UNITED STATES & CANADA
INTERNATIONAL JOINT COMMISSION
PUBLIC INTEREST ADVISORY GROUP
PUBLIC MEETING

In the Matter of:

INTERNATIONAL LAKE ONTARIO/
ST. LAWRENCE RIVER STUDY

July 21, 2005

Transcript of Public Meeting held in the above matter at Greece Town Hall, 1 Vince Toffany Blvd., Greece, New York on July 21, 2005, pursuant to Notice.

PRESENT:

MAX STRIEBEL - Chairperson - PIAG Member

JACK AUBURGER - Supervisor, Town of Greece

RUSS TROWBRIDGE - IJC Liaison to the study

DAVID KLINE - PIAG Member

BILL WERICK - PIAG Member

DOUG WILCOX - U.S. Geological Survey

DOUG CUTHBERT - Canadian Study Director

DAN BARLETTA - U.S. Co- Lead PIAG

FRANK SCIREMAMMANO - Member of Study Board

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SPEAKER INDEX

BILL WERICK

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NORA CANIA

DAVID KLINE

JEAN GOULSBY

TOM BABCOCK

GINI WRIGHT

GREG KESSEL

BOB BAUMAN

CONNIE ANDRO

MONICA HAYDEN

GARY GUSTENSON

HENRY STEWART

SCOTT ROGERSON

AL FINK

JOHN PETERS

DICK BAUMER

PETE ZUZEK

TOM BABCOCK

BILL WERICK

DAVID HAND

TOM CLARK

JAMES QUICK

PROCEEDINGS

MR. STRIEBEL: Please sit down. Those of you that haven't found a seat, please find one and we'll start. This is the last of several public meetings that the Study Board and the PIAG have had. Some of those meetings obviously have been here in Town Hall having to do with lake levels, the lake level study. Before we start, I'd just like to say, if any of you are here with concerns about the fast ferry, this study has nothing to do with the fast ferry. If you

have some concerns about that and you'd like to express them, the questions are being handled through the Monroe County Planning Office, and you can call 428-2970.

I'd like Supervisor Auburger, Supervisor of the Town of Greece, to come up and say a few words, please. Jack.

MR. AUBURGER: Welcome. I'd like to thank all of you for being here this evening, and for those of you who are not Greece residents, I'd like to welcome you to our Town Hall. And it's a pleasure for us to host this informational meeting. At this time, I'd like to first of all though, introduce some of our elected officials and their representatives who are with us here this evening.

First of all, from the Greece Town Board, he represents the 1st ward along the lakeshore and our great town, Councilman Jim Smith. Jim, good to see you.

(Applause.)

MR. AUBURGER: We also have our representatives from the Monroe County legislature here with us today. Representing the Town of Greece and the lakeshore, County Legislator Doug Datsun. Doug.

(Applause.)

MR. AUBURGER: President of the Monroe County legislature, Wayne Zyra.

(Applause.)

MR. AUBURGER: Representing the lakeshore from the 8th district in the Town of Webster, Dave Malta.

(Applause.)

MR. AUBURGER: And representing the Monroe County legislator, Fred Amato. Fred, good to see you.

(Applause.)

MR. AUBURGER: We also have representatives from Senator Joe Roback's office. Joe will not be able to join us here this evening. He will try to get down here. But Ed McEwen. Ed, good to see you.

(Applause.)

MR. AUBURGER: I'd like to take this opportunity to thank the members of the study group for choosing the Town of Greece and for all their efforts over the past years in their trying to resolve issues compared to water level within our community.

But in reviewing the suggested operating plans, I wanted to at this time, besides giving the welcoming remarks, just to say that I along with our representatives here in the Town of Greece, have concerns, several concerns with these proposed plans.

The proposed plans do not conform to the goals and commitments made by Canada and the United States in their original approvals. The proposed plans do not consider all of the environmental impacts that the increased water levels will have, not only in our community in the Town of Greece, but throughout Monroe County and the area along the shoreline.

Each of the proposed plans will increase the water levels beyond the target range of the current criteria, and will cause an increased level of flooding and erosion along our shorelines. In summary, I know we want to hear from all of you this evening and to listen to the presentation, but it would be undesirable to make changes to the prior agreement without the benefit of re-examining the impacts, both positive and negative, to all those affected. This is of particular importance in the situation due to the significant amount of uncertainty as to the purported benefits and the purported damages that increased water levels will bring.

I plan to submit my concerns to the members of the Greece Town Board and to have a formal resolution opposing these particular plans that have been submitted this evening, and I will also be asking our representatives led by County Legislator Doug Dobson and working with County Executive Maggie Brooks to also introduce a formal resolution from the Monroe County Legislature in opposition to these proposed plans.

(Applause.)

MR. AUBURGER: Once again, I welcome you all here to our great Town Hall. I hope you enjoy your stay and it's these types of meetings which really have the democracy at its best. Right here as a public forum for interest concerning your lake levels here in our community. God bless each and every one of you. Thank you very much.

(Applause.)

MR. STRIEBEL: My name is Max Striebel. Probably many of you know me. I've been at all of the meetings here as well as many meetings throughout the basin. I'm one of 24nbsp;Public Interest Advisory Group appointees. We are the liaison between you, the public, and a Study Board. As a PIAG member -- as PIAG members, we conducted numerous public meetings throughout the lake and the St. Lawrence River study areas. I'd like any other PIAG members that are here this evening to stand and be recognized. Back there, Al, Henry, Dan Barletta. Okay. Thank you very much.

I would like to now introduce Russ Trowbridge, who is representing the U.S. sector of the IJC, to listen -- he's here tonight to listen to your concerns and comments. Russ, would you like to say a few words to the audience?

MR. TROWBRIDGE: Thank you. I want to send my -- send Commissioner Brooks' regrets for not being able to be here tonight. Her daughter just had a baby two days ago, and her daughter did not check with us before she decided to schedule delivery for a couple days ago. We thought it would be at a different time.

But we are extremely interested in what the views of the south shore are. We have been engaged extensively here in the past. A number of commissioners have been up here. You are very well represented in this area by Max and Dan and Frank and Henry. And in the context of the entire system, that's a very strong representation for one area.

We are very interested in hearing your views and comments. We hope that you listen carefully to what the plans are. There's been a lot of misinformation going back and forth. Think of it in terms of your interest but also in the broad context of attempting to make the compromises that will be necessary.

One additional fact that you should be aware of is that the Commission at this point has no opinion on which plan if any plan should be moved forward. We will get a lot of benefits out of this study regardless of what happens. We hope that a new plan will be developed, but it will only happen if it makes sense in the overall context. Thank you.

(Applause.)

MR. STRIEBEL: The Study Board who's responsible -- who are responsible for the current options which will be forwarded to the IJC for their consideration are here for the last time tonight to present these options and gather your inputs and insights. Would study team members that are here tonight please stand and introduce yourselves, please.

MR. CUTHBERT: I don't have a microphone but I'll speak loudly. My name is Doug Cuthbert. I'm from Burlington, Ontario, Canada. I'm the Canadian co-chair of the Study Board. I'm glad to be here. Thank you.

(Applause.)

MS. SANDY LaBARON: I don't have a microphone. I'm Sandy LaBaron, I represent (Unintelligible) Study Board and -- (Unintelligible). (Was not near any mic)

(Applause.)

MR. STRIEBEL: Anyone else?

MR. STEWART: My name is Henry Stewart. I'm a resident of the Town of Greece. I'm also a property owner in Heron, Wayne County, where in an area that is extremely precarious to water levels, and I'm an attorney in town and I'm a member of the Lake Ontario Council.

MR. STRIEBEL: Thank you.

(Applause.)

MR. STRIEBEL: Okay. The format for tonight's meeting is as follows. There's going to be about a 30nbsp;minute Power Point presentation given by Dr. Frank Sciremammano, who is a member of the Study Board.

After the presentation, the meeting will be turned over to Dr. Dan Barletta, the U.S. PIAG chair, who will facilitate the question and answer period. Please hold any questions until after the Power presentations. We will stay here until all questions are answered tonight. Frank.

MR. SCIREMAMMANO: Good evening, everyone. It's nice to be here and see a lot of friendly faces. I'll be presenting the results as they are right now for the study and then hopefully the questions and answers will come after that.

Here's an overview of the presentation. Basically who we are, how the study is organized, who's on it, why the study, what we found. I'll go through the three new candidate regulation plans that are on the table right now, talk about the process going forward for approval of those plans or some set of them and the implementation. And then just, we go to questions and answers from you. I do want to also thank the PIAG members, all volunteers. You have two from the Town of Greece. Actually three with Henry. And they do a lot of work, and it's all voluntary. And they do a great job setting up these meetings.

Who we are. The IJC is a binational Commission established by the Boundary Waters Treaty of 1909 between Great Britain then and the U.S., now Canada and the U.S. There are six members of the Commission and they oversee all the diversions and boundary waters between Canada and the U.S. from coast to coast.

We are one Study Board under them. They have approximately 40nbsp;boards. The Study Board is 14nbsp;members, seven from the U.S., seven Canadian. I'm honored to be one of the Study Board members. Dan is also a Study Board member. There are study managers that actually take care of the day-to-day.

And then we have the Public Interest Advisory Group. This is unique to this study and the first time it has been done. The idea was to get people involved early, the public, so that they have their input through the entire study, the PIAG members, 22nbsp;members. As I said, they've been volunteers. They've worked hard over five years, a big commitment of time. They are advisories both to the IJC and to the Study Board and work with the technical working groups.

The technical working groups are the professionals that we've engaged under contract usually to do some of the nuts and bolts, to do some of the computer modeling and some of the research. Let me go to the next slide.

Why the study? Five years ago the governments of Canada and the United States requested funding -- requested and funded the IJC to review the orders of approval that allowed establishment of the St. Lawrence Seaway and the power project. Many of you recall that was done in the '50's and the rules and regulations were set up then, and the basic idea is now to review those to see if they meet today's standards.

The study is the vehicle by which the IJC is looking at, how the existing regulation plan, the existing criteria meet today's needs. The final decision, as you heard, on whether or not to change the plan and criteria and what changes will be made, rests with the IJC. We will make a recommendation, the Study Board.

Let's talk a little bit about the current regulation plan. Basically there's a dam on the outflow. Many of you know this. That's where the control comes in. Water flows freely into the lake. There's no control over that. So basically there's a limited control based on what the outflows are. Once the dam was built in the '50's a decision had to be made on how to operate it. The criteria and the orders of approval lay out the broad goals.

Plan 58-D was designed to meet those broad goals, and that's the operating plan that's run every week to determine how much water is let out. The plan was designed to meet the criteria that was approved as part of the original 1950's agreements.

It was based on -- it's been in effect since '63. It was based on 1950's technology. Those of you who are my age remember slide rules and punch cards. Well, they didn't have punch cards then. So the technology has come a long way. In addition, we have another 50nbsp;years of experience operating the system, and another 50nbsp;years of data, hydrologic data on which to evaluate impacts. We also have a better understanding of the impacts in a number of areas.

In addition, the original plan and the original criteria was guided by the political, social and economic setting of the '50's. The features of the plan, again, it's designed to meet the criteria. The emphasis is on reducing extreme high and low water conditions and there is a criteria in there that says, the system shall be operated to reduce the extremes in levels on the lake.

It does a relatively good job for a coastal, although very few people in this room I suspect would admit to that. But as we have shown, and it's pretty clear that without the project in place there would have been a lot more flooding and a lot more erosion.

In addition, it does a pretty good job for hydroelectric power and commercial navigation. However, the plan as it was developed and the criteria did not specifically address environmental and recreational boating, although there were benefits, especially for recreational boating as a result of existing criteria. The control board, the International St. Lawrence River control board which does the day-to-day operation of the system deviates approximately half the time from what the plan says to do. And this is basically to reduce the extremes and provide benefits for various users including environmental, recreational boating, shoreline interests, commercial navigation and hydropower.

We've gone out of our way to try and meet with and discuss what we've been doing with all the constituencies that are affected by this up and down the system. This includes the Native American community, the general public, environmental advocates, and you'll hear from some tonight, recreational boaters, tourists, marina operators, shore property owners, commercial navigation, water users, domestic supplies and hydroelectric power producers.

Let's go over what we have found so far, and again, we'd ask you to hold your questions till the end. Next slide.

First, I think you need to recognize it's a complex system and a large system. We are here on the lake but the system extends from the western end of the lake up the river, Massena and the dam, and then all the way down past Montreal which sits here, to Three Rivers. The dam is at Massena. I'll be using some terms here tonight to describe these geographic areas. The lake, pretty obvious. The upper river is that section of the river between basically Kingston and Massena where the dam is. And then the lower river is below the dam, through Montreal and downstream. And we'll be looking at the impacts of the various plans and some of the considerations, basically broken up into those three areas.

I want to point out that the dam and the outflows is just one factor in terms of water level variations. As many of you know, Mother Nature also plays a big role in this. As an example, we like to show this plot. This is total water supply into Lake Ontario for the period 1860 to 2000. This is how much water entered the lake which is uncontrolled, primarily. And it goes from 1860 again, to 2000. You can see there's a lot of variations, some long dry periods, such as the 1930's, some long wet periods such as the 1950's. You could see roughly a 20nbsp;year, 30nbsp;year type cycle in there. Low water again in the '60's, high water in the '70's.

The red line is where the project was built and the plan went into effect. Notice that the supplies since that time have been fairly variable and in fact generally higher than occurred in the past. The plan was designed on the record basically from 1860 to 1950. It really didn't anticipate supply swings like we saw since then.

The control board I think has worked hard to maintain the water levels at or near where they were before the project, despite these high supplies. But this something that's uncontrollable and we may have further deviations and extremes in the future. Next slide.

The other item that tends to enable us to not be able to control the lake level precisely is the limited outflow and the effect of the outflow. This chart illustrates, if on Lake Ontario we wish to drop the lake by two centimeters over the course of a week and you increase the flow to do that; what that does immediately in front of the dam in an area called Lake St. Lawrence, it drops it 30nbsp;centimeters, and at Montreal downstream, Lake St. Louis is right near Montreal, it increases it by about 23nbsp;centimeters. So basically two centimeters on the lake, a reduction, translates into roughly 10nbsp;times that on Montreal and that limits how quickly things can be done on the lake, part of the reason it can't be controlled precisely.

Again, we studied the effects of the fluctuating water levels on the various users and interest groups. I won't read it again but you can see it all there. We tried to be very comprehensive. This study, I believe has had the most sophisticated research ever done. Is it the final answer? Probably not. Are there some questions still out there? Yes. But it's the best that's been done so far and it's the best ever that's been undertaken between the two governments.

