



**Technical Hearing - Toronto, ON**  
**International Joint Commission, Canadian Section - LOSL Hearing**  
**Proposal for Lake Ontario St. Lawrence River Regulation**  
**July 15<sup>th</sup>, 2013**

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**Joe Comuzzi:** Good afternoon everyone. I'm Joe Comuzzi and I'm the Chair and Commissioner for the International Joint Commission on the Canadian Section. I am joined today by my colleagues: Gordon Walker to my left and Benoît Bouchard to my right, and U.S. Chair Lana Pollack and U.S. Commissioners Dereth Glance and Richard Moy.

I welcome our friends from the United States, to Canada and we'll be here for a little while then we head off to Buffalo and Rochester, and then to Quebec. So since we're in Toronto and this is Commissioner Walker's home ground, why don't we just turn the meeting over to Commissioner Walker? He'll conduct it. He knows people better than we do and will do a god job at being the Chair today. Do you mind doing this Gordon?

**Gordon Walker:** No, I'm prepared to do that. But I think it would be useful if we knew who was here. This is a very cozy room. Last night it wasn't nearly so cozy, but then they were throwing things at us so it was probably better that we had lots of room to duck.

**Joe Comuzzi:** This is friendlier... It looks friendlier anyway.

**Gordon Walker:** Well why don't we start the process here by seeing who's here and just simply go through a list of who is sitting here in the audience and that might be useful for all of us. Some of the folks here are IJC, some of the folks are from some of the constituency organizations that we admire and I think it would be useful if we can do that. So why don't we begin, maybe we could start on the far left.

**Nancy Gaffney:** My name is Nancy Gaffney. I'm the Waterfront Specialist for the Toronto and Region Conservation Authority.

**Theresa Labuda:** Theresa Labuda and I work for Conservation Halton.

**Dick Hibma:** Dick Hibma, Chair of the Grey Sauble Conservation Authority which is quite a ways north of here, and I'm the Chair of the Provincial Organization Conservation Ontario.

**Bryon Keene:** I'm Bryon Keene, Water Resources Manager for the Quinte Conservation Authority just a little further down the Lake.

**Gavin Murphy:** Gavin Murphy, IJC Canadian Section.

**Susan Daniel:** Susan Daniel, Washington Section.

**Russ Trowbridge:** Russ Trowbridge, Washington Section. I've been working on this file for about 12 years.

**Mike Shantz?** (Time code - 04:43): Mike Shantz, I'm with Environment Canada.

**Nick Heisler:** Nick Heisler, IJC.

**Carol Salisbury:** Carol Salisbury, Ontario Ministry of the Environment.

**Liz Hendricks:** Liz Hendricks, WWF.

**Alisha:** My name's Alisha, I'm a reporter from the Toronto Star.

**Camille Mageau:** Camille Mageau, Canadian Section IJC.

**David Fay:** David Fay, Engineering Advisor, IJC Ottawa.

**Eric Boysen:** Eric Boysen, I'm the Director of the Biodiversity Branch, Ministry of Natural Resources, I was a member Lake Ontario/St. Lawrence River Working Group and I'm a member of the Great Lakes Water Quality Board as well.

**James Nolan:** James Nolan, I'm with the Great Lakes Water Quality Section, Ontario Ministry of Natural Resources.

**Name?:** (Time code - 05:21 inaudible due to someone else speaking)

**Samantha Dupré:** Samantha Dupré, Conservation Ontario.

**John Nevin:** John Nevin, Public Information Officer, Regional Office of the IJC.

**Frank Bevacqua:** Frank Bevacqua, IJC Washington Office.

**Bernard Beckhoff:** Bernard Beckhoff, IJC Public Affairs Adviser

**Chuck Lawson:** Chuck Lawson with the IJC in Washington.

**Shane Zurbrigg:** Shane Zurbrigg, I'm with the IJC in Ottawa.

**Jeff Laberge:** Jeff Laberge, IJC Ottawa.

**Gordon Walker:** Everyone here has been suitably introduced. The furthest distance one is Commissioner Moy who has come all the way in from Montana and wants to see how we do things this neck of the woods. Joe is just about as far away as you can go to Ontario, Thunder Bay, so that's a long drive. Commissioner Bouchard is in from Lac St-Jean where he resides in Quebec. Lana is from Michigan, Ann Arbor area. Commissioner Glance is from mid-State, north-State New York State, Syracuse area. I'm from 2 blocks away.

Anyway it's wonderful to have you all here today. It's a technical hearing as you know; invited people. The Commission is really gathering evidence regarding the managing of the water levels on Lake Ontario and the St. Lawrence. Invitations have gone out and our witnesses are expected to adhere to a 10-minute requirement in terms of the time that they take during the address and we are hopeful to hear from everybody today. Witnesses and their organizations can make written submissions of course at any time, and that is open until July the 24<sup>th</sup> so any written submissions are welcome by then.

There may be questions posed by the Commissioners so we won't deduct that from the 10 minutes so no fear there. But it is important for us to gather information and this is really not a period of time when we're holding public sessions or call it "town hall meetings." We're holding those town hall meetings at different times during this week all over the surrounds of Lake Ontario, so those are going on and we started with one last night and there'll be one later tonight down in the Niagara region, and down in New York State by tomorrow. There's also a telephone town hall meeting that we held last week, and another one to be conducted in the next week. I think there were a thousand people on the telephone. They didn't all choose to speak at the same time and that was helpful. They were controlled by a stiff hand of Chairman Joe here who made sure they adhered properly to it.

We're here to get your comments on the proposals for managing the water levels on Lake Ontario and the St. Lawrence. It's all for the purpose of contributing to the economic health of the communities throughout this basin, and also making sure that we improve the long-term ecological health of Lake Ontario and the Upper St. Lawrence. Most of you will probably know about the origin of the IJC. It goes back to 1909 and it was established in an attempt to prevent and resolve disputes between the two countries as it might relate to water shared across the common borders that we have, that I guess is some 3000 miles long. Substantial change happened in 1950 when the hydro power project was established in the St. Lawrence River at Cornwall and Massena, the Dam's crossing there.

When it approves a project, the IJC has to ensure that the terms of the Treaty are fulfilled. This includes ensuring that the order for priority for water use is followed, and that all the interests in both countries are protected from injury that might be caused by the project. The two governments, Canada and the United States who were the applicants at that time, asked the IJC whether after new consideration of all the given interests that flows through

the project could be regulated to reduce the range of levels on Lake Ontario. The IJC recommended, and the governments approved at that time operating criteria which have been followed ever since 1956.

So the question before us today, before the IJC in order to meet our responsibilities under the Treaty in light of the change conditions and the improvements in knowledge that have occurred since the 1950, the real question is: have we met those responsibilities? And that's why we're here today. The water levels and flows are primarily determined by precipitation as we probably all know; the snow pack and storms and the water flow management. These have provided very substantial benefits to all of the region that surrounds the Great Lakes and particularly Lake Ontario and the Upper St. Lawrence. These include reducing the flooding and erosion on Lake Ontario shoreline, reducing the flooding downstream and providing more favourable conditions on the Lake and River for water intakes, for recreational boating, commercial navigation, hydro-electric power production.

