

# PRINCE EDWARD ISLAND LEGISLATIVE ASSEMBLY



Speaker: Hon. Francis (Buck) Watts

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## Standing Committee on Agriculture and Fisheries

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**MEETING STATUS:** PUBLIC

**LOCATION:** LEGISLATIVE CHAMBER, HON. GEORGE COLES BUILDING, CHARLOTTETOWN

**SUBJECT:** BRIEFING ON FISH KILLS

**COMMITTEE:**

Hal Perry, MLA Tignish-Palmer Road [Chair]  
Dr. Peter Bevan-Baker, Leader of the Third Party  
Kathleen Casey, MLA Charlottetown-Lewis Point (replaces Hon. Tina Mundy, Minister of Family and Human Services)  
Bush Dumville, MLA West Royalty-Springvale  
Hon. Sonny Gallant, Minister of Workforce and Advanced Learning  
Colin LaVie, MLA Souris-Elmira  
Bradley Trivers, MLA Rustico-Emerald

**COMMITTEE MEMBERS ABSENT:**

Hon. Tina Mundy, Minister of Family and Human Services

**MEMBERS IN ATTENDANCE:**

none

**GUESTS:**

Department of Communities, Land and Environment (Hon. Robert Mitchell); Forests, Fish and Wildlife (Kate MacQuarrie, Director)

**STAFF:**

Ryan Reddin, Clerk Assistant (Research and Committees)

Edited by Hansard



The committee met at 10:00 a.m.

**Chair (Perry):** Good morning, ladies and gentlemen. I'd like to welcome all of you here today and I'd like to welcome Hon. Sonny Gallant who is subbing for the hon. Tina Mundy today.

**Clerk Assistant (R. Reddin):** Kathleen Casey is subbing.

**Chair:** Oh sorry, it's Kathleen Casey. Sorry. Sonny is a regular member of this committee.

I'm going to call this meeting to order. Do we have anyone that will adopt the agenda?

**Mr. Gallant:** (Indistinct)

**Chair:** Adopted by Sonny Gallant.

This morning we have, as a request of the committee, the Minister of Communities, Land and Environment, along with Kate MacQuarrie who is the director with forest, fish and wildlife, to do a presentation on fish kills and I will give the floor to them. We're going to follow their whole presentation through and we'll have questions at the end.

But just before we get started, we are in a new location and there will be some changes to the procedure. I'll give the clerk just a moment to give those individuals who haven't had an opportunity to hear this, this week what those changes are.

**Clerk Assistant:** Thank you, Mr. Chair.

Yes again, now that we're in the Chamber, we're live streaming proceedings today on the Legislative Assembly website and on our Facebook live page.

In this Chamber it's important that you wait to be recognized by the Chair before speaking so that the camera and microphone operators can properly turn on your mic and get you on camera. We can only have one individual desk microphone on in here at a time, so the Chair will be saying your name fairly often to indicate that it's your turn to speak.

I also would mention, too, we have guests in the galleries today and that's great. Guests

are reminded that they should not record, photograph or video proceedings today. Members of the press gallery are permitted to do that, on the other hand.

I think that's all I have to say.

**Chair:** Thank you very much, Ryan.

We will begin with a presentation, as I said earlier, from the hon. minister and also from Kate MacQuarrie.

The floor is yours.

**Mr. Mitchell:** Thank you very much, Chair.

Good morning to you and good morning to all hon. members here this morning. It is indeed a pleasure for myself and Kate to be here with you this morning to have a bit of a discussion and an overview, as requested, on fish kills on Prince Edward Island. Today we put together our presentation; an excellent presentation that Kate will be leading. It is entirely educational, but a lot technical, so Kate will bring us through that and of course, for those who may not know, Kate is the director of our forest, fish and wildlife division, which is a varied role but among that role, she does deal with the areas of freshwater fisheries on Prince Edward Island.

Kate holds a Bachelor of Science and Master of Science degrees and has been with the department for a number of years and prior to her coming to government, she was executive director of the non-governmental area of Island Nature Trust. She brings with her a lot of experience over the years in regards to a lot of the forest, fish and wildlife pieces, but today she is here to talk to us about the fish kills overview.

The presentation, as I said earlier, will be very educational. It will involve many aspects. It will talk about roles of all government entities, whether it's the role of CLE, whether it's the role of justice and publish safety, whether it's the role of agriculture, or even the federal government and the department of environment and the roles that they provide.

With that, I will turn the floor over to Kate. She will bring you through the presentation. I'm assuming it would be nice if you have

questions to kind of hold them, write them down and when Kate's done of her presentation, I'm sure she will be willing to answer any questions you have and as well, I'll do my best if there's any questions that I can help with to provide answers as well.

With that, I'll turn it over to Kate and begin the presentation.

**Kate MacQuarrie:** Awesome. Thank you very much, and thank you very much for the invitation to be here today. I greatly appreciate that. When I do presentations I'm used to getting up, pacing around, so I'm going to do my best to stay in the chair here.

So first an overview; what we've been invited in to talk about fish kills today and I want to start by talking about the variety of reasons that we see dead fish on Prince Edward Island. They're not all the same, and by leading you through those kind of give you an indication of how we categorize them and how we reach some conclusions as to why that may have happened.

One of the first reasons we see fish kills is a natural result of spawning mortality. In the spring, this is a smelt in the Bonshaw River, as an example. You can see them in the bottom of the stream there. It's not uncommon to get reports of dead fish in the spring and very often they're things like this spawning mortality. Every report of fish kill we get, we do go out and take a look at. We visit the site and categorize it into what type of fish kill it was.

Another type of natural fish kill, less common than spawning mortality, is what we call spring die-off of spring turn-over. What can sometimes happen, particularly in our coastal ponds around PEI, in winters where we have thick ice cover and snow on top of that, that blocks the ice to the ponds. The plants that are living in those ponds don't photosynthesize. When they're not photosynthesizing, they're not producing oxygen. When they die, they're using up oxygen and that depletes the oxygen in these ponds. In the spring, when the ice cover comes off, we'll sometimes see this winter or spring die-off.

Now, the slide is a little small here, but I hope you can see on the upper left-hand side the mouth of that fish is open fairly wide.

On the slide on the right-hand side, the gills are distended. These are two really clear indications of oxygen depletion. We know when we look at these fish that it was oxygen that killed these fish. It's the time of year, the situation and also the physical characteristic of the fish tells us what the cause was here.

Of course, we have human-related fish kills as well and one example would be angling mortality. Of course, not talking about the fish you catch and take home with you, rather, things like catch and release, not all of the fish will survive. There will be some mortality related with that, and in the bate fishery as well, fish will get off the hook. It's not uncommon to find handfuls of dead fish around popular fishing locations. Again, when we get reports of this, we do go out, inspect the site and categorize it into why we think that happened.

Another human-related cause for fish kills can be commercial by-catch. We have a number of perfectly legal commercial fisheries on PEI. The eel fishery would be an example and these fisheries use nets to catch their catch. Occasionally, you will get other non-target species caught in those nets as well and where the commercial fishermen empty the nets, you can find collections of dead fish which we will sometimes get reports of.

For example, in the North River a few years back, we had a report of a fish kill. When staff inspected the site, they found that it was just this commercial by-catch, it wasn't another cause of fish kill.

Of course land use contributes to fish kills on Prince Edward Island. I'm confident that you're all familiar with anoxia in our bays and estuaries, low or no oxygen conditions. When excess nutrients from the land flow into these areas you can have overgrowth of plants. Again, when those plants die they consume oxygen and can create low or zero oxygen conditions which we call anoxia. We do have information about these cases posted on our website and I have the link posted on the screen there or you can search our website to find that.

Lastly, but not certainly not least, our fish kills related to rain or runoff events; and that's what I'm going to spend the rest of the

presentation talking about. I expect that was the primary area that you were interested in.

