PUBLIC HEARINGS ON
THE STUDY OF CRITICAL SOURCES OF
PHOSPHORUS LOADINGS TO MISSISQUOI BAY
SWANTON, VERMONT
DECEMBER 15TH, 2008

PANEL:

PIERRE TREPANIER, Commissioner, Canadian section, International Joint Commission

IRENE BROOKS, Commissioner, Canadian section, International Joint Commission

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ERIK H. BECK, Co-Chair of the International Missisquoi Bay Study Board

DANIEL LEBLAND, Member of the International Missisquoi Bay Study Board

ERIC SMELTZER, Member of the International Missisquoi Bay Study Board

SPEAKERS:

JERRY LABRIE, Bay Bridge Steering Committee*

MIKE WINSLOW, Lake Champlain Committee *

PAUL MADDEN, Friends of Missisquoi Bay*

PIERRE LEDUC, Corporation Bassin Versant Baie Missisquoi

JOHN FORCIER, Forcier Aldrich and Associates

WARREN FOURNIER

STEVE MERRILL

DR. HEATHER DARBY - University of Vermont

PAMELA STEFANEK, Agricultural resource specialist

LAWRENCE PRATT, Member of the Pilots Bay Restoration Association

PETER RATH, Friends of Missisquoi Bay, St. Albans area watershed

CLAUDE BENOIT

ROGER RAINVILLE, dairy farmer

JEAN PRATT
BILL HOWLAND

** The original comments of the speaker were not captured on the audio recording of the hearing. The comments that appear in the transcript were submitted after the hearing.*

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PAUL MADDEN* (Friends of Missisquoi): Friends of Missisquoi has been asking for a focus on critical source areas and we welcome the attention provided by this Missisquoi Bay watershed study.

Our interest is the implementation of actions that will clean up the Bay. Thus we expect that the larger objective of this research is that it will lead to actions, and that this objective will guide the research.

In his comments, Bill Howland mentioned that the spring flooding is one of the greatest contributors of phosphorus. We fully agree and we believe that it is critical that this study is in place before April snow melt. Otherwise, the delay will run into time constraints on the back end of the study in 2011. This research project was formally announced five months ago, and the groundwork for this project should already be in place. If not, why not?

We hope that there will be a steady release of information during this research, so that those who are actually taking actions to reduce phosphorus loading will be able to adjust their actions as necessary.

We hope that the course of this research project will include a full analysis of the data that is produced by the research. It appears that the Vermont state agencies and the Quebec ministries will not have adequate personnel to process/analyze all of the data. If there is no analysis of the data, then the whole program is a monumental waste of time and money.

The goal of our organization is clean water in Missisquoi Bay. While our organization is supportive of research that provides information that will guide implementation actions, we are very concerned about projects that waste valuable time and money. It is critical that this research effort is timely and complete, or it will be wasteful, and we will be very clear in making our opinion heard in the media and with government leaders on both sides of the international border.

We thank the IJC for the support that has enabled this project, and we hope that the IJC will ensure that the project is timely and complete.

PIERRE LEDUC (Corporation Bassin Versant Baie Missisquoi): Good evening and thank you for allowing citizen input in your process. My name is

Pierre Leduc and I am the chairperson of the Corporation Bassin Versant Baie Missisquoi, the basin organization using a watershed-based management approach on the Québec side of the Missisquoi Bay watershed. Our board is composed of representatives of all those involved in basin-scale water management, such as regional county municipalities, municipalities, farmers, environmental groups and citizens. Governments are also represented, but do not have the right to vote.

We also act as the Québec Citizens Advisory Committee on the Lake Champlain Basin Program Executive and Steering Committees. A recent report by Eric Smeltzer from Vermont's Agency of Natural Ressources and Marc Simoneau from Québec's Ministère du Développement Durable, de l'Environnement et des Parcs demonstrates a sizeable reduction in phosphorus concentration in the Pike river between 1991 and 2001-2005, especially at medium flows. It also shows that major challenges remain at high river flows that unfortunately seem to be more frequent in recent years.

It is unlikely that Québec will meet its commitment of a 40% reduction of phosphorus load for 2009 although the impact of the latest pilot project «la lisière verte» has not been measured yet. The theoretical expected phosphorus reduction is 30% for the area covered, which represents roughly 20% of farmland in the Pike river watershed. Therefore, this single project could reduce total phosphorus from the Pike River by a further 6%. Unfortunately, those results can't be

confirmed unless the project is extended for at least another 3 years to allow water quality measurements over a statistically significant period of time. Although the annual cost would be a mere $50K, there are currently no plans for this extension and we might need your help to make it happen.

The measured reduction is a good start, but much work remains. In my opinion Québec's performance is far from stellar; it is not excellent, very good or not even good, but just fair.

On the same scale, Vemont's performance is not even mediocre; it is purely and simply dismal. The same Smeltzer-Simoneau report shows clearly that there has been absolutely no progress made since 1991 on the Missisquoi River.

People in Vermont know me. I have been involved with improving Missisquoi Bay for 5 years, driving down from Montréal on the average once a month to participate in numerous meetings and workshops. I always try to be constructive, to suggest solutions and ways forward. But this time, I have to say that I am extremely disappointed with Vermont's lack of progress.

I just don't understand what Vermont is waiting for.

No progress was made in spite of the QC-VT agreement to each reduce phosphorus loading by 40 %, signed in 1996 and renewed in 2002. Sometimes I wonder if there is any will to do anything behind the smiles, the handshake and the signature.

Obviously, the committed 40 % reduction for 2009 won't be met. Will there be an attempt to meet the original commitment of 2016 made in 1996? No

visible action is visible on the ground in spite of the IJC's recommendation 4 years ago, and I quote, "to urge the state and province to take significant immediate steps to address the elevated phosphorus levels in Missisquoi Bay".

Over the years, I have heard many times that there is no State money to do much. I don't understand that given that Vermont's GDP per capita is 15% greater than Québec's. I also heard repeatedly that it was never a good time to ask farmers to do more because economic conditions were bad, the price of milk was too low, and so on. I don't want to scare you but it's very likely that for the next little while the last five years will be seen as a very prosperous economic period. Does that mean that we won't be able to do anything again until economic conditions improve? And then what?

Meanwhile, Vermont is slowly but surely loosing Lake Champlain. Phosphorus loads are way over targets in all segments of the Lake. Most tributaries are in terrible shape and degrading further. A famous travel editor is already saying «Don't go there» when writing about Lake Champlain. Vermont's reputation is being affected and when reputation is lost, it is very difficult to recover. Ask business people in Venise-en Québec. They suffered more than their share over the last 10 years. Sometimes I wonder what would have happened if businesses had been affected in Vermont due to poor water quality coming from Québec with no visible effort to do anything about it. Wouldn't we be in court already?