However a lot of research has gone into this and it shows that the policies that were developed in the 1950's have really restricted the water levels to the extent of degrading the coastal wetlands on Lake Ontario and the Upper St. Lawrence. This degradation has impacted on the health and native plants and birds, fish and animals. In light of these findings, the IJC's proposing to manage the water levels with fewer environmental impacts on Lake Ontario and the Upper St. Lawrence River. The proposal would continue to reduce the extreme high and low water levels. It would allow somewhat more natural water level patterns on Lake Ontario and would retain most of the benefits downstream. This is expected to result in modest reduction in shoreline protection, while improving wetland health on Lake Ontario and the Upper St. Lawrence on a scale that's larger than any restoration actions taken to date.

After fully considering all these comments we receive, all of the Commissioners will sit down and consider the recommendations to the governments of Canada and the United States. The two governments are the signatories to that Boundary Treaty and we will seek their concurrence before implementing any changes to the current order and regulation Plan.

So, this is what we have today. We expect to hear from you. We're anxious to hear what you have to say, and we'll no doubt be asking some probing questions as a result of some of the comments that you make. Now I understand that the first panel, or the panel, will include people who have introduced themselves already today. I think everybody's listed here. Maybe the best thing to do would be to begin... are we going to do this as a panel of 5 or 6 people talking, or shall we do it one by one?

**Dick Hibma:** I will begin, turn it over to my colleague Nancy, who will then pass over to Theresa and then I will wrap up. That's what I would propose.

**Gordon Walker:** Certainly.

**Dick Hibma:** We have provided a copy of our presentation along with speaking notes so I'm going to stick to my script so we get through the presentation. There's lots of technical information that will be provided by Nancy and Theresa so with your indulgence we will begin with the rapid fire delivery to honour your timelines.

Good afternoon and thank you for the opportunity to provide comments on your proposal for Lake Ontario and the St. Lawrence River. Of course you've heard the introductions: I'm Dick Hibma, Chair of Conservation Ontario. Nancy Gaffney is here from Toronto Region Conservation Authority; Theresa Labuda of Conservation Halton. And in support of us we have Bryon Keene of Quinte Conservation and Samantha Dupré who's in our Conservation Ontario office. I'm going to give you a brief overview of Conservation Authorities and Conservation Ontario then I'll turn over to Nancy to address the changes in environmental conditions and coastal wetland restoration followed by Theresa who will be speaking to the issue of coastal hazards and then we'll talk about the monitoring priorities and the adaptive management strategy and the AM pilot studies.

So to begin with, Conservation Ontario is a non-profit corporation representing a network of the 36 Conservation Authorities and their common interests as we deal with provincial and federal level issues. It's governed by a Board of Directors which is elected from a Council comprised of two representatives from each of the 36 CA's; one rep from the Board and one from the Conservation Authority staff, typically a general manager. Our Council consists of 72 members and meets 4 to 5 times a year. These organizations operations are funded by the member Conservation Authorities and I'll give you more about those in a minute. We have been involved over the last several years in providing comments on the Lake Ontario/St. Lawrence River study that took place. We've provided comments on the proposed regulation Plan Bv7 on an ongoing basis, and we have offered a letter on June 14<sup>th</sup> of last year to the IJC in support of Plan Bv7 based on the environmental impacts that were offered through that more natural lake level fluctuation range and the benefits of an adaptive management process going forward.

You can see that from the slide that we have been very much involved in each of the science consultation implementation aspects of the Great Lakes basin issues.

Our mandates as Conservation Authorities: we are regional non-profit organizations that have been established by provincial legislation at the request of groupings of municipalities on a watershed basis, or a collection of watersheds. They're also governed by a Board of Directors that are comprised of municipal representatives; either elected councillors or

publicly appointed representatives from their municipalities. They operate under a very broad mandate which is to manage natural resources on a watershed basis balancing the needs of the public and the environmental conditions in their region. As I've indicated, they are watershed based and they are... this one here shows you where we're situated with a couple of insets that demonstrates visually how they are distributed across the province.

Within each Authority, the member municipalities recognize the interconnectedness of the watershed environment which ignores municipal boundaries. It also recognizes the mutual benefit of working collaboratively with consideration, both for upstream and downstream interests. The member municipalities share the cost of this operation through municipal levy and cost recoveries through fees for service programs, through grant funding and limited provincial support.

Of the 36 CA's that are shown there, 35 of them drain into the Great Lakes /St. Lawrence with Mattagami only draining into Hudson Bay/James Bay area. They're all community level organizations managing natural resources on a watershed basis. I'll go back one slide here, there's one there, the Grand River is basically a single watershed draining into Lake Erie, but several others such as the Toronto Region are collection of smaller watersheds draining into a common water body and embracing a stretch of the Lake Ontario shoreline.

So slide 8, this one shows a significant number of program areas. One of the most significant is the role that Conservation Authorities play in regulating flood plain development and flood management and response. It's one of the foundational aspects of the formation of Conservation Authorities following on the devastation that was experienced by Southern Ontario as a result of the rains of Hurricane Hazel back in 1954. When we see the devastation resulting from the flooding in the news recently, we have to acknowledge a debt of gratitude to those who had the wisdom to create this network of Conservation Authorities in the province of Ontario, and the work that's gone on in the area of flood management and flood response, as well as the regulation of development in flood plains and coastal hazard zones. The rains a week ago here in the Toronto region have reinforced those lessons that we need to continue to learn and adapt to changing realities.

With that I'm going to turn it over to Nancy and let her carry on the next phase of the presentation.

**Nancy Gaffney:** Hello my name is Nancy Gaffney. As I mentioned I am the Waterfront Specialist for the Toronto Region Conservation Authority and I'm very pleased to be here today.

TRCA works with its partners to ensure that the living city is built on an actual foundation of healthy rivers and shorelines, green space, biodiversity and sustainable communities. Our area of jurisdiction includes 3467 square km on land, and 961 square km water based.

This area is comprised of 9 watersheds, and the jurisdiction also enters into Lake Ontario. TRCA's jurisdiction is as diverse as it is large. Landscapes and land uses vary widely across our watersheds from the head waters to the Lake Ontario shoreline.

Although the Toronto region takes in the most urbanized core of the City of Toronto and the surrounding suburbs, just less than half of the jurisdiction remains rural and agricultural. As one of the most rapidly diverse city regions in North America, TRCA's jurisdiction is home to over 3.4 million people. Toronto and Region Conservation is an industry leader in habitat creation and restoration. Some of the goals of the TRCA are to restore the integrity and health of the region's rivers and waters from the head waters in the Oakridge's Moraine, throughout each of our 9 watersheds, to the Toronto waterfront to Lake Ontario. To protect and restore a regional system of natural areas that provide habitat for diverse plants and animals species, to improve air quality and to provide opportunities for the enjoyment of nature is another one of our goals.

The new approach the IJC is undertaking to achieve more natural flows will certainly help us in meeting these goals. Conservation Authorities applaud the IJC for Plan 2014, proposing a more balanced approach to flow management that seeks to create more natural water levels in the Lake and River while continuing to provide the basin's community with substantial benefits. It is a major step forward for the health of the Great Lakes/St. Lawrence River's ecosystem. This Plan will substantially improve wetlands – a key indicator for lake and river health. Healthy wetlands support birds, fish and other wildlife while filtering pollutants and enhancing recreation for human residents. The Plan will promote more natural conditions which results in higher average lake levels for the fall, winter and spring periods. The Plan will also create more natural conditions providing additional environmental benefits to TRCA's Waterfront Aquatic Habitat Strategy. Plan 2014 will also transform and improve the diversity and productivity of the natural ecosystems in our coastal wetlands and it will address species at risk legislation objectives. And it will represent an important step towards a level of ecological integrity that would otherwise be very difficult to achieve.