We had a panel of outside experts reviewing our economic data and also some of the science and the, during the study, and right now all the science, the critical factors are being reviewed by the National Academy of Sciences and the Royal Society of Canada. We expect their report this fall also. Can we get the next slide?

I'll go through each of the areas briefly. For the environment we had over 400nbsp;environmental indicators. By environmental indicators we mean a particular population of a particular species or plant or some other factor. We found 33 of those were sensitive to water level variations, and we needed to model in more detail. In general, more natural variation, meaning more variability, higher highs, lower lows, as well as more variability in between, is desirable on the lake, or at least that's what we're being told, for the environment. Right now that's again being reviewed. The other question, of course, is how much is enough, and we're still trying to find that out. There isn't, however, much of a difference for the lower river. But on the lake, more variation is better for the environment.

Recreational boating, as many of you know, and for tourism, water problems generally are greatest if you have low water levels. Recreational boats need higher water levels than commercial ships, and that doesn't sound right, does it? Well, the commercial ships are out in the lake or out in the main channel. They're not pulling into the marinas and the docks that are close to shore where the water is shallow. So it turns out as the water goes down, the first people we hear from are the recreational boaters. And you could think of it in very simple terms around here, if the water level goes down, the ferry is not going to have trouble getting into the river, the large boats, but people may have trouble getting to the south end of Irondequoit Bay or into Braddocks Bay. So we generally find that the recreational boaters are the ones that have the problem first before commercial ships.

We have identified economic impacts for each part of the system in terms of rec boating and we had those reviewed by outside experts to make sure that they were reasonable. Can we go to the next one.

The coastal, that really is the riparian owners along the land on the river and lake. 58-D with deviations as I said has significantly reduced the flooding on Lake Ontario and the St. Lawrence River. It has slowed erosion but it hasn't eliminated it. No regulation plan is going to completely eliminate shoreline damage. What we did find is that higher waters accelerate the erosion, lower water reduces it. You know that. Shoreline erosion is worse also during the fall, winter and spring because of storm events. A high level now is preferable over a high level in October or March.

In terms of commercial navigation, we again accounted for the costs. Their costs go up or they have losses if they don't have enough water and that's primarily in the seaway and in the Montreal area. It isn't a big problem on the lake. Or, if we're releasing too much water they're delayed by high currents because they lose control in the river.

In general, it is difficult to keep enough water to keep Montreal afloat in the fall during extended dry periods, in the fall and early winter. And we're going to run into that problem this year from a control board perspective. We're already looking forward to the fall and seeing that Montreal may be short a little water. In terms of water intakes, these are supplies for our cities and towns. As you know, Monroe County Water Authority has intakes in the lake. Generally the fluctuations we're talking about won't affect their intakes, at least the deep ones out in the lake. Long droughts though can affect a few municipal water plants, primarily in the St. Lawrence River. Municipalities generally address that themselves because they understand what the fluctuations are going to be and they put in the capital cost. However, there are individual shoreline water users that are affected also and they generally start running into problems when the lake gets down low or the river.

Hydroelectric power is probably the most variable and one of the biggest factors economically. As many of you know, NYPA, New York Power Authority, as well as Ontario Power Generation share the power that comes out of the dam up on the river. Our economic analysis included independent analysis of the hydropower prices. It's fairly easy to predict how much power is going to be produced but what that's worth economically, especially with the current market, is more difficult. So we had that reviewed by our economics folks to make sure it was reasonable.

Why don't we talk then about the three candidate plans the supervisor mentioned that are on the table right now. Again, the effort was to try and blend or balance all the interests in the system. Why don't we start with the guidelines. The Study Board had to decide how to make a recommendation. What were we going to consider. They came up with these guidelines, which by the way are on the website in a little more detail. I think the first three are the most important.

Contributes to ecological integrity, maximize the net benefits for the whole system, and not result in a disproportionate loss. Now, those things are all subject to some kind of interpretation, especially the third. The interpretation the board came up with is no region or interest gets harmed disproportionate to the others.

Maximizing net benefits means looking at both economic and ecological benefits and trying to maximize both, although they're hard to combine because one's in dollars and one is not.

We've tried to insure that all the work is transparent to the public and represents all the interests, primarily through the PIAG and through the public meetings. And we hope that all our decisions are transparent and you understand why we're making decisions. And hopefully tonight leads to some of that.

Let's talk a little bit about some of the plans that were developed to use as references or interest specific plans. First, as a reference, of course, we look at plan 58-D. That's the official plan. We also look at what we're calling 58-DD. That's 58-D plus the control board deviating, that's the second D. So it's basically how the system operates now. And that is what we use for a basis of comparison.

Now, of course, the plan has only been in operation and the control board since 1960, so prior to that we basically had to simulate with the help of some people that are very knowledgeable with how the control board works. What deviations would have been made in the past. But it's an approximation but it's a pretty good approximation.

We also looked at Plan 1998, which many of you are familiar with. It was developed and put forth in 1998 by the control board.

It meets the existing criteria and is basically the best plan that we could come up with to distribute benefits but meet the existing criteria. There was also an Ontario Riparian Plan. That was specifically designed to reduce flooding and erosion on the lake. What we found is by doing that, we had severe environmental and recreational impacts -- recreational boating impacts. We also had a recreational boating plan and as you might expect, that was designed to improve recreational boating but it had severe impacts to the environment and downstream flooding and impacts on the Seaway.

So those were not considered as ones that we want to advance on to the Commission. We also looked at Plan E, which we're referring to as the natural flow plan. This is kind of a simulation of what would have been if the project hadn't have been built, what the flows would have looked like and what the effect would have been on the lake. Again, it's designed to simulate more natural conditions and it maximizes the environmental benefits because by the fall that's what would have happened. That's kind of a natural situation.

The board decided that the environmental objectives should be considered a long term management goal for system. However, because of historic economic development this plan would cause severe economic losses for coastal and recreational boating. For that reason this was also rejected and decided not to advance it.

Let me show you a little bit about how the considerations of all the various groups were input. This shows target water levels on Lake Ontario. I did not include the environmental targets on here because I could not interpret them and explain them to you in a simple manner. But this is 247.7 down to 244.4 using the English units on this side. And basically the water users told us we have to be above this line, which is not very hard. Commercial navigation said between here and here, which also is not very hard. Rec boating basically wanted it above this line but below that line. And coastal, our analysis of erosion on the lake said, keep it below this line, and you could see it's lower in the winter, a little higher in the summer, and then in the winter. So these were put together in the model to try and see if we could meet all the various needs.

Why don't we go to the next slide. But the lake isn't the only place, and we had to do a similar exercise for the entire river, upstream and downstream. And there were target levels

based on the environment, based on commercial navigation, water users and so forth, riparians for the entire system. Obviously managing this was difficult. We have a very large computer program that crunches this stuff away so we can get to some answers.

So let's look at the candidate plans right now and what the computer tells us these plans, what the results would be. And I want to point out that we've come up with new plans which provide improvements in some areas over what the existing operation 58-D did. But we still haven't found the golden plan that makes everyone happy. There are some advantages for this area though to the plans that we're going to put forth, primarily in the management. There will be less discretion by the control board. Some people think that's good. Some people think that's bad. You should think about it. The control board in the past has not always acted in what I would call the best interest of the shoreline and in some cases maybe they haven't acted in the best interest of other interests. So by taking it out of the hands of the control board that may be an advantage. But anyway, that's my thoughts, not the Study Board's thoughts.

Why don't we start with plan -- the three plans, we designated Plan A, Plan B and Plan D. So let's go with Plan A. We have labeled that the balanced economics plan. It's designed to maximize the overall economic benefits. It provides some improvement for the environment, especially on the upper St. Lawrence River, and we'll, by the way, quantify this for you in a few minutes. It has losses to shoreline interests on the lake and on the river, and we'll quantify that. It provides recreational boating benefits, however.

Plan B, this is, we call it balanced environmental. It's more tilted toward more variation in the system to enhance the environment, simulate natural conditions. It also provides overall economic benefits.

It improves the environment on the lake and the upper river. But it does have losses, and fairly significant, I'll show you, to shoreline with significant flooding potential downstream in Montreal. It also results in losses to recreational boating, especially on the lake.

And in Plan D, we call that the blended benefits plan. It's basically designed for balanced performance. It still has overall economic benefit but it tries to minimize the losses in all areas. It's a small improvement over 58-D with deviations for the environment. No overall losses for shoreline interests but some flooding potential, and also no overall losses. There are some pluses and minus in various parts and we're going to break that out for you. It does provide recreational boating benefits.

So why don't we look in a little more detail on the evaluation of these plans. I'll try and be quick. There are a lot of numbers so you can tune out if you don't like numbers, or if you're into the numbers then you can pay attention. Why don't we start with a summary, and this is overall summary for the entire system from one end to the other, environmental, shoreline, commercial nav, recreational boating, hydroelectric, Plan A, B and D.

THE FLOOR: Is there a pass out?

MR. SCIREMAMMANO: There is a pass-out outside that has the table, actually a lot more detail than we're showing up here. And what's given is average annual benefits in millions of U.S. dollars, and again this is average over the hundred years. These are all simulations over a hundred years of record, basically 1900 to 2000. And this is the average annual. As you can see, now we came up with, again, environment, you can't put it in dollar terms. We came up with an index. It's an imperfect index and if you want to you can look at the

32nbsp;indicators of the environment. Some are plus, some are minus. But we had to lump it somehow in an overall. The environmental index, for instance, for Plan A, slightly positive. 1.0 is our reference, or Plan 1958-DD or the current operation. Anything above one is better for the environment, below one is worse. And the same thing with all of these numbers. These are annual costs, losses or benefits relative to the current operation plan 58-DD.

So 1.15, a little better for the environment, a loss for shoreline property, roughly 1.1nbsp;million, commercial navigation benefit, rec boating benefit, hydro benefit.

Plan B, the balanced environmental, you could see it's a better score on the environment, bigger loss on the shoreline, commercial navigation roughly the same, a little less, negative on rec boating, a bigger benefit for hydroelectric.

And then finally Plan D, roughly the same or slight benefit to the environment, a net gain for shoreline overall, commercial navigation gains about the same as Plan B. Rec boating gains under Plan D and hydroelectric gains, but much less than the other plans.

We'll go into a little more detail on some of these, and I have to catch up here on my cheat sheet. We want to show you what these numbers mean for this area in particular. If you were in Montreal the next set of slides would be slightly different. But the Study Board felt it was important, I feel it's important that people understand what the various plans mean to their area, so that's what we're going to try and do.

Let's start with the average Lake Ontario level for the various plans. Again, this is over a hundred year sequence. Over the course of a year, the months have washed out a little bit there; but there were the months across the bottom. 58-DD, roughly the current operation, at least as simulated, is the black line. And these are averaged over a hundred years for each quarter month. Plan A, red. Plan B, in the blue. Plan D, in the green. Notice that all of the plans give us on average a higher level in the summer.

Plan A gives us the highest level. Plan D actually gives us a higher level but it's later in the season, causes a little less damage for erosion. Plan B gives us a little higher level but closer to 58-DD. A and B, higher also in the winter, and in the fall and spring. Plan D is a little lower than the 58-DD.

Let's go to the next one, which is the peak level, highest level, and this is the highest level that occurs in the hundred years for each quarter month for each plan so these weren't in a sequence. Again, the black, 58-DD. The peak level right about there. About 248-1/2. And that's what we saw in 1973 so that's a reference for you, if you were around then.

Plan A, roughly the same level, a little earlier in the year and also some peaks again during the winter. Plan B, much higher peaks, at least in the early winter, roughly the same level again during peak, during the year. And Plan D again, same kind of peak but again later in the season when the storms are less prevalent on the lake.

Let's go to the next slide. This is the lowest Lake Ontario levels. If you're a rec boater this will be of interest to you. Again, 58-D, DD, I should say. You could see there were some fairly low levels. This occurred in the '60's or the '30's. I'm always unsure where the actual minimum came in. The other kept it higher during those low water periods. Plan A significantly so.

We go to the next slide. We plotted here the ranges for the various plans versus the range under the existing criteria. The existing criteria go from 243.3 to 247.3, the four foot range that's the target.

Plan 58-DD didn't make it, even with the actions of the control board, at least in our simulation. This minimum is very close to what was actually seen back in the '60's and this maximum is very close to what was seen in the '50's and in the '70's.

So this is the current operation with the control board simulated. Plan A has this range, a little higher on the top and about the same as the existing criteria on the bottom. Plan B, Plan D. And then I plotted on here Plan E, just for reference purposes. And you could see that the top, that point that was made last night, the top end is very similar for all of these plans although none of them meet the existing criteria.

Overall economic impacts by region. And what we have here is Lake Ontario in the blue, upper river, lower river, red and yellow respectively. Again, one -- I'm sorry, this is environmental impacts. 1.0 is neutral, basically the status quo, what we have today. Plan A, a little tiny bit better on the lake. Better on the upper river, a little less well downstream. Plan B, better on the lake, much better on the upper river, again slightly negative downstream.

Plan D, relatively neutral on the lake, slightly, slight improvement, same thing with the upper river, and a little closer to status quo in terms of downstream. Again, this is overall environmental, this index, including all the parameters. Let's go to the next slide.

Here are some of the individual parameters. And if we look at Lake Ontario Meadowmarsh, that's basically the wetlands that are associated with the lake, something like Braddocks Bay, and in fact I think that was one of the study sites. And these are the scores for the various plans over the period of record. Again 1.0 is the status quo.

You can see all three plans show an improvement in meadowmarsh with Plan D and Plan A being roughly the same and B, better. In terms of the upper river and northern pike, this is our measure of northern pike production. See Plan A is much better than B or D. D is roughly the status quo. Why don't we go to the second slide.

This is in the lower river and if you recall from the overall environmental effects, the lower river really didn't benefit from any of these things. And we can see that here. This is black tern, one of the birds. Basically it decreased 19% for Plan A, 23% for B, and a slight increase for Plan D. All three, lower river muskrat surviving houses, one of our indexes, all negative with Plan B being the worst.

So again, we have 32 of these and we have them in all kinds of variations. Those overall indexes will give you the overall score. Why don't we go on to the economic impacts. That was environmental. This is now economic impacts. Again, considering all the various users. This is average annual impact in millions of dollars per year. Lake Ontario, upper river, lower river. Then we broke out hydropower and commercial navigation, the Seaway, separately.

We see for Plan A, on Lake Ontario it's actually so small you can't see it. There's really no benefit. The upper river slight benefit. A little bit more downstream. There's an economic

benefit. And you could see where it comes from, hydropower, a very large benefit, and navigation.

For Plan B, negative on the lake, negative on the upper river, negative on the lower river in terms of overall economic impact. However, hydropower does much better and so does the Seaway.

