

# Notes from the Joint Lake Superior Task Team (9<sup>th</sup>) & Study Board (15<sup>th</sup>) Meeting

Holiday Inn Burlington Hotel & Conference Centre

22-24 June 2010

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## Day 1 -

### 1. Welcome/Attendance:

#### Board Members:

John Boland, Jim Bredin, Jim Bruce, Jonathan Bulkley, Don Burn, Allan Chow, Jon Gee, David Powers, Gene Stakhiv, Ted Yuzyk

#### Managers:

Tony Eberhardt, Syed Moin

#### Communications Advisor:

John Nevin

#### TWG & TT Leads:

David Fay, Wendy Leger, Jen Read, Bill Werick, Rebecca Astolfo, Paul King-Fisher, Steve Rose, David Wright, Ralph Moulton, Glenn Warren, Bill Boik, Mike Shantz, Sandie George, Kim Walz, Scudder Mackay, Pat Inch, Carol Salisbury, Dick Bartz, Al Pietroniro

#### Others:

Travis Dahl, Bryan Tolson, Casey Brown, Mark Lorie, Jacob Bruxer, Daniel Ferreira

Agenda is Attachment 1.

Action Items are displayed as **bold** and summarized in Attachment 2.

### 2. Study Updates:

- a. **Need to provide funding spreadsheets to TWGs (Tony & Syed)**
- b. Web Pages: info provided by John Nevin
  - i. SharePoint updates not yet complete.
- c. Peer review (also discussed in Item 19):
  - i. TWGs need to identify which products should be reviewed.
    1. Was the product generated using the methodology already reviewed by IPR Group – the Economic and Ecological Methodological Report?
    2. Did it produce the PI identified in those documents?
    3. Were the techniques consistent with those identified?
  - ii. Suggest reviewers – consider/ add to names already provided.

### 3. Report on Information Management/ GIS (Rebecca Astolfo – acting for Canadian Co-Lead, Paul Paciorek):

- a. The Canadian and US Co-Leads are Paul Paciorek and Joel Schlagel, respectively.
- b. Data architecture: need to identify data specifications, meta-data (a critical requirement), PI fact sheets.
- c. Data governance: business data stewards, IM& IT specialists.
- d. **Need to provide a framework showing how data will be structured for next meeting (Joel Schlagel & Paul Paciorek).** Examples could come from LOSL. Need a structure specifically for raw data.
- e. **Terms of Reference for the new group is being developed (Study Team).**

#### 4. Updates from PI TWGs:

- a. Coastal (Mike Shantz):
  - i. Contextual Narrative – slowly modifying the document developed by Chris Stewart. It's not yet ready to share with the Board, but a draft will be available late in the summer 2010.
  - ii. In addition to work on flooding, erosion, low water and shore protection, new work is focusing on coping zone development and AM monitoring needs.
  - iii. A draft planning objectives document was provided (Attachment 3) related to low water, flooding, shore protection and erosion.
  - iv. Contracts:
    1. Low water – CDM proposed focus groups with real estate agents, but has had limited success. Modelling of a test site will be pursued.
    2. Flooding – draft report complete by Baird. 100-year return for each lake determined showing monthly differences in plans compared to Plan 1977-A very small (e.g., maybe 5 cm difference on Lake St. Clair).
    3. Shore Protection – Coldwater Consulting, Ltd. Is looking at a combination of deterministic and probabilistic techniques for overtopping and downcutting.
    4. Erosion – Geomorphic Solutions is conducting analyses. Preliminary results have been provided.
  - v. Peer review of flooding could take place now; erosion is not yet ready.
  - vi. Additional funding for next phases could be deferred to handle adaptive management components. For example, investigations could include studying the integrity of the control structures for higher and lower coping zone B and C levels. **TWG should submit a proposal for additionally funded actions since they will differ from the items and costs previously approved by the Board (Mike Shantz and Scott Thieme).**
- b. Recreational Boating (Glenn Warren & Bill Boik):
  - i. Contextual Narrative – Dr. Dan McCole of MSU is writing draft report which will be available in August 2010.
  - ii. Data collection of all US slips is complete and being compiled. Coping zones for all seventeen US/Canadian sites is being defined.
  - iii. Economic impact of recreational boating and cruise ships are being considered separately.
  - iv. Responses have been collected from marina businesses in terms of damages, slip losses and adaptability.
  - v. Tourism study is underway with final report expected by September 2010.
  - vi. No additional funding is requested at this time, but small amounts may be required (~\$5K) for report writing.
- c. Hydropower (Paul King-Fisher & Steve Rose):
  - i. Contextual Narrative – completed a year ago. Some shifting from off-peak to on-peak may result in savings which could favor one plan alternative over another.
  - ii. Performance indicators defined – maximum power production, maximum value of power production, flow stability and ice cover formation.