In the Toronto region, our coastal wetlands are impacted by a number of stressors. The stressor you see here is watershed influences. Conditions in the coastal wetlands reflect the cumulative effects of land use activities in the watershed, substances released into the watershed affect conditions downstream in the coastal wetlands. This is not a picture we're particularly proud of, but it shows my point. Water level as regulated in Lake Ontario provides static water levels and it often results in mono-culture coastal wetlands.

Another stressor we have is biological stressors. The most dominant of the biological stressors in our urban watershed and waterfront is the common carp. While feeding, carps suck in and expel water, mud debris thus uprooting plants, releasing nutrients and re-

suspending sediments. This increases water turbidity which limits light penetration through the water column and can reduce aquatic plant growth.

There are 3 types of coastal wetlands as it relates to water level and I would like to just focus on 2 of them but one of the types is “unmanaged existing”, which I’d show an example of Hay Bay which is not managed. I also show an example of Duffins Marsh in Ajax, which is a managed water level regime in an existing wetland. Another example I would like to talk to you about today is Cell 1 at Tommy Thompson Park where wetland creation has altered the water level regime. As well, as we have prepared preferred gradients and elevations best suited to aquatic growth. So we’re really inspiring the wetland to take on a rapid growth.

So the picture before you is a photo of Duffins Creek in 2009. Duffins Marsh is located in Ajax in the region of Durham. This is an excellent marsh within a Great Lakes context. However, over many decades there’s been loss of the marsh due to water level control which is perched the marsh from the lake. Commercial gravel extraction in the 1950’s, and in the 1960’s there were significant changes to the mouth of the creek and marshes. In 1973, very high water levels almost completely flooded the marsh. With the static water levels over time the lagoons have lost all of their vegetation. Corner marsh which is the darker marsh that you see in the middle of the picture is the largest lagoon; it’s about 17 hectares and the location of a major restoration effort. A water control structure was installed in the lagoon, which is equipped with fish grates to prevent the passage of the large common carp, but allowing for the smaller fish to enter. Since the installation of the water control structure, water quality at the Duffins marsh has improved, driven largely by the decline in turbidity in the marsh. To date, the emerging plant community has been restored to the extent found in the mid-1960. Submerged aquatic plants now are found throughout the open water zone and the site is a significant habitat for fish and wildlife. Corner marsh now has multiple broods of water fowl including wood ducks, gadwalls and blue wing teals. The marsh is a significant migratory stop over location and is a major feeding area for fish eating birds like Caspian terns, great blue herons and belted kingfishers and egrets.

Last year, 3 least bittern nests were located in the marsh. This secretive bird is a designated species at risk in Ontario, and its presence, nesting and production of young is significant. And it speaks to the health and the integrity of this newly restored wetland.

In March this year, Corner marsh was surveyed and found to have the largest population of muskrats along the northwest shoreline of Lake Ontario. Muskrats are a sentinel species that have been identified in the IJC Study on Lake Ontario water levels. This large population of muskrats has in turn attracted a family of river otters to the marsh. The river otter you see here was taken in Duffins marsh in March. Apparently muskrats are a

tremendous food resource for the otter. Based on the outstanding success of Corner marsh staff have detailed and developed restoration plans for the remaining three lagoons within Duffins marsh complex and we hope to begin those this year.

Wetland creation is another one of our primary goals, particularly in the downtown core of the city of Toronto. The Leslie Street Spit or Tommy Thompson Park that you see here is at the foot of Leslie Street. It extends 5 km out into the Lake and is a tremendous resource. Leslie Street Spit was created through lake filling activities that began in the 1950's and they continue today. Originally designed to accommodate port related facilities that never materialized, the 500 hectare site is now the largest area of natural habitat on the central Toronto waterfront. Through natural succession and strategic habitat creation and enhancements, the park has developed into a complex mosaic of wetlands, grasslands, shrub lands and cottonwood forest. Located in the Toronto region area of concern, the site contains three confined disposal facilities that were created to contain dredged materials from the Toronto inner harbour. So they're the three cells that you see to the right of the picture; there are three on top of each other.

In 2007 the Toronto Region Conservation Authority completed the restoration and wetland creation of Cell 1 confined disposal facility that isolated contaminants within the cell and converted it to a 7-hectare wetland. So the goals of the restoration work at Tommy Thompson Park are to preserve significant species, protect environmentally significant areas and enhance aquatic and terrestrial habitat. This approach integrates a variety of wildlife habitats and areas of natural succession to create functional habitats. Cell 1 provides habitat for marsh birds including common tern nesting habitat, turtles, amphibians, small mammals and native fish. A fish and water level control structure prevents large common carp from accessing the wetland as well.

The CDF capping took place over a 24-month period phase so that the capping and wetland creation could be undertaken concurrently, maximizing construction efficiency and habitat gains. Following capping of each phase, Cell 1 was graded to elevations appropriate for a hemi-marsh ecosystem. The wetland and riparian areas were seeded and planted with native vegetation and wetland habitat features were installed over a 5-year period.

Habitat features that you see on this slide include deep pockets for over wintering fish and herptiles in water shoals, root wads and other submerged structures for fish reproduction, nursery and foraging habitat, aquatic floating vegetation, islands for common tern nesting, turtle nesting, a robust riparian area with meadow and shrub vegetation communities, the fish and water level control structure to prevent large common carp from entering the wetland and damaging the habitat.

Since the establishment of emergent vegetation is sometimes difficult, management of the site will be adaptive in its nature to ensure success. Techniques to ensure success include

fencing to protect newly vegetated areas. Silt fencing can be added to fenced vegetation quadrants to improve water clarity if required.

There's just one more slide I'd like to show you, and this is the Don Mouth re-naturalization which is the creation of a new wetland and valley system when the port lands are redeveloped. While this implementation may be beyond my lifetime it will certainly have a great presence for my children and their children, so you'll see this is probably one of the most important contributions to coastal wetlands that you'll see in the Great Lakes in decades. So we're looking forward to working with you on that.

Now I'll introduce Theresa Labuda who will speak on coastal hazards.

**Theresa Labuda:** My name is Theresa Labuda, I'm Coordinator of Coastal Program and Watershed Capital Products for Conservation Halton and my background is coastal engineering.

My presentation will speak about coastal hazards and elaborate on Conservation Authorities Act legislative framework, Conservation Authorities regulations and Conservation Authorities conclusions and expectations with respect to possible impacts of the new regulation 2014 and Conservation Authorities hazard regulation and planning.

I would like to present why and when Conservation Authorities embark into protection and regulation of natural hazards. The Conservation Authority Act was created in 1946 in response to erosion and drought concerns and initiated the formation of Conservation Authorities over the following years. In 1956, Conservation Authorities were empowered to make their own regulations to prohibit filling in flood plains. In 1968, further amendment extended the regulation to prohibit or control construction and alteration to waterways. The shorelines for the first time were introduced in Conservation Authorities regulations in 1998 and were included in new development interference with wetlands and alterations to shoreline and water causes regulation.

Section 28 of Conservation Authorities Act delineates regulations related to areas where the control of flooding erosion dynamic beaches or pollution or conservation of land may be impacted by the development.

In 2006 individual CAA regulations were approved for all Conservation Authorities. The individual regulations were again amended in 2013 but these changes were administrative in nature rather than technical.