Plan D, slightly positive on the lake, slightly positive but less so on the upper river, lower river, the hydropower is basically neutral, no change, and then the Seaway benefits.

Let's drill into this a little further to look at the coastal in particular. Or actually we'll break it down here. This is overall impacts again, by recreational boating, navigation, hydropower and coastal. Plan A, and again, this is overall over the whole system, again positive for hydropower, navigation, rec boating. Negative for coastal. You read the same story for B, except we also have a negative on the navigation. I'm sorry, that's rec boating. And D, everything positive but fairly small.

Let's go on to the coastal impact. This is now coastal. So this has to do with flooding and erosion throughout the system. Lower river, because they do have flooding and erosion down there on the river, upper river, Lake Ontario, flooding and erosion. Two different categories. Plan A, again all negative, basically saying that the coastal impact is negative throughout the system for every sector. Plan B, everything negative except lower river erosion, I believe that is. And Plan D is kind of a mix. It looks like the upper river flooding is the only negative.

Let's drill into this a little further for coastal. This is for the lake and upper river only. Broken down by county. We actually can break it down even further, almost parcel by parcel, with our computer whizzes. And what we've plotted on here for Plan A, B and D is the average annual losses or gains in millions of dollars per year and I'd call your attention to Niagara, Orleans, Monroe and Wayne Counties in here. And you could see, D is positive in a couple of counties and negative in a couple. A and B seem to be uniformly negative on the south shore in terms of losses.

Let's break this down even further, because I know you want to. Shore protection, we really had two factors in terms of coastal. One was damage to the shoreline, erosion and maintenance and repair of shoreline protection. The other was from direct flooding. This is the shore protection and the erosion. Again, cost by county. And again I call your attention to Orleans, Monroe, Wayne, and if you want to go further to the east, Cayuga. Again, Plan D is positive, the other plans uniformly negative.

Had enough numbers? Gettin' there, huh? Why don't we go one more slide. This is erosion damages, as calculated by our computer whizzes, again by county, for Plan A, B and D. And again, our county is in here, and again you see a slight positive for Plan D, and A and B negative, some significantly so in some areas.

Notice that there are some areas that just aren't affected. You've seen it, rock shoreline, it doesn't matter. Why don't we go on.

This is for rec boating because that's also of interest around here. I wanted to at least give the numbers, again, by region. Lac St. Pierre is down beyond Montreal. Montreal, just upstream of Montreal, Thousand Islands, Ogdensburg and Lake Ontario. You could see Plan

A, positive throughout the system with the exception of Ogdensburg. Plan B, negative throughout the system with the exception of, I can't really see that, I think it's Lac St. Louis. And then D, positive throughout the system with the exception of Ogdensburg. Ogdensburg seems to have a particular problem. We're trying to figure out exactly why that keeps coming up negative for us.

Why don't we go on. So hopefully I've bored you to tears as I do my students at RIT. And you get the chance now to ask us some questions. What happens next is, we will make a recommendation, the Study Board. We have not yet agreed on recommendations, so part of the input that you give us tonight will be fed into our recommendations to the IJC.

We will make our recommendations in the fall with a full report to the IJC. That will be a public report. The IJC has committed to going out for more public hearings next year in 2006, probably, to go to the public with what they decide, and also to go to the government because they have to go to Washington and Ottawa to get approval for any changes in the orders of approval.

And then they will come up with a timetable for implementation if there are changes to be made. Is there another slide? That's it. I'll turn it back over to Dan.

MR. BARLETTA: Thanks, Frank. Just to let you know, I'm Dan Barletta. I live here in the Town of Greece, right down here on Edgemere Drive. I own property there. I also rec boat down there.

Before we get into the question and answer period, I just want to give you a few things I would like to emphasize. We on the PIAG, the Study Board and the IJC, we're here to hear your views tonight and we're going to stay here until everybody's done asking questions and making comments.

We appreciate if you would -- in your packet you picked up when you came in there's a survey postcard. If you could fill that out either tonight or fill it out later, but please put it in the mail, mail it back to us. It's important we get your input. We want to make sure your views are conveyed to the Commission.

Now tonight we are recording your questions and comments so as to make sure they are taken in account as the final decisions are made. There are microphones in the back of the room. Please use them so we can make sure everybody is heard. And please state your name and where you're from. And I'd like to ask people asking the questions and those answering them to be as concise as possible. That way we have more time for more people. And if you have a question that's been similarly asked already, please wait till the end. Let's see if we can get some more questions that might go into different areas. But we will allow you to ask your questions. And if for some reason we can't answer your questions tonight we will find a way to get you an answer. And with that, I'm going to open it up, and I see my friend Mike at the microphone in the back.

MR. GARLAND: Good evening. My name is Mike Garland. I'm deputy director of environmental services for Monroe County. I'm here tonight on behalf of County Executive Maggie Brooks, due to a previously scheduled engagement was unable to attend tonight. On behalf of County Executive Brooks I'd like to thank the Study Board as well as the PIAG, particularly Dr. Barletta and Max Striebel for the opportunity to present testimony tonight on the study's proposed candidate plans.

Monroe County and its neighbors are -- our neighboring counties are home to over one million people. As the most populated south shore community on Lake Ontario our concern is validated by experience. High lake levels create severe flooding and erode our shoreline, the effects of which are devastating. The County's municipal water and sanitary facilities are threatened by contamination and flooding. Riparians are losing valuable real estate while the County -- the community loses essential tax base. The County's shoreline facilities, environmentally sensitive areas, continue to be threatened by erosion.

The safeguard of municipal water supplies and sanitary facilities is paramount to the health and safety of our community. As you know, the Boundary Waters Treaty of 1909 requires that Lake Ontario be maintained at a level that does not conflict or restrain the use of municipal water supply and sanitary facilities as a priority above the interests of navigation, hydroelectric generation and recreation.

In 1998 -- excuse me, 1998, over 5000nbsp;sandbags were required to protect the Monroe County Water Authority's Edgemere Pumping Station and the Brockport Water Treatment Plant. Together these facilities provide drinking water to over 650,000nbsp;residents in five counties, in the Genesee, Monroe, Ontario, Orleans and Wayne Counties.

High lake levels exacerbated by wind action erode areas along the shoreline adjacent to Lake Bluff Road in the Town of Irondequoit, threatening the County Pure Waters large diameter sewer interceptors. Past repairs to stabilize these eroded areas cost approximately $200,000.

High lake levels adversely impact County highways and storm water systems in the Town of Greece. Edgemere Drive, which is home to hundreds of lakeshore residents has been closed on several occasions due to already high lake levels exacerbated by wind induced wave action.

These events prompted the County to invest 2.7nbsp;million dollars to reconstruct Edgemere Drive from damage due to severe flooding from lake level.

Taxpayers have recently invested millions of dollars to improve Ontario Beach Park, develop the Port of Rochester, and to provide fast ferry service. High lake levels have and will continue to threaten these facilities. These public facilities and infrastructure have been designed around lake level that's regulated by the existing plan 1958-D with deviations. The proposed candidate plans A, B and D would not protect these pubic facilities or riparian interests. In fact, Plan A with higher levels throughout the year would result in losses to shoreline interests. Plan B would result in even greater potential for shoreline losses during the winter, spring and fall, as well as losses for recreational boaters.

Although the study projects that Plan D would result in no overall loss for shoreline interests, there is as the study predicts the potential for flooding. Most concerning, however, is the wide range in lake levels that each candidate plan allows. We expect that an adverse rise in lake level would be the norm if changes are made to the regulatory policy currently in place with Plan 1958-D with deviations.

The orders of approval for regulation of Lake Ontario include four important criteria to protect our shoreline communities. Criterion H establishes the upper limit of the four foot range at 247.3nbsp;feet whereas criterion J establishes a lower limit at 243.43nbsp;feet.

Criterion G requires that the lake level be regulated for the benefit of property owners on the shore of Lake Ontario so as to reduce extremes of stage, which have been experienced. And in the event of excess supply, criterion K requires all possible relief to riparian owners.

Although Plan 1958-D can relief the riparians in the event of excess supply. Unless regulated by equivalent criteria, proposed candidate plans would allow significantly higher levels as the norm rather than as a deviation. These candidate plans may provide greater operational flexibility for regulators, but they will, as the study predicts, bring a higher probability of damage to public infrastructure and riparian interests.

Therefore, Monroe County requests the Study Board create a new candidate plan that would retain Plan 1958-D with deviations. We believe this candidate plan would best protect the public infrastructure and riparian interests of the south shore of Lake Ontario. Sincerely, Maggie Brooks, Monroe County Executive. Thank you.

(Applause.)

MR. BARLETTA: Thank you, Mike. We're going to go to the other side, just for a minute. Yes.

MS. RANDALL: Hi. Hello. I'm Jeanie Colamer-Randall. My grandfather subdivided shore acres in the '20's so I've been at Shore Acres in Hamlin for a number of years. Since that time, a perfectly beautiful sandy shore, naturally sandy shore beach has eroded 15nbsp;feet. It's so sad to see it. I think mankind is doing a very poor job of regulating the lake level. Who pays taxes? There are people from Niagara Falls to Cape Vincent who are taxpayers and I think those people are very under-represented. I expect they pay a lot more taxes than recreational boaters, as a for instance.

I'm wondering what percent of the total of hydroelectric power comes from the dam at Messina. I don't think it's a large amount, yet we pay a big price. I'm wondering what percent of the total of shipping comes from the boats that come in across the St. Lawrence system. But we're paying a terrible price environmentally because of all the pests that have been brought in.

Since the Messina dam has been put in, I don't think we're been permitting the lake to fall it's natural six feet lower. In fact, in your report it says that you're not permitting that. So naturally -- unnaturally, you're letting, you're permitting the lake to stay higher.

Since you've permitted so much building below the dam, of course there's more risk to Montreal area. When you build buildings below a dam, you stop the ability of putting water over it at a speed that would help reduce the lake. A lot of the damage that has happened to our property has been because mankind has been unable to judge what Mother Nature is going to do. So I think we need a lot more studying and I think there are many of us that pay taxes and really need to gather together and have a voice. Thank you for listening.

(Applause.)

MR. BARLETTA: Go ahead, Jim.

MR. SMITH: Thanks, Dan. My name is Jim Smith. I live at 692nbsp;Shorecliff Drive here in the Town of Greece. I'd first like to start by thanking the study group for the countless

hours put into this process. In addition, I'd like to thank both Dan Barletta and Max Striebel, who are both Greece residents who are serving on the Public Interest Advisory Group, and I'd also like to thank all of the people who are present, because obviously this forum wouldn't be as successful if no one came.

Tonight I'm here in two different capacities. The first is of a Town Councilman in Greece's 1st Ward. And the second is in my larger role as the executive director of the Monroe County Water Authority. As a Town Councilman representing the entire lakefront and the Town of Greece, I'd like to go on record as stating that I do not support any of the options presented. As Supervisor Auburger has already stated, all of the candidate plans will result in an increased range of water levels. With that all will negatively impact the shoreline areas of Lake Ontario through increased erosion and flooding. In this community we have come to know that these conditions will imperil public safety, private property and public infrastructure.

Based on these factors I have to believe that none of the plans being considered provide the same level of protection as envisioned in the already approved criteria. I'd also like to point out that every resident who has offered me their opinion as their Councilman on this matter, has agreed with this position, and I have not heard from any of my constituents along the lakefront in Greece who has endorsed any of the three options being discussed here tonight.

As I mentioned, I would also like to speak in my capacity as Executive Director of the Monroe County Water Authority. County Executive Brooks' letter speaks very effectively to public infrastructure issues and talked about the Water Authority, but I'd like to add some specifics to that, particularly because I deal with public water each and every day.

And I'm also appreciative, I see several Water Authority employees who came here tonight, I know out of their great interest in this issue as well.

The Monroe County Water Authority is the largest public drinking water provider in this region of New York State. Currently we provide water to approximately 650,000nbsp;people in portion of Monroe, Genesee, Wayne, Ontario, Orleans and Livingston Counties, truly the entire region of this portion of New York State. The Water Authority's primary intake is located on Lake Ontario with a very significant and important low lift pump station located on Edgemere Drive here in the Town of Greece.

This low lift station feeds the primary Shoremont Water Treatment Facility on Dewey Avenue which is a 140nbsp;million gallon a day water treatment plant. Any water level above 251nbsp;feet would put the low lift and consequently Shoremont, the entire water treatment plant, out of commission.

Now, 251, that seems like, well, you know, 251nbsp;is pretty high. But I would point out that in 1997, levels of the significantly lower 247.4nbsp;feet resulted in the need for sandbags to be deployed at the Edgemere low lift station and at another less significant facility on the lake. All the plans are over 248nbsp;feet on their high end, and as I said, 247.4nbsp;feet, the low lift station with storm surge and other issues, and wave action, was very much in peril in 1997.

It's my contention that all three plans increase the risk to the public water supply. The greater range of water levels contained in each plan also would adversely impact water

quality. Higher turbidity would be a result due to greater erosion at the high end, and greater exposure of shoreline at the low end.

I'd like to note, if high water were to close the Edgemere low lift station, 650,000nbsp;people would be without water. In that situation, public sanitation would be compromised and virtually all commerce in the region, be it industry, retail, schools, universities and virtually every other employer or institution, would be forced to close until water service could be restored. I could not imagine or calculate the economic impact of this situation for a complete day, much less a possibly longer period.

As Executive Director of the Water Authority and on behalf of the Water Authority Board, I'd like to go on record as stating that the Monroe County Water Authority is opposed to all three of the plans submitted. I'd certainly be very happy to provide any additional information to the study group or the IJC in the future, and any information that is relevant to what, to your efforts here as part of this study. Thank you.

(Applause.)

MR. BARLETTA: Go back over to the other side.

MR. MITCHELL: Thank you. My name is Hugh Mitchell. I'm the chairperson of the Atlantic Chapter Conservation Committee, of Sierra Club. I represent the New York State Sierra Club here tonight. We would like to thank the International Joint Commission for their extensive study, creating the plan formulation and evaluation group options for the future of Lake Ontario water levels.

We realize how difficult the task is which you have been asked to perform, since pleasing everyone is not possible. After study of the plans, these three plans though, I'm speaking for the environmental focus. We do think that Plan B strikes the best balance between the interests of shipping, property owners and the ecology -- we think that Plan B strikes the best balance between interests of shipping, property owners and the ecology of the lake. The coordination with other environmental groups, with which we have been working, found that Plan B, for example, does the least harm to plants, marsh birds and animals. You have to consider more than just the economic interests of property owners of shipping and the economic interests of people. We have to consider the earth, which is where we draw our ultimate economic interest from.