We try to be good neighbours. This fall, Québec accepted that Vermont use TFM, a poisonous chemical illegal in Québec, to treat for lampreys in the Missisquoi River. There is nothing in it for us, but we accepted that TFM entered our waters, even reaching our drinking water intake. Everything was done properly to protect the public. Fine. Apparently TFM is good for your economy. Can you re-invest some of that money in reducing phosphorus in the Missisquoi River so we get something out of it?

The IJC's mission is to prevent and resolve disputes between Canada and the United States. You are well advised to get involved again. The fact that Vermont is not pulling its load is not well known in Québec yet, but it surely has the potential to create a dispute.

Now, let's move on to some constructive comments.

Frankly, I don't know where to start for Vermont and I don't mind how you do it as long as you achieve the committed results. Do what works for you, but do it.

The current line of thought is that by identifying critical sources, we'll know where to act. That is all very good, but we shouldn't wait to get the results in 2011 to get started. For instance, we don't need further studies to know that annual crops should be moved away from floodplains.

Whatever you do to identify critical sources, I can't stress enough that end-users must be involved immediately. The plan is to produce new information and datasets. Who will use them? What do these people really need? Get them on-

board now and ensure that there will be enough people, with proper training and budget to roll-out real phosphorus-reducing actions to the field. There is a risk of spending money producing data that will not be used and end up once again with no action on the ground.

I will make further suggestions based on what Québec has already done, often by regulation, and that could work for Vermont too:

- Keep all livestock out of surface water. I think small farms, small unregulated farms, account for 50 per cent of farmland area in the Missisquoi watershed, and we don't have that much regulation because they're small.
- Make sure that nutrient management plan means that the phosphorus supply is limited to the phosphorus taken away by the crops. This has a direct consequence of limiting the animal (?) density and phosphorus production by acre to sustainable levels.
- Limit the cropland area to the current levels until we reach phosphorus reduction targets. This stops unnecessary pressure increases. It might not be a problem right now but might become one with the growing appetite for biofuels, I mean corn coming from ethanol…ethanol coming from corn, sorry – and corn by acre releases more phosphorus because the land is bare underneath.
- Directly involve farmers in all discussions and plan. Farmers union and clubs are actively involved in Quebec, resulting in greater buy-in

when tough decisions are made and win-win solutions such as la Lizière Verte. Reduction targets should not be negotiable, but farmers often have great ideas on how to do it while minimizing impact on their operations. I have attended numerous meetings in Vermont and have hardly seen representatives from the farming community, in striking contrast to their constant involvement in meetings in Quebec. It's a very big difference in how we operate.

On the Quebec side, we need to sustain that Lizière Verte project for at least another three years, like I mentioned, to confirm its worthiness. We will then be in a position to decide if we should extend this concept to the whole watershed and achieve through it the 40 per cent phosphorus reduction we need in the Pike River. If it performs as expected, that might complete the job for Quebec. If you think you can help there, it would be much appreciated.

This has been very difficult for me tonight as I have many good friends in Vermont and I know they want to do what is right for the Lake. They're just not given the means to do it. The results are not there and something needs to change drastically.

Again, I just don't understand what Vermont is waiting for. I hope you will let me cross the border again and come to your beautiful state. (LAUGHS) Thank you for your time and interest in our beloved Missisquoi Bay (APPLAUSE).

IRENE. BROOKS (Chair, U.S. Section, International Joint Commission): Thank you. Thank you very much.

PIERRE TRÉPANIER (Commissioner, Canadian Section, International Joint Commission): (inaudible)…

IRENE BROOKS: You would like to be recognized?

UNIDENTIFIED: Yeah.

IRENE BROOKS: I'll recognize you.

PIERRE TRÉPANIER: (inaudible)...

IRENE BROOKS: Yes, Pierre.

PIERRE TRÉPANIER : I just want to say that this was very instructive. And as a member of our board, I've got my ears open and (inaudible)...take it into consideration…

PIERRE LEDUC: I'm not taking (inaudible)...personally (inaudible)...

PIERRE TRÉPANIER: But the members of the board are quite aware of the success that took place in Quebec in dealing with the issue, and we are certainly going to use whatever data we can get (inaudible)...very helpful (inaudible)...

IRENE BROOKS: And I think you'll be allowed back. (LAUGHS) You can follow us over tomorrow night.

PIERRE TRÉPANIER: If you promise not to throw shoes. (LAUGHS) If you promise not to throw your shoes at us. (LAUGHS)

PIERRE LEDUC: (inaudible)... (LAUGHS)

IRENE BROOKS: John Forcier. Did I pronounce that correctly? Close enough? Good enough?

JOHN FORCIER (Forcier Aldrich and Associates): Hello, my name is John Forcier, or Forcier in French. I own an engineering firm in Essex Junction that has 22 employees that does civil and environmental engineering. Among other things, we design wastewater treatment plant upgrades and such for many of the treatment plants, including Enosburg and Richford, and we're doing an upgrade in Enosburg as we speak.

I'll say from some of the comments that if more efforts are made on reducing phosphorus at wastewater treatment plants, of anything, my company would actually stand to gain more than many others because we actually design these upgrades, and there has been many millions of dollars that have been spent in Vermont over the past several years, and the reduction, as shown by Bill, has been significant, to about 90 per cent less than 10 or 15 years ago.

I am here to tell you that as a taxpayer of Vermont, clearly an effort needs to be made on non-point pollution. And that doesn't mean we can't tweak the wastewater treatment plants and other point sources a little bit, but the efforts to upgrade a wastewater treatment plant and spend 1 or 2 million to go from 10 pounds to 2 pounds a day, when there's metric tonnes that are going into the Bay, are not well spend, I think. And so clearly, that's something that should be looked at.

I am representing our firm. I happen to be on the Governor's Environmental Engineering Advisory Council. I am also Chair of the Technical Advisory Committee to the Governor for septic system kind of things.

Our company happens to be currently conducting a comprehensive integrated water resource management study for the town of Colchester. It's a town-wide thing, looking at the Malletts Bay area and the entire town. Part of that study is to look at tracking of sources in every way, including the sources such as human, dogs, birds, etc., and coliforms and whatever else.

In starting with the end in mind, some of my comments are going to be talking about what the end result should be and not…as you're doing a study, if you focus on what the end results would be, it might help.