The Conservation Authorities regulate shoreline impacted by three main hazards: flooding, erosion and dynamic beach hazard.

The diagram illustrates the regulated shoreline area with respect to flooding hazard. Flooding hazard is delineated from the hundred year flood level plus an allowance for water (Time code - 35:24), for wave (Time code - 35:25) and other water related hazards. The diagram illustrates the regulated shoreline area with respect to erosion hazard. Erosion hazard is delineated from the predicted location of the natural top of the slope as that location can be shifted as a result of shoreline erosion over hundred year period plus the predicted long-term stable slope allowance. The diagram illustrates the regulated shoreline area with respect to dynamic beach hazard. Dynamic beach hazard includes areas prone to flooding plus dynamic beach allowance. If the beach is eroding additional allowance for erosion hazard should be added.

In the development between the regulated area including the shoreline protection works has to meet the provincially established standards and procedures. The Shoreline Protection Work Standard provides the rules and procedures to be met when shoreline protection works are designed and constructed. To accommodate development between less hazardous portion of flooding and all erosion hazards, the construction of shoreline protection works has to be merged with flooding and erosion hazard allowances plus the long-term stable slope allowance. An unobstructed maintenance repair access has to be provided to and along the shoreline protection works.

Any development located between the flood prone area shall be flood-proofed to the elevation required by the flood proofing standard and is defined by the hundred year monthly min lake level plus hundred year wind setup plus flood allowance for wave (Time code - 37:20) and other water related hazards and shall ensure safe access and movement for cars and people at all times. Access standard also ensure access to the shoreline protection works during times of flooding and erosion.

Conservation Authorities do not anticipate Plan 2014 to have significant implications on flooding and erosion hazards for the following reasons: Conservation Authorities are regulating and protecting areas prone to flooding and erosion hazards since 2006. In 1989 MNR released Great Lakes System Flood Levels and Water Related Hazards Report. The report contains information on flood levels and water related hazards for the Lake Ontario portion of the Great Lakes shoreline and connecting channels excluding St. Lawrence River. The information contained in the report was derived from Great Lakes Hazard Lands Technical Committee Report on November 1998, was reviewed by Environment Canada Ministry of Natural Resources and Conservation Authorities and finally revised based on received comments.

Lake Ontario water levels including hundred year flood levels should be examined and updated considering Plan 2014 and climate change scenarios to ensure that water levels elevation presently applied through the Conservation Authorities regulations are accurate.

Shoreline protection works, if designed according to provincially established standards and procedures and using accepted scientific and engineering principles, shall withstand flooding and erosion forces. To protect the development, the shoreline protection works shall be combined with appropriate flooding and erosion allowances. Development set backs are determined based on flooding and erosion hazard limits and are defined by Conservation Authorities regulations.

Furthermore Plan 2014 provides for corrections of extreme water levels conditions if they exist.

The following photos illustrate how failed or deteriorated shoreline protection works have been replaced or re-generated with engineered structures that should withstand flooding and erosion forces and are environmentally friendly. The structures are designed and constructed considering high and low water levels. Slide shows randomly placed concrete rubbles that were replaced with armor stone revetment on the bottom of the slide. The slide shows how previously eroding shoreline was protected by a system of armor stone groins and cobbled beaches.

The slide shows how falling apart stone and mortar wall was replaced with armor stone breakwater and groins, dynamic beach was constructed between them and nourished with cobbles.

Slide shows how deteriorated concrete block were replaced with armor stone wall and armor stone groins anchoring dynamic cobble beach.

As I presented earlier, Conservation Authorities regulations have been in place since 2006. Prior to the implementation of regulations, landowners were not prohibited from constructing in flood and erosion susceptible areas along the shoreline. The majority of the developments including the shoreline protection structures were constructed... (Time code - 41:14) usually not according to the recently established standards and procedures or implementing the required Conservation Authorities' regulation development setbacks. Conservation Authorities are in the opinion that these concerns can be addressed through an adaptive management Plan Pilot approach and should not delay implementation of Plan 2014.

The following slide represent example of still existing shoreline protection works; they were constructed in the past prior to Conservation Authorities regulations. They were not constructed according to the recently established standards and procedures and may be vulnerable to existing and future flooding and erosion hazards.

This slide presents all concrete walls showing the deterioration signs due to concrete abrasion and corrosion of steel bars. This photo shows a well-vegetated shoreline with

shingle beach accumulation along the shoreline. The natural shoreline should be monitored to understand the impacts of climate change and proposed new regulation. Pilot projects should provide answers and recommend adaptive management actions.

The slide illustrates natural shoreline composed of shale and till banks with shingle beach accumulation along the shoreline, and this slide illustrates natural shoreline with shale and grass. This is another shoreline illustrating natural sandy beach....

I would like to end my presentation with Conservation Authorities conclusions and expectations. Conservation Authorities support the implementation of Plan 2014. Conservation Authorities continue the implementation of existing shoreline regulations and strive to increase consistency among all Conservation Authorities. Conservation Authorities strongly support the Lake Ontario adaptive management Plan as a collaborative, integrated and adaptive approach to manage the shoreline today and in the future. Management of Lake Ontario fluctuating water levels can be only successful if implemented with appropriate adaptation measures. Lake Ontario adaptive management plan pilots are very important and should be implemented as soon as possible to initiate baseline monitoring to be able to identify and assess potential impacts of Plan 2014 and climate change effects as well as to develop adaptation measures. To ensure effectiveness pilot projects, funding arrangements should be in place to implement adaptive management pilots. The agreements should be based on in kind services and external funding arrangements. Thank you.

**Dick Hibma:** So in summary and conclusion, as Head of Conservation Ontario, I can state that we believe very strongly that the monitoring priorities that are outlined in the adaptive management strategy are appropriate. The proposal of Plan 2014 with its focus on improved environment in Lake Ontario and the Upper St. Lawrence River, the focus on refinements in the deviation process and the shore protection structures while also maintaining and improving downstream interests is the right Plan. Especially with the changing climate creating challenges across the landscape, the Plan does provide opportunity for alignment of projects and partners to develop an increased knowledge base and increased understanding in each of these areas along with high priority remedial works. We feel the projects that are developed and implemented will provide benefits that will help us to cope with the challenges and adapt to the changing conditions.

The pilot project outcomes we anticipate will focus on in regards to the wetlands, demonstrating their primary value to ecological health, particularly when subject to variable water levels. Also with the projects intended to improve and increase habitat, water quality and other values that we hold dear. The shoreline erosion and flood damage projects represent tremendous value in the increased knowledge of coastal areas that are prone to erosion and/or flood damages so that we can target our efforts to address those

vulnerabilities in order to avoid further losses and damages. The projects regarding regional climate monitoring all would take place with the intent of enhancing the value of improved modeling and as a result of forecasting and any potential adjustments that would be required to Plan 2014 on a going forward basis.

We anticipate that as tools and data sets are developed and proven, they would then be shared with other CA's and other partner agencies so that they could undertake similar projects in other lake basins. Combined efforts would be of tremendous value to each of the CA's and the partners involved in those projects, but also to the proposed Great Lakes/ St. Lawrence River Advisory body that was proposed in the adaptive management plan submitted by the Task Team at the end of May. It develops that value in terms of understanding lake by lake issues as well as the improved understanding of the functionality of the entire Great Lakes basin.