- iii. Funding requests for FY10 - \$10K US/ & 60K Cdn. Canadian funds are requested for hydropower price forecasts. US funds are for hydropower, com. navigation and ecosystems interactions.
- iv. Peer Review – The peaking and ponding report for product review will be completed by Mark Lorie.
- d. Commercial Navigation (David Wright & Ralph Moulton):
  - i. Contextual Narrative – Frank Millard completed the draft report and updates are being incorporated. Water levels as a factor affecting barge traffic in the Chicago Slip Canal are also being considered in the TWG contextual narrative. **Response to suggestions made by Mark Dunning will be made by Syed and Tony (which is the case with all TWG contextual narratives).**
  - ii. Transportation Cost Model documentation was completed on June 17<sup>th</sup> and has gone to IWR (Mark Lisney) for peer review, and as such, it is suggested that it be eliminated from the list of product reviews.
  - iii. St. Marys River Studies – Mark Lorie’s work which is covered under a different agenda item.
  - iv. No additional funds requested for FY10.
  - v. **Need a list of all TWG members.**
- e. M&I (Dick Bartz):
  - i. Contextual Narrative – complete but may be refined. TWG responded to Mark Dunning’s comments but have heard nothing further.
  - ii. Phase II underway for a detailed inventory. 95 intakes are being queried, but response has been poor. A meeting with the contractor, ECT, is scheduled for July 14<sup>th</sup> at its office in Ann Arbor, Michigan.
  - iii. First draft of planning objectives was proposed to TWG members with further input required.
  - iv. Additional funds for Phase III (contextual narrative, integration) may be required.
- f. Ecosystems (Scudder Mackay):
  - i. Contextual Narrative – being revised from an earlier version and it will be completed by September 2010.
  - ii. Field work and development of PI will be complete by the end of July 2010.
  - iii. IERM2 will be complete by the end of September 2010 and will be incorporated into the SVM.
  - iv. PI fact sheets will be complete by the end of September 2010.
  - v. USEPA GLRI proposals – GLFC Sea Lamprey Study (Goddard/ Mackay) was approved, but St. Marys River proposal (Bain) was not approved.

## **5. Superior Regulation Plan Formulation (David Fay):**

- a. Practice Decision Workshop was held in December 2009
- b. The schedule is for Study Board draft plan selection by spring 2011, with public review in summer 2011, and Study Board final plan selection and PFEg report in fall 2011.
- c. PFEg will select a component of their work, e.g., the SVM that will be subject to peer review along with possible reviewers.

## **6. Planning objectives and decision criteria development (Gene Stakhiv):**

- a. The Board will define objectives to aid in the decision process

- b. TWG will define PI and coping zones that achieve objectives
- c. Transparency of all decisions must be maintained.
- d. Principles & guidelines developed during ILOSLR could be used as a starting point for further discussion.
- e. Goals, Objectives and Criteria (for adaptive management) include sustainable development and reduced vulnerability.
- f. Unique aspects of IUGLS plan formulation and evaluation that the Board must address:
  - i. Development of principles and guidelines which Board will do over the next few months.
  - ii. Examination of differences between planning objectives and decision criteria for tiers 1, 2 and 3
  - iii. Non-regulation measures for adaptive management
  - iv. How to deal with climate uncertainty?
  - v. What are likely core decisions/ trade-offs?

