unfortunately, the publications for the most part continue to gather dust as we find ways to ignore their recommendations.

At the same time, we were asked to trust a variety of governments and industry groups that said “we know the problems and we’ll solve them.” Yet fish kills related to pesticides continue to this date. The over fifty considered likely to have been related to pesticides are just the ones we know about. All rivers are not checked after a heavy rainstorm, and some rivers have such low fish populations that it would be hard to detect low numbers of dead ones. And of course, it is not just the fish – it is the birds that eat the fish and die, and the aquatic insects so important to a healthy waterway. In addition, there are dozens of anoxic episodes in our waterways every year that kill fish, shellfish, and insects. Soil erosion also creates harmful conditions for fish in our waterways, and nitrates keep polluting our drinking water.

We’ve heard how the development of a provincial Water Act was an inclusive, open, and transparent process, one that has often been used as an example of Best Practice. But only to a point. Whatever happened to all that promise? There has been a silence surrounding the development of regulations for the Act such as I’ve never experienced. Government inaction killed any momentum that had developed around a strong, progressive Act that had a huge amount of public support. We desperately need to rebuild the public trust in government actions around the environment.

Most recently, government ignored its own rules, and allowed withdrawal of water from the Dunk River for irrigation, at a time when water levels were below the accepted levels for healthy wildlife populations.

If we are truly to be stewards of this province, we can’t keep making trade-offs that benefit one industry at the expense of the environment. One of the wisest Islanders that I know is retired UPEI biology professor Darryl Guignon, who has probably walked more miles of Island waterways than anyone in the province. Daryl was quoted as saying: “We have to have sound soil conservation practices on every farm on Prince Edward Island and that just does not occur, and recommendations are not followed.”

I helped write the recommendations developed by the Round Table on Land Resource Use and Stewardship in 1997. We came up with compromises based on who was around the table – lots of farmers, but also many other stakeholders. It was a great learning opportunity for all of us, and we made it work.

But as soon as those recommendations were released, the knives came out. Despite all the sound evidence in the world, some farmers and industry lobbyists still resisted proper crop rotations, sufficient riparian zones, and many of the other practices that would have protected both our surface water and ground water. It was an eye-opening experience for me, to see that resistance to change.

We clearly need to move forward with the Water Act and its regulations, to breathe new life into a process that has almost been left to die. We must support all industries in the province, and

certainly not one at the expense of others. Can you imagine how our beleaguered tourist operators feel when they see another river with dead fish? How do you sell “Come Play on our Island” and “Canada’s Food Island” when we keep getting national publicity for having dead fish in our waters?

Again, most farmers are trying to do the right thing, but as the potato farmers on the Round Table told me, it is catching the 5-10% of people who really are resisting those change that is a critical.

One of the new areas of concern is the request to break the moratorium on high capacity wells. This is not a new, it was previously put forward with the support of Cavendish Farms but it is now being packaged differently. Make no mistake about it – once we start drilling new high capacity wells for agriculture, it will be impossible to turn down future requests. This is not the time for such drastic action: there are other options, though they might not be the Cadillac versions. If we think fertigation is really a viable solution to the problem of protecting groundwater from excess nitrates, then we should set up soil lysimeter studies and test nitrates leaching into the groundwater at different rates of nitrogen application. We could do this research where there are existing high capacity wells. We shouldn’t forget that a study such as this will probably take a decade or more, not just four years. The Agriculture Canada study monitoring organic levels in soil took 17 years. And why aren’t we looking at boosting soil organic matter – which allows more water storage and stores carbon – before turning to high capacity wells?

I was surprised to see Dr. van den Heuvel presenting his request to your committee. In his May letter to the Watershed Alliance, he stated: “I cannot imagine how this research would be done without the PEIWA as a partner.” The Alliance clearly did not support this proposal, yet it is still moving forward.

It was also disturbing to hear Dr. van den Heuvel remark that “We wipe out whole streams with fish kills, right? We know they can be mitigated.” That is a very simplistic and blasé way of looking at fish kills and large-scale water removals that might threaten the health of an ecosystem.

The summary of the Water Act said that its goals and purposes were to ensure that “quality, quantity, allocation, conservation and protection of water is managed in the interest of common good which includes ecosystems.” We are asking the Standing Committee to follow this direction and act in the best interest of everyone and everything that lives on this Island.

Islanders are once again at a crossroads. We can be ever more committed to an industrial model of agriculture, with more water usage, larger fields, less and less soil organic matter, fewer windbreaks, continuing fish kills and anoxic conditions, fewer farmers on larger acreages, and a small number of jobs created per acre.

Or we can look at truly becoming the Garden of the Gulf, with excellent drinking water, food security, and tremendous employment opportunities (as our organic growers and innovative small farmers have demonstrated throughout the pandemic). All Islanders would live in a healthy environment that continued to improve, and we would become a haven for tourists looking for a healthy, beautiful, and foody place to visit.

Wouldn’t it be wonderful to be able to say we are Canada’s Food Island without having dead fish in the water? And, especially in an era of escalating climate change, it is good for all of us to remember that no one, and nothing, lives without clean water.