Concerning non-point pollution, obviously thinking about non-phosphorus detergents, control of lawn fertilizers, because clearly, in looking at the phosphorus levels over the years, you'll notice that the phosphorus from point sources has gone down, down, down; meanwhile, the non-point goes up and down and up and down. And frankly, it goes up and down because there's large rainstorms and the events that carry the water and the erosion from those events.

I think some of the things that should be considered - I applaud Quebec for doing many of these already – is possibly consider paying farmers for larger buffers due to less cropland available. It sounds like that's been happening in Quebec already.

There are new stormwater regulations that have been in effect for the past few years in Vermont, and there's obviously a lot of developed areas that happen. As the chart showed, it went from 7 per cent to 27 per cent prior to those stormwater rules being in effect. So there's some areas where stormwater detention, treatment systems can be implemented in those previously developed areas to catch that event.

As mentioned, stream bank restoration, stream bank protection is a crucial thing, in looking at the morphology of streams that have been altered by development, where the stream – and Eric knows this better than me – the stream used to go straight, they built into the floodplains, and what happens is the stream want to go back straight and it's taking out a lot of sediment as it goes.

We worked on a wastewater treatment plant upgrade 10 or 12 years ago, and during the construction there was a 500-year storm event. Well, I know for a fact that the Guyon (?) River moved 50 feet during that storm event. It used to go like that, and now it went straight across, in just one event. Two years later, there was a 50 years storm event. So either time flies, or there's some amazing things that can happen.

Again, focusing on…there are several sources, and it's by all means not limited to farms. But I have to tell you the nutrient reduction program that was mentioned and manure storage, I have heard of facts that in the Missisquoi Bay as well as many other parts of Vermont, there is a huge backlog in farmers that want to implement that program, and it's my understanding that the main reason they

aren't implemented is there are not enough engineering staff at the USDA in order to implement those plans.

So in focusing on even the farmers that want to help, that are willing to invest, they can't even do it because there isn't somebody there to design that system or to check the design.

Concerning point sources, many of the wastewater treatment plants, on a larger scale, several years ago, were reduced from 0.8 mg/L to 0.6 mg/L, there's been talk about reducing those further.

I think some of the communities would be able to voluntarily reduce that on an annual average basis because you can have peaks on a monthly basis, but if you have an annual average basis, some of the communities might be interested in doing that.

And again, the major focus, I think, is that much of the sediment that happens, as shown by the graphic slide that Bill had, are directly related to peak flows. And so the ways of reducing those peak flows by having, such as stormwater detention systems, you know, for developed areas and other stream bank restorations/protection, I think is going to be far more effective than some of the small point-source things that have been implemented to date.

And again, it's something that is very crucial, because a lot of the phosphorus is within the soil and in suspension, and when you wipe out a whole part of an embankment of a stream, it ends up in the Lake, and that's part of what's happening to that. Thank you very much.

IRENE BROOKS: Okay, thank you very much. Warren Fournier. I've got my consultant here.

PIERRE TRÉPANIER: Warren Fournier?

WARREN FOURNIER: Fournier.

IRENE BROOKS: Fournier. Welcome.

WARREN FOURNIER: Yes, my name is Warren Fournier. I am just an interested citizen. I was on a steering committee for the Missisquoi Bay Bridge for over 20 years. I was born and brought up by the Lake, and I've done a lot of studying onto it as an individual.

And the problem that we've got doesn't start 10 years ago but started back in the '30s. For one, when the causeway was made, we reduced the water flow. Now, nature has changed. This area was an area that was compressed with approximately 3.5 miles of ice. It didn't melt in one day. This area raises approximately 1/16th to 1/8th of an inch a year in elevations. Sounds funny, don't it, but that's the truth, it does, so your flows are going to change.

We haven't (?) got a problem with the agriculture. This is not a land to be for corn, and we've gone into the cornfields here. And you take…we went to liquid fertilizer. We're blaming the farmers, but the farmers have got to survive, and there's a cost factor there.

And digesters (?), could be. We've got some farmers doing digester systems. Well, the digester system is an expensive proposition, it's got to be a large farm to be profitable.

Now it could be done, digester systems should be done on different districts, to take care not only in Vermont. You've got it in Quebec, it's the same thing.

You take from Virginia area, for instance, where they raise the corn. They raise a cover crop for the fall. They raise winter rye. You can't raise winter rye here, the season's too short.

So you take most of the farmers, they've got approximately 30 days that raise corn to get rid of the liquid fertilizer, and you can't do it in 30 days. You're going to be put about six inches on the land, it's going to run off.

Now you take the farmers that only do grass. They've got the month of June, after they do a hay crop, in between the rains, they have it in July and they have it in August. So they have an opportunity.

Thirty years ago, you had 30 kells (?) on 100 acres. Today you've got 1,500 to 2,500 on 30 acres. So changes has got to come.

You take another thing, we have reduced the water flow. Not only by causeways – causeways should be taken out. The rivers and the lakes should flow back to the original.

But 10 to 15 years ago, your water control was by the river by the federal government allowing all these power plants to elevate the dams for hydro power. So they have reduced the flow of the river and controlled the water flow.

So now, you don't have your early spring runoff during the ice, the water to overflow into the delta, which a lot of people don't understand. This is

hydraulics. Your lake is still froze, your flush comes down, hydraulic reverses the water and goes into the deltas and it was an opportunity to (inaudible) and pollute.

Another item that the state done is source separations that done in the municipalities. You take all along the Missisquoi River, every municipality is reduced from the source to street runoff. Street runoff runs direct into the rivers. That is more of a polluting than human waste. Human waste is a by-product of the land, just like we are, but pollution from the street runoff isn't.

So we have got to change and look at the circumstances. We can't point the fingers at the (inaudible) culture we all know is a problem. We've gone to corn and we shouldn't be into corn. This is more of a grass land. But the farmer has no chance, no opportunity, he has got to survive. And at the fertilizer cost, he is going to be put more manure on his land, he's got to, and he's only got a short time to put it on or he's going to be putting it on when there's snow on the ground.

So these are problems and we've got to…I say a digester is the answer in different sections, not only down in Vermont, but down also in Quebec, and so they can produce power, and that way you'll have a by-product that's not going to be polluting. Thank you.

IRENE BROOKS: Thank you very much, Warren. Steve Merrill?

STEVE MERRILL: Hi.

IRENE BROOKS: Hi.

STEVE MERRILL: I've brought some pictures with me too that are pretty much self-explanatory and have captions on them.

IRENE BROOKS: Okay.

STEVE MERRILL: My name is Steve Merrill, I live in North Troy. I am a former trustee, village trustee and auditor. And I've had the privilege of working with Forcier and Aldrich on our wastewater treatment upgrade.