#### **7. Report from Hydroclimate Group (Al Pietroniro):**

- a. Components: Basic data for model development, field measurements and estimation, and hydrologic and climate modelling
- b. Comparative analysis – NBS, Overlake Precipitation, Lake Evaporation, Basin Runoff
  - i. New evaporation data through eddy co-variance is reducing the differences between the residual and component NBS, but based on only two years of data. Recent dramatic differences in ice cover observed on Lake Superior (2009 – 5<sup>th</sup> most,  $\Sigma E=604$  mm; 2010 – 6<sup>th</sup> least,  $\Sigma E=510$  mm) have provided ideal cases for comparison.
- c. Additional statistical analysis is required.
  - i. Traditional stochastic approach will be undertaken similar to ILOSLR: 50,000 years of monthly NBS by Laura Fagherazzi
  - ii. Simulation of long-term stochastic NBS component characteristics will be done based on the 1948-2006 period of record data by Taha Ouarda
- d. Climate Change scenarios are being developed utilizing the entire data set (565 model runs from 23 global climate models) building on work by Angel and Kunkel
- e. Forecasting (15-day, 1- and 6-month) & Paleo work (literature review) is proceeding.

#### **8. Overview of the decisions the Board has to make (Bill Werick):**

- a. Selection of a tier 1 plan to replace 1977-A
- b. How to make the transition from a tier 1 to a tier 2 plan:
  - i. Decisions on how to balance levels on Lake Superior and Lake Michigan-Huron
  - ii. How this translates to floodplain managers.
- c. How to address the issue of Lake Superior regulation not being enough; tier 3 plans.

#### **9. PIs used in Tier 1 decisions (Bill Werick):**

- a. With the exception of hydropower and navigation, where some improvement can be observed, all other interests would only receive a trace of improvement. For ecosystems, there may be a noticeable improvement in the extremes.
- b. Suggestion that coastal research concentrate on adaptive management rather than tier 1 plan development.

- c. PI for ecosystem should focus on tier 3 plans.
- d. PI for recreational boating and M&I are providing adequate results for decision making.
- e. Depending on forecasted hydrology, there may be trade-offs between hydropower and navigation. (Need to verify the power generation values at Niagara Falls).
- f. Need to test synergies between peaking and ponding and monthly Lake Superior operations; work being performed by Mark Lorie.
- g. Need to refine navigation PI related to SVM incorporation.

**10. Contextual Narrative shortcomings (Bill Werick):**

- a. The comments received from Mark Dunning are good, but may result in unnecessary refinements.
- b. Contextual narratives will identify trends, but not address adaptive management measures to deal with them. These will be addressed in the institutional analysis.
- c. **All contextual narratives will be provided to the Board prior to the September Board meeting for review and discussion at that meeting (Mark Dunning & Study Managers).**
- d. **Need to rationalize the population figures and other values (e.g., water demand) which Mark Dunning is using (Mark Dunning & Tony Eberhardt).**

**11. SVM update (Bill Werick):**

- a. Use multiple NBS traces including some fabrication to test alternatives.
- b. Model will facilitate the Board's decision process for moving from tier 1 to tier 2 alternatives and when tier 3 alternatives will be considered.