And in conclusion, Conservation Ontario and its members support the implementation of Plan 2014, as well as the utilization of the adaptive management strategy that was outlined. Collectively the IJC, our two nations, our provinces and abutting States all seek to protect and enhance the waters of our Great Lakes. We can't do that effectively without managing the impacts on the inputs to those Lakes. This is where the Conservation Authority approach to watershed management is so effective. Managing the impacts of agricultural practices, urban development, storm water management, flood protection and control, ecological land management; these are all designed to protect our waters from the source to the outlet of the watersheds.

And as conditions continue to change with more intense agriculture taking place, with more intense storm events overwhelming storm water management facilities as well as the resultant runoff pollutants and sediment loads, we all need to work more effectively and efficiently together to adapt to these continuing changes. So in that light, we are in full support of moving forward together. Thank you.

**Gordon Walker:** Thank you for your presentation. It's very timely that we have this interesting experiment that you have put in front of us as you come around the Lake for our hearings and we have the largest example of all of this happening, a week ago today as a matter of fact. I think a week ago today, the water level exceeded in the same period of time whatever Hurricane Hazel brought about. Hurricane Hazel brought about the change that you can't build on the flood plain. And here we are 50 some odd years later and we now see just exactly what the impact has been. To put it in context, my daughter's home is 8 or 10 blocks north of here, and the water in the backyard, which is just an ordinary backyard with fences, was something like 10 inches deep in a period of less than an hour. It petered away of course in a relatively short time but to have 10 inches of water: we've never seen anything like that in Toronto. So this far exceeded Hazel and yet nobody died. I can't recall

any situation of a house being washed away. There were hundreds of homes that were washed away in Hurricane Hazel because they were on the flood plain and over 50 deaths if I recall correctly in 1954; and nothing to point at. So it's rather amazing. So I think it's a perfect example of the value that can be done by proper government action in specific areas to avoid the issues of shoreline difficulties that develop. We're seeing some shoreline difficulties because of that, so it's a kudo to the Conservation Authorities for what they've achieved. It's surprising to me that other provinces and other States have not picked up on this is the same way.

**Joe Comuzzi:** I was going to ask that question: is there an organization such as you have Conservation Ontario in the other jurisdictions that we're looking at or something similar?

**Dick Hibma:** To my understanding Conservation Authorities are unique in the amount of regulation and enforcement ability that we have. There are other watershed based agencies that provide oversight around various elements of our mandate but they don't have the same regulatory ability and they're not structured the same in terms of municipal representation and that ability to embrace that provincial/federal level interest and concern for the watershed while managing priorities, projects and finances at a local level as determined by local priorities.

Obviously what works in one area doesn't work across the entire breadth of the province or Great Lakes basin, but the fundamental principles and their regulatory regime is there and it does work. We've got lots of examples this year between north of the Conservation Authority areas in Muskoka/ Bracebridge area where the flooding up French River and so on, tremendous damages. We have example in Calgary High River area, in Europe the Danube and so on. There are lots of examples of what is changing and the damages that are represented by allowing people to inhabit flood prone areas. As I stated the wisdom of adopting this Conservation Authority approach has been proven over the years and as recently as last week.

**Dereth Glance:** I was hoping you speak a little bit to your specific permit process for shoreline protection structures and then the funding mechanism that's associated with that for both public land as well as private property owner.

**Theresa Labuda:** Permit process is in place and is basically based on a permit fee. We also, as Dick mentioned, Conservation Authorities are funded by municipal levy. Majority parts are self-paid by users; but permits, yes. We have permit applications in place and there is certain fees for certain permits established and is approved by our Board. We have a Board who is approving fees for each Conservation Authority for permitting. Permits in terms of technical requirements, they have to meet established standards and procedures and proper drawings should be submitted etc. And these are reviewed by Conservation Authority engineer and ecology staff.

**Dereth Glance:** Can you just tell me what the general timeline would be for someone to put in a permit and when they would get an answer back from the Conservation Authority?

**Theresa Labuda:** Yes, it's kind of few stages. The timing has been approved by the province I believe, and each Conservation Authority has to follow timing. We have 4 weeks to respond to the application and review the application to see whether it's complete or not. If it's not complete we're asking for more information, but maximum is 60 days total with additions, revisions, etc.

**Dereth Glance:** Thank you very much. The reason I asked is because of the challenges specifically in New York State and the concerns that we've had. So you seem to have a very well thought out and experienced system so I really appreciate you sharing your knowledge.

**Richard Moy:** I guess I'd like to follow up on that point by Commissioner Glance. We have Conservation Districts; the 3-10 permitting requirement and we have 404 requirements for the Corps of Engineers and dredge and fill. But if you were responsible for the South Shore of New York on Lake Ontario, what would you do?

**Theresa Labuda:** At some point, I was part of Lake Ontario Coastal Group when study was done and I was once in Rochester on shoreline. I don't have really profound experience or knowledge how shoreline is managed and what kind of development but being on the one side there in Rochester, I definitely was little bit surprised that the development is basically on dynamic beach which is totally against natural processes and is like fighting with the nature for ever. And probably is worse in the future than it was in the past. Each time after each storm is probably worse situation. So remedy for that? very challenging but I believe that all different avenues of protective and adaptive measures should be considered. And really depending as well as usually on funding and many other things but I really believe that keeping status quo is not a solution anymore.

**Richard Moy:** Thank you.

**Lana Pollack:** I have a couple of questions, thank you. You mentioned but I didn't quite catch; how is the 100-year flood plain or whatever other measure you use determine in the face of new knowledge, changing conditions, likely we're going to have a 100-year flood every 10 years, or every 5 years or something now. So how do you deal with that?

**Theresa Labuda:** Our recent regulations are relying on well-defined 100-year flood levels and it was based on many years of studying by different levels of government. The reason I mentioned it should be examined again as we facing different, really, very different storms; very severe and short and different even in nature. And maybe they would exceed existing conditions which we relying on; so this kind of examination of recent... in the last 20 years

because the studies were done almost 20 years ago. So we have this period we don't have data and we not really included in our recently use 100-year flood level.

**Lana Pollack:** So in Ontario, in the province of Ontario, would that be... who has the authority to modify that after study?

**Theresa Labuda:** I believe so far was Minister of Natural Resources.

**Lana Pollack:** Okay so that would be a provincial. Okay that's one question. Another question would be: as we move forward, if we move forward with adaptive management, it's really hard to explain to people in part because we don't know. A good story, a good pilot would go a long way to help I think build understanding: ours and the public's and the government's. So what would you have one or two pilot's be? How would you start is a pilot study for adaptive management or pilot project...?

**Theresa Labuda:** Pilots are as we envision... First of all this is not a process for one year. This is really a long-term process. What we'd need at the beginning we need knowledge of existing situation and understand what kind of problems we have. To have a good knowledge we have to have a good monitoring in place to understand changes. And implementing together findings from our monitoring stations or pilot projects and implementing new regulations and facing different climate change scenarios, that's how we can learn as we go. And it's really paramount to understand that this is long-term process and we not going to have a solution after one year or two. But we have to start somewhere.

**Lana Pollack:** If I might, just my last comment. I'm going to push again because this is both our opportunity and our challenge, and when I say ours I say people who have these concerns. If we are to persuade the public and in general the governments who would need to fund any projects, monitoring isn't very sexy. I get it, I buy it, and I'm there personally. Is there a story to be told? Is there a problem to be solved in a particular shoreline, piece of shoreline that we could say "look at, if we had known this we could have done that. We could have avoided this problem." Something like that that would tell the story and help understanding.