We do have information; we have a fish kill information and statistics page and the website for that is shown on the slide there as well, or you can find it on our site.

This is a map of documented fish kills on PEI from 1962 to 2016. We have had 58 reported fish kills during this time and these are the fish kills that have been reported to us; there may well have been others that simply weren't reported and that we don't know about.

As you can see from the slide the events have been distributed across the province. They've occurred, east, central and west, but they're primarily concentrated in the agricultural areas of central and western Prince Edward Island.

We often get questions about the frequency about fish kills: Are they increasing or decreasing over time? The truth is, is neither. Really the occurrence of fish kills on PEI for the past 25 years, at least, has been fairly flat. We have this chart that's been prepared by Mike van den Heuvel with the Canadian Rivers Institute at UPEI. You can see that trend line; the red line through the middle shows a flat trend over this time. There are obviously two dramatic peaks that you see there in 2000 and 2002, and those are primarily related to a compound called Azinphos methyl and I'll be talking a little bit about that shortly.

I talked originally about some of the different causes of fish kills on Prince Edward Island and some of the factors that we look for. There are common factors with these land use or runoff related fish kills that categorize them and such. It's a sudden fish die off. This is what we call an acute event that happens over a very short period of time. Typically happens in July and August, that's what we refer to as fish kill season on PEI. We have had occasional events as late as September, but July and August is peak season.

There has always been a prior heavy rainfall before the event. The fish that are killed are multiple age classes and multiple species. You can see in the top photo there for instance, there is brook trout, rainbow trout

and salmon of various ages there, so it's not specific to small fish, large fish or one species over another.

When these fish are taken to the vet college for a post-mortem for examination their stomachs are very typically full. These fish did not starve to death; there is no evidence of disease in these animals. There's normal dissolved oxygen. Oxygen and temperature readings are taken onsite afterwards and you may say: Well this is after the event and how do you know there wasn't low oxygen at the time of the kill.

If you think back to that winter die off, that spring turnover that I talked about with those gaping mouths and distended gills, we know that when we look at these fish that oxygen did not kill these animals and there's been normal temperature in these kills as well. Again, you may say: Well if you find the site a day or two or three days later and take their temperature, how do you know what the temperature was at the time of the kill? Well, we actually have data. We have very good temperature data in our waterways across Prince Edward Island and this is an example of temperature data at the time of a fish kill on the Barclay Brook in Trout River in 2012.

The top graph shows the temperature variation throughout the entire summer; you can see there. Between the red bars is what's illustrated in that lower graph and that captures the time of the fish kill on July 5<sup>th</sup>, 2012. You can see there is a small blip there probably related to heavy rainfall affecting temperature at that time, but that in no way takes it outside the optimum range for trout and salmon which is between 13 and 18 degrees. In fact, you can see the summer variation and the variation even during that time reported in the lower chart is well within the optimum range for trout and salmon. So concluding that – we can't conclude the temperature had an effect on these fish.

I'm going to take a few minutes and talk about what happens when a fish kill is discovered and these events can be discovered by anyone. They're sometimes called in by the public, it may be our staff, an angler, very commonly it's one of the watershed groups around the province and they'll call the 24-hour emergency coast

guard environmental hotline, which is the 1-800 number you see on the screen there. That activates the provincial and federal response. Justice and Public Safety, our Department of Communities, Land and Environment and Environment Canada respond jointly.

I'm going to talk a little bit about the response but I wanted to give you an illustration of sort of what an affected area looks like. This is the Trout River fish kill in 2002 and these are the same data – the temperature data that I showed you earlier are also from the site. You can see the red area that's highlighted there was the area affected by the kill.

I'm going to walk through how our staff and provincial and federal investigators visit the site. But what I wanted to bring to your attention is as they're walking up-stream you'll see that there is one main branch of the stream that's affected. This little tributary was not affected, this tributary was not affected. As they're walking up they follow the trail of dead fish until the trail stops and there look for a suspected point of entry. Above this point there were live fish, below this point there were dead fish. In these smaller tributaries not highlighted in red, there were live fish.

Following the trail and if you can see those two silvery things on the top of that image, there are dead fish. This is very typically what will get reported to us initially, this is what the public, the angler, the watershed group or our staff would see when first on site. This activates a site visit to determine whether it could have been one of those other causes that we talked about, or whether we suspect it's a land-use and runoff related kill.

So, the three agencies that I talked about, justice and public safety, our department and Environment Canada, will visit the site and will walk up stream following that trail that I just described on the map.

This is typically what's seen, there will be dead fish in the water. You can see dead fish on the bank about the middle of this slide indicating the higher water levels that would have been present at the time that the fish were killed and they were left higher on the bank.

Various staff will continue to walk upstream following the trail of dead fish and also collecting water, soil, vegetation and fish samples as they go and I'll be talking about those samples a bit more in a moment.

Up and to a suspected point of entry: The suspected point of entry could be something that I think everybody in this room will agree is fairly obvious in that middle bottom slide, or it can be more subtle. In the bottom right slide there is a significant flowage from the field above. If you were in that field you probably would not see it; if you were in the stream you would.

The roles and responsibilities of those various agencies: community, land and environment is a first responder and you can liken that to the paramedics arriving in the ambulance at the scene. With Justice and public safety, we confirm whether it's a fish kill that requires investigation, or whether it falls into one of those other categories that I talked about earlier. Again, typically, even the time of year we'll separate those categories.

Our department does notification. So we will advise other relevant departments within government. We contact non-governmental groups. When we find a fish kill, as quickly as possible we let the local watershed group know, we advise the PEI Watershed Alliance, we also advise the PEI Potato Board and the PEI Federation of Agriculture. And notices sent out to the public in terms in the form of a media release.

Our staff are responsible for site assessment, so they're the ones verifying the length of stream affected in that method that I described earlier with the map and the following the trail photos.

Our staff are responsible for clean up. Once the site is released by Justice and Public Safety – and I'll talk about their role in a moment – our folks will go in and often working with a local watershed group, recover the dead fish, measure them and document the fish kill.

We look after mitigation, so we contact DFO to request a variation order that will close the affected part of the water course

for angling. We'll post no fishing signs, we complete post-kill population assessments, determine what is needed for restocking of the section and follow up in future years to see how that section of water course is recovering.

Finally, we do complete a preliminary report. These are available online on our fish kill site, the link that I gave you earlier, and I've given the clerk copies for each of you of last year's and this year's preliminary reports so you'll have hard copies that will be distributed at the end of the presentation.

Roles and responsibilities for justice and public safety: If we're the ambulance and the paramedics first responding to the scene, justice and public safety are the RCMP that are securing the scene and doing the investigation. These guys are the onsite coordinator. They're ensuring the integrity of the site. So nobody is going in tampering with what's there, cleaning up before the site has been released. They will coordinate sample and evidence collection. So they'll say who is collecting what evidence and from where that evidence is being collected. They'll conduct the field investigation, and when their work is done they'll release the site for us for cleanup once it's complete. We don't go in until we get the 'all clear' from justice and public safety. These are the lead guys.

They are responsible for the investigation, if there's any. So, if the sample results – I'll talk about those in a moment – go to Environment Canada, but JPS can ask for those sample results if there's an active investigation. They'll interview people as needed and determine whether any provincial charges are to be laid. At the conclusion of any action, they'll release the file to us and that can take years. I will talk about the timelines around that in a few moments.

Environment Canada has a very similar role to justice and public safety, but at the federal level. They're coordinating the federal investigation. They'll collect what samples and evidence they feel they need. They'll interview the people they need and determine if there are federal charges that are to be laid.