**12. Peaking & Ponding Rules (Mark Lorie):**

- a. Peaking and ponding does have an impact on water levels in the vicinity of US Slip and Little Rapids, but not so much farther downstream.
- b. Hydropower would like continued flexibility in peaking and ponding operations.
- c. There will be new monthly regulation rules that will likely incorporate peaking and ponding operations. Current rules and guidelines could be tweaked to improve hydropower and/or navigation benefits or build monthly releases using peaking and ponding releases.
- d. **Additional scoping on the peaking and ponding project will be requested (Mark Lorie to contact Tony Eberhardt to discuss).**

**13. Risk matrix and decision trees – use of climate info in all three Tiers (Casey Brown):**

- a. Tiers: 1 - Variable Superior rules, 2 - new Superior plans, 3 - beyond Superior regulation.
- b. Use of hydroclimatic information:
  - i. Scenario generation,
  - ii. Risk estimation, and
  - iii. Operational forecasts for Tier 1 flexibility
- c. Efforts will concentrate on defining the best Tier 1 alternative which could include a "deviation" clause to deal with extreme events. Tier 2 which would involve new Orders of Approval can be scoped with triggers tied to duration of extreme events. The conditions leading to Tier 2 and 3 alternatives are the same and can't be

anticipated. But adaptive management will address readiness to implement either Tier.

**14. IERM (Scudder Mackay (Joe DePinto by phone)):**

- a. Connectivity PIs: loss of wetland and tributary habitat connectivity to the Great Lakes impacts reproductive success and diversity.
- b. Fish Habitat PIs: significant loss of spawning habitat.
- c. Wetland Bird Habitat PIs: significant loss of nesting habitat.
- d. "Target" PI visualization can be used as was for ILOSLR Study. It could also be used to represent PI distribution within coping zones.
- e. Schedule: AM coping zones defined by June 2010; PIs finalized by July 31, 2010; IERM2 complete by September 30, 2010. **Action Ecosystem TWG.**
- f. IERM2 will be a product for IPR.

**15. Progress on defining coping zones (Wendy Leger):**

- a. Complicating factors: glacial isostatic adjustment, wind and storm surge, precipitation patterns, ice conditions, etc.
- b. Other factors: sensitivity and ability to adapt, economic consequences, key indicators that interest is moving from one tier to another.
- c. Coping zones: initial definitions by June 2010, refinements by September 2010, final zones by March 2011.
- d. Coastal (Mike Shantz): zones linked to flooding, erosion, shore protection and low water considering drivers, vulnerabilities, and consequences.
- e. Rec. Boating (Glenn Warren & Bill Boik): zones for marinas. May not be able to determine zones for tourism. Not much difference between zones B and C at boat ramps for high levels.
- f. Hydropower (Paul King-Fisher): six spreadsheets defining zones for St. Marys River, Lake Michigan (Ludington PGS), Niagara River, Welland Canal, international and all-Canadian reaches of the St. Lawrence River.
- g. Commercial Navigation (Ralph Moulton): first cut, A- operating costs are lowest possible, B- some light loading (increase in cost by 5%), C- additional operating costs (10%?) making the industry no longer competitive.
- h. M&I (Dick Bartz): water supplies at municipalities should not fail (not fall to coping zone C). Historic record will be used to determine coping zone A to B transition. Focus should be on susceptible sites.
- i. Ecosystems (Scudder Mackay): already discussed.

**16. Formulation and evaluation of Tier 3 regulation alternatives (Bryan Tolson):**

- a. Hypothetical control structures within the connecting channels will be examined to control one lake or multi-lake outflows.
- b. Quantifying system performance:
  - i. Approach 1 – using PIs, revenues and transport costs (for example) and coping zones.
  - ii. Approach 2 – using only coping zone based PIs.
- c. Approach 2 will be used to build an objective function based on coping zones.
- d. Need to determine if water levels and other hydrologic factors are improved by structural measures.

- e. Spatial extent through the St. Lawrence River without consideration for the Lake Ontario regulation plan – simulating Lake Ontario and Montreal levels.
- f. No optimization for Tier 3 plan formulation, just simulation.
- g. Consider conveyance change through the St. Clair River by adding water on Lakes Michigan-Huron.
- h. Since all interests are experiencing detrimental conditions in coping zone C, all are weighted equally.
- i. Final Report complete by February 2011. The report could be a product for IPR.