For example, study -- for example, studies on the reproductive success of the Virginia rail bird are a good indicator of the effect of rapidly changing lake levels. This bird does better under natural conditions when nature, not humankind, controls the water levels. Nature provides smoother and less sudden transitions of water level than artificial control by the Messina Dam. Further, more natural water levels and transitions help cattails and muskrats do better. Plan B also provides the best overall balanced economic benefits. Plan B uses the closest pre-project water levels as a starting point, but it does hang the highs and lows. This is a big step forward. It makes sense because the best models, that great teacher, Mother Nature, for the future of the ecology, the ecological health of Lake Ontario, we need to return as close as possible to the natural lake cycles, and we feel that Plan B appears to do this best. Thank you.

(Applause.)

MR. BARLETTA: Before we go on, let's just take a little compromise here. Let's -- everybody's input is important here so let's try to -- if somebody gets up and says something we don't like, let's try to be adults. Doug.

MR. DOBSON: Good evening. Thank you. My name's Doug Dobson. I'm the Monroe County Legislature that represents all of the shoreline through the Town of Greece, and also represents the area in Charlotte on the west side of the river. I live at 1630nbsp;Edgemere Drive on Lake Ontario. I also have property that borders Buck Pond.

I'm not going to repeat any of the facts that Mr. Garland has presented tonight from the County on behalf of County Executive Maggie Brooks, or the fact that Councilman Jim Smith has presented. Those are all the facts and they're right there for the record and for everyone to hear. What I am here to say is that I am going to work closely with Supervisor Auburger and Monroe County Executive Maggie Brooks, and I've already drafted and prepared a resolution for the Monroe County Legislators to sign and submit to the IJC, that opposes all of the plans that are presented here tonight and I'm going to request the Study Board to go back and take another look at Plan 1958-DD or something of that effect. And I'm going to be calling upon my colleague on the legislature, Mr. Dave Malta from Webster, and my colleague from Parma, Mr. Peter McCann, to support me in the legislator with President Wayne Zyra in putting together this resolution and having it signed by the majority of the County legislators, if not all 29 of us, will be signing that.

And I also am a voting member of a group called the County South Shore Collaborative, and I'm going to be submitting this resolution to that body, and also requesting that body to uniformly sign and submit resolutions within their counties, opposing all of these plans. Thank you.

(Applause.)

MR. BARLETTA: Go back over to the --

MR. ZELMAN: Hi. My name's Christopher Zelman. I'm here representing Congresswoman Louise Slaughter who couldn't be here tonight since Congress is in session in Washington. But I wanted to thank the Public Interest Advisory Group for their years of advocacy and time and work on this project. Despite what the alternatives are, your talents that you share with us have been much appreciated.

My question is just more about process at this point. Will we be able to see online through your website or some other way, the consensus of the other public meetings that you've had throughout the summer?

MR. BARLETTA: I think I can answer that one. I believe within the next few weeks we plan to have a transcript of all the meetings. Can you hear me? Within the next few weeks, on our website, AlouetteL.org will be the transcripts of all the meetings held around the river and the lake. In fact, there's a meeting going on tonight up in the Montreal area.

MR. SHERMER: Good evening. I'm Jim Shermer. I live on the south shore of Lake Ontario and Edgemere Drive. I'm also a member of the Board of Directors of the Grandview Beach Association which is a homeowners association consisting of about 250nbsp;homeowners.

I do not feel that the plans presented here tonight will do any good, and I support the comments by Mr. Smith, Dobson, that the plans as presented may need a bit of refining and a lot of work to be done. But the point I want to make to the study group is the fact that you need to avoid a mistake that many agencies make. And by falling into a trap of making change for the sake of making change. I think the current regulations have done us well over the years. There have been a few spikes and we need to do some refinements on those. But just to make change for the sake of making change, I think could be a disaster. So my recommendation to the Board, don't fall into that trap. Maybe it needs a little tweaking, but don't make the change. Thank you.

(Applause.)

MR. BARLETTA: Before we go to the next speaker, I just wanted to make a note, it wasn't in the presentation tonight but in prior years one of the comments that us at the PIAG and the Study Board presented was, if the plans that are developed and sent out to the IJC are not acceptable to the public, our default plan is going to be 58-DD. We will go back to that. I just wanted to make, bring that up, because it wasn't in the presentation tonight. It had been in prior years. So we're going to -- mind if I take Burley.

MS. GOODWIN: I'm Burley Goodwin and I live at 2680nbsp;Edgemere Drive. The plans that we heard here tonight are not acceptable. I cannot see that raising the flooding, that we'll be flooded out again. We lost so much when we were on the lake, then and now, we can't afford any more damage. It has cost us thousands and thousands and more thousands of dollars in cracked walls, flooding of the basement, it was a swimming pool. We don't need that anymore. Vern and I lost 10nbsp;years of our lives when we had the floods. No, we don't need any more flooding and the IGA and the Board, I hope you're listening.

(Applause.)

MR. BARLETTA: Thank you.

MS. RUBIN: Good evening. My name is Sarah Rubin and I live in Brighton, New York. I'm active in several conservation groups, committees. I'm on the Brighton Conservation Board, though I'm not representing them at all officially -- or not representing them at all. I believe that all the plans need more work, but I think that Plan B really has the best potential for the environment, you know, and if they can work out a few of those kinks, I think it is most beneficial to the environment.

I just want to tell you something. This past April I went to a spring symposium in New York City sponsored by the American Museum of Natural History and the World Wildlife Fund called New Currents in Conserving Fresh Water Systems. About 50nbsp;scientists and public policy makers from around the world gave reports on their efforts at conserving fresh water biodiversity. It's very interesting that one principle often cited was the necessity of retaining the flood pulse action in natural bodies of water, which is akin to what Plan B allows as the highs and lows, though it's not extreme highs and lows. It's like the lake inhaling and exhaling over a period of years on a cycle.

A great benefit of Plan B or of Plan B revised is that during the occasional periods of low water levels when water supplies from the upper lakes are low, that's when the lake exhales. There is opportunity for a whole range of wetland plants to grow and populate in areas that otherwise would be dominated just by monoculture cattails. Biodiversity of plants

leads to biodiversity of animals and to increase dynamism, rejuvenation and health of the whole ecosystem.

Then there's one other thing. It has also been suggested that periods of low water expose more beach and allow the winds to drive the sands further inland, thus rebuilding the beach for when water levels rise again. This actually does happen on barrier beaches, I'm told, so I'm asking, is it possible that shorelines could be rebuilt in many places on Lake Ontario during the low water periods of Plan B, thereby lessening the impact of higher water that may follow?

I really hope that whatever plan is adopted that it does the very best for the environment. I mean, I think that like all these worrisome things are happening, rising temperatures, the melting of glaciers, the projected extinction of half of the world's plant and animal species before the end of the century. All these are overwhelming problems that seem beyond control.

Here in the Lake Ontario water levels study, we do have a bit of control. We can implement a plan that will restore the ecosystem to health and will benefit the entire region, even I think the whole country in ways that we probably don't even recognize yet.

Finally, I hope that in several years representatives from the IJC will be attending world symposiums and reporting how the best plan for the environment was put into action and how perhaps a revised Plan B has been recognized as a prime example to the world of freshwater biodiversity conservation and of responsible stewardship of a world class freshwater resource. Thank you.

(Applause.)

MS. McKRERY: My name is Jean McKrery. I speak as a member of the board and on behalf of the board of directors of the Genesee Land Trust. The Genesee Land Trust owns and manages over 690nbsp;acres of land for preservation purposes, has been granted conservation easements to permanently protect another 390nbsp;acres of land, and in partnership with local municipalities, has established over 800nbsp;acres of protected parks and farms. Many of these lands involve critical bird, fish and wildlife habitat areas within the Lake Ontario watershed, or along the lake itself. The Genesee Land Trust is thus an important stakeholder in this process, both as a landowner and as a protector of the environment. I won't repeat many of the remarks that have already been made, but the Genesee Land Trust today speaks in support of Plan B. Plan B strikes a balance between economic and environmental interests. It tames the extreme highs and lows of Ontario Lake that cause the greatest economic harm while working with the lake's natural ecosystem to restore the ebbs and flows that are reflective of the natural cycles, ones which include wetter periods of higher water supply and drier periods of low water supply.

The Land Trust believes that of all the candidate plans, Plan B provides the greatest benefit. However, we acknowledge that Plan B does have some adverse impacts and we encourage the Commission to take a look at mitigating the specific impacts that are caused and looking for ways to address local issues such as permitting expedited permitting for dredging in marina areas and other, exploring other ways of addressing the potential for flooding in the Montreal area rather than rejecting Plan B as a whole. In all of that, whatever plan is selected, it is essential that the environmental impacts of the plan be closely monitored on a regular basis after the plan is implemented, going forward. Thank you.

(Applause.)

MR. CHERONE: My name is Dominic Cherone. I am region 2nbsp;co-coordinator of the New York State breeding bird atlas program, a DEC program. In 2000 the New York State DEC undertook a statewide breeding bird atlas program which was completed in this region this past year. The results of this program can be compared with those of a statewide program conducted in, between 1980 and 1985. Comparison of the results of the two atlas databases can be made for blocks along the lakeshore where the lakeshore marshes are. These comparisons show that black tern, highbill greed, American bittern and blue winged teal have all decreased significantly since 1980-85. Also there are indications that marsh wren and common warhen are also decreasing in these marshes.

Although we do not know all the causes for these decreases in common breeding marshland birds, we believe that the annual high water levels of Lake Ontario have contributed to the problem by eliminating or severely restricting breeding sites for these species. The natural cycling of the lake level creates opening in the marsh, important for highbill greeds and common morehen. This cycling allows for grassy buffer regions to the marsh, important for blue winged teal. And finally, the cycling allows the marsh to drain in the fall, thus eliminating the tendency to fill in.

A second point I would like to make that is prior to 1960 there was a relatively large fluctuation in Lake Ontario levels in the fall and winter, fluctuations that are higher than what we see today. In fall these fluctuations created mud flats in the bays and marshes along the shoreline. Lake Ontario is a node point in the eastern migratory flyway. Shore birds use this corridor and would normally feed on the exposed Lake Ontario shoreline in the fall. This is especially important for immature shore birds. This habitat has been totally eliminated by the current lake level. Records from the '50's indicate that high numbers of shore birds are no longer seen in fall due to the lack of suitable feeding and stopover habitat. My own, my own experience confirms that shore birds are rare along the south shore. Unless we have exceptionally low water levels in fall, in order to enable shore bird migration the Lake Ontario water levels need to begin falling in July since this is the beginning of shore bird migration.

So the two points I'm making is that we are now seeing decrease in marshland birds. We have data to support that. We have already seen significant decrease in shore birds using the Lake Ontario shoreline as a feeding station. I realize that Plan B is one that the environmentalists would prefer. However, I seriously question your predictions because when I see your results for Plan B, I see higher lake levels in general and I suspect that's where your shoreline erosion is coming from. I think we need a plan that reduces the Lake Ontario level lower than what we see currently. That's my opinion and I think you should take note of the fact that the current practices are deteriorating the habitat for breeding birds. Thank you very much.

MR. BARLETTA: Thank you.

(Applause.)

MR. McEWEN: Good evening. My name is Ed McEwen and I'm representing Senator Joseph Roback at this meeting. It seems like the flooding -- all the plans increase the potential for flooding and I think the board needs to restudy the criteria it used during this study. I really thank the board for the work they've done. It's a tremendous amount of statistical data that can be used I'm sure to build models in the future.

However, I am concerned with residents losing their shorelines and the things that flooding can do to this area. And Joe -- I can assure you that Joe is going to get together with the staff of Maggie Brooks, John Auburger of the Town of Greece, and make sure that whatever plan you install is going to be acceptable to the residents of Greece. Thank you.

(Applause.)

MR. GREENBURG: My name is Jay Greenburg. I've been doing marsh bird monitoring along the Lake Ontario shore since 1995 as a volunteer for the marsh monitoring program of Bird Studies Canada. One of my locations has been Round Pond right here in Greece. The other has been Irondequoit Creek in Penfield. During my 11nbsp;years of marsh bird monitoring, I've noticed this deep and dramatic decline in some of the marsh bird species. The first ones to disappear were black tern. This is a New York State endangered species. In 1995 the Braddock Bay area was a stronghold for nesting black terns with about 30nbsp;pair or 10% of the state population. However, the numbers have been dwindling and now they are completely gone from Braddock Bay.

A species which once bred abundantly Round Pond is the common warhen which is a species of special concern. It used to be that I could play a warhen call and get a response from two or three birds at each of my two monitoring stations. Sometimes I saw family groups consisting of adults and young. However, in 2004 for the first time I saw and heard no common warhen's at Round Pond. And this dismal result was obtained again in 2005. It used to be that both Virginia, Florida rails (sic) were fairly common at both Round Pond and Irondequoit Creek, but I have found none in the past two or three years. It would be inappropriate to generalize from my own limited observations but these very frightening and dismal trends are supported by data collected by hundreds of observers over the entire Great Lakes basin.

Statistical analysis of the data by Bird Studies Canada has shown that there are very significant downward trends for numerous species. In addition to black tern, common warhen, Virginia and Florida rails, (sic) they include piebilled Greens, American coops blue winged teals, tree swallows and red winged black birds. In the Lake Ontario basin alone there have been statistically significant decreases in black terns and pie billed Greebs. On the other hand, there have been significant increases in mallards and common yellow throats across the Great Lakes. I haven't seen any data on mute swans for the entire Great Lakes basin or for Lake Ontario alone, but many visitors to the Lake Ontario shore and the Rochester region have commented on the explosive increase in the mute swan population. This is a non-native and non-migratory invasive species.

Clearly the marsh bird habitat has changed in some ways that makes it unattractive to many species. One thing I've noticed at the stations I survey, is that there's less open waters than before and more cattails. In fact, emerging vegetation consists almost entirely of cattails.

I've been led to believe that this overgrowth of cattails is due to actual fluctuation in the water level due to current regulatory practices.

Allowing more extensive fluctuations should increase the wet meadow area with a higher diversity of plant species, increase the reproductive indices for marsh birds and the death of the muskrat houses, in particular allowing the lake level to swell more than it does now would result in a decrease in cattails. Your Plan B is the one which most closely mimics the

natural fluctuations in the lake level. It seems like the last and best hope for restoring marsh bird populations and the one which has the greatest ecological benefit.

MR. BARLETTA: Thank you.

(Applause.)

MR. PETERS: Good evening. My name is John Peters. I own a place on Shore Acres in Town of Hamlin, New York here. I'm 47nbsp;years old. When I was a young kid I used to remember going to Durand Eastman beach and there were hundreds, hundreds of feet of beach at Durand at that point in time. As I got older and I could afford it, I bought a small very modest cottage on Lake Ontario at Shore Acres. When I bought that in 1991 I had approximately 75nbsp;feet of beach. Today on average I have 35nbsp;feet of beach.