But regarding the nutrients, I'd have to agree with Mr. Leduc that things on our side of the border are abysmal at best. Over a year ago, I was walking below the dam, the hydro dam in Troy on the Missisquoi, and we came across a section of riverbank on rented property – it's a corn field year after year – where approximately 20 or 30 feet of the riverbank had been removed with a bucket loader.

I'd run heavy equipment before – dozers, back hoes and stuff – and you can see by the corner of the picture, where the corner of the back hoe had removed this section. And this section of riverbank had held back the runoff from approximately a 12 to 15-20 acre field. It flows towards that point on the south side of the field and it flows towards the natural dip where they used to drive through the river on the north side of the field.

I saw an article in the Free Press where Rick Hopkins from the ANR (?), I believe he is a staff scientist, had asked for information about tributaries and nutrient overloads, so I took the pictures and I e-mailed them to Mr. Hopkins at ANR.

He had sent up Jim Leyland and Katie Gear from AAFM, I believe, the Accepted Agriculture Farming stuff, and I believe that Reg Smith, our ANR person over in the Derby area had got involved also.

And I know how hard it is to make a living in farming. I know there's very little, if any, profit margin. And you know, fines obviously are not the answer. We just thought that maybe, you know, some remediation, some drainage tile, something like that, you know, would restore back to where it was.

The other picture is wetlands that were being filled right next to Mud Creek. And Mud Creek has been tested by the MRBA and it was off the charts for nutrients, all the way up into Newport Center.

Another picture also is a rented field where they don't use contour plowing. Why that is is beyond me. It's on the Niles Road in Newport Center and it is plowed up and downhill. And during a rainstorm, the silt and runoff going into Mud Creek is just incredible.

And it's been over a year, and I had e-mailed the pictures to Mr. Crombie when he took over the ANR in the hopes that, you know, something would be done about this. And there are instances all up and down the creek and all up and down the river where these events are…these things are happening.

And it's a relatively simple, fairly inexpensive fix. If you can go in with a bucket loader and remove 30 feet of riverbank that was holding back all this nutrient load from a cornfield, then surely…you know, we don't want to see these

guys find, just some remediation. And next spring, we're hopefully going to be able to take a canoe up and down the river and video document this.

And it's been a long time, and in my opinion…I was born and raised on a farm and I think that the whole liquid manure thing has been a disaster. But unfortunately, that's where everybody is now.

And I'm not a scientist, I am not affiliated with any organization. I'm just a dumb old machinist, all I know is what I see. And it's not being looked at.

And you can have all the laws in the world…I know that we just passed a groundwater protection bill. And you know, the bills are with good intentions, as are the buffer zones and everything like that. But just like the speed limit on the highway, with no enforcement comes no results.

And if the Vermont ANR can send up a couple folks and look at this problem, acknowledge it, speak with the farmer, and yet still nothing is done for remediation, it is just beyond comprehension to me, especially in light of the nutrient loads that we're seeing going into Mud Creek and the Missisquoi River.

Mud Creek comes down from Newport Center, it goes north of the border into Quebec and it joins the Missisquoi on the Quebec side of the border, and there are almost no buffer zones there enforced. And you can see, that's why they named it Mud Creek.

And regarding the river, we have…if you drive up River Road in Troy or driving south, actually, you'll see a smaller farm where they have a brand new manure pit, they have the best practices, everything is tight, it's ready to go, it's

been cleaned up, the animals have been fenced out of the river, and yet you drive a quarter-mile up the road and see where this river banking has been blown out.

Again, I would just ask for enforcement of the existing laws. When you find offences like this, some remediation. We're not into fines. I don't think that spanking people, it's just counter-productive. But remediation and increased buffer zones would really be nice, I really think that that might be the way to go.

Because we're getting tremendous nutrient loads, especially when the field, the rental field, where the riverbank was blown out, is corn year after year after year. Again, as the gentleman had mentioned, we don't have time to allow for a cover crop; I used to live in Pennsylvania, they did it frequently.

But you know, I am not sure what the answer is there, other that an increased buffer zone. Perhaps, you know, perhaps they could have something to grow in between the corn, like some kind of low-lying grass that would keep the runoff from happening, so that it would still be there when you harvest the corn afterwards to eliminate the runoff or at least diminish it some.

I guess that's pretty much it in a nutshell. And you know, I'd like to thank Rick Hopkins at the ANR for getting into this and Jim Leyland and Katie Gear for their work. And Reg Smith, our ANR guy, he stopped the filling of the wetlands and they have a no-dumping sign there, but there's still stuff being dumped there, and I think that without any enforcement, you know, without the spotlight being shined on these examples, that these folks will just push it over the banking.

It's a mindset in certain places. It's not a wetland for some folks, it's a swamp, and swamps are there to be drained, swamps are there to be filled. And I think that mindset needs to be changed through either outreach or education.

Thankfully, I have friends who teach in the Troy and Newport area school system and they're working with the kids and they're teaching the kids the value of these wetlands, that they're not swamps that just need to be filled in, that they provide a valuable cleansing for runoff and everything else that we need, not to mention the wildlife and things that live and thrive in these wetlands.

So again, I would just ask that identification, remediation…and fines again are not the answer. But we have the laws, we have the laws, we have the buffer zones. And our friends in Quebec, our friends in Quebec are light years ahead of us through their enforcement, again.

There was a farm just north of North Troy, I believe it was in Highwater, where a gentleman had refused to comply in relation to his cows and what-not, and he was given like two or three chances to comply. And being not wealthy or anything, the government up there had offered to do the work for him and everything but he still refused.

And they came down - you know, I know this is drastic, but they gave him three chances – they came down with a truck and removed his livestock. I haven't been up there in a while, but I think the message got through.

I don't think that we need to do anything that drastic, obviously, but I would like to see the existing laws enforced. We need to give the ANR some authority.

And when a public citizen comes up and can take pictures and see this obvious, flagrant damage and still, a year later, seeing nothing done with a whole 12-acre field just running liquid manure right into…right into my river, it's your river, it's our river, and then it goes into the algae blooms. To see nothing being done is disheartening, at least, to say the least.

And I guess that's about all I've got to say. And thank you for having these hearings and thank you for your time.

IRENE BROOKS: Okay, thank you, Steve.

PIERRE TRÉPANIER: Thank you very much.

STEVE MERRILL: You're welcome. Thank you.

IRENE BROOKS: Next we have Dr. Heather Darby.

DR. HEATHER DARBY (University of Vermont): Hi.

IRENE BROOKS: Hi.