**17. Adaptive Management Update (Wendy Leger):**

- a. Economic scenarios – no growth, low growth and high growth under climate change.
- b. Ecosystem scenarios – no change, low and high impacts under climate change.
- c. Institutional analysis :
  - i. Implementing a new plan in terms of Orders of Approval.
  - ii. Building a structure – authoring legislation, costs, etc. – contract with Doug Brown, formerly of Environment Canada.
  - iii. Non-regulation actions – workshops with agencies, new legislation, modelling, etc. – contracts out for bids.
  - iv. Longer term monitoring and modelling.
  - v. Future funding will require long-term support from jurisdictions and agencies (USACE, GLFC, EC, Conservation Authorities, etc.)
  - vi. “Skunk Works” workshop will be held in Burlington, August 30 – Sept. 3, 2010.

**Next Joint Meeting is September 20-23, 2010 in Romulus, MI. The Task Team meeting starts on Sept. 20<sup>th</sup> afternoon and is joint with the Study Board on Sept. 21<sup>st</sup> afternoon. The Study Board continues through the morning of Sept. 23<sup>rd</sup>. Study Team will provide details on how TWG reports to the Board will be formatted.**

**Study Board-only portion of the Meeting**

**18. Status of Action Items (Tony Eberhardt & Syed Moin):**

- a. Action Item #2: IJC agreed they expect one plan alternative – Study Board will have to determine how to package the tiered process. A formal letter will be coming to the Board after July 12<sup>th</sup>.
- b. Action Item #3: Remind Board Members of their liaison role and vice versa the TWG co-leads. Liaison assignments are:
  - i. PFEG – Jon Gee & Dave Powers
  - ii. Hydroclimate – Jim Bruce & Don Burn
  - iii. IM & GIS – Ted Yuzyk & Don Burn
  - iv. AM – Jon Gee & Jim Bredin
  - v. Ecosystem – Jim Bredin & John Boland
  - vi. Navigation – Jim Bredin & Jon Bulkley
  - vii. Water Uses – Allan Chow & Jonathan Bulkley
  - viii. Coastal – Dave Powers
  - ix. Rec. Boating – Jon Gee & John Boland
  - x. Hydro – Allan Chow
  - xi. Economic Advisors – John Boland

## **19. Board Discussion on Peer Review of Product/ Reviewers and Impressions from Joint Meeting (all):**

The Board decided to conduct reviews on many levels:

- a. Product Reviews:
  - i. IERM – Joe DePinto
  - ii. St. Marys River ecological restoration project – Scudder Mackay
  - iii. Tier 3 model – Bryan Tolson
  - iv. Hydroclimate (possibly 2 – determine after the Quebec City conference)
  - v. Hydropower – pricing
  - vi. Coastal – Low water impacts or shore protection
  - vii. Recreational Boating
- b. Journal and other reviews:
  - i. Casey Brown’s process
  - ii. Chris Spence’s work
  - iii. Commercial Navigation Transportation Cost model
- c. Internal Study Board Reviews:
  - i. SVM and Plan Formulation
  - ii. Paleo work by Frank Quinn
- d. Board Impressions:
  - i. The nature of “tiers” need to be further defined.
  - ii. The format of the final report needs to be discussed.
  - iii. Obvious progress is being made by the TWGs.
  - iv. Necessity of joint TWG/Study Board meetings was discussed. If there are joint meetings in the future, should request shorter presentations.
  - v. Concerns were raised regarding the context of the work being undertaken by Chris Spence.
  - vi. Hydroclimatic group making progress.
  - vii. Concerned with how TWGs define coping zones objectively and subjectively – need to ensure consistency. Need more explanation.
  - viii. Need to improve logistical conditions of meetings – consistent audio/visual aspects.
  - ix. Uncertainty regarding optimization.
  - x. Need Board direction on definition of coping zones and tiers. Need to focus on the decision making process.
  - xi. Coping zones should be tied to PI.
  - xii. Need to identify structure of contextual narratives, PIs, meta-data.
  - xiii. Next meeting should focus on specific items like PIs.
  - xiv. September Board meeting – full separate day for Task Team, half-day joint meeting with Study Board on PI, one and a half day Study Board only meeting.