**Dick Hibma:** If I might, I understand exactly what you're getting at because I've been involved with this discussion around the adaptive management and how do we make it relevant to the public in terms of grasping what we're talking about. And one of the thoughts that comes to my mind is we talk about shoreline protection, erosion and so on and what I would really like to see would be an effort that was taken to map out across the lengths of that shoreline in Lake Ontario for instance where the areas of vulnerability are. What portions of that coastline are subject to the erosion? Which ones are subject to the flooding and the flooding areas so that we can prioritize where we have to remediate? Where we have to ensure that appropriate setbacks are developed, suggested, whatever.

Where eroding shoreline protection works have to be addressed? Ultimately people are going to have to do things to implement the improved knowledge that we develop. And if we don't get out on the landscape and understand what's happening and where, then we stand here forever theorizing and proposing concepts with no fundamental change on the landscape.

**Richard Moy:** I have a follow up question. Your comment is not really adaptive management; your comment is something that we need to do right now. We know what is vulnerable out there. We need to identify those lands and we need to start working on some type of strategy to influence what happens on those lands. But one of the staff has just asked me to ask you a follow up question. You have identified right now we know there are lands and homes that are vulnerable on the South Shore of New York. Knowing that and knowing that they're grandfathered-in in many cases, what can we do?

**Theresa Labuda:** Million dollar questions, but we know for a fact, and I like to only add to what Dick mentioned, that the inventory is really important. But on top of inventory we have to really find out why we having problems in this area. Is this because we more or less regulating Lake or because this development is in simply the wrong place and we always going to have a problem. Lake Ontario has been regulated since 1950's and during that time, we had flooding and erosion problems, definitely in 70's big time. Then in 80's, then in 90's and we don't have answers so far. But I believe that the real answer for that is: yes we can regulate as much as we can but whatever we cannot do by regulations, and we know that we cannot do everything by regulation, we have to adapt to that. It's difficult to point out acquisition, regulation, whatever is an answer but looking at Ontario regulations we have shoreline protection works which are implementing low and high water levels. We're thinking about the environment as well. We're trying to have shoreline protection works in places that are environmentally friendly that we're not causing or harm to environment. On the other hand, we're protecting landowner on the same side. But this is not end of the story. We still have hazard allowances added on the top of shoreline protection works. So if somebody's building shoreline protection works, that doesn't mean that he can build nice dwelling five metres, ten metres from the shoreline. It still has to be erosion, flooding allowance added on the top of that. And regulations in Ontario have a 100- year planning horizon so these distances and allowances are based on hundred years planning horizon. So it's a package.

**Richard Moy:** Let me just ask one other follow up question if I may. And that is: I heard last night lowering Lake Ontario like we're now doing in Plan 2014 actually clearly has a benefit because it allows repairing vegetation to become re-established. Do you concur with that viewpoint?

**Nancy Gaffney:** Yes.

**Theresa Labuda:** But on other hand you need high water levels as well.

**Dick Hibma:** I'd like to add a little bit more to that....You were talking about how we would do it; how we would implement some regulations. First of all, local experience in Eastern Ontario, our municipalities actually asked us to begin to implement regulations long before the Conservation Authorities broadly were doing so. What we were able to do was to meet with landowners, identify their problems and prevent them from building new hazards in the flood plain, and also as they re-develop, and we've been implementing for quite a few years now, and we see a lot of redevelopment coming along so these older homes that were in the flood plain, we get to help them flood proof or pull them out of the flood plain. So something like this could happen over time; wouldn't be just a quick fix. But if you had a Plan in place, and municipalities buy in, Conservation Authorities are something similar, regulations is something that would help you slowly pull those homes out of the flood plain and these risk areas.

**Lana Pollack:** It's just that that could be also part of an adaptive management scheme. We have to be able to tell people what we can accomplish. Even if we can't accomplish it today we have to tell them that if we go in this direction, this is what we can do, and that to me is a longer term but people can understand that, municipalities. And then the next thing if I might say is that any information that any of you experts have, the wisdom that has been accumulated in Canada by proceeding in this way on the economic value of this. We heard last night a lot about disdainful comments about muskrats; like we're doing all this for muskrats. And there are economic values in terms of the economies that get built around these natural areas etc. But there's also economic value in terms of cost avoidance, and I don't know if the province or if the Conservation Authority or anybody has good data on that. We sure could use that because we don't want to impoverish. If we were to accept 2014, or recommend it and implement it, we don't want to impoverish local municipalities. I think there's actually economic benefit but we need better information.

**Bryon Keene:** Chair Pollack I would take that as an opportunity for us to gather data. I know we do have data that talks about the cost of avoidance of flood damage and so on; historical data. And I'd be very happy to develop a package of information for submission to you to start to quantify that. I agree that's of significant value.

**Joe Comuzzi:** Last night I think they said that there's something like 8 or 9000 properties that have to be... (Time code - 1:09:42 low audio) Where does that fit in your plan of attack? Is that the right number? 8 or 9000?

**Lana Pollack:** Yes but they were all on the U.S. side. Canada's been smart and avoided it.

**Bryon Keene:** I suspect it would be a process of identifying and prioritizing. Obviously it's going to be high priorities: finance first and then beyond from there but first off is

identifying and prioritizing. I don't have that data at my fingertips but I do know we do have historical data about the cost of our flood protection, flood management work and on a going forward basis have consistently developed numbers around the avoided damages. So we can compile that and provide that to you.

**Joe Comuzzi:** These people seem to have the expertise and the knowledge of this particular problem. I know that they've been wrestling with this for, I think for a substantial amount of years and it's alright to keep talking about it but pretty soon you got to do something. Maybe now's the time. Or make a recommendation.

**Bryon Keene:** Certainly when things reach crisis proportion the impetus for action does increase significantly. We are seeing that and I think you're right: the timing is right for us to start taking those very significant proactive actions.

**Joe Comuzzi:** One thing is for certain: they don't make that landing; they don't make that property on shorelines anymore. It's pretty valuable to either protect or restore.

**Gordon Walker:** Well thank you. I think we have run through our questions pretty well here and it's been most informative. Appreciate it. The dateline is August 30<sup>th</sup> so we have some information that perhaps that can come in from others as well by that date. Might I suggest that if you do prepare that information you send it along to us and it can be distributed to everyone and that can be very valuable.

I think we're through with this panel and want to thank you very much for coming forward and helping us. And this is a good chance for us to now introduce the World Wildlife Federation.

**Liz Hendricks:** So the Nature Conservancy on the comment about economic studies did "The Value of Restored Wetlands" and it's a pdf document. I can- I'll send it to Bernard Beckoff.

My name is Liz Hendricks, and I'm the Policy Advisor for the Fresh Water Program for WWF Canada; different from WWF U.S. I want to thank you and the IJC and the Commissioners for the invitation to speak here today on Plan 2014. I want to commend the IJC for getting a regulation proposal on such an intricate issue in such a complex region to this point in the process.

WWF Canada is one of the largest and oldest conservation organizations with staff and offices across the country, including Toronto and Montreal, providing us a strong presence in the Lake Ontario/ St. Lawrence region. Our work is science based and solution oriented. Our Fresh Water Program is aimed at protecting and restoring the health of Canada's aquatic ecosystem so that we and future generations can benefit from the many values they provide from clean water and recreational opportunities to habitat for fish and water fowl.

So we've been following the development of the regulation Plan with great interest since we profiled the St. Lawrence in our report "Canada's Rivers at Risk," in 2009. I'm just going to share this report now with all of you. This is our French version.