DR. HEATHER DARBY: Well, thanks, Pierre. We'll always let you come back. I think Pierre has been at this a lot longer than I have. I've lived in Vermont all my life, but my job with the University started five years ago.

And five years ago, I didn't really work much on water quality because it wasn't really a hot topic. And I do have to agree with Pierre that it didn't really

become extremely heated until about three years ago, at least from the time I've been here.

And I think because it's taken so long for people to get upset about it and to draw attention to it that there hadn't maybe been as many things done in the past as there should have been.

But I want to say that so much is happening right now, and it's not too late. Should it have happened earlier? Probably. Should there have been more of an emphasis in Vermont ten years ago on implementation specifically – maybe not research, but really making things happen on the ground? Yes.

Would the picture be different today if that would have happened? If what's going on would have happened ten years ago, we could be standing up here saying that Vermont is light years ahead of Quebec.

But you know, I don't know why it didn't happen ten years ago, but it is happening now, and I am part of that. And I can provide some great testimony about all of the wonderful things that are going on in the Missisquoi Bay specifically.

I do think we're behind Canada in a lot of ways. Specifically, I'm an agronomist, and we talked about this, I think three years ago, in Canada, there is one agronome or agronomist for every 30 farms, and in Vermont, there is one maybe for every 300 to 500 farms. Would you send your child to a college or to a school where the student-to-teacher ratio was that poor?

I work with farmers and I have never had a farmer turn me down when I went out and asked them would you like me to help you take soil tests, would you like me to provide you recommendations on how to implement these. I've never had a farmer turn me away.

I've only had another farmer call me up and say, hey, I heard you were over at Bob's place taking soil tests for him, when are you going to come and do that for me? Well, when there's one in 300 to 500, you don't get to too many places.

This is a huge problem. Education, guidance to these farmers that really want to make changes is absolutely essential. I have seen a huge difference in the Missisquoi Bay in the last two years specifically on what farmers are doing because of increased networking, education and outreach, and we just need more of it.

Certainly, there is money needed for implementation. But when people don't even know really what to do or what works or what the options are, how can we expect them to do it? And you might think, well, how shouldn't they know that? Well, how should they know it?

You know, we go to school to learn, we go to classes to learn, farmers are very busy on their farmers, we all know that, they hardly every get out. When I see them, you know, they never have time for me to come, but when I actually do show up, I can't get them to stop talking for four or five hours sometimes.

So I don't think it's that the farmers are not willing to participate. That is not a problem. It's really getting out to them, helping them decide what they can do, how to do it, where to get the resources to implement it.

Cover crops, people were saying that those aren't practical in this area. Well, if anybody's driven around the Missisquoi Bay or St. Albans Bay, you'll see a tonne of cover crops growing. And I don't know the exact numbers, but I think it's around a couple thousand acres in this area, which maybe doesn't seem like much, but it was only about 50 acres four years ago.

That's a huge change. Why did that happen? Because farmers don't want to do anything? No, it's because we had a huge program going on, getting out there, beating the drum, showing up at a farmer's place, conducting applied research to prove to them that they are not going to lose yields, that they could actually grow shorter-season corn, get better yields, better quality, and still put a cover crop in.

And what do they get from the cover crop? Well, now we're showing the farmers that it's actually holding their manure nitrogen that would otherwise maybe be leached, it's holding that nitrogen and making it available to their crops the next year.

Those are the kinds of things we need happening in Vermont, more of it, practical, applied research. We know the practices that work. There are gobs and gobs of research papers out there that say these are the best management practices that need to be implemented to clean up the water.

Great. I don't know too many farmers that read the Journal of Environmental Quality, okay? But I know about 100 farmers that show up to my crops and soil field day in Alburn (?), Vermont, and look at all the great cover cropping studies and applied research that we're doing and then they go home and they try to implement it.

Those are the kinds of things that need to be funded. That's how farmers are going to make changes. You need more people like me, the Farmers Watershed Alliance, Ben Gabos (?) with the Agency of Agriculture, all of those people. You need more of us out there working with these farmers to help them make these changes.

Things are happening, it's so exciting. I mean, it brings me to tears almost to think – I know that sounds ridiculous, but it really does - to see that many acres of cover crops when everybody said it would never happen.

When people told me five years ago if I wanted a farmer to call me, nobody is going to call you in Franklin County. Do you see the bags under my eyes? Okay, people are calling; there is not enough help out there, there is not enough guidance.

I have lots of things written, but we just need more practical research, guidance, education, on the ground things happening, okay? And I guess, unless my advisors…is there anything else you want me to say?

PIERRE TRÉPANIER: Well, I'll say something…

DR. HEATHER DARBY: I think that's good.

PIERRE TRÉPANIER: Thank you very much. I think it was very instructive. And I think that with the enthusiasm that you have, you should go in college and convince young people to go into agriculture. That would be (inaudible).

DR. HEATHER DARBY: Well, I think the problem is that we've lost a lot of agricultural programs at the University, and even when people are graduating, there's no jobs for them here in Vermont in agriculture, or very few.

Now if we had 30 agronomists for every 100 farmers or 1 for every 30, there would be a lot of jobs for young agronomists and agriculturalists in the state of Vermont. Otherwise, it's really hard to find people that want to work in that area.

And I just have one other comment, I guess. We've talked a lot about agriculture tonight, and certainly I wasn't here for the whole session, but I'm hoping that other people are going to talk about some of the other sources of pollution in this watershed, but that's not my area of expertise. So thank you very much. (APPLAUSE)

IRENE BROOKS: Thank you very much.

PIERRE TRÉPANIER: Thank you very much.

IRENE BROOKS: Next we have Pamela Stefanek.

PAMELA STEFANEK: (inaudible)...

IRENE BROOKS: Oh, sure you can. (LAUGHS)

PAMELA STEFANEK: Hi, I am Pamela Stefanek. I am an agricultural resource specialist. I am primarily working for the conservation districts in partnership with the Vermont Agency of Agriculture. For the last 12 years, I have worked in partnership with the farmers, primarily in the Lake Champlain watershed, specifically and totally and only to reduce phosphorus runoff from agricultural land.

My position was born with the with the Accepted Agricultural Practices regulation in 1996, which only follows by four years our improvements to our wastewater treatment plants.

I consider myself a member of the Conservation Partnership – it's an old term, we don't use it anymore – Vermont Agency of Agriculture, UVM Extension – you just heard from Heather – and the farmers in this room, I saw some, and I'll put my hand up, I'm one too. So I've got a long list…

So basically, in working with farmers to reduce phosphorus, there was a speaker at a larger farm conference, they called them the concrete farmers, and he said farmers are the most pro-active business people in the United States of America, bar none. If I said that in downtown Burlington, people would drop over, fall over. Any farmer that's in business today is doing what they have to do to survive environmentally, economically.