## **20. Discussion on GCM Forecasts (Gene Stakhiv):**

- a. The majority of forecasts (GCMs to 2050) are to higher levels.
- b. Point is there may not be any benefit in investigating hundreds of scenarios.
- c. Considering a transitional feature in an alternative plan from tier 1 to 2, analogous to Criterion (k) for Lake Ontario, may suffice.

- d. **A package will be provided listing guidelines, objectives, etc. (Gene Stakhiv) asking Board members to point out what is not identified.**
- e. Once Board provides input, it will be presented for PIAG's views.

**21. Security Issues (Jonathan Bulkley):**

- a. Should have a protocol for collecting and displaying data; a written policy. **The policy will be displayed on the web site after it is reviewed by the Board (Ted will provide).**
- b. Sensitive information from the water uses inventory will be stripped from public documents.

**22. PIAG and Communications (John Nevin):**

- a. New PIAG member, Christopher Baine replacing Mary Muter.
- b. Next meeting in Muskegon on July 15<sup>th</sup>.
- c. Replacement in the works for Jill Wingfield. **Options will be provided to PIAG Chairs (Study Team).**

**23. Funding and Timeline – Implications of Government Response (Ted Yuzyk):** no issues.

**24. Next Meeting:**

- a. September 21-23, 2010 in Romulus
- b. November 30, December 1-2 in Windsor
- c. **Teleconference in July or August – doodle will be sent out by Tony.**



## Joint Lake Superior Regulation Task Team & Study Board Meeting

**June 22-24, 2010**

### **Holiday Inn Burlington Hotel & Conference Centre**

3063 South Service Rd, Burlington, ON L7N 3E9

Front Desk: 905-639-4443 Fax: 905-333-4033

### **Agenda V1.1**

#### **Objectives:**

- Raise and address any project management issues that threaten successful on-time completion of the Superior study
- Updates on the definition of performance indicators and coping zones
- Discussion of issues that will be presented during the joint meeting with the Study Board
- Progress by the Integration Work Groups
- Preparation for Product Peer Reviews

#### **Day 1 - Tuesday, June 22, 2010 – Halton Room**

<b>Item</b>	<b>Time</b>	<b>Topic</b>	<b>Lead</b>
0	9:30 – 10:00	Arrivals	
1	10:00 – 10:30	Welcome and Introductions – Objectives of the joint meeting	Yuzyk/ Stakhiv
2	10:30 – 11:15	Study Updates Web pages (missing information) SharePoint & Access	Moin/Eberhardt
3	11:15 – 12:00	Report on Information Management/GIS workshop	Pacioreck/Astolfo
	<b>12:00 – 12:45</b>	<b>Lunch</b>	
4a	12:45 – 2:45 (30 minutes each)	Updates from PI TWGs: (Coastal, Rec. Boating, Hydropower, and Com. Navigation) <ul style="list-style-type: none"> <li>▪ Membership</li> <li>▪ Contextual Narrative summary of highlights</li> <li>▪ Performance Indicators</li> <li>▪ Budget status</li> </ul>	<b>TWG Co-Leads</b> Shantz/Thieme Warren/Boik King-Fisher/Rose Moulton/Wright

		<ul style="list-style-type: none"> <li>▪ Issues and Challenges</li> </ul>	
	<b>2:45 – 3:00</b>	<b>Health Break</b>	
4b	3:00 – 4:00 (30 minutes each)	Updates from PI TWGs (Continued): (M&I and Ecosystems) <ul style="list-style-type: none"> <li>▪ Membership</li> <li>▪ Contextual Narrative summary of highlights</li> <li>▪ Performance Indicators</li> <li>▪ Budget status</li> <li>▪ Issues and Challenges</li> </ul>	<b>TWG Co-Leads</b> Inch/Salisbury/Bartz George/Walz/Mackey
5	4:00 – 4:15	Superior Regulation Plan formulation	Fay
6	4:15 – 4:30	Planning objectives and decision criteria development	Stakhiv
7	4:30 – 5:00	Overview of the decisions the Board has to make, definitions Overview of the day, questions	Werick
	<b>5:00</b>	<b>End of Day 1</b>	

### Day 2 - Wednesday, June 23, 2010 – Pearson Room

**Objective:** Provide a dialogue between the TWGs and the Study Board to monitor progress, identify issues and familiarize both with the information that will be required to make informed decision when choosing alternatives.