In 1997 when you did DD, I use D for the word destruction, and you ran your little experiment in spring, decided to run the water level a little high -- of course, we had a little bit of Mother Nature problem as well -- I had a negative 10nbsp;feet of beach. It approximately was two feet from my cottage.

So I go from a kid who's seen hundreds of feet of beach to an adult who bought a cottage with 75nbsp;feet of beach, to a person in 1997 had negative three or four feet of beach. Okay. It just does not -- I'm an engineer. Frank, I know you're an engineer. I'm a computer engineer. Don't believe everything that a computer tells you. All right. Common sense should prevail.

It does not make sense to run the water higher in spring. There are too many risks involved. In 1997 we saw those risks did not pan out. All right. And I think by looking at your graph, kind of hard to tell, but you're basically proposing to run about a foot higher in some of these plans. All right. We are introducing too many risks to the shore owners.

Now, I have a question so I'm making a lot of statements here, and I'm going to leave you with a copy of what my property looked like. I have a surveyor who did this in 1991 so you'll see a survey as to where the beach was in 1991. You see pictures of that same beach that I took. And then you'll see where the beach was back in 1997. You'll see pictures what happened with the erosion.

One of the questions I have when you look at the economic impact is, what is the loss of value that the property owners have experienced over all these years because basically in 14nbsp;years of owning this piece of property the net increase in value of my property has been basically zero. Zero.

Now, since 1997 the United States -- this was in USA Today, today, all right, the average increase in valuation of property across the United States is 79%. You have to ask yourself a question, why has valuable lakefront property not increased in value on Lake Ontario and where has that money gone?

My last statement before I ask him the question is, just recently the United States Supreme Court ruled on condemning property for you know, basically not only public but private interests and economic value to private parties. My statement is, basically if hydro and shipping want to buy my property, fine, give me the benefit of purchasing it for a fair price, and you can then raise the lake level to allow for that extra capacity in spring to deal with

the problems that they may have later on. I'm all for selling it, but give me a fair price for it. That's my statement and I don't think that's really in your economic studies. That really, I've seen no increase in value. How about Canandaigua Lake? How many hundreds of percent has the value of property increased in Canandaigua as compared to the shoreline of Rochester?

You know, there's an old saying in real estate, location, location, location. Doesn't it stand to reason that we have a shoreline here in Monroe County that's as close to the City of Rochester as one can get for lakefront property but it hasn't increased in value? Why is that? It hasn't increased in value because of the decisions that you've made and because people perceive the risk associated with owning that property as being very, very high.

So my question is, does your economic impacts take into account the loss of value on this property over the last 10 or 15nbsp;years?

MR. SCIREMAMMANO: No. Simple answer. We've discussed it at length and right now the economic analysis does not include loss of property values.

MR. GREENBURG: Okay. Well, that's been my contribution, this economically, and along with the fact that I put 75,000 -- 75nbsp;tons, I'm sorry, 75nbsp;tons of rock Gabian (sic) into into my property to try to protect it. So I will leave. I will close right now. I'm going to walk up and give you a copy basically of some data that I have showing you before and afters, and I thank you very much for your attention.

(Applause.)

MR. BARLETTA: Ma'am.

MS. JEAN SUMMERS: (Not on any microphone.) I'm Jean Summers. Basically I'd like to say we find plan most agreeable because it's limited. (Inaudible). What are they? The overall economic benefits are best in Plan B, not only for bird problems, but for people as well.(Inaudible.) -- protective increase in biodiversity -- (Inaudible). Thank you.

(Applause.)

MR. SCIREMAMMANO: I can answer that also. No, none of the environmental effects were included in the economic analysis. We did them in parallel, we did not combine the two. Does that make sense? So the environmental benefits were considered separately from the economic impacts, and we did not make an attempt, after much discussion, to try and quantify in dollar terms, the environmental benefits.

MR. BARLETTA: What about the other question about the economics?

(Discussion among the participants)

MR. BARLETTA: We're going to go back over to the other side, there. Sir?

MR. MOREY: My name is Walter Morey. I run Morey Equipment Company, a marine contractor, for over 50nbsp;years. I've been president of Western New York Marine Contractors Association for 25. I've worked from Lighthouse Christian Camp, Association Lighthouse Park to Port Ontario, which is 14nbsp;miles east of Oswego. I also have done,

sorted all the rock and material for Irondequoit Bay, which was 195,000nbsp;ton, and I done Port Ontario was 145,000nbsp;ton. Done it here in Penfield, hauled it by six quarries to Oswego, dumped it on a dock, put it on a barge, put it up there. That was done by marine -- they were done by marine divers to replace the rock. I suggest that in my experience working in quite a lot of areas along the lakeshore, and saw people suffering from erosion. Yes, I took care of it for them but if you raise it any higher, we built things, docks, we built breakwalls to go for your highest point, and if you raise it, it's going to be a problem. I also bought a Northwest shovel from, used, from the St. Lawrence Seaway when they dug that out; my suggestion is, go back and dig it out deeper, 10nbsp;feet, 15, 25, figure out what kind of ships you want in a hundred years. Deepen it. I know the ice problem that you have down there. The water can now run way down underneath there without busting the ice. So that's my suggestion. Lower the lake after you get that all done and satisfy everybody here.

MR. BARLETTA: Thank you.

(Applause.)

MR. SULLIVAN: My name is Rick Sullivan. I live along the lake. My family has since probably the early 1900's. And I had a couple questions. One was a comment that the water was 248.3 in 1983, is that correct?

MR. BARLETTA: It was 248-1/2.

MR. SULLIVAN: 248-1/2.

MR. BARLETTA: 248.49, I believe.

MR. SULLIVAN: Okay. In reviewing the records from 1860 to present, it seems as though there's only been three times that the water has been over 248, 248.3 in 1952. I believe when the flooding took place in 1973 which caused, ballpark, 10nbsp;million dollars damage, I'm thinking. The water level was 247.47, is that right?

MR. SCIREMAMMANO: It may have been on a monthly average basis. We're working with quarter month data.

MR. SULLIVAN: Okay. I'm talking about when all the damage was done.

MR. SCIREMAMMANO: I thought '73 was 248-1/2.

MR. SULLIVAN: Well, that was the end of May, beginning of June, when all the damage took place. It was about a foot lower and --

MR. SCIREMAMMANO: Earlier in March.

MR. SULLIVAN: Earlier and lower. And I notice that one of your plans had 248.3 was one of the high levels, so you know, it's only been four times since 1860. It would be nice if it wasn't five times.

And the other thing is, everybody's talking about how high the water is, okay, and there's a lot of problems with boating, boating interests, you know, and I can appreciate that, being a

boater myself. There's two things to take into effect, the depth of the water. One is the height of the water and one is where the bottom is. I think if you -- what's your observation about how the water has filled in with silting, over the years. Has there been any dredging done in these marinas, has there been any dredging done in the ponds. The cattails that are overgrowing, probably enough people would remember when they were burned down on a regular basis, either one way or another. But you know, so there were some natural things that occurred that knocked down the cattails and you know, maybe increased things for birding. Is there any thought of dredging areas so that boats can get in? Thirty years ago boats could get in and out of Braddocks Bay, not because the water was higher but the bottom was lower.

(Applause.)

MR. WERICK: Thanks. My name is Bill Werick. I'm head of the U.S. planning team. And the IJC can't control dredging. That's not part of their legal authority. But we recognize that there's a potential for alleviating the effects on boaters by dredging, and let me say a couple of things that may not have been clear.

We're working, we continue to work on all these plans so as we listen to what people say in different public meetings, we continue to improve these plans and even tonight these plans are a little bit better than what you've seen, and we keep working on them.

We're thinking about now and trying to analyze exactly how many slips and which parts of the lake are affected by low water and whether or not dredging could be a solution. I don't have an answer for you yet but we're thinking about it.

MR. SULLIVAN: And what about the marshland? You know, there's been a ton of building in Greece, trees have come down, you know, the catchment area for that has been the pond, you know, along the lake, which is filled in and silted. And I think that's probably also had a negative impact. Could anybody comment on that?

MR. WILCOX: I'm Doug Wilcox. I work for the U.S. Geological Survey and did the wetland research as part of this study, the wetland research on the lake. The regulation of the lake under Plan 58-D with deviation is the cause of the cattail invasion on every wetland in all of the lake. The major reason that happened is because under 58-D there is a range that water levels are kept within. There's a high. The highs in all these plans are basically the same. There's no difference between, no difference between plans and what the highest lake levels are the things that people are complaining about.

Plan B that is being discussed as the more natural one, during periods of low lake -- low supplies to the lake it's the only plan that allows the lake level to go low. The reason the cattails invaded is because water levels have never gone low since the mid 1960's under the current regulation plan. Even when water levels, water supplies were very low in the upper lakes and starting in 1999 and those lake levels dropped significantly, and beaches appeared, 100, 150nbsp;foot beaches appeared in places that had water levels flatten up against revetments. That did not happen in Lake Ontario because the current regulation plan does not allow lake levels to occur. Plan B is the only one that allows lake levels to go low during the low supply periods.

In the low lake level period, the cattails which are a big fleshy wetland plant with a dominating canopy, invade. They can -- during high lake level periods they can move up slow and have taken over much of the upper ends of the wetlands. We need to have low

lake levels to make it drop to drive the cattails to grow there. What Plan B needs to do is create low lake levels often enough to keep the cattail invasion down. It's the only plan that strives for doing that. Those low lake levels are also the thing that allow the sand being transported around the lake and now sitting offshore to be exposed and let winds drive it back up on the shore, rebuild beaches and rebuild dunes and rebuild barrier beaches. The interests of the wetlands and the interests of the riparian land owners are one and the same. You need occasional low lake levels.

(Applause.)

MR. SCIREMAMMANO: I have I have to respond to that. Doug, nobody here is complaining tonight that I've heard yet about low lake levels. The fact is that Plan B as well as the others also increases the frequency of the higher levels.

MR. WILCOX: My point was that --

MR. WERICK: And I think that's what we're hearing about.

MR. WILCOX: -- I'm not complaining about cattails.

MS. CAMPAIGN: My name is Marjorie Campaign and I'm from Rochester and I want to thank everybody for their input so far. It's made me think about a few extra things.

I'm here tonight to support what I would hope is a greatly improved Plan B. Of all the plans it does seem the most balanced and affords the most broad range of benefits to commercial interests, boaters, wildlife, wetlands and so on. I lived by Lake Ontario all my life, growing up in Niagara Falls and now residing in Rochester. I've enjoyed many aspects of living by this grand body of water, from swimming to sailing, birding and riding the fast ferry. I want to continue to enjoy Lake Ontario and I also want it to be possible for future generations of not only humans but fish and fowl and wetland plants, et cetera.

I believe that any plan that does not allow for more natural cycles of the lake level is like wanting to live in Camelot where, quote, the rain may never fall until after sundown. Well, just think, then no one would have ever seen a rainbow. We don't really want Camelot. We want a plan that follows yet mitigates nature's rhythms. And remember that it's believed that the cyclical low water levels will build up the shoreline again. Few of us were adults before 1958 when plan DD was begun and therefore we cannot personally remember the shore effects before then.

Plan B is still a work in progress in some areas and those areas are being addressed. I urge the commissioners to ensure that any plan put into place be reviewed at regular intervals to track the progress of how that plan is serving all interests. Thank you.

(Applause.)

MS. CANIA: (SIC) My name is Nora Cania, (sic) I represent Congressman Jim Walsh and I would say he has a pretty good stake in Lake Ontario southern shore because his territory covers Irondequoit Bay all the way over to Fairhaven. I can say that I work with a lot of these people all the time. I probably go to more water meetings and my boss says also that probably any other question, my boss is very concerned about lake levels. I know dredging was brought up. One of the problems I can say with dredging that we just did out in Sodus

Bay this past summer is that the Army Corps of Engineers is usually employed to do that. They're very stretched and unless your municipality on a bay can come with the funding for dredging a bay, then it requires federal funding, and to that you'd need to talk to respective representative, be it Congressman Slaughter or Congressman Reynolds. If you're in our district, which is eastern Monroe and all of Wayne County, Onondaga, and northern Cayuga, talk to representatives if dredging is a problem, see if they can help your municipality out. But I can say in our office that we are very concerned with all aspects of the water, not just marshes, not just levels but the whole environment, and I can say that the Congressman will listen to any concerns within people in his district on all levels of concern. But I just want to say that our office is here also, and maybe shed a little light on the dredging problem. Thanks.

(Applause.)

MR. KLINE: My name is David Kline and I've been a member of the environment technical working group of this study for several years now. But I'm here tonight speaking in my capacity as a staff member of the Nature Conservancy. And I -- a lot of what I said, of what I was planning to say, has already been said by other people.

But I want to begin by congratulating the study for what I think is the excellent result of coming up with an alternative that is as balanced as Plan B. Yes, it certainly, certainly has issues that need to be addressed and they are being addressed as we speak. But I want to emphasize that, points that have already been made. Plan B is not about high water. It's about low water. It's about letting the lake go low when it naturally would, when water supplies are low.

None of the plans as has been pointed out really make the lake go any higher than 58-DD. But only D works with the lake's natural rhythms while taming the extremes, and of course that's very important. B does a really good job of taming those extremes. There are a number of facts that we didn't have time to go into in the presentation tonight but if you look at the decade of the 1970's when lake, when so much of the damages, serious damages, and no one's trying to soft pedal those, serious damages occurred. In fact, during the decade of the 70s plan D would have had lower maximum levels than even 58-DD for several of the years.

Also, take a look at your sheet that are in your packet. Interesting line, Lake Ontario flooding. Look at that line specifically. Plan B actually of the three, of the three candidate plans, has the lowest damages. And that's a very serious issue. I'm certainly not trying to suggest it isn't. Nobody on the study wants to create a plan that increases the possibility of flooding or shoreline damage. But again, Plan B is about letting the lake go low when it naturally would.

A lot in this study depends I think on your perspective, your vantage point when you're comparing plans, and we've been using 58-DD as that perspective, as that vantage point, that comparison point. But if you take a look from the perspective of Plan E, the plan that most closely imitates what would have happened under natural conditions, or even Plan 58-D which is the underlying plan, if you take that perspective, then I think you'll see how much regulation has actually done already for shoreline property. It's a difference in terms of just looking at flooding potential, it's a difference of 18, 17.8nbsp;million dollars a year which would have happened under unregulated conditions versus zero under 58-DD which is the comparison plan.