When I said reduce phosphorus, it's a liability question, they said how, how fast, and how much liability insurance do I need, and by how many tonnes, and they documented it. Farmers are no-kidding ready for us and they are no-

kidding prepared for their responsibility. When Heather comes, they know exactly what she's talking about. Franklin County now has more digesters than any other county in the state, and I am from Addison County, and so I like to brag that we were first.

I hear a lot about runoff, as though all manure that was applied on land runs off. On clay land, it's plowed after application…on lighter soils, it's very often chilled in after application. It's not in that farmer's interest to lose that manure.

Sometimes, you know, weather…sometimes it rains. We can't time everything. We get a lot of rain, 12 inches of rain, 350 acre inches or whatever in Vermont, and we can't time, we don't know when the rain's coming.

But it's in the farmer's interest to have all those nutrients in the soil for crop value, and their livelihood depends on it. They don't want that stuff running off.

So in case I forget to say it, I am Pam and I take referrals. I have been writing down everybody's complaints and names and addresses and locations and streets. And my counterpart is Susan Alexander, she is on the Mud Creek side of the county line, so Susan Alexander, she lives in Greensboro, out of the Berlin office, and she'll take all Orleans County referrals.

I would love to compare Canadian farmers and Vermont farmers. I simply cannot. Of course, we have farm families that farm on both sides of the border. They go up there and visit, they go to their fairs, they come back and they say, a

completely different world up there, quota system, completely different. You know, you buy your 50 cows, your income, you know, for life, whatever. There's simply absolutely no comparison.

But on a voluntary level and on a regulatory level, folks like us that work in this field see phosphorus reduction on a daily basis. We see it in farmers taking soil tests, only applying manure to crop value. We see it in buffer implementation.

That program is not as successful in Franklin County as it is in other counties. We're up to something like, you know, 500 river miles or something ridiculous in Addison County.

My comment about monitoring streams…the LaPlatte River study mentioned storage…we think of runoff, runoff, runoff, we go to the stream, whoa, we're spiking phosphorus, where is the runoff? The LaPlatte River study documents that slower-moving, silt bottom, clay bottom streams store phosphorus.

If we're going to monitor and we're going to have Mud Creek and a couple of other of these slow-moving show up blazing red on everyone's phosphorus scales, really, let's take a look at how long has that phosphorus been stored in that watershed.

And when we go around and we try to figure out where it's coming from, it could be from waste treatment systems that got into that brook before 1992, it could be phosphorus that was applied in the last 50 years, and let's not assume

that it just all came in on that last rainfall unless we can actually document that it did.

And I really also want to put my plug in for reducing peak flows through stormwater retention. I have a lot of fun with a comment…some stormwater mitigation…you know, there's a lot of agricultural land and we can do stormwater mitigation on it, but let's kind of like acknowledge our farmers and pay our farmers for that agricultural land that's being taken out when there's stormwater mitigation problems.

And one more Canadian comment real, real quick. My mom was British. Her dad moved to Canada when my mom and my uncle were little and he didn't like it and he went back to England. We later immigrated to the United States, and now I don't know a darn thing about Canada. I am thoroughly Americanized, although I love to visit. Thank you very much. (APPLAUSE)

IRENE BROOKS: Okay, thank you, Pam.

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: David Borthwick-Leslie. Do I have that right? You're really giving me a test tonight.

DAVID BORTHWICK-LESLIE: David Borthwick-Leslie from Grand Isle. I am the vice chair of the Northern Lake Champlain Advisory Committee. And I see four minutes (?).

I am just presenting a CD of some additional pictures that were taken by Brian Cove (?), vice-chair of (inaudible)...American Airlines (inaudible)...complement Bill's pictures, etc. I'm pushing ahead (inaudible)...

PIERRE TRÉPANIER: That's all right.

IRENE BROOKS: We'll make do.

PIERRE TRÉPANIER: Our staff will make copies. Thank you very much, Sir.

DAVID BORTHWICK-LESLIE: (inaudible)...disclaimer on the back that you can (inaudible)...

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Didn't we have dinner together, David?

DAVID BORTHWICK-LESLIE: Pardon?

IRENE BROOKS: Didn't we have dinner together?

PIERRE TRÉPANIER: Yes, he was there…

DAVID BORTHWICK-LESLIE: Yes, though I was at the other end of the table.

IRENE BROOKS: Right. You take the other half of that pizza home to your wife. (LAUGHS)

DAVID BORTHWICK-LESLIE: (inaudible)...

IRENE BROOKS: You do. Is there anyone else that would like to speak?

PAMELA STEFANEK: I have half a sentence if you don't mind.

IRENE BROOKS: Could you come up to the…only because we're recording it and we need your every word. Again, if you just state your name (inaudible)...

PAMELA STEFANEK: Pam Stefanek again, agri resource specialist with the Conservation Districts. I was looking through my old e-mails and I noticed that someone referred a concern to me. In fact, someone on the NRCS side had gone out to talk to a riverbank landowner who was upset about mass bank failures, losing huge chunks of his real estate into the river, and essentially blaming it on boaters speeding up and down, and particularly – with apologies – boats with 200 horsepower motors primarily that had come from Canada. I had my fingers crossed. No, literally, I'll share (inaudible)...with you.

So if we're going to say we need to involve farmers and we need to involve citizens and we need to involve, you know, folks that live in cities, let's involve the boating community.

Obviously, boating brings an enormous amount of money in, and they're our partners in many other ways, but you know, if their motors are churning up those sediments and keeping them in suspension and then folks are drawing that water out for drinking and they're saying it's cloudy, let's involve those folks in some discussion in some way. Thank you.

IRENE BROOKS: Very good point. Anyone else? Anybody wishing to make a comment, come on down. Thank you, Sir. Lawrence Pratt.

LAWRENCE PRATT: That's right. I'm a resident of Pilots Bay (?) in North Hero (?), and I am also a member of the Pilots Bay Restoration Association.

About eight years ago, some folks in Pilots Bay got tired of having to push boats through weeds and invasive species, and we got together and we built us our equipment ourselves, with some financial help from the State of Vermont.

And it took us a couple of years, but we have been operating that equipment successfully for six years. And we've also, during our adventure, if you will (inaudible)...we've also been advisors to the State, and we've urged them to implement rather than study and rather than research so much.

And we think, our association and myself personally, believe that the State is now on the verge of substantial implementation of the research and the reports that have been completed.