The provincial Department of Agriculture and Fisheries also has a role, and similar to us, after justice and public safety releases the site they will go in and take a look to see if there's any soil management, soil erosion control mitigation that should take place. Why that's important – I'll just take a moment to talk about that now as folks may not be aware – the pesticides that are implicated in some of these events are designed to bind to the plants. That's what you want these things to do. If they come in contact with the soil, they'll bind to the soil as well. Following a heavy rainfall, when that soil is washed into the waterway, they can carry the compound with them which is why soil erosion control and mitigation are so important following these cases.

Agriculture and fisheries will contact our department and the local watershed group and say: Are there areas of soil erosion concern that you're aware of in the affected area? They'll contact landowners and assess the fields to see if there is mitigation work, soil erosion control structures – and I'll be showing you some examples shortly – that could be implemented. They'll make recommendations to landowners and make landowners aware of the various provincial assistance that's available to them. Whether or not those recommendations are implemented, are entirely up to the landowners.

I'm going to talk for a few minutes about sample collection. I mentioned that the staff onsite collect water, soil, vegetation and fish samples. Water is collected for pesticide analysis and water chemistry, both upstream and downstream from the suspected point of entry. If there's standing water at the suspected point of entry that will be collected and temperature and dissolved oxygen are tested as well, as I mentioned. Soil and vegetation are collected from the suspected point of entry, and all of this is sent to the Environment Canada lab in Moncton for analysis.

Fish are also collected. Their samples are sent to the Atlantic Vet College for necropsy. Necropsy is just an animal autopsy, and samples are sent to Environment Canada for pesticide analysis.

Now, there are always a lot of questions around results and there are a couple of

things I want to talk about here. First of all, the results; water, soil, vegetation and fish sample results can take three or more months to be processed and those results do not come back to our department and they don't come back to justice and public safety. The results all go back to Environment Canada. If there is an active investigation, justice and public safety may request release of those results from Environment Canada.

We've got three or more months for the results to be processed. Those results are going back to Environment Canada. The results aren't released outside of the justice and public safety or Environment Canada until the conclusion of any legal proceedings. Depending on the act involved, investigators have anywhere from six months to five years to lay a charge and if a charge is laid, it could take one to three years in court. Now, I understand that there's frustration, certainly, within the public about why aren't sample results released? Where is this information? But, this is where this information is and why it takes so long to get it out.

So what have been some of the results that have come back? Between 1990 and 2016, we have a number of pesticides, chemicals, that have been detected in fish kills. The most common is Chlorothalonil, which some of you may know by the trade name Bravo. Azinphos methyl, known also as Guthion, has also been implicated. But, I'd like to note that as of 2002, Azinphos methyl can no longer be applied on fields that border waterways on PEI. Some restrictions have been applied to it. Endosulfan and Mancozeb have also turned up in some of the sample results that have come back.

Chlorothalonil is obviously, significantly, implicated in these events. It is a compound that is recognized as very toxic to fish. This is from the product label for Chlorothalonil. I don't need to read this to you; you can see it there. The emphasized words are not – I did not emphasize those words. Those words are emphasized on the product label.

The Pest Management Regulatory Agency of Health Canada is currently reviewing use of Chlorothalonil and has proposed that its use be discontinued or restricted for some crops; things like peas, onions – those are the two that come immediately to mind.

They've also proposed that its use on potatoes be restricted to a maximum of three applications per year. Right now as a fungicide, this is a product that's used for blight and as I'm sure you all know, right now that product would be applied weekly or potentially more often depending on the conditions, the weather conditions that we see on PEI in any one year.

So what are some contributing factors to fish kills that have been linked to pesticides? Well, of course the toxicity of the product used and as we've discussed, Chlorothalonil is recognized as a product that's toxic to fish and other aquatic life. The location in the watershed; higher up in the watershed where the volume of water being carried in the streams are smaller is going to be more susceptible to these events; how intense the rainfall was, and I think we're all aware that we seem to be getting more intense rainfalls and isolated events; the timing of the spraying in relation to the rainfall. Of course, if was immediately prior to a heavy rainfall event, the risk is higher. The slope and slope length, and I think it might be intuitive that a steeply-sloped field may be more prone to erosion than a more shallowly-sloped field, but an important factor is slope length. Fields that are apparently flat but have a very long slope length can actually have more soil loss than a shorter, steeply-sloped field.

Organic matter is important. Fields with higher organic matter are less prone to erosion, and of course, we have seen organic matter levels decreasing across Prince Edward Island, as you know. Whether there's been any mitigation done; so field engineering like terraces, grassed waterways or grassed headlands – that can mitigate some of these effects and I'll be talking about those in a moment. The nature of cultivation; what's the crop rotation? How compacted are the soils? Those sorts of things are all contributing factors.

I'm going to take a few moments to talk about what has been done. We recognize this is an issue on Prince Edward Island and action has been taken across the board by government, by industry, by landowners and by watershed groups and I'm going to highlight a few of those things here, stressing that obviously more needs to be done. We know that these events continue to



occur, so the solution hasn't yet been found but steps have been and continue to be taken.

I'm going to be talking a bit about some of the soil conservation practices that are led by our colleagues in the Department of Agriculture and Fisheries. I'll be talking about ALUS, the Alternative Land Use Services program, and about a pilot project done in the Barclay Brook in western Prince Edward Island. There's also been some action and creation of the agricultural environment unit, and recommendations of an action committee on sustainable land use that were tabled in 2012.

I hope you can see these. These are some examples of those soil conservation practices that are being implemented led by the Department of Agriculture and Fisheries. The slope in this field would be going from your right to your left. You can see strip cropping across the slope to break up the field. You can see an erosion control structure which is a terrace down the middle of the field to further break it up and reduce water flow and erosion, and going crossways through the middle of the field is a grass waterway which further serves to control erosion. I'll give you some more examples of these on the ground in a moment.

Some other examples of soil conservation practices that are being implemented are things like perennial grass headlands that are eligible for support through ALUS, the Alternative Land Use Services Program and expanded buffer zones. So, having landowners go above and beyond the minimum that's required by legislation.

Speaking of ALUS, here's an example of some of the features that have been supported in ALUS. I won't read them to you; you can see them there. Close to 10,000 acres of land across PEI has been voluntarily enrolled in ALUS by landowners and these are folks that do want to go above and beyond what's required for legislation and a recognition for their contribution is they are eligible for annual payments through this program.

What some of these features look like on the ground – I didn't want to presume that the words would necessarily be meaningful to

everyone – grass waterways again you can see in the upper left there is a way to prevent the water from eroding in to the soil and filtering it before it reaches the watercourse.

Expanded buffer zones; land owners that are willing to set aside more of their land beyond the 15 metres that we have in legislation. Some of those expanded buffer zones have been planted through programs in my division, such as the Greening Spaces Program and with the assistance of watershed groups across the province and retirement of high slope lands. Those would be lands of 9% slope or greater which may be taken out of row crop production. Some would be put into trees, other maybe just left in permanent grass or pasture.

I mentioned the Barclay Brook pilot project and I want to highlight that here for a moment. This was a recommendation of the action committee that I mentioned back in 2012 as a result of successive fish kills on this tributary of the Trout River in western PEI. There was a lot of work done in here which included soil engineering work of the type that I just described; the use of lower risk pesticides earlier in the season. So rather than Chlorothalonil a pesticide, a compound known to be less toxic to fish was used earlier before that row closure, that canopy closure of potatoes, to reduce the risk and high risk land was actually taken out of production in this case.

In my opinion why this was successful was because of the strong partnerships that we had here. Government played a role in providing staff and funding for soil conservation and land retirement. Industry was fully onboard with this providing support, as well as funding Syngenta and CropLife subsidized the increase cost of a lower risk pesticide. The compound used would cost about 50 to \$75 more per acre than Bravo would, so producers got support for that. Industry, Cavendish Farms also supported the land retirement, purchase of land to take it out of production.