**Benoît Bouchard:** Do you have English for me too?

**Liz Hendricks:** No, I have English for everyone else. (*Laughter*) Oh do you want an English version? I can give you an English version.

**Benoît Bouchard:** It's not bad to have a French version.

**Liz Hendricks:** So in this report which focuses on alterations of river flows, we highlighted the poor and declining health of the St. Lawrence River largely due obviously to the highly regulated nature of the River. We feel that Plan 2014 really does have the potential to have a national and global impact and can demonstrate the best in innovative governance, adaptive management and large scale aquatic ecosystem restoration. We're very pleased with Plan 2014 as it sets out to restore aquatic biodiversity; obviously something very near and dear to WWF's heart. But a Plan is not a solution; its implementation is. That's why we chose to focus our testimony on 3 points: governance, adaptive management and aquatic restoration. These pieces will be what ensure that the Plan can deliver the intended impact. We will submit a longer submission online so I've shortened our submission for today.

So let me begin with governance. The literature on water issues from local to global points to governance as the heart of water challenges. The Lake Ontario/ St. Lawrence region is no exception. Given the complexities of the environmental system and the range of stakeholders and interest in the region, the governance structure detailed in Plan 2014 will be instrumental in ensuring consideration of all interests are evaluated and accountable in a transparent manner. There needs to be broader and more diverse representation of interests engaged in decisions in an ongoing way. We believe that for the Plan's implementation to be a success that the Board of Control in some way reflect a broader range of interests, whether it be through the membership of the Board of Control or through an Advisory Board, or through the adaptive management piece; we would like to see this reflection in the Plan. In particular an ecologist with an understanding of Lake Ontario wetlands, coastal processes and river in habitats in the Lower St. Lawrence River, a range of other stakeholders including First Nations, shipping, riparian, property owners, conservation organizations and a reflection of the diverse geography should also be represented.

Moving on to the adaptive management piece, it's crucial for ensuring that Plan 2014 can meet its goals and balances interests as the amount of water in the system changes with the changing climate. The key to adaptive management is to create an ongoing process of improving knowledge about the system. That means a commitment to long-term

monitoring to assess the impacts of the Plan's implementation and to adapt it as the region evolves. And I'll agree that it's not a very sexy term. It's a tough one to sell.

Impacts of Plan 2014 need to be monitored and the results interpreted to detect whether it is meeting its goals. The 4 key environmental performance indicators that have been identified for monitoring: wetland vegetation, bird communities, northern pike and muskrats are appropriate indicators grounded in scientific research and reflective of local ecosystem dynamics. These performance indicators were identified during the LOSLR Study and subsequent follow up are being up as being highly significant in terms of representing broad ecosystem response; being sensitive to the water level changes and representing a relatively high degree of scientific certainty.

Monitoring representatives with expertise in ecology and shoreline erosion, for example, should be engaged to analyze and report the outcomes of monitoring activities and the implication for Plan operation. Results of relevant existing monitoring programs should be used as much as possible for example, Lake Ontario Lake Wide Management Plan. To ensure existing information sources are being used and new efforts, don't duplicate but rather complement what is already happening to monitor lake and river health. For example I would suggest what the Conservation Ontario groups are already doing; let's augment that rather than replicate.

In Ontario and Quebec regionally relevant Conservation Authorities, well in Quebec, while it's not quite the same regulatory powers they do have similar watershed based groups. Already have these monitoring programs so again let's engage these folks on the ground. And let's set up these monitoring systems and networks as soon as possible in order to provide the baseline data. It is recognized that there is a need to secure other government funding in addition to the Commission's budget to implement an adaptive management plan. There needs to be sufficient funding in place for long-term extensive monitoring and implementation of the adaptive management plan.

Finally, I'd like to discuss briefly ecosystem restoration but the Conservation Ontario Group did a really good job at discussing what great work they were already doing. But we are very pleased that the IJC has gone to such great lengths to restore the Lake Ontario/St. Lawrence River system to a more natural flow regime. It is a historic opportunity to exercise principles of sound water management ensuring the most effective restoration of habitat for the survival of birds, mammals, fish and our communities along the shore. And it really is an operation of large scale aquatic ecosystem restoration.

The demise of Wet meadow habitats show how the current regulation Plan has damaged the region's ecology but studies have shown how Plan 2014 will provide that relief.

Coastal restoration and resilience in the region will depend on institutionalizing this adaptive thinking for better response to extreme weather events and understanding the win-win-win potential. By that I mean benefits for critical wetlands, improved economy by restoring recreational environment and smarter community building and infrastructure. While managing regulation for more natural flows is by far the most effective restoration tool, other strategies would include assess shoreline vulnerabilities and enhance shoreline natural protection, update mapping and planning, resilience and adaptive implementation and public engagement, as the previous speakers discussed.

I'd like to make one final comment on communications with the public and stakeholders increasingly interested in, and concerned about the health of our waters. The success of the Plan and implementation would benefit greatly from enhanced communication with stakeholder and the public. For governance, ensuring decisions are transparent is largely dependent on communications and likewise it is through a communication plan that adaptive management becomes that iterative process that's so important. Understanding and communicating the impacts of Plan 2014 going forward to stakeholders and the public creates that feedback loop that we need to see this adaptive management. We recommend pairing the implementation process with a clear communication strategy.

In conclusion, we're very pleased and encouraged to see this important Plan make it to public and technical hearings which we take as a signal that it is moving closer to implementation. There's well documented environmental degradation and well researched benefits of returning to more natural flow in this region. We believe for the Plan's implementation to deliver on the benefits it is set out to do, the governance system needs to better reflect the diversity of interests, and the adaptive management approach needs to include a network of monitoring and to be effectively resourced with people and money. Most importantly after so many years of reviewing a new regulation approach, we encourage the IJC and ultimately the respective federal governments to work quickly and finalize and implement such a local, national and internationally important regulatory Plan for the health and wellness of our environment and our communities. Again thank you for the opportunity to speak here today and I look forward to any questions you might have.

**Gordon Walker:** Thank you Elizabeth. Do we have some questions from panel here?

**Dereth Glance:** The question I would like you to expand upon a little bit is exactly what you think would be the most useful part of a communication strategy, and what type of communication delivery would be best for the IJC in the overall Plan? The frequency, how deep into the details and to what audiences?

**Liz Hendricks:** Okay I would say there's 2 parts and I was actually thinking this when you were asking questions to the previous so I'll bring those comments in because of course I have something to say. There are great pilot projects that have been done in lots of places.

Even the city of Toronto has done some really great work. I would suggest getting out in front and a tour of successful, bring South Shore properties owners up to Ontario, and I'm not saying the IJC has to do this. I think collectively we need to get out in front of this challenge of communicating fairly complex... It is a big change. It's been 50 years. We're asking people to change it is a lot. Oh it's adaptive management because we need to wait and see what happens and I think that's really scary so wherever we can show successful pilot projects that have been done, financing of those, wetland restoration, property owners that have successfully managed their shoreline property, let's get people out on the land. I believe Conservation Ontario- David said "let's all get out on the land and see these possibilities."

The other piece to your question was communication: how and when? I think there are lots of people in support of this Plan and having different people with different hats communicate to different people. That's clear; social media, maybe trying different modes. I commend IJC you know, the teleconferencing, the web access, MNR last week presented to Ontario which I think was really helpful. People just want to feel like their in the know so any way we can make that happen or facilitate the comfort of people understanding that this isn't happening behind closed doors is I think the way to go.