And I hate to say this, but I hope your research and report does not have a negative effect on the state (inaudible) giving him the opportunity to say we've got to wait for the IJC's report.

And so maybe you could share your research with them at an early time, and also keep going so we're not delayed any longer, and try to get your study going and research going and recommendations and maybe even arrive at your recommendations early and share those recommendations with the State to the point where we're not slowed down.

I am 77. Your report is not scheduled to come out until I'm 80, I hope. So I look forward with great anticipation to see your reports and your research and sharing that information with the State as much as…as early as you can. Thank you very much.

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Thank you. I think 80 is the new 50, or maybe 60.

LAWRENCE PRATT: I hope so. (LAUGHS)

IRENE BROOKS: There is somebody here from the State. I don't know if they want to comment or not, but we certainly intend to share the results of this study.

And as you can see, what is today, December 15th, and we are here, we're close to the holidays, we could have probably waited until the first of the year, but we thought it was important.

And I know the workshops have been scheduled the first couple of months of the year, so I think we're on it. And the Study Board is working as quickly as possible, but then again, we want to do it right, and I think that they will.

That concludes the list that I have. I'd really want to give anyone an opportunity to come speak to the group. Sorry?

PIERRE LEDUC: Do I need to…

IRENE BROOKS: Yes, if could come back up, Pierre.

PIERRE TRÉPANIER: Mr. Leduc.

PIERRE LEDUC: Pierre Leduc, Corporation Bassin Versant, Baie Missisquoi.

The gentleman in the back made me think about something. To identify critical sources, something that is unbeatable is walking the field, to really physically see where the work needs to be done, what kind of work needs to be done.

And after we have done all the work in Quebec, like the real picture, the high-definition radar and all of this that is high technology, Richard Lauzier, our super-hero in agriculture, he had to walk the fields anyway to confirm what was seen on the big maps and in all the details. You have to go and see it. So that could start right away.

And I really enjoyed Heather's comments. I think we need more like Heather, maybe five or ten like Heather, and with proper support and money and the problem would be fixed. Thank you.

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Thank you, Pierre.

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Anyone else?

PETER RATH (Friends of Missisquoi Bay): Yes, I would like to (inaudible)...

IRENE BROOKS: Okay. Looks like it's going to be good.

PETER RATH: No…

PIERRE TRÉPANIER: What do you mean, no? (LAUGHS)

PETER RATH: My name is Peter Rath and I have been associated with Friends of Missisquoi Bay in the St. Albans area watershed for the last probably five years.

We've had several of these meetings. Although I've never come to one of the IJC meetings, I certainly have been at my share of meetings where we've had boards come and sit down and take input from us.

And I'm very disappointed to tell you that we have never received anything back from the boards as to an action plan, this is what we're going to do based on your input, this is when it will be done, so we never get any feedback.

We come…I heard this…some of the very same people have gotten up with the same concerns over the same five years. And in all deference to Bill's efforts over the years to try to get things done, to find out that we're going to have $500,000 spent to tell us where the phosphorus is coming from is really kind of a slap in the face.

A lot of the people here have spend hours and hours doing just what Monsieur Leduc just spoke about. They have been standing in the streams, walking up and across the fields, looking, whether it's a farmer's field or, in my case, I've been standing in the polluted waters of Stephens Creek in St. Albans, in the city, trying to figure out how to handle the stormwater that comes rushing down there after just a small number of inches of rain.

Those things we know about. We know what those problems are. We would really love to hear back…and I realize that this is a special organization, but perhaps you could go to the State of Vermont as the U.S. representative and say we do need to make some regulatory changes or we do need to go out and Vermont needs to hire…was it ten more Heather Darbys? (LAUGHS)

HEATHER DARBY: (inaudible)...

PETER RATH: That's the kind of thing we would definitely like to hear back. And it's not to take away from anything that you folks have done, but it is rather frustrating for us to keep coming to these meetings trying to contribute, and it would appear that we really don't do much contributing based on the feedback we get. Thank you. (APPLAUSE)

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Thank you for your comments. I would mention that one of the principles of IJC is transparency. We have a very open process. And you might check our website and look at studies that have been completed by the IJC through study boards just like this. They are very thorough, very direct, and the process has been very open. So is there anyone else? Yes, Sir.

CLAUDE BENOIT: (inaudible)...

PIERRE TRÉPANIER: No, it's all right.

IRENE BROOKS: You can do it later. Just so we have you on record, and then we can follow up with any information by e-mail or address. That's the purpose of that.

CLAUDE BENOIT: My name is Claude Benoit. I am from Quebec, too. I was not prepared to speak, but I think I could say only a few sentences to explain the way I saw things change since 25 years.

I am a farmer. I have always been interested in ecology and environment. And 25 years ago, my father, knowing my interest, heard about a meeting in Enosburg, in Vermont. The meeting was about problems in St. Albans Bay.

And I remember, the souvenir I have from that meeting was that there was no way in Vermont to regulate what were the farmers practices, the way of farming. There was no possibility for people in environment, at the government, to say to people in the farmers' industry what to do. The souvenir I have, they could say to everybody else in Vermont what to do, but not the farmers.

In Quebec, I don't think at that time that things were really better, but as a farmer, we've had to change a lot since 25 years. But I don't feel today we're making enough.

I listened to what you say, to what the farmers in Vermont begin to do. Pierre told you what has been the progress on the Pike River. But I don't feel, in the field, when I talk with the other farmers, that we've really changed a lot.

And I figure…what I want to say, I figure if we really change our practices a little bit, more than a little bit, a way it is possible to change, the progress could be fantastic.

The example I could give is there is a lot of plowing downhill. That's still the practice in Quebec. I don't know the percentage of the land, but I think really most of the land still…in my region.

I know…we are in Montérégie Est, my region. I live in St-Armand, just by the border. And we know that Montérégie Ouest, more around Valleyfield – Est is around Saint-Hyacinthe, West is around Valleyfield – we know they do less plowing downhill than we do. The land is flat. That is one thing.

The other thing, we nearly don't do any cover crops. Some are…on my land, I do some, I don't do any plowing, but most of the farmers, that's not practices that are used now.

So what I wanted to say is there's a lot of progress that can be done, and I think it's just a question of…we could set time…some of my friends say it takes a least one generation to change the mind of a farmer. (LAUGHS)

So when we're talking about Lizière Verte, that's one example or one image…in my mind, two years, three years, five years, is not enough. That kind of program should be backed, should be helped long enough so it would begin…it would become something natural to do.

And we have that problem in Quebec. We had a lot of one-year subventions to do something, and rarely there's a program that will make pression (sic) for people to adopt and keep new practices.