The producers on the ground implemented the work so they brought money to the table in cost-sharing this, as well as their land and time to see this happen. And the local watershed group, which is Trout Unlimited Canada Prince County Chapter, agreed to accept management responsibility for 96

acres of agriculture land that was retired and they're actively planting this, managing it and putting trees in this land now.

Those are some examples of the things that have been done. What can be done going forward? Well certainly soil engineering assessments or identification of high-risk areas. I'm not going to elaborate on this, this is a project of my colleagues in the Department of Agriculture and Fisheries using our LiDAR or our digital elevation data for the province to identify areas of concentrated flow in fields and where soil engineering and soil erosion control structures can help. This is a tremendous way to quickly identify the high-risk areas and to communicate with landowners that you have a high-risk area or multiple high-risk areas on your land or in your field and here are some of the steps that you can take.

I have seen a presentation from my colleagues there, a fabulous presentation on this that may interest you if you're looking for more information on that specifically.

Field specific management; I think it's important to recognize that every field is different. As we say with restrictions on Azinphos methyl applied to fields bordering water courses and treating different fields differently and recognizing certain limitations can be useful. Some areas are simply not appropriate for specific crops or specific products. So a one-size-fits-all across the board solution probably isn't going to be practical.

What is practical and what I think is essential is partnerships and we seen that with the Barclay Brook pilot project. We have heard from many sectors – whether it's academia, non-government, industry, that legislation alone is not the answer to this problem, and no one agency can solve this problem. It requires partnerships with government, industry, producers and watershed groups.

What I'd like to do is leave it there, and the slide on the screen is just a reminder of the various provincial and federal agencies that have roles to play here, and the roles and responsibilities of each.

With that, I'll turn it back to you, Minister.

**Mr. Mitchell:** Well thank you, Kate, and I do appreciate your presentation and the effort you put into it. There's no doubt – and I think every member in this Legislature will agree – that you put together a very comprehensive presentation that talks about pre, during and post-fish kill, what work is going on to prevent fish kills, what happens when we do get those calls, and what work was on post.

Very comprehensive, and I think it's important that we clearly lay out what the roles are of each department and the parts that they play in regards to this. So I think you did a fantastic job of that, Kate. I thank you for that.

With that, I guess I'll turn the floor back to the Chair and we'll take any questions or do our best to answer anything that's on people's minds.

**Chair:** Great, thank you very much.

The floor is now open for questions and we have one from Brad Trivers.

**Mr. Trivers:** Thank you, Chair, and thank you Kate for that excellent presentation. That was very informative, and in fact, it seems like there's a lot more information available now than there was even as much as a year ago. You made a lot of progress and so I'm glad to see that.

I know a year ago when I researched what information was available about fish kills, I could only find information up to about 2011. As well, a lot of the information was missing as to the root cause of the fish kills; but now I see online we do have the root causes filled in for many years since 2002 where the gaps were missing. As well, we have the most recent years from 2012-2017 listed. So thank you for that.

One question that I have has to do with transportation infrastructure. One thing that I've heard is that the farmers may have the proper infrastructure in their fields, and the watershed groups for example. They've built this up with other landowners, but once the water goes through their system and it hits the transportation infrastructure – the ditches, the culverts – those cannot, in fact, handle the volume of water, and it could be because of the heavy rainfall events, heavier

than we've been seeing; but in fact, it's something we need to fix on the transportation side as opposed to private landowner side of things.

Can you comment on that?

**Kate MacQuarrie:** You want me to?

**Mr. Mitchell:** Go ahead, yeah.

**Kate MacQuarrie:** Great, thanks for that question.

Obviously I'm not an engineer, and I'm not going to comment in any detail on transportation, other than to say I think we'll all agree that we are seeing more frequent and heavier rainfall events, and that's going to cause us all to do business differently. I think that includes private landowners, agricultural producers, as well as those designing our transportation infrastructure.

**Chair:** Brad Trivers.

**Mr. Trivers:** Thank you, Chair.

So what you're saying is that may be the case, but we need to take a look at it?

**Mr. Mitchell:** I think – if I could, Brad – in the case of these investigations, the overall goal is determined where the cause, where the event happened. As Kate referred to, how you proceed is you follow these streams to see where the fish are living and fish are dead to determine, and then start looking there for these cases of where this occurred.

I'm sure each case does not present itself fully and clearly, and certainly there would be provincial infrastructure that occasionally will be part of that. As noted, though, these are very extreme weather events, normally speaking, where the causes exist.

So I think it would be fair to say that the department of transportation, infrastructure are looking at all of their infrastructure pieces, whether it be open culverts are being changed to cement type, bridge ways, so I think there's a fair bit of work going on on that.

Will it be done overnight? Probably not, but I do believe that it is a focus of theirs. It's

even broader than that as to how in the part of the investigation to determine just where exactly this happened.

**Chair:** Brad Trivers.

**Mr. Trivers:** Thank you, Chair.

You mentioned that some landowners are voluntarily putting in buffer zones larger than the legislated amount. I believe you said it's 15 meters –

**Mr. Mitchell:** Yeah.

**Mr. Trivers:** – legislated. Do you think we need to change the legislation to make that bigger, or possibly even look at some sort of variable buffer zone legislation that's related, as you mentioned, to individual properties? Engaging groups like the watershed groups, as well as the farmers and landowners themselves, as well as potentially the federation of agriculture and the potato board?

**Mr. Mitchell:** I can tell you that there's a fair amount of discussion goes on, as Kate indicated in her presentation. As you and I both know, no field's the same. To use the 15-meter buffer zone as a number for all fields, certainly there's those in the industry that feel this field doesn't require 15 meters, it requires less, or there may be fields that require more.

In my conversations with watershed groups, as you know, I've asked to indicate as part of their work to determine is their fields that they would think should be extended on buffer zones, type of things like that, so that work is ongoing.

But the piece that I was missing earlier on, and I saw the presentation from Agriculture and Fisheries, this work they're doing with drones and the (Indistinct) there, what would take a watershed group – I'll say months, or it would even take the department previously days – they're flying the drones and determining in hours that this field should be looking this way.

So I'm really excited about this new technology, and I'm assuming at some point in time, I hope you'll get them to come here to do their presentation, because it's phenomenal. It's so phenomenal we brought

it to the last annual meeting for the watershed group to say: This is something that we just learned about. It's fairly new technology.

I think with assistance from the Department of Agriculture and Fisheries, with the assistance of watershed groups, with the assistance of other departments, we can probably take a better, more focused look at that to figure out what makes the best sense.

**Chair:** Brad Trivers.

**Mr. Trivers:** So I guess my question is: Do you think legislative changes are needed with relation to buffer zone sizes?

**Mr. Mitchell:** I think discussions are always occurring with those in the industry, with those in the sector, that we're willing to listen to. Whether it be regulation or legislation, those things are always being looked at.

Can I tell you that in the fall there's legislation? I can tell you that there's nothing that far advanced; but there's always discussion going on, there's always ways of looking at things, there's new technologies, willows being used in buffer zones. All those types of things are being explored and experimented with, so I think we're working towards good outcomes.

**Chair:** Brad Trivers.

**Mr. Trivers:** Okay, I'll take that as a maybe.

What are the current ALUS rates right now that are paid for farmers to take their land out of production, and when was the last time they increased?

**Mr. Mitchell:** That doesn't fall under my responsibility as Minister of Communities, Land and Environment, but that would be a great question for the minister of agriculture probably or somebody within that department. I don't have that, maybe Kate does.

**Kate MacQuarrie:** I believe the rates are posted online, so if you check out the ALUS site on the website I think that information will be available.

**Chair:** Brad Trivers.

**Mr. Trivers:** I guess the one thing that I'm hearing when I'm talking to farmers is that they're saying that perhaps the rates need to be looked at and reviewed, and possibly increased to make it fair.