**Lana Pollack:** Just follow up on that and say that I think that is the crux of the challenge if we're to go forward. I don't blame people for objecting to a Plan if they think that it's only about... that it's a trade-off between their house and the muskrats. That's not the truth but if that's their level of understanding then we have failed to help them understand what their personal property, economic, recreational and health interests might be found with natural flow. There's a minimal amount of understanding or interest in natural flow, restoring natural conditions versus conditions that were thought to be correct in 1950. And I'm just stumped at how we can move forward. It's one thing to have the public reject something on the basis of what it is and they don't like it. It's another thing to lose public support, critical public support, because of misunderstandings. And we just collectively need to help people understand what it is that this Plan represents.

**Liz Hendricks:** And I can think of contacts that I've worked with in previous positions that would help communicate. There has been research done and folks that work on the economic benefit to a restored property and the financial benefit of having a restored property and so that type of information can be drawn into the fold.

**Lana Pollack:** Because last night people pleaded with us in all sincerity and I heard their concerns that the economic value of the tax base would be lost, yet I believe there's evidence that the tax base actually would be enhanced over time. That needs to be sorted out.

**Liz Hendricks:** I'm happy to provide the contacts that I know who are professional in that capacity.

**Lana Pollack:** And you'll get those to Bernard? Thank you

**Liz Hendricks:** Yes I will.

**Benoît Bouchard:** Last night I felt the people, and they were very sincere and I believe very convinced and sometimes almost desperate about the reality of their land and their piece of land and the front line and owners and so on, but I had the feeling that there's a kind of opposition between what they exposed last night and all the questions of conservation and all the questions of coming back to conditions by which we will be able to control and have the different levels as we need to have in terms of the management. I'm unable now to sort out the different elements part of what was said last night. In other words, I feel like sometimes if we talk about conservation and I personally agree with of course all what you said today, we automatically go against what the people said last night. That kind of reconciliation has to be made. How will it be made through the recommendation we will make, I don't know yet. But that's something, kind of feeling... we were talking about fishing last night. We were talking about protecting of shoreline owners properties and so on, and boating. I felt like if the conservation matter was kind of culprit, in other words we're giving more attention to the environmental problems. And it's one of the roles of the Commission I believe. For those people it was like we were against their own convictions. In other words, it was not such one hundred years ago. I'm not sure. There were certainly problems at the time; flooding and so on. So how do you feel when you're acquainted with the question of environment and dealing with that kind of reality as it was described last night?

**Liz Hendricks:** I think it's difficult when it's the environment pitted against people and communities. I can't speak to the South Shore. I do recognize that there's different politics and there's different communication strategies south of the border. I do feel that the narrative that has gone on, unfortunately south of the border has been "it's us against the muskrats" and it will take a lot of hard work, a lot of probably knocking on people's doors. It is a really long... it's a lot of work to change that mentality I think. I don't know how to... I don't have a good answer for you. I'm sorry, good luck. I'm willing to help at any time.

**Benoît Bouchard:** I wouldn't feel good if you had an answer because I think you feel as I do, as we do. We could not be un-sensitive to what we heard last night. Those people were sincere once again and they worry about their property; what they did for the last 25, 30, 40 years. Those who said "we're just used to do fishing" and suddenly it's like if the world was just collapsing because that's their world, those people. And I don't believe and I don't want the environment to become kind of adversary, and conservation and reestablishment as you said before of the shores and so on.

**Liz Hendricks:** Maybe a shoreline property exchange between Ontario and New York State where you have folks come to property owners north on Lake Ontario and say "this is what we've done on our property. Have a cup of tea." It's personal stories.

**Richard Moy:** It's a lot more complex than that and... The issue is people are very frustrated on the South Shore today because they're losing property today under the existing Plan. That frustration exists and now they're trying to express that frustration at us because we're making a proposal that might actually enhance a very, very minor amount. But one of the things we have not done a good job on to explain: well there are benefits. There are benefits to repairing, restoring habitats that might actually protect your house, or actually enhance the fishery or enhance recreation and boating opportunities. But to get over that first hurdle is going to be an enormous challenge for us I think.

**Liz Hendricks:** I agree and I would suggest maybe have not the IJC try and communicate. Like have other, again the property, and not, that's not meant to be disrespectful but I just have other voices, you know clearly there's that barrier put up for whatever reasons, for whatever frustrations likely legitimate and so having different voices share their concerns and it's very tricky. But it is a fantastic Plan and very exciting.

**Dereth Glance:** So Miss Hendricks I really appreciate the fact that you focused on the issue of governance, and you don't have to answer this now because you has indicated that you would be putting in formal written submission, but I would be very interested in you expanding upon exactly what you see as the best role for how to be accountable and transparent and those specific mechanisms under a new Board structure as well as you know, expanding the membership which I think is a very important thing, but also a Board that's a workable size. So I appreciate any additional ideas and concepts on where you guys are coming from as well.

**Liz Hendricks:** Well I would note, and as I was writing up these notes and I said "all this diversity, all these people on the Board" and I thought "their first reaction's going to be: what we should have a Board of a hundred people?" We don't want to make your lives more complicated. But I think there is plenty of ways to have simple things like newsletters out to people. The IJC is such an important role I believe in trans-boundary waters across the country. I've done a lot of federal water policy work and I really do believe it benefits both countries so greatly. I think people can get so much information these days in so many different ways and likely maybe not in the messaging you would want them to get. So muskrats are now the issue, it's all about muskrats and that's not. So I think helping the IJC get ahead of that messaging, ahead of that communications by, you know, I'm trying to think of something. Mail Chimp is a really simple online newsletter tool or, I don't want to add work to anyone. Twitter, there are so many folks on Twitter now or you know like, I think there's just, helping people understand the role of the IJC so that even, maybe that

won't solve today's problems but going forward that might help smooth the governance, make people see the accessibility. Your staffs are so available to everyone. You know you call and they call back within a few hours. It's not that the IJC isn't inaccessible, I think sometimes not understanding organizations or understanding the governance of organization like the institutions of the IJC I think is hard for a lot of folks to get the importance of that, and so.

**Dereth Glance:** I'm not sure this is also part of your role but I think it would be very interesting you mentioned the Lake Ontario or the Lake wide management areas, the lamps and the new Great Lakes Water Quality Agreement but in your formal submission if there's any additional ties to the Great Lakes Water Quality Agreement especially on your focus on your section on governance I think that would be greatly appreciated.

**Gordon Walker:** Thank you. Have we concluded our questions?

Well ladies and gentlemen I think that's going to conclude. I believe we have exhausted our panels or the panels have exhausted us and we are very pleased to have your comments. Your comments are useful to us not just in what you said today but perhaps in what you may do between what you may do between now and August 30<sup>th</sup> when we would like to close off the comment period. So let's continue on at that process. From our point of view we've got a lot of further information that we've got to digest. We're glad to have what you've given us today. So thank you very much for coming and we'll consider all these comments, we'll come to some conclusion I'm sure and if there are other questions I think staff are going to be around for a few minutes and they'd be glad to talk further to you.

We are on our way to Jordan for further hearings this evening.

**Joe Comuzzi:** That's in Canada. That's not the Jordan River. (*Laughter*)

**Gordon Walker:** No. We're going to wine country. We'll see if we can have a good town hall meeting there this evening. So thank you very much once again.

***End of Transcript***