So I think your vantage point has a lot to do in the way you interpret these plans and when you adopt the perspective I'm suggesting, Plan B makes -- you'll see I think that Plan B makes important steps toward restoring a healthy lake while seeking, and it isn't fully successful and more work needs to be done, but it does seek to really minimize the impacts on other interests. So I really hope that Plan B, the Study Board will allow Plan B to go forward as one of the candidates to the commissioners. I agree more work needs to be done and I don't mean to suggest that the possibility, the possibility of rare flooding in Montreal is acceptable. That needs to be worked on, and it is, and progress is being made. But I really think that the environmental benefits of Plan B are so clear that it really deserves to be one of the plans that goes forward for commissioner's consideration. Thanks.

(Applause.)

MS. GOULSBY: Hello, my name is Jean Goulsby, and I first moved to Edgemere Drive in 1955 when I was pretty young, and I live at 2338nbsp;Edgemere, right down the street from where I grew up, and I've heard a lot of talk about flooding and there's one point that I haven't heard made regarding flooding and that's the danger that it poses to the residents. During 1972 and 1973 my mother, my father and I did an awful lot of volunteer work helping people along the shoreline.

We spent hours and hours helping people. We helped remove people from their houses when it wasn't a safe environment and for two years I recall going to get the school bus in the spring and having to wear waders because old Edgemere was flooded, and having to walk up to new Edgemere because the school bus couldn't go down old Edgemere because of the risk of losing its brakes. I remember driving down Edgemere when my mother was trying to take me somewhere and her losing her brakes and me learning to drive and learning that when the street is flooded you drive with two wheels on the sidewalk and ride the brakes to keep them dried out.

The point that I'm trying to make is, that as we talk about the environmental considerations we need to talk about the considerations to the people and the hazards that are posed to the residents along the lakeshore when we do have flooding. So I'd just like to share a little different perspective to those who think about flooding solely in terms of economic loss. There are other issues here to consider. Thank you.

(Applause.)

MR. BABCOCK: My name is Tom Babcock. My family has owned shoreline property in the Town of Parma for about 80nbsp;years. So you can probably guess I'm not going to be happy with any plan that increases the level of the lake. However, I really have tried to maintain an open mind because I think you've done a lot of good work, I think you've collected a lot of good data. You've tried to set out good guidelines and visions but I'd like to make some comments that I hope you'll take as constructive. Regulation of the lake according to Plan 58-DD reduced the lake level variability but the mean was regulated to be higher than the long term average. Furthermore, during the peak erosion and flooding periods from April through August, actual water levels were controlled to be higher than aim much more frequently than below aim.

From 1987 to 2003 the water level was below average three times. It was near average twice, and it was above average 10nbsp;times. The existing flow regulation and criteria put the south shore property owners at increased risk of erosion and flooding. Not only is the mean increased during peak flooding periods for all of the plans being considered, but also

there is no assurance that any of the plans will have improved control. This is unacceptable when the goal of this effort is to provide net economic benefits for all stakeholders. No one should be expected to take an economic loss.

My understanding is there's new forecasting technology that has been developed for the plans now being considered. It seems to me it would be prudent to demonstrate that better control can be achieved using these new forecasting technologies before a plan is recommended to regulate to higher lake levels. Improved control would provide economic benefit for all interests even without changing current aims. Mathematical modeling to determine robustness of the new plans is insufficient. Actual field data should be used to verify new forecasting technology before putting shoreline interests at additional risk. We have already endured significant negative economic impacts, and we really ask that you not add to that burden. Thank you.

(Applause.)

MS. WRIGHT: Hi. My name is Gina Wright. I live at 1670 Edgemere Drive and I've lived there summer and permanently since 1941 and I just want to say, it's my understanding that the sea level that my house is built on is 252nbsp;feet. That's always been my understanding. If I'm incorrect, I don't think I am. And I think that says it all. When they start talking 248, 249, and you get a storm and you've got five and six foot waves, that puts me under.

MR. BARLETTA: Thank you.

MR. KESSEL: Good evening. I'm Greg Kessel. I live on Long Pond, right down here at the end of Long Pond Road. I have a question actually -- let me put it this way. I'm intrigued by something that I've seen here tonight. The science, the data in what I think was an excellent Power Point presentation would in and of itself; I would think make all of us look at Plan D as the best of the three alternatives. Why isn't there support for it?

Well, I'm going to offer perhaps a couple of reasons. Principally I think it's faith in government. Now, I don't want Doug Dobson to whack me in the back of the head here. But let me put it this way. We're all talking about deviations. We've seen a 50% ratio of deviations in 58-DD. That's really saying that the plan couldn't do the job and human intervention has stepped in. I think there is a lot of underlying let's say lack of faith in any organization's ability to control any of these plans and that to me is one reason there might be a lot of dissension here tonight in all the plans.

Now, I'd like to ask a question. If we turn this around and address that issue, it seems to me there are a couple of questions -- two things that really I have not heard discussed either in this meeting or the previous one here I attended. And that is, what kind of additional improvement in input planning to the system water levels is being done. We've taken a huge look at what we can let out. What kind of studies are being done, if any, to help us better manage the estimate of what's coming in in the next quarter, two quarters, full year. Wouldn't that help us to plan what to do at the outflow end and thereby give us a lot tighter control over these ranges that we're all struggling to accept. And secondly, I haven't heard any discussion about what kind of deviation would be allowed, in other words, immediate input on a weekly basis as is occurring now, I believe, in any of these other plans.

In fact, this gentleman in his presentation stated that they were actually going to get away from the IJC's ability to make short term inputs to change the process. So I'd like to know if we're looking at the other end of this and if in fact that would help us grow the faith, if you will, so that we can start to feel more comfortable with some of these other plans. And after you answer that, I just had another statement.

MR. CUTHBERT: Let me take a crack at that one. First, the question of forecasting or looking at the input to the system. Roughly 85% of the water supply to Lake Ontario comes from the Niagara River and the upper Great Lakes, and that's not bad as far as forecasting. Given what the water levels are you can get a good handle on that. And that's already appropriated in the current regulation plan, 58-D. What isn't incorporated is a forecast of what the weather conditions provide locally, the rate that falls on the lake and on the tributaries that flow into Lake Ontario and the St. Lawrence River. The current plan has no forecasting capability in it.

The candidate plans that we're looking at all incorporate some forecasting. The challenge is that the forecasts are pretty good for the next five days, maybe even 10nbsp;days. But forecasts of two and three months in advance are still a pipe dream. If it was possible to get that type of forecast, which is what the type of water supplies to lakes really react to in the longer term, we've taken a look at long range to see if you had perfect forecasts how much could we improve the regulation and we were surprised that it wasn't as much as we had thought. The system is complex enough that with the long term trends and variation in water supplies, even that forecasting doesn't improve it a great deal.

But what we're trying to do certainly is, in any attempts is to keep the high water levels down. All the plans do that. Plan 58-D with deviation does that. The candidate plans actually have built into them features that model the deviation that's now used.

So we expect in the longer term there wouldn't be the need for as much deviation. But we as a board have that discussion on our table. We do feel, I think we haven't all come to consensus that there still needs to be some type of deviation incorporated in future plans but not nearly on the same frequency as has been in the past.

MR. KESSEL: Okay. So you will have the capability, you'll make adjustments if there is the threat of flooding for instance in any of the plans but can you make them as quickly, will you be able to react as quickly as you do now?

MR. CUTHBERT: With future plans there's no reason why not. The problem is, if you start deviating again, you change the plan. And you change the plan as a function of the ebb and flow of the different people on the board and the lobbies of that board. So if we were to, if we were to choose Plan B, for example, and the water levels both high and low were viewed as a bad situation for everybody and there was lobbying to change that for deviation, you change the plan, you change the flow benefits.

MR. KESSEL: So it's pretty inflexible, you're saying.

MR. CUTHBERT: That's right.

MR. KESSEL: Any plan.

MR. CUTHBERT: Yes.

MR. KESSEL: More inflexible than today's current 58-DD?

MR. CUTHBERT: It doesn't have to be because I think the candidate plans are a lot more robust. They deal with situations a lot better than 58-D and D with deviations but you're still boxed by the limits of the physical system. For example, all of the plans, candidate plans and 58-DD have roughly the same peak water levels. And that's because the limitations physically of the system. You can't get more water out when you really need to.

MR. KESSEL: Well, thank you. I'd like to make a comment. Actually two brief comments. First, the subject of dredging came up, and as a recreational boater we've been involved in this a couple of go-rounds.

I'd like to submit that one of the major impediments to successful dredging is the New York State DEC. We've had very little success with them, and I'd encourage the board or the study groups or someone to start engaging the DEC and perhaps on the other side of the lake appropriate agencies, and try to get them on board. They're very inflexible. They listen but it's very hard to get permits. I think anybody, any of us that have breakwalls, for instance, can attest to the rigamarole that we go through that's unnecessary but perhaps with this kind of pressure from an international body paralleling a revised plan, whatever it's going to be, we might see some relief from this agency that's really not that responsive. I'd like to leave you with that.

And secondly, I have a concern, even though I consider myself somewhat of an environmentalist and working on water quality issues, with Plan B because you're talking about not really being able to control the threat of flooding. Conversely also the low water issues, and I think that even with Plan B you're going to see swings far beyond what the graphs and charts show here, as you probably will with the other plans.

So I think you needed another voice on the environmental side, and that's a concern I have why I can't support Plan B. Also I think the environmental groups that have shown up tonight have some great, great considerations but I'm distressed that they haven't shown a balance and much consideration for the other groups that are represented. Thank you.

MR. CUTHBERT: Thank you, Greg.

(Applause.)

MR. BAUMAN: Yes, good evening. My name is Bob Bauman and I have property at 1574nbsp;Edgemere Drive, right on the lake. When you started out the meeting today I was very encouraged because you were trying to blend and you're trying to balance the riparian owners, the boaters, the environmentalist, the hydro and the shipping. Well, after reviewing your three plans, A, B and D, I think the riparians have got the raw deal because all three plans are calling for higher water.

And I'm very disappointed that this body would spend the time, and I think this is my fourth meeting over the course of the last two or three years, that you would spend the time and the effort and still not listen to the people that probably have the most input to this body as far as numbers, not necessarily influence. So I'm very disappointed that you came back with these three plans that affect every person here that lives on the lake, that feels the lake, feels the economic influence of the lake. When there's high water, you can't control hurricanes coming up here and blasting us as they did in '72. And I'm very disappointed.

As far as the environmentalist, I'm all for the environmentalist, but the blue winged teal I'm sure got more bad results from the environment pesticide spraying than they did from high water. And I'm also sure that the rail bird nest is important but it's not as important as my nest on Lake Ontario.

MR. CUTHBERT: Thank you.

(Applause.)

MR. CUTHBERT: Ma'am.

MS. ANDRO: Hi. My name is Connie Andro. I'm a Rochesterian. We do have 10nbsp;acres of lakefront property up in the Pulaski Sandy Creek area. I came here tonight because it was the closest meeting and I'm going to speak for preserving the dunes. We have 40nbsp;foot dunes up there. I am an environmentalist but there's something about watching those dunes since 1971 be depleted. We've lost at least 150nbsp;feet of sandy beach up in that area.

It's really sad to watch this peninsula basically dwindle down to nothing as the high water has taken all the sand from that area. We hear it's moved it out into the lake. I heard tonight that possible low water level fluctuations through the year would allow some of that to -- low water obviously allows the beach to grow and the sand to blow back up and to restore the dunes. So it seems, I was just really wondering if Plan B is the one that would allow any of that to happen over the long run.

Also I'd like to say that we've noticed -- I've been on the -- we've owned this property for 58nbsp;years so I've watched it fluctuate most all of my life. And we've noticed since 1971 when the flooding did take place that there is no time during the year when the water is low enough for any lakeshore restoration. The fall is high water, spring is high water, summer is high water.

And we've even noticed, there is a little bit of high water in the winter. So there's never any break from these waves pounding on these dunes and property owners, too, I would imagine.

So my question is, is it Plan B that would in fact allow some time during the year for the lake levels to be low enough that there could be some restoration taking place? Is that the best plan for that or -- and I'm going by what this gentleman spoke over here. Does that allow for the lowest lake level at some point?

MR. CUTHBERT: I have to look at the range. The lake levels I believe for B, the minimums are lower than the other plans but I'm not certain how often that occurs and for how long. I think the intent is that under Plan B there would be long periods of low water allowed.

MS. ANDRO: Meaning weeks, months?

MR. CUTHBERT: Years.

MS. ANDRO: Years.

MR. CUTHBERT: So that when there are low cycles there would be no intervention to keep the lake high.

MS. ANDRO: Okay. I didn't understand that.

MR. CUTHBERT: Okay. During the low cycles. And the converse is true during high cycles then, there would be no intervention to get it low. That's the idea behind B as opposed to the others, I believe.

MS. ANDRO: Okay. And do we know if we are entering a high water cycle naturally at all or do we know where we are in the natural cycle, if we're going to go there?

MR. CUTHBERT: We are actually in one of the low water cycles on the Great Lakes, lower.

MS. ANDRO: But not for us.

MR. CUTHBERT: It was basically high in the '70s, a little lower in the '80s, high in the '90's, and all the lakes are below average now, Michigan and Huron significantly. So it's hard to say when you're in the middle of a trend that you're in.

MS. ANDRO: Right.

MR. CUTHBERT: But we have been low and we're continuing to be relatively low. We haven't had the pressure on the high end since '97, '98.

MS. ANDRO: So that would mean that in fact even with it being in a low cycle and we have high water that regulation has kept that up?

MR. CUTHBERT: In effect, yes.

MS. ANDRO: Okay.

MR. CUTHBERT: And that's been the complaint, that the lows have not been allowed to happen under regulation.

MS. ANDRO: Okay. Then I vote for Plan B because that would allow that to happen.

MR. CUTHBERT: But the jury is still out whether that will do it also.

MS. ANDRO: Okay.

MR. CUTHBERT: But that's what we're looking at.

MS. ANDRO: All right. Well, thank you.

MS. HAYDEN: I just wanted to say that any plan should realize the value of lake property and the taxes that we pay. Monica Hayden and I live on Edgemere Drive. And I think that the land should continue to increase in value, not decrease because of all the problems that we're facing, because we're the ones that pay the taxes, not the birds and the bees that we're trying to protect. The people that live there are the ones that are paying the taxes

and our property valuation should be going up, not down, because of decisions that are made.

MR. CUTHBERT: Thank you. Go ahead.

MR. GUSTENSON: My name is Gary Gustenson. I live on Summerhaven Drive in the Town of Hamlin. I'm also treasurer of the Lake Ontario South Shore Council. As a riparian I want to make a point that we are not single issue people. We are boaters, we're naturalists and we like to drink clean water. The environmental issue that has not been addressed is the near shore pollution. And that probably contributes as much to the ecological problems as the lake level.