Agriculture, in particular, some of our larger industries like the potato industry, produce so much for the GDP of the Island, a billion-plus annually, and so I think it's worthwhile to protect our land and protect the industry by making sure that the rates to take that land out of protection are appropriate.

I just wanted – perhaps that's a recommendation we can bring forward as a committee at some point, so I just wanted to make that point.

**Chair:** Okay. Thank you, Brad.

Next on my list will be Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

Environmental issues always press harder on small islands because of our finite size, and particularly on Prince Edward Island because of the nature of our geology and our soil, a lack of surface water, some fairly limited resources, and the fact that agriculture has always played a prominent role traditionally in land use here.

By the way, thank you first of all for a very comprehensive, very clear presentation, Kate and minister. Really appreciate that.

When we look at recent environmental events, the hurricanes, which recently swept through the Caribbean and Florida or the forest fires out west in BC, oftentimes when authorities make initial statements on that while they – they may be asked: what role has climate change played in the voracity of these hurricanes, for example. Or, in the extent in the number of forest fires in BC. While they can't say categorically, they often say: well, we strongly suspect that climate change is an issue.

Using that as an analogy, I think one of the problems regarding fish kills and public relations here on Prince Edward Island is a withholding of information, and an apparent unwillingness of whatever department is it,

whether it's Environment Canada, and I learned something, I'm going to ask you a question on that in a minute Kate, but an apparent unwillingness to release as much information as you can and so the rumour mill starts and people begin to – you know how it is on PEI.

Would it not be useful, this is my question. Would it not be useful when have the series of events that you very clearly outlined, Kate, heavy rainfall, a particular time of year, with a certain distribution of fish killed within a particular stream and then an adjacent crop row, would it not be useful, in your opinion, to say: we strongly suspect that this is a pesticide-related issue?

**Mr. Mitchell:** I think, Peter, to your point, and it was referenced by Kate earlier. I think she did a really good job of defining the roles of the investigation and our role, in particular, which, as she made reference to, we're the EMTs that are there first. If you take that analogy a little further, it's not the ER – the nurses or the ambulance drivers that put out those reports. What we do do and what we lay it out clearly as Brad already noted, we put the parts that we are doing in regards to this and lay them out as the numbers of fish that were killed, the distance of the stream that was affected. All of those types of things. It's the role of others to put out, for various reasons, which they withhold if they're going to court or whatever that takes it longer to get out. It's not – it's up to them to put out those types of information.

You can add a little bit to that if you like, Kate.

**Kate MacQuarrie:** No, that's good.

**Mr. Mitchell:** Our role is defined. We do our role. We take our role seriously. We do our role very well and that's what we do. We're proud to be able to do it well and put that information out and as Brad noted, maybe we're doing it better than has been done in the past perhaps. I'm not sure, I can't verify that some of that information wasn't available. The staff that we have and the role they play, they're very passionate about it, and they do it really well.

Others that have their roles to play for various reasons it may take longer to get out, and I can appreciate that, as well.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

You did a really excellent job of explaining why not every field is equally culpable, or equally likely to cause a problem. I'm aware of the new work that's being done with the drones. I think that will be an enormously important thing –

**Mr. Mitchell:** Agreed.

**Dr. Bevan-Baker:** – piece of information for, not only farmers, but for the department and for all Islanders to have.

It's also not true that every farmer is equally likely to have an issue. We have some fantastic farmers here on PEI. David Francis, who lives just along the road from me just won a national award for his environmental work. I think it's important that we give kudos to these people. But are there, without naming names, are there certain farmers, in the same way that there are certain fields that we identify as being high-risk, are there certain farmers on Prince Edward Island that have a history of repeated fish kills, and therefore we could, if you like, term high-risk?

**Mr. Mitchell:** You know what? I don't have the answer. I don't know of particular farmers who have had – individual cases that I could sit here and tell you about. What I do know, though is that our new environmental ag officers that are out, going across Prince Edward Island, driving up farm lanes, meeting farmers. Talking to them collaboratively to invite them in to look at the way they're doing their work, identifying, maybe, some issues that they could do better to get them into compliance, that's been very effective.

You know what? It's just about some reeducation for some farmers. It's about helping clarifying some regulations that they might not have been aware of, or those types of things. We're proud of that work that the ag officers are doing; to drive up driveways; to help farmers get into compliance. I think it's making a substantial difference.

Feedback has been very positive from the farming community to the approach that these gentlemen are taking as they enter farmyards. It's very collaborative. It's working together. It's trying to help.

But occasionally, things happen and an event such as we have been talking about occurred. Then, those ag officers step back and investigation officers come in and it's a whole different role. I think the relationships that have been built over the last, I'll say, two years are significant and I really believe that they're making a huge difference in how things are happening out there in that industry.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

Brad asked some questions about buffer zones, and I agree absolutely that, in the same way that fields are all different, there are areas where 15 metres is plenty. In fact, maybe more than we need, but in some other areas 15 metres is clearly insufficient.

I appreciate your question, Brad, and I would have hoped for a more unequivocal answer. I appreciate, minister, that you're taking into consideration the fact that buffer zones need to be customized to the situation.

One part of buffer zones is the 200 metre requirement for grass headlands. Now, as I understand it, that provision was recently successfully challenged. Now, in your opinion, is that piece of legislation something that needs review? And perhaps – that specific thing about 200 metre grass headlands, is that something that needs review and amendment?

**Mr. Mitchell:** I firmly believe, Peter, as legislators, we should be looking at all legislation and all regulation for areas that we can either strengthen it or (Indistinct) or make it better for those that need to fall under it.

The specifics of the case you're talking about, I don't have full specifics, so I'm not going to address that particularly. I think it's important that if we're doing our jobs, yes we're looking at legislation continuously, and we're looking at regulation continuously to see if there are areas that improve it, that

make the difference for people to do their work and their jobs better, and also to protect the environment. If we need to change things, certainly, we should be looking at them.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

The 2008 Commission on Nitrates and Groundwater, one of their strongest recommendations was that we need to implement three-year – or have a mandatory three-year crop rotation without exceptions. It was very unambiguous. It was: this is what we need to do. Of course, around the Island, we well know that that's not the case. We have all kinds of exclusions.

Can you give me your thoughts on that?

**Mr. Mitchell:** I think farmers from Prince Edward Island they are, one, be good stewards of the land and the water. There is no question about that and they want to be comfortable when they meet their neighbours at the rink or at church that they feel that they're doing the right protections in place to protect the environment when they're growing our crops that we all need to sustain life.

Certainly, as part of the work of our ag officers when they drive up these driveways, it is to talk about crop rotations. It is to talk about what farmers are looking at today and into the future for new crops, for new development. It is to determine that they have those, I believe they're called management plans, when they lay out what they're going to have in their fields, that that is exactly what they do have in their fields. But to indicate new technology or new crops that can help out in those areas.

I think there is a lot of work ongoing there. I think farmers want to be the very best stewards they can be of our land and our water and all that type of thing. I think as younger farmers are coming in, too, with the, maybe different attitudes and different approaches and looking at new technologies and looking at new crops. We're getting there. We're making good progress.

I'm pleased with the ag officers that go up and talk to farmers about crop rotations. Any

help they need to do in that regard. And to ensure that they are following their management plans.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Kate, I want to ask a question on why the results, the pesticide results, are only released to Environment Canada. Why are they not released to your department?

**Kate MacQuarrie:** They're not released to our department because we're not directly involved in the investigation. They would be released to justice and public safety at the request of JPS when they're doing an investigation.

We don't have a role in the investigation. We are that first responder and we're the after clean-up. That's our job.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

You mentioned that, for some very understandable reasons, it takes time for these things to work their way, both through the labs, and then through the courts.