As I say, I was not prepared to speak, but I think it's my little contribution. (APPLAUSE)

PIERRE TRÉPANIER: I think your point is well taken.

IRENE BROOKS: Yes, thank you. Thank you very much. Sure, come on down. I'm going to have you all talking before the night's over. (LAUGHS)

ROGER RAINVILLE: Thank you for hearing us out. My name is Roger Rainville, I am a lifelong dairy farmer. I live about six feet from Canada, so I figure if a Canadian farmer can talk, I should be able to. (LAUGHS)

I like in Alburgh, I live right on the Canadian border, and I do a lot of business across the road, so I'm well aware of what's going on over there with dairy farms. I also chair the Farmers Watershed Alliance, and I have been involved with the Farm Service Agency for 35 years, and I'm on the Natural Resource Conservation, so I deal…and with the Friends of Missisquoi Bay also. So we're pretty involved with the water quality issue.

Just so that you folks understand the significant difference that we face as farmers in Vermont versus farmers in Canada, is the landscape is so much different. There, it's relatively flat and most of the land is drainage tile, which we don't have that luxury. So those are constraints that we have.

One of the problems that farmers face over here dealing with environmental quality incentive program is that they want to participate, but because of the bureaucracy, there are a lot of them that don't participate, because of the time it takes to get programs and get projects implemented for water quality, the time it takes to get paid (?).

And maybe you're aware of this, but I think it needs to be noted that this is a real, real big concern that we as dairy farmers in Vermont face. Vermont is the state with the largest amount of deficit projects, for a better word, or lagging the most in the country with projects to be implemented. We don't seem to know why. So I don't know, we've kind of thrown our arms up, we're not sure where to go with that.

But just so that you're aware that there is a significant difference with the way we operate in Vermont and in Canada. I think the Canadian governments supports their farmers much more than what we do over here, so we're always fighting those constraints.

But there's a lot of good things, as Heather Darby mentioned, that's going on. And I think that given the chance…and there is definitely, like some of the folks were questioning of the problems that exist, I don't doubt that one single bit.

We've done several projects with funding from the State, we were able to get $175,000 over the last two years, and we addressed issues on almost 30 farmers and some point-source issues, with an average cost of like $6,000. So we can do a lot with a little money, we just need to be able to get together and figure out how to make that work. Thank you for your time.

PIERRE TRÉPANIER: Thank you, Sir.

IRENE BROOKS: Thank you.

PIERRE TRÉPANIER: Thank you.

IRENE BROOKS: Anyone else? Frank, I think I'm correct in that if people filled this form out and didn't necessarily want to speak tonight, but they could receive information about any future meetings, so it might be worth you filling that out and just giving it to Frank or another staff person so you could be informed.

When we advertise for meetings, we don't always get to everyone through the regular sources, so if you would like to, we would urge you to give us this form back with your address and the e-mail, which is probably easier for everyone if you have it.

Is there anyone else who would like to make a comment? We certainly appreciate you coming out and giving us your thoughts and telling our Study Board your feelings.

We would urge you, if you think of anything else you think that we should know, or any of your friends, neighbours, to e-mail us, fax us, mail us; we will be sure to take it into account and pass it on to our Study Board. And with that…yes, ma'am?

JEAN PRATT: I would just like to ask a question. My name is Jean Pratt. I am the better half of the 77 year-old. (LAUGHS)

PIERRE TRÉPANIER: You seem to enjoy mentioning…

JEAN PRATT: I am in Pilots Bay Restoration Association. Also, I live in North Hero. And I would just like to ask a question: what is it that you are going to study that has not already been studied and answered?

IRENE BROOKS: I will give that question to Bill Howland.

JEAN PRATT: Bill? I've asked you already What is different? In five years, five years we've been coming to these meetings, what is different?

PIERRE TRÉPANIER: We'll synchronize everything that has been done…

BILL HOWLAND (Director, Lake Champlain Basin Program): We're going to be using (inaudible)...

UNIDENTIFIED: Bill? Bill, I'd use my microphone, it'll go on the record.

BILL HOWLAND: Okay. We are going to be looking at critical sources of phosphorus in the Missisquoi Basin using information we have never had before. One of the kinds of information that we're going to have will be increased monitoring and measurements beyond what we've had in the past.

There are other kinds of information we are expecting to use, which include what's called LIDAR information, which is really digital measurements of the surface of the ground that give us the shape of the ground, we know what directly fields slope in, we know what direction and what degree of slope they have, we are able to measure and recognize literally every ditch two and three feet deep. We'll be able to look at continuity of ditches and drainage systems like we never have been able to before.

These are just some of the kinds of information which go into an analysis of where the most intense phosphorus runoff is happening. So with that

information and using resources that can't be used for anything else, we are going to be able to identify what zones and what kinds of places we need to invest in.

And I can't tell you exactly what that project is going to be designed like because we haven't yet specified what should be done in the project. But part of our task is to write the specification for the project and to get it done.

But we do know that we're going to be using new information, far improved and much better than we've ever had in the past. And there have been many efforts to pull together existing information that has just never been brought together before because we've never had the money and the time to do this.

So I am really optimistic that we are going to have some answers that will be very helpful to ourselves, to the State, to the federal partners, to the province, and that will help us focus where we need to be doing the work.

It's a huge area, when you look at the whole Missisquoi drainage system, and we've got to get to business right where it counts. And common sense sounds like it's all we need, but everybody's common sense is a little bit different. This is going to be a systematic approach to getting an answer that is defensible. So I hope that helps to answer your question.

JEAN PRATT: It does, except that I would like to say that in three years, by 2011, you're going to end up with some more brand new, wonderful technical knowledge that's going to give you even more information that's going make this information put by the side again.

I am going to hold you to that, 2011, if you don't come through with some information that's going to make it work and put stuff on the ground instead of in the heads…

BILL HOWLAND: I will be in trouble.

JEAN PRATT: Yes, you will. (LAUGHS)

BILL HOWLAND: We know that.

IRENE BROOKS: She knows where you live.

BILL HOWLAND: And I thank you for that. And believe me, we in the Basin Program are very much aware of the keen interest that we have on producing some answers, and we're eager for that as well. So thank you for your time.

IRENE BROOKS: Before you leave, I would like to say once more that the date for any of your comments is January 5th, and we will take into consideration all of your comments.

And the only other thing I would like to say is that we bring to the table, with this study, an international, truly international study. It will look like a watershed, there won't be a border, and I think that's very important.

So with that, I thank you very much for coming. Drive safely, and happy holidays. (APPLAUSE)

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