The second point is that the orders of approval specified a four foot range that we continue to control and a two foot range. If we control the four foot range that would certain assist a number of the issues that were brought up tonight under Plan 58-DD.

Also, I keep looking at this chart and Plan B has the narrowest fluctuation and I don't understand how Plan B achieves the benefits that the naturalists are saying it does, unless there are very large error bars on those curves that I don't happen to see on my paper here. That's all.

MR. CUTHBERT: Thank you. Henry.

MR. STEWART: Thank you. Good evening. My name is Henry Stewart. I am president of the Lake Ontario South Shore Council. I live in Greece, close to the lakeshore. I have a cottage in the Town of Huron at Wayne County right on the lakeshore. As I noted, it's a very precarious point on the lakeshore. It's called the Crescent Beach sandbar. It's not very far above the water levels generally when 1958-DD is in place. There's great concern with respect to any of these plans where the water levels might fall with respect to the cottage that I own, and so many other people who live out there, an area somewhat similar to Edgemere Drive but a bit more vulnerable than Edgemere Drive, if you can get an idea from that.

But as noted, I'm a member of the Public Interest Advisory Group and I'd just like to give a few comments from that perspective. This study, and you may all know that already, but this study is different from many of the other studies that were in place before because from the very beginning the intention was to involve the public, and that was to involve the public not just through these type of meetings but through the Public Interest Advisory Group which is 24nbsp;people to be from the two countries.

I'd like to commend some people tonight and that, those people I'd like to commend most particularly are all of you here in the audience who are still here. You're here after the television cameras have left, most of the journalists have left, most of the elected officials, political leaders, politicians have left. And I think you're here because you care very vitally about interests that affect you and affect other people, and hopefully you appreciate interests that affect other constituencies.

And one of the things we've worked really hard to do on the Public Interest Advisory Group is to build coalitions and understand the great dynamic here, and understand that the people who live on the St. Lawrence River need not be and should not be deemed to be at war with people along the south shore of Lake Ontario, that environmentalists concerned

about water fowl, air fowl, et cetera, need not be viewed at odds. We have worked really hard about that and we've really cared, and I think you folks must care, too, or you wouldn't still be here.

I just would like to say that from the Public Interest Advisory Group standpoint, we've stood in there for the last five years trying to see that the study team would come up with a plan that would better all of the interests of all of these divergent groups. And I can tell you that from the perspective of some of the Public Interest Advisory Group members, there are members who are deeply concerned that these plans as proposed now do not fit the bill, do not make betterment, bring betterment for the constituencies and the interests there. And we're hanging in there trying to see that in the end that will happen.

I'd just like to say in our role as Public Interest Advisory Group members, one of the aspects is to bring forth information to the public, and that's what these meetings are intended to do. But I'd just like to emphasize that those who care about this hang in there to make sure that this end result does not do a disservice to the interests that you're concerned about, and if you feel that your commentary has been put forth tonight, great. If you want to write comments, make sure that you follow through and tell everybody that you know to do the same.

And I want to say from the standpoint of the Public Interest Advisory Group membership who is concerned, we are supposed to bring forth information from the public. I just want to vitally say, as somebody who has been at the meetings throughout and has become concerned over time, at times wanting to keep faith that this result will ring true, that those of us who are on that study team as Public Interest Advisory Group members don't want to end up being disappointed that we hung in there in a process that was intended to be very vital and to put forward betterment, and that in the end did not.

So I hope very much that the public is being heard here and I want to suggest to the public that you are being heard here, that the intention of this study is to hear you, and I hope you believe that, but I hope that I can believe at the end of it all that my efforts as a Public Interest Advisory Group member were well-served on behalf of the public and for this study that it rang true and it helped bring something through that helped us all instead of leaving us behind in a worse condition than we've been in to date. And I just thank you for that opportunity.

MR. CUTHBERT: Thank you, Henry.

(Applause.)

MR. ROGERSON: Hi. My name is Scott Rogerson. I live up on the shoreline in the Town of Greece, and I really just have a couple of questions. A couple of earlier speakers made the claim that Plan B would tame the high water events. And while I know from your slides that the range between the plans does not really change. I'm wondering if you have any information as to the frequency of the high water events we would experience, particularly those that approach criteria H or exceed it.

MR. CUTHBERT: Bill.

MR. WERICK: Yes. You notice, as you said, the maximums are pretty much the same for all the plans and that's because if you go much higher you immediately cause a lot of heavy

flooding damage. But Plans A and B in particular are in the medium high range a little more often than 58-D with deviations. That's where they get a lot of their benefits and that's where you have that slightly greater erosion.

MR. ROGERSON: Could you quantify the medium to high range in terms that -- relate it to criterion H, and are you bound by these criterion any longer?

MR. WERICK: I would say that we are but the heavy supply of water that we've gotten since the dam was built has made it impossible for any plan to meet them. I mean, you saw the criteria range in every plan you saw on the board, including the ones we designed to suppress the levels violates those levels. And we do have graphs that show the probability of different levels and we could put them up on the board for you.

Our experience has been, people have a hard time understanding them, but we can do that if you like.

MR. SCIREMAMMANO: Well, we could do that in private but --

MR. WERICK: Okay.

MR. SCIREMAMMANO: We do have those numbers and the frequency is increased for the levels up in the high end of the range for most of the plans.

MR. WERICK: It is. It's a subtle shift. If you'll -- let me just give you like ballpark numbers, and these are in your handouts. If you look at what would happen to the lake without regulation which is Plan E, or if you look at what would happen to the lake with the written regulation plan which was 58-D, you'll see erosion damages or coastal damages that are like 20, 30, 40nbsp;million dollars a year more than they are now. Look at the plans that we're proposing.

The worst of them for shore protection is Plan B, and that's about $660,000. That's about $150 a year per shore protection structure. Those are fairly subtle differences compared to what would have happened with the written plan or without regulation and they come from a fairly subtle shift into that high medium range of the lake. It's in there just a little bit more frequently.

As David Kline has pointed out, the most significant difference with Plan B is that during long droughts the lake would definitely be lower for longer periods of time.

MR. ROGERSON: Okay. And just, can you define high medium? Give me a number? What's that mean?

MR. WERICK: Let me throw my computer on the screen if we can and I'll show you the graph. And then maybe take another question while I'm doing it.

MR. ROGERSON: The other question I have is, a previous speaker also commented on the effect that these high water years have had on property value, and he asked the question as to whether those property values were taken into consideration. The answer was no. And I'm curious as to why.

MR. WERICK: Yeah. Let me give you a more detailed answer on that. There's many different ways to value the loss that is brought on by flooding and we discussed these at the beginning of the study. We brought in economic experts to make sure we were doing it the right way. Because we haven't used the market value changes in housing and as an indicator of the flooding damages doesn't mean that we haven't actually capitalized that value in a different way.

I worked for the Corps of Engineers for 35nbsp;years and used to do a lot of flood control studies. One of the things that was known was that a house that was susceptible to a lot of flooding damage had its market value lowered to reflect those damages. The more that the flooding damage was known, the more the market prices would go down. So one way to measure that would be to measure the reduction in market value. But it's a hard thing to track down, especially because it depends on the perception of flooding potential.

So the speaker who talked about how housing prices on Edgemere Drive haven't gone up, that may be a reflection of the, how well known the flooding potential is. On a river bank you may not see it. We use the actual damages that would occur so we have a sophisticated program that measures not just the effect of lake levels but also of wave damage. And then it measures where the water would hit on the house and how much damage would occur to the house if that water level were to occur.

MR. SCIREMAMMANO: Let me just point out. You said, are you no longer bound by the existing criteria. That's what this study is about and there needs to be a decision made. The criteria that were established were part of the negotiations and the commitments made by the governments in the '50s and what's being asked of the IJC, is there information, is there sufficient information and sufficient cause to void those agreements and start fresh and do something different. And that's what the recommendation is going to be about.

MR. ROGERSON: Okay. So at stake is not just this plan, it's the actual orders of approval.

MR. SCIREMAMMANO: Oh, yes. This is a review of the orders of approval. The criteria or actually the plan is somewhat secondary. It's the way you implement whatever you've decided regarding the criteria in the order.

MR. ROGERSON: Right. And I don't see in here anything that tells me what those new orders of approval would be. I only see a plan that attempts to implement something that's not defined.

MR. SCIREMAMMANO: Right. And we are still discussing that on the Study Board and that's on our agenda to settle before, to make our recommendation.

MR. ROGERSON: Thank you.

MR. WERICK: So here is the graph that I talked about. You can pick any two plans and compare them. So I've picked for the blue plan is 1958-D with deviation and the red plan is Plan B. And you can see that the maximum levels are about the same but the levels in this medium high range, Plan B definitely stays a little bit higher than 58-D with deviations. They start to merge down in the lower levels and then even though Plan B, which is the red, tends to stay low during long droughts, it doesn't have the absolute minimum lows that Plan 58-D does. So this is where you pick up the erosion damage and the hydropower and commercial navigation benefits and some of the variability. This is where you pick up the

environmental benefits with the primary amount of them down here. But this is what hurts recreational boaters. Some of this higher levels comes because Plan B is definitely higher in the fall so that probably one out of two or two out of three years the typical boater will like Plan B, but during long droughts the boaters who are coming in and out of bays with entrances that tend to silt in, or in marinas that are in marginal areas, won't like Plan B.

THE FLOOR: And I think it's important to point out that people aren't familiar with the metrics.

MR. ROGERSON: Okay. Thank you. The last comment I would make is that it seems to me to be almost unconscionable to be at a stage where you're recommending something and asking for public input without telling us what the orders of approval will be, and I have in mind, for example, criterion K and other criterion that provide explicit protections for riparians. You're not telling us anything as to whether those or similar things will be in place.

MR. WERICK: Well, I mean, this is a serious discussion that we have to have. There's really two parts to it. Criterion K is in effect now and you can see that 58-D with deviations produces levels that are remarkably like any of the plans we've selected. I've just picked out the Ontario Riparian 3 Plan which is a plan we designed purposely to try to keep the lake levels as low as we could without violating physical constraints downstream. It's not good for some other interests. But you can see now, in this case Ontario Riparian 3 are the red squares, and 58-DD is still the blue. You can see, we can bring the lake levels down. We still go above 7537 and this is just a consequence of the very wet supplies that we've seen since the dam was built. And when we look in the future at the supplies that could occur, these numbers would go even higher.

So there's a limited amount that you can regulate with the dam no matter what we do.

MR. ROGERSON: Thank you.

MR. FINK: Hello. My name is Al Fink and my wife and I live in Irondequoit but we have a property up in Pillar Point, which is Sacketts Harbor area. I understand the high waters and low water issues. I have to talk more personally. We live where there's a lot of rock, rock shelves. I don't -- you must be aware of some of that. And our problem is that when the water goes down too low there's no dredging, it's solid rock. And my issue would be, I'd like to see the lake more stable in July and August because by September my boat won't float anymore. It's just too shallow with the hoist and everything.

So I'm not against the high waters or the low waters. I'd just like to see it more stable in the boating season. That would be my -- and most of the people I know that live up there are pretty much faced with the same issues. When the lake level goes down to a certain point, you can't get your boat in or out. You're kind of landlocked and you know, you're talking about property values. Those are also issues that value the properties. And there's a lot of Rochesterians that are all through that area and I'd like to see that issue addressed. I don't know which plan is the best. It's just, I notice by September 1st the lake is way too low at that point for boating without hitting those shoals up there. Thank you.

MR. WERICK: Yeah. I just am going to bring up a typical -- I'm looking now at a one year graph, the top sets of lines are the maximum, the middle are the averages and the bottom lines are the minimums. The only difference between the graph on the left and the right is the left is in meters and the right is in feet, and I'm looking at two plans, 58-DD in blue,

which is the plan we've got now, and Plan B in red. And you can see -- who's got that pointer. Frank is pointing out exactly what you asked about.

And this is the strength and the weakness of B. Strength is that it doesn't draw the lake down as much. And the weakness which we're fighting with that David Kline mentioned before, is because it doesn't bring the lake down as much over the winter, it increases the risk of flooding in Montreal next year. The good news is that the woman who's working on that plan I think has it licked with better forecasting.

MR. PETERS: Again this is John Peters. I had asked a question earlier. I have a place in Hamlin here on the lake. The question I have for you is that if we're going to run higher lake levels in spring and we're going to perhaps subject riparians to more risk, have you really considered what, like at least in the United States, the national flood insurance program, in terms of what coverage riparians may have due to those increased risks? It's my understanding that the national flood insurance program really doesn't cover most damage that may occur due to shoreline erosion. In the case that I had in 1997 does not cover loss of property, fences, decks, things like that. But more importantly, most of the damage that's occurred isn't because the lake is higher than perhaps the foundation of my property.

It's because of wind driving waves into my property. And it's my understanding in reading -- I've canceled my policy. It's my understanding that basically I'm not covered. I think there's a false sense of security here that by subjecting riparians to a higher degree of risk that, you know, if they do have a problem that basically as long as they carry flood insurance they're going to be okay, it's not my understanding that that's going to be the case, unless a very large percentage of the homeowners experience severe property damage. I just want you to take that into consideration. Thank you.

MR. SCIREMAMMANO: Let me assure you that we have not factored that in. We have not assumed that people would be covered. The costs are the costs that we've calculated. Any insurance coverage that people might have, we have not taken advantage of, in terms of the economics.

MR. PETERS: Okay. But my argument is, there may be no coverage, even for people who believe they're paying flood insurance.

MR. BARLETTA: Yeah, and I agree, and that's why we didn't include it. I have also asked the study to look at, if the levels are increased, what will that effect be on the risk as far as the premiums, whether that's going to raise the premiums also.

MR. PETERS: Yeah. That's a very good point. Thank you.

MR. BAUMER: Yes. I'm Dick Baumer and we have a cottage out on Bald Eagle Drive in Kendall. And one thing I've noticed over the years, we have a rock -- we put the big boulders in in the early '70s and we've got a rocky beach, and with the water staying up, and I monitor this newspaper article in the Greece Post every week where the water levels are. I've noticed with the water levels stable, the water -- there's no beach at all. We haven't had beach in, I don't know, three, four years. And it seems like when the lake level went down before it would wash the fine stones and build like a barrier along the shoreline and give us some protection for the rest of the year. And with the lake levels staying at the same basic level all the time with no beach, we don't get that protection anymore. The large stones stay at the bottom and the actual waves undermine the large boulders and force them to wash down in the water even further. So it seems like by maintaining the same

level in the lake or maintaining the steady level we're not getting the benefit of lowering the lake level during certain times of the year and being able to build, if you will, a barrier along the lakeshore for erosion protection.