I'm just questioning why the – somebody in the province here does not have more timely access to those results so they can share them with Islanders. Again, so we – it's always, in my opinion, a better thing to have more information. You squash all the, sort of, what's going on, the rumour mill I described earlier.

You mentioned that justice could request these, and then presumably pass them on to your department.

Can I ask you why that's not a routine procedure in your department that you do that, why would you not want those results?

**Mr. Mitchell:** I'll use an analogy where, it's quite easy to use a lot of analogies, of course, but I'll use an analogy of a highway accident. The rules of the highway fall under the highway act, which is under the department of infrastructure and energy renewal.

If an accident occurs, it's the RCMP that does the investigation. That does not mean that that department puts out the report. It would be the investigating body which, in that case, would be the RCMP.

In this case the investigating body is justice and public safety under their conservation officers and that is who would put out those types of information. We do own the *Environmental Protection Act* and we do work on that and we make changes when required. That's what those bodies will be falling under as far as provincial rules.

It would be those bodies that would put out the reports regarding whatever the findings were.

**Chair:** I have several others on the list, so Peter if you have any more questions I can put you back on.

**Dr. Bevan-Baker:** Thank you, Chair.

**Chair:** Next, we have Colin LaVie.

**Mr. LaVie:** Thank you, Chair, and thank you, Kate for your presentation.

I've been elected for six years now and it came a long way in six years. I had a number of questions marked down here, but Peter asked quite a few of them.

I'll ask the minister one question, and I know Kate mentioned climate change and you always mentioned into the future.

What is the government's plan going into the future with fish kills, as climate change comes upon us with more rain and stuff? Does the government have a long-term plan?

**Mr. Mitchell:** That's an excellent question, hon. member, of course.

We have a whole host of work going on currently under our Climate Change Secretariat. Federal government has indicated that they're going to put in some measures soon in regards to whole climate change.

We've been working cross-departmentally with our Climate Change Secretariat, which is led by, I think most of you know Todd Dupuis (Indistinct) our department, who is

the top of that role. What they're working on is mitigation strategy, and as well an adaptation strategy. All of those, aspects of those will fall under things, you know, as far as agriculture, as far as infrastructure needs and improving.

I guess there is a fair bit of work going on under that and has been for the last, I'll say, two years. Some of the strategies have been released. Some are yet to be released. I think, overall, it's part of a bigger piece of work, but there is a lot of work going on in regards to what does our infrastructure have to look like to take on these one in 100 years storms, which are probably not one in 100 years away from us right now. What needs to be done?

Part of this stuff as far as grass waterways, as far as increased buffer zones, are happening naturally because farmers are taking a proactive approach on it, too.

So, you're right. I see a lot of great advancements over the last number of years. I envision a lot more as we move forward as well.

**Chair:** Colin LaVie.

**Mr. LaVie:** Thank you, Chair.

So there is no real plan. One more question: When these fish kills are investigated are these investigators government employees? Are they private investigators? Who investigates these fish kills?

**Mr. Mitchell:** I guess, as stated, I'll let her take over further.

Our role would be, we would go out and work justice and public safety. That would be the conservation officers. The federal officers would have a part to play, but it would be, I would say, primarily, justice and public safety conservation officers that are the lead investigators. They work for the province, but I'll let you –

**Kate MacQuarrie:** Yeah, you are correct, minister.

The investigators are employees of the Province of Prince Edward Island and the Government of Canada. They are not private employees.

**Mr. LaVie:** Okay.

Thank you, Chair.

**Chair:** You're welcome.

Next, on our list we have Kathleen Casey.

**Ms. Casey:** Great, thank you, Mr. Chair.

Kate, thank you for the informative presentation, and what I noticed most throughout the presentation was the theme of co-operation of stakeholders and the improved co-operation amongst government and watershed groups and landowners. I noted that that was a theme.

I know this may not be your department, but I was interested in the ALUS program and wondering, I know the agriculture industry relies on healthy environment and water sources. They recognized the importance of that but who funds the ALUS program and is the participation in the program voluntary or mandatory, and how successful is it?

**Kate MacQuarrie:** Great. Excellent question, thank you so much.

ALUS is a joint program between our department and the department of agriculture. It is funded provincially. Participation is voluntary. Nobody is obligated to participate there. As you saw, there is nearly 10,000 acres enrolled in the program today. Unfortunately, I don't have the number of producers at my fingertips, but I'm confident that if the committee were interested in more information that a presentation could be outlined providing more details on that program.

Does that answer your specific questions?

**Ms. Casey:** Yes, and I think the minister –

**Chair:** Kathleen Casey.

**Ms. Casey:** – sorry, thank you, Mr. Chair –

**Mr. Mitchell:** If I could add to that, as well, and the slide, Kathleen, that Kate showed, where it showed co-operation between industry, government, watershed groups and the producers themselves. The Barclay Brook example is the ultimate example of that. Four entities working together for a



common goal of protecting the environment; 96 acres, I think it is, almost 100 acres taken out of production. That was done collectively and collaboratively with four groups.

I think Kate mentioned there, legislation alone cannot solve this issue. It's by working together with those four groups and others that have interests in it that we're going to make good in-roads and strides in it, but the ALUS program provides that initial compensation for farmers to take part in that, but that's ongoing funding. Hopefully, we'll work on continuing that in a bigger and better way if we can.

**Ms. Casey:** Perfect, thanks.

**Chair:** Kathleen Casey.

**Ms. Casey:** Thank you.

I also had a question on environmental farm plans. What would be the percentage of farmers who actually have an environmental farm plan? Do you encourage them to have that? Is it mandatory that they have a farm plan and who funds environmental farm plans?

**Mr. Mitchell:** I'll let Kate – I don't have the percentages. She might. I'm not sure –

**Kate MacQuarrie:** No, so the environmental farm plan program, I believe is done co-operatively between the federation and the Department of Agriculture and Fisheries. Unfortunately, I don't have the answers, but I'm confident our department of agriculture colleagues would.

**Ms. Casey:** Perfect. Thank you.

Thank you, Mr. Chair.

**Chair:** You're welcome.

Next on our list we have Brad Trivers.

**Mr. Trivers:** Thank you, Chair.

Minister, I was just wondering, is the water act complete and ready to be brought to the floor of the Legislature this fall?

**Mr. Mitchell:** I can tell you the water act will be brought to the floor of the Legislature this fall. We're still doing the finalizing to it, of course.

It was great to have the opportunity to continue that work over the summer. There is an extensive amount of energies and efforts have gone into the water act. To have that extended time of the summer to enhance it even more, work continue to work on it. It was a good thing to have so I have every confidence that we will have it completed. We'll get it to the floor of the Legislature this fall.

Hopefully, with the help of each and every one of you, we will get it moved on.

**Chair:** Brad Trivers.

**Mr. Trivers:** You had originally committed to bringing the water act to the floor of the Legislature in the spring. Why didn't you release publicly an updated version of the water act so everybody could give input over the summer?

**Mr. Mitchell:** I full well indicated that it would be my intention to try and get it to the floor in the spring. Unfortunately, we just didn't get it completed, that's all. Therefore, it's not a completed document until it's finished and that gave us a perfect opportunity to continue to work on it and to enhance it; to make those changes that we heard when it went out for the second public consultation where we could; to work with others that had other thoughts on it. It just worked out perfectly and we will be ready to finalize it before the fall session and get it to the floor of the Legislature.

**Chair:** Brad Trivers.

**Mr. Trivers:** I would just like to request and recommend that you release the version of the Water Act – the version you're going to bring to the floor or even an updated version as soon as possible because I know there's lots of people that are passionate about it that have some other input that I'm sure they could offer, and that way we'll get a document when it comes to the floor of the Legislature that is the best it can be.

**Mr. Mitchell:** I don't have a timeline on it being finalized; the I's dotted and the T's

crossed. We'll be working on it right up, I'm assuming, to the hour before I present it to the floor. But, my conversations have been open to all of those that have presented, to other that have interest. I've had many phone calls. I've had many discussions at coffee shops about the Water Act, the bits and pieces that have changed or expanded, at least our vision for that.

I've been having a lot of conversations over the summer and people are well aware of the amount of effort and work that's gone into it and are excited about seeing it get to the floor of this fall, as am I.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

We've been using the term, and in fact the whole meeting has been about fish kills, but of course not just fish that get killed. We poison the whole ecosystem. It's truly river kills that we should be talking about. I have a general question I would like to ask you, Kate: Are river kills inevitable or can we prevent them, and if we can prevent them how do we do that? That's a huge question –

**Mr. Mitchell:** That is a huge question. Do you want to –

**Kate MacQuarrie:** Absolutely.

**Mr. Mitchell:** You can take some and I'll probably follow-up on it too, Peter.

**Dr. Bevan-Baker:** Yeah, sure.

**Kate MacQuarrie:** So the answer to the first part of your question, Peter, is: No. They're not inevitable. In my opinion, absolutely they can be prevented. If it were easy to prevent them, we wouldn't have them. Right? And we wouldn't be sitting here having this conversation today. The complexity, in my opinion, lies into the variety within fields and field management and the variety within the number of partners that need to be involved. So if I had the solution to fish kills, I guarantee you that they would be solved. I'm confident that they can be solved, and I think it will take further discussion and work to do that.

**Mr. Mitchell:** And just to follow-up, I whole heartedly agree with Kate. I think it

takes – it's going to take a lot of individuals, people working together and when I say that I mean exactly what I said earlier to Kathleen: I mean industry. I mean producers. I mean watershed groups, governments both provincially and federally, working together to identify needs and come up with solutions to that.

No one group can solve it, and I've said that at many meetings and I said it all across PEI at Water Act – when we were out – no one individual sector is going to figure this out. We need to work together. We need to identify it. We need to agree on it and we need to move forward with it.

**Dr. Bevan-Baker:** Thank you.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

I'm very interested in getting to root causes because I don't think – and I think both of you have said this in your own way – that we can't legislate our way out of this and I don't believe we can engineer our way out of this either. I think we have to look at the root causes and clearly in Prince Edward Island, that is the way the agriculture has developed over the last 50 years.

We do know things that we could do to improve the situation: Planting fall crops, increasing the organic matter in our soils, increasing the diversity of our crops, integrated pest management, buffer zones that suit the area, and an emphasis on smaller, mixed farms. All of these things would have a profound impact because the root cause here is the way that we do agriculture on Prince Edward Island. I don't think anybody – the evidence to support that statement is overwhelming.

In the same way that if I used (Indistinct) metaphor earlier, minister, if I have a headache because of a flu infection, I can take an Advil and my headache may go away, but my flu is – I'm not dealing with my flu. Although, obviously there are – there's no reparation to be done other than restocking your river after a fish kill. What we really need to be doing is digging down and dealing with the root causes if we're going to prevent this and maintain the health of our soil, of our waterways, and I believe

the economic health of the agriculture industry here on Prince Edward Island because if you look at the statistics regarding return on investment because every farmer knows it's not what you bring in, it's what – sorry – it's what you get to keep what matters. It's not how much your crop is worth. It's how much you get to keep at the end of the day.

The statistics on that are, again, starkly clear that despite the fact that the value of our agriculture exports has been going up steadily. The return to farmers has been going down steadily. It's not even that we're destroying our natural capital, as we have been for a rather long time now, we're not even getting an economic return for that so we really have to revision how we do agriculture here on Prince Edward Island.

The question I want to ask you is: How do you feel that the annual incident, and it's just over one a year if you average it out over the last 54 years – how do you feel that the impact of these annual events has on the image of Prince Edward Island as Canada's Food Island?

**Mr. Mitchell:** If I may, Peter, I guess for me, how do we prevent – how do we make changes too and that's great, but when you look at the way you put it, you can say annual if you look over one year and to me it's going to involve doing things differently. So when I initially – and that's why I strongly urge the committee to bring them in to show you this – when I initially back in the spring saw the presentations from agriculture regarding the drone fly overs, regarding voluntary changes that farmers were doing, and I'll say primarily the one I was looking at was in the centre piece of Prince Edward Island along the (Indistinct) there, and the voluntary changes that farmers have done over the past, I'll say, several years – I don't know if it's five or 10 or three, but showed up when they did the fly over – it was encouraging and exciting to see; voluntarily taking their own, as you said, land out of production for the betterment of environment and I didn't realize that was going on. I'll be totally honest with you and to see it firsthand, and that presentation from agriculture, it just – I couldn't believe it.

That's why I brought that forward to come to the watershed meeting. I've encouraged others to have a look at that as well. So you're right, probably farm revenues are not where they want to be and they're taking things out of production and still doing better and things are coming down so we have more work to do there. But, for farmers to voluntarily take this production out and to show – you don't even realize it's going on until you see the fly overs and you can pick out who's doing what where. It's phenomenal to see. It's very encouraging to see, actually, as minister of environment. I'm sure really encouraging as minister of agriculture as well, for him to see that.

I think the process has begun, it definitely has begun. There's a shift of attitudes. There's a shift of how you do business and for me, I think that's more aware within government and within the industry and within the producers. I think that shift has occurred at all three aspects of it, but where do we go next? What new technologies can come out to help us? What dollars need to be increased to allow that to occur? These are things that we're still trying to work through, but I believe the process has begun and I believe that we can make some really good inroads by working together.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

I think, perhaps, what makes this so heartbreaking for a lot of Islanders, this issue, is the fact that PEI is the perfect habitat for brook trout. We have spring-fed streams with cool water and that doesn't happen everywhere.

**Mr. Mitchell:** Yes.

**Dr. Bevan-Baker:** When Islanders see repeated events of river kills, it really hurts. It's something that strikes very deep in Islanders, in Islanders' hearts and minds.

I think a lot of them, certainly a lot of them, have asked me why the government of Prince Edward Island will prosecute for – and again, I know we can't legislate our way out of this, I'm not suggesting that this is how we're going to fix the problem, but it's a specific question about when the legislation and when the court system is

triggered – why the government of PEI will prosecute for incomplete paperwork or poorly managed records, but they will not prosecute when there's the poisoning of a river and the killing of fish.

**Mr. Mitchell:** If you look when an event occurs, Peter, and the investigators go to show, it's similar to any other, I'll say, accident scene that occurs or whatever. When those investigators get there that have the authority that write the tickets, they're looking at all. They're looking at any violations.

That's why in some of these times you'll see it's about the records. Once they start doing the investigation, it's about product they were putting on. It's about their training. So all of those things, once something occurs, every part is going to be looked at by those doing the investigation. So that's why you see a lot of that type of thing.

That results, then, in the overall charge of how it ends up. Again, that's left to the role of the investigators, the actual people that do the prosecution part; and we do our supportive roles and we do it well and we continue to do that.

**An Hon. Member:** (Indistinct)

**Mr. Mitchell:** One thing I would add, though: When you started your initial about PEI and the differences here, certainly on Prince Edward Island we are unique in some regards. We're densely populated. You can't drive down a road very far without but there's a driveway to a business or a home or whatever.

Our streams and waterways are the same, and anytime anybody says to us or brings to us: Well do it this way in another province or another state, that doesn't equate to you can do the same thing here. We're quite unique, quite different.

That's how we treat ourselves, and that's why we try to design things when we're doing legislation and regulation specific to our needs on PEI. That's a big part of what we hear, too. To your point, those people you talked to talked to me as well, and we're well aware that we have to do things different on PEI. We can't cut and paste

what the other provinces are doing because it's just not viable here.