MR. WERICK: Thank you for the firsthand account as to the way the systems work. I do a lot of work in the upper lakes and during low lake level periods people's shoreline protection have been hammered by waves in 1986 high which never occurred on Lake Ontario. Those areas are all covered, all their revetments and shoreline protection structures are all covered in sand this deep now. During low levels starting in 1999 which the current regulation plan did not allow to happen on Lake Ontario, their lake levels went way, way down and it rebuilt. Beaches rebuilt, sand dunes, that the lady earlier was talking about. Your description is what happens. So you observed it correctly.

MR. ZUZEK: I'm just going to add a bit to Doug. I haven't had a chance to say anything yet. My name is Pete Zuzek. I'm involved in the coastal part of this study. I'm hearing a lot about high lake levels and higher levels in these plans. I want to add just a little bit to what Doug said with respect to your question about your property and the shoreline and the rock. There is an evil feedback here between arming your shoreline and the loss of beaches. And that needs to be put on the table so that we can fully understand why we don't have beaches anymore.

When you armor your shoreline, if you're lucky, for some period of time the erosion stops and you don't lose any more land. And if you're a riparian owner that's your objective and that's a great thing. But it's that erosion of your land and the neighbor's land and the county over and the county beyond that that provides the new sand and gravel for beaches. So when we armor the shoreline because it has a value as a riparian property, we cut off the supply of new sand and gravel to the beaches on the south shore. So the number one reason there is no longer beaches on the south shore, that they were plentiful in the past, many decades in the past, as they were building walls along the shoreline to protect the property, it's the erosion process, the natural erosion process that put the sand there in the first place. We stopped erosion now and shorelines don't erode, we don't have any more sand and gravel.

The south shore, the databases tell us that over half of the south shore of Lake Ontario is completely armored with rocks, seawalls and revetments. And that is one of the number one reasons why we don't have beaches on the south shore.

Now, Doug's mentioning the fact that low levels will help move sand back up onto the beaches. That is true to a point, but we have to keep in mind, there is not a lot of sand along the south shore. So if we have extended periods of low lake levels, we're not going to all of a sudden have dunes in front of our seawalls. That's not going to happen on the south shore of Lake Ontario. More of those would help. They would certainly help in the more natural areas and the bare beach complexes. And there was a comment earlier about eastern Lake Ontario. More lows would definitely help with beaches on Lake Ontario.

MR. BABCOCK: Tom Babcock again. I don't mean to be a repeat. I think everyone is pretty well worn out. I'm a kind of anal person and I intend that to mean analytical, not what you might think. And I try to understand these charts that you've provided and maybe this one being up here is going to be helpful to me. I feel really uncomfortable when I see three plans with three lines on what's going to happen through the year, knowing that there is significant error around each one of those points. And I could feel some comfort if it could be put in a way that's easy enough for me to understand and others to understand the

significance between these plans and the amount of variability around those plans. Do some of them have significantly less variability? And maybe you've already said that. If I look at this, is this some kind of an error bar. Is this telling me that some of those plans are going to drift higher at some times, lower at others? Give me a 90% confidence limit around some of these plans and I could feel a lot more comfortable. I don't want to see the lake level higher, but if I saw a plan that I thought could control better so that those highs don't get really high; then I could probably accept at certain times of the year the level of the lake being higher. And clearly, with the experience that we've had over 80nbsp;years, I don't want to see it higher, but it's been those years where it deviated significantly from the aim, that have really been the problem. It's not the plan, it's the deviation. I know you're going to blame a lot of that on the weather. I wish we could have two year plan for the weather. I have a feeling that we could probably do a better job having some idea of at least how much water is coming in from the upper lakes. I got to believe that we might even have some idea, we can predict hurricanes pretty much a year in advance because of changes in the climactic conditions. I've got to believe in the last 50 to 100nbsp;years that we can do a better job on what impacts this lake. I would love to see some effort really focusing on reducing the variability around some of these points. And then I could feel a lot more comfortable about the plan changing. And that's what I was maybe trying to say earlier. Maybe it's here. I don't know.

MR. WERICK: I'm Bill Werick. I'm going to try to answer your question. This graph we showed before and these numbers are based on using simulations over 101nbsp;years of record which are -- it's pretty much like rerunning the 20th century again. And we have a pretty rigorous process that we go through to make sure that our models are correct. They're fairly easy to understand but a lot of people criticize them and have access to them to make sure that the mathematics is done correctly. But the thing that you don't see, because we ask the same questions that you do; imagine now those guys back in the late '50s and early '60s who had to do this with slide rules and who had just the data from 1860 to 1954. They knew that they weren't taking into account all the things that could go wrong. What they didn't know was that almost as soon as they put the place into place, those things would happen.

We have the benefit of one of the best what they call stochastic hydrology studies that's ever been done. So we have, in addition to the hundred years of historic records, we have 50,000nbsp;years of statistically developed records, and we found that plans that looked pretty good with the historic record sometimes blow apart when you look at incredibly wet centuries or very dry centuries. And so you don't see it up here but in our back rooms, we're testing these against extreme conditions that you've never seen before, we've never seen before, but we think are very rare, but possible scenarios for this area.

MR. BABCOCK: Let me just clarify what I think you said. So if I looked at those three plans and you put error bars around those lines over the months, would some have less -- with 90% probability, would some of them have less variability than others, and if so, which ones?

MR. WERICK: I wouldn't call them error bars. I would call them -- but they are variability. That given different weather conditions that are possible that we're not testing for here, the levels are going to be different. And in the plans A, B and D that are presented here tonight B is by far the worst. During very wet conditions it had a terrible tendency to flood. Now, as I say, we've been working on that and we have that under control now, but we definitely were testing for that. 58-DD is not as robust as Plan A, for the most part. D is pretty solid. So -- and we're not done yet.

When the IJC make a recommendation, it won't be based on what was done 50nbsp;years ago, that this is a good plan because we've tested it with 90nbsp;years of data. That affirmation will be based on 50,000nbsp;years of testing.

MR. BABCOCK: I guess the point is, if in fact you could assure those of us who own property on the lake that it's going to be truly no worse than what we've dealt with in the last 50nbsp;years, because you can reduce the variability, it makes it more palatable.

MR. WERICK: Okay. Under those wet scenarios it gets worse than anything you've seen in the last 50nbsp;years. It's going to be a foot to a foot and a half higher than the levels you've seen. It's very rare but it's a possibility. What we're trying to do with these plans is to make sure that none of the plans that look good with the 20th century hydrology, get worse with other scenarios. So we're looking at the comparative levels of performance in the plan. But there are wet centuries out there and it could be this one coming up or it could be 5,000nbsp;years from now, that would be much wetter than what we have now. And this is without climate change. This is just normal climate variability.

Let me just talk a second about the climate variability and to help answer your question earlier, what can we expect in the future. I've done a climate change study in Lake Michigan, Huron and also on Lake Superior, and have about a 4,700nbsp;year level of lake level history based on seven ecology studies. And what it demonstrates is that there are several cycles of lake level changes that are climate driven. Things in the Atlantic Ocean and Pacific Ocean that drive the climate cycles. And roughly every 160nbsp;years there's a high period and then a low period, 160nbsp;years later there's a high period. Riding on top of that curve, about every 30 to 33nbsp;years there is a high cycle and a low cycle. The lows in the 1930s, the lows in the 1960s, the lows in the 1990s are part of that cycle, the 30nbsp;year cycle that rides on top of the big one.

You cannot predict what's going to happen in the future based on what has happened in the past because making a gambling analogy, if you've got on red and lose a hundred times, and you bet on red the next time, your chances are still 50-50. But if you look at the record, you would assume that the highs in the 1980s, the 1986 high in the upper lakes was one of the 30nbsp;year highs near one of the peaks of one of the larger cycles. And we went down into a low. The next high should be, next 30nbsp;year high should be at a lower elevation than the 1986 high, and we may be headed into a long term low supply period, climatologically across the whole Great Lakes. I don't -- I will not guarantee that it's going to happen. But in partial answer to some of the questions that's what we might look forward to.

MR. HAND: My name is David Hand. I live in northwest Parma right next to the Hamlin town line and a short walk from the beach. I just a question really about the analysis and the projections. I hear a lot about supply and outflow and climate, but what about the changing conditions of the lake itself, and the lake bottom and the vegetation on the bottom. There have been some changes recently. The zebra mussels. Is anything like that taken into account in the analysis of the behavior of the lake levels?

MR. CUTHBERT: I can answer. I'll get away from that microphone. We looked at, we looked at the impact of basically fluctuating levels and water quality. With the depth of the lakes there's a water quality concern only along the shoreline where you have low conditions. The amount of variation we're talking about we found was insignificant relative to water quality, and it was insignificant relative to changes in the bottom of the lake. So the bottom line is,

we considered those things and found that it really wasn't a factor in the study we're looking at.

MR. CLARK: Good evening. My name is Tom Clark. I live on Newco Drive in Hamlin and for the last 30nbsp;years or so I've thrown a lot of sandbags down there. And I'm really a much better listener than a speaker but when I just heard this one gentleman say that during a wet year we're looking at lake levels a foot to a foot and a half higher than what we're seeing at the worst cases right now, I got -- even now, this year with lake levels that have been fairly stable for the past few years, we haven't had any serious flooding but there have been times, Newco Drive is only I think about a 249 land level and you know, it doesn't take much of a wind to put a wave over the top of the walls, doesn't take much force, especially out of northeast, to move rock around, and I've spent a couple times a fair amount of money putting in new stone to protect what I've had there for 30nbsp;years. Some of the gabion's are tipping over and we've put some large rocks in front of those to shore them back up and hold them. And waves have a tendency to get underneath things. You're talking here in one of your plans, or maybe all of your plans, I don't know, that you're going to increase the levels in the wintertime. And any wave action that you get in the wintertime puts ice on top of these rocks because like you said, there is no sand out here anymore. I would love to have sand out there. I'd like to take my wall down and say, okay, I want some sand and I want some beach. That isn't going to happen.

Under your plans, I'm not going to be able to take my wall down. Hell, I'm going to have to rebuild it again. I'm going to have to make it higher. My house was built in 1926 without the benefit of any steel, without the benefit of any rock, but it did have a hundred foot of beach out in front of it, which I'm sure is there someplace, but it's all wet right now. And I just don't believe in any of your programs that you've got here.

I've worked with enough computers to know that even though your numbers look good and even though you can make your numbers come out and say anything you want them to say, nothing is absolute. I can't tell any one of you gentlemen what I'm going to do tomorrow or next Thursday or what you're going to do tomorrow, next Thursday or next month.

But I can tell you that if I was on your board or had anything to say about anybody on your board and you were saying that anything we do here is going to be without deviation, it's wrong. If you've got a problem, if you can see, if you can predict that something is going to go haywire and you sit there and say, oh, we can't do anything because we've got this plan in order, if you can see lake levels are coming up and you don't pull a plug on it, you're doing a disservice to anybody that lives along the lake.

You're doing a disservice to the environment, to the people, to the taxpayers, to the towns, to your government. And I wouldn't want to try to sleep at night.

(Applause.)

MR. CUTHBERT: Is there anyone else that would like to comment this evening? Yes, sir.

MR. QUICK: James and Arlene Quick, 8900nbsp;Holland Road, Wolcott, New York. I travel about 50nbsp;miles east from the Irondequoit Bay bridge on 104. I've gone to many of these meetings from Greece, New York east to Ogdensburg. Everybody has different needs, different desires. Most of the time I've stayed calm within myself. Every now and then I get

a little excited. I want to ask the muskrat people and the bird watchers, how much larger do they want Lake Ontario to be?

I have a lot of 130nbsp;feet wide by 140nbsp;feet deep in Lake Ontario. I've owned the property since 1957. I've lost most of this property in the last few years. You folks in this area have been mostly concerned about 1972 and 1990. I was hit hardest in 2001 and 2002.

My cottage when I bought in 1957 was 150nbsp;feet from shore. It's down to nine feet and has to be moved. It has to be moved completely from the lot. It's a bit -- the lot that it's on is no longer going to be large enough for septic and a well. I went to Oswego last week. There's a man up there that has lost a seawall that he put in five years ago, $90,000. The DEC tells you what you can't do but they don't guarantee it's going to work after they do put it in.

Last night I was at Huron. I heard a fisherman neighbor who wants to take his boat out fishing in November. I freeze my bottom in November without going out in the lake.

I want you to encourage you to write your concerns to the IJC study group. I've been writing and writing and writing. They know me very well and they appear to be reading what I send to them and listening and commenting. Thank everybody for coming tonight. One thing that wasn't brought up tonight that I've had heartburn with is, one of our biggest problems is the Ottawa River up in Canada. It's not an IJC problem. It's a internal Canada problem. It flows from way up in northern Canada down through, by Ottawa and empties into the St. Lawrence River at Montreal. Lake Ontario has to be lowered in the fall so that in the spring they can hold it back so that Montreal does not get flooded, so that shipping can go up the river and go to the port.

When I was in Ogdensburg three years ago the people were pleading, it was October, people were pleading, there was no water in their channel. They could stand there and watch it rise and fall from hour to hour. It was because in the fall they were dumping water so that a ship could come into the harbor at Montreal or could get back out.

We're using Lake Ontario as a dam. Thanks for coming.

MR. SCIREMAMMANO: Thank you, Jim. Is there anyone else who would like to speak this evening? If not, I think based on the discussions this evening, the give and take, the questions, the comments, which you heard, you can see the difficulty that the IJC is going to have deciding on a plan, if they can decide on a plan at all. It's a very complex system as has been indicated throughout the discussion, as you've seen in the presentation. There are varied interests all along the system. This type of meeting has taken place now in a number of locations and there's still several to go. I know a week from tonight we'll be at Olcott, New York. I would imagine we're going to hear many of the same things we heard tonight.

The Study Board and the IJC, even though we've got this recorded, if you think of some things that you'd like to add, please, please, you know, provide that information to the Study Board and the IJC. We'd appreciate you, as Dan indicated earlier, turning in the survey cards from your packets before you leave. If you can't do that, you know, please mail them in. Any additional information that you have to offer, please contact our contact person, and that again is in your packets.

And finally, I'd like to just say that, you know, you've been a most attentive audience tonight. It's been a very civil meeting and I'm certain the Study Board, those people here have captured the various facts and feelings that you've conveyed relative to the three plans offered. Thank you very much for your attendance and good evening.

(Meeting concluded)

CERTIFICATE

I, RHETT BAKER, certify that the foregoing transcript of proceedings in the USACE-PIAG, Public Meetings, was recorded utilizing a Sony BM-264, and transcribed from a Sony BM-246 transcribing and recording machine, and is a true and accurate record of the proceedings.

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