**Chair:** Peter Bevan-Baker.

**Dr. Bevan-Baker:** Thank you, Chair.

My final question: The fish kill action committee that was struck in 2012 after the repeated events up west – you mentioned the Barclay Brook project which is fantastic and partnerships and working together and all of those lovely things and that's great – what other recommendations from that action committee have actually led to tangible results? What other actions have come from that action committee?

**Mr. Mitchell:** (Indistinct) the list (Indistinct)

**Kate MacQuarrie:** Thanks, Peter.

The report itself is posted online, so folks can look at each of the individual recommendations there. One that has been implemented that I feel has led to tangible action is having our colleagues in agriculture on site following an event. These are the folks that are the soil and water engineers, and that can take a look at what, if any mitigation, needs to be applied after the event.

Rather than just saying we've had a fish kill in this particular area and doing the investigation, they're saying: What could have been done to prevent that, and what can be done to prevent that similar event happening here in the future?

To me, that's one of the prime recommendations that has been implemented, and I do believe had led to tangible results.

**Dr. Bevan-Baker:** Thank you.

**Chair:** Okay. Brad Trivers.

**Mr. Trivers:** Thank you, Chair.

There were, I believe, two fish kills last summer if I'm not mistaken. Were charges filed in both those cases and were those charges completed?

**Mr. Mitchell:** Do you have the detail on that?

**Kate MacQuarrie:** Thanks for the question.

I don't have the detail on those, but I'm confident my colleagues at justice and public safety would be able to answer your question.

**Mr. Trivers:** Okay, so you don't have information on that.

Okay, thank you.

**Chair:** Brad, do you have anything further?

**Mr. Trivers:** No, that's all right.

**Chair:** Okay, Bush Dumville.

**Mr. Dumville:** Thank you, Chair.

Kate, I'd like to thank you for a wonderful presentation. I really enjoyed it. I've learned a lot here today. I've got great faith in how we're moving forward with people like yourself in the minister's department, and also the cooperation with the department of agriculture in terms of drones, and also, possibly the department of highways.

We mentioned that we're getting rid of the old culverts. The minister mentioned concrete structures. What wasn't mentioned, were also – because of environmental aspects and what's happening with severe weather – we're also raising the bridges, not only to keep us dry as we cross over them, but for better flow so these events do not happen, better flushing.

UPEI has a great computer presentation in regards to land erosion. Have we been proactive in using the fact where we're losing land in regards to being proactive with the area that we bring back, our boundaries?

**Mr. Mitchell:** Yeah, (Indistinct) –

**Mr. Dumville:** Have we used that – if we're going to lose 60 feet or we're going to lose 100 feet or that house has to be moved back, that lighthouse has to be moved back, are we using that to be proactive in regards to our buffer zones?

**Mr. Mitchell:** I'm very glad that you mentioned the work that's being done at UPEI, and Dr. Adam Fenech in the climate change lab that's out there.

We are using their knowledge, their data, the information that they're learning very practically. They are a huge part of forming our adaptation piece which will be presented out shortly to do exactly what you said, to determine where are things changing, where are we losing, where should we be doing, what measures should we be putting in place.

Some of that, although a lot of it's coastal, it does move inward and it moves into estuaries and streams and things like that that we're speaking about today. They are a big huge part of the work that we're doing in regards to identifying needs for adaptation for climate change specifically.

The CLIVE work that they're doing out there, it's very informative; and any Islanders that are watching today that haven't had an opportunity to see that, I strongly suggest that, too, and maybe that's something that at least some standing committee should bring in Adam Fenech to talk about his work and his roles. We're, I'll say, using his expertise inasmuch a way as possible, that we can.

**Chair:** Bush Dumville.

**Mr. Dumville:** Thank you, Chair.

With all the departments cooperating and moving forward and with all this knowledge, and the farmers, the farming community, they are great stewards for this province; and no farmer, anybody would realize that no farmer wants to be subject of a fish kill going forward.

It's an education process and I believe we're well on our way, and I thank you for your presentation this morning, minister and Kate.

**Chair:** Thank you, Bush.

Seeing no other questions on my list, I want to thank both of you for agreeing to come here today for a very well-prepared presentation. It articulated very clearly the step-by-step process of this event.

So again, thank you.

**Mr. Mitchell:** Thank you very much.

**Chair:** We're just going to give them –

**Clerk Assistant:** Sure.

**Chair:** We're going to move on with number (4) on our agenda, which is an update on committee business.

I'm going to put it over to our clerk to give us an update on our work plan.

**Clerk Assistant:** Thank you, Mr. Chair.

Yes, as was mentioned earlier in the meeting, the drone technology presentation is actually something the committee already decided it wishes to receive, so I'm working with the Department of Agriculture and Fisheries right now to have that scheduled.

The other matter that the committee had already decided on was to receive an in-camera update on marketing plans, expenses and other matters by Atlantic Beef Products. The committee asked for this presentation. Atlantic Beef Products replied that they would happily provide it but they would prefer to do it in camera, and the committee agreed that they could do it in camera.

The upcoming dates that ABP is available are Friday, September 29<sup>th</sup>, or Friday, October 6<sup>th</sup>, so if any members would like to express a preference over those two dates, I'm – or if they both work equally well for the committee –

**An Hon. Member:** (Indistinct)

**Clerk Assistant:** Okay.

**Mr. LaVie:** What were the dates, Ryan?

**Clerk Assistant:** The dates are September 29<sup>th</sup> or October 6<sup>th</sup>.

**Chair:** Ryan, would it be possible, maybe, for you to have just to circulate it and maybe we could respond by email, please.

**Clerk Assistant:** Sure, I'll do that. I would just ask that you respond as quickly as you can because ABP are fairly anxious to know the date that they're coming in and that –

**Mr. LaVie:** Can I just –

**Chair:** Mr. Colin LaVie.

**Mr. LaVie:** Thank you, Chair.

Whatever date you pick, I'm good with.

**Clerk Assistant:** Okay.

**Mr. LaVie:** My email's not working.

**An Hon. Member:** What?

**Chair:** Okay, Ryan, is that –

**Clerk Assistant:** That's all I have.

**Chair:** Thank you very much.

We're going to move onto new business. Is there any other new business?

I see none. I'll call for adjournment –

**Mr. Trivers:** What else do we have –

**Chair:** Brad Trivers.

**Mr. Trivers:** Sorry, what else do we have outstanding on our workplan?

**Clerk Assistant:** That was the extent of it.

**Mr. Trivers:** That was it?

**Clerk Assistant:** Drone technology and presentation from ABP.

**Mr. Trivers:** Okay, maybe I'm getting confused. I thought we had a number of other items on the workplan. Like, maybe I'm getting confused, but I thought property taxes or something we were going to look into as well.

**Clerk Assistant:** That would be another committee.

**Mr. Trivers:** A different committee? Okay, good.

**Chair:** Okay, so with that said, Peter Bevan-Baker.

**Dr. Bevan-Baker:** Chair, and I neglected to bring mine. I did have some issues that I would like to request this –

**Chair:** Under new business?

**Dr. Bevan-Baker:** – committee –

**Chair:** Sure.

**Dr. Bevan-Baker:** – but I don't have them with me today, so at our next meeting I'll bring them. I think they may be some of the same issues as you're concerned –

**Chair:** Okay (Indistinct) –

**Dr. Bevan-Baker:** – with.

**Chair:** – I'll make sure it's on the agenda.

**Dr. Bevan-Baker:** Thank you, Chair.

**Chair:** Okay, do we have a call for adjournment.

**Ms. Casey:** So moved.

**Chair:** So moved by Kathleen Casey.

Thank you very much.

Meeting adjourned.

The Committee Adjourned