Item	Time	Topic	Lead
8	8:00 – 9:00	Report from Hydroclimate Group <ul style="list-style-type: none"> <li>▪ Stochastic Analysis Projects</li> <li>▪ Forecasting Projects</li> <li>▪ Climate Change Modelling</li> <li>▪ Data projects and coordinated flows and levels</li> <li>▪ Budget status</li> <li>▪ Issues and Challenges</li> </ul>	Pietroniro/Lee
9	9:00 – 10:00	PIs used in the Tier 1 decisions (focus on the PI uncertainties that could produce inferior plans)	Werick/TWGs
	<b>10:00 – 10:15</b>	<b>Health Break</b>	
10	10:15 – 10:45	Contextual narrative integration, interpretation and shortcomings	Werick/TWGs

11	10:45 – 11:00	SVM/evaluation – practice decision update, multiple NBS sources	Werick
12	11:00 – 11:45	Peaking and ponding rules, and the relationship between the monthly release and peaking and ponding rules, including impacts on the St. Marys River	Lorie
13	11:45 – 12:30	Risk matrix and decision trees; the use of climate information in all three Tiers	Brown
	<b>12:30 – 1:15</b>	<b>Lunch</b>	
14	1:15 – 1:45	The status of the IERM and its use (or non-use) in all three Tiers (includes coping zone discussion for ETWG)	Mackey (DePinto by phone)
15a	1:45 – 2:45	Progress on defining coping zones	TWGs - Leger
	<b>2:45 – 3:00</b>	<b>Health Break</b>	
15b	3:00 – 3:30	Progress on defining coping zones (Continued)	TWGs - Leger
16	3:30 – 4:30	The formulation and evaluation of Tier 3 regulation alternatives	Tolson
17	4:30 – 5:00	Other AMG Updates <ul style="list-style-type: none"> <li>▪ Institutional analysis</li> <li>▪ Future economic and environmental scenarios</li> <li>▪ Funding adaptive management – public and agency</li> <li>▪ - Skunk works</li> </ul>	Leger
	<b>5:00</b>	<b>End of Day 2</b>	

### Day 3 - Thursday, June 24, 2010 – Halton Room

**Objective:** To discuss items of interest to the Study Board.

<b>Item</b>	<b>Time</b>	<b>Topic</b>	<b>Lead</b>
18	8:30 – 8:45	Review Status of Action Items from Minutes of Meeting #14	Eberhardt/Moin
19	8:45 – 9:45	Discussion of Legal Issues impacting plan formulation and evaluation	Yuzyk/Stakhiv
20	9:45 – 10:00	LOSLR Working Group – AM update	Yuzyk
	<b>10:00 – 10:15</b>	<b>Health Break</b>	
21	10:15 – 10:35	Discussion of Security Issues that impact the collection of data	Bulkley
22	10:35 – 11:30	Update on the Communication Plan and public outreach	Bruce/Powers/Nevin
23	11:30 – 11:50	Funding and Timeline – Implications of Government Response	Yuzyk / Stakhiv
24	11:50 – 12:00	Next Meeting & Other Business	Yuzyk / Stakhiv
	<b>12:00</b>	<b>End of Day 3</b>	

## Action Items - Joint Lake Superior Task Team (9<sup>th</sup>) & Study Board (15<sup>th</sup>) Meeting

### For Lake Superior Regulation Task Team

No.	Description of Action Item:	Action Lead:	Due by:
1	Need to provide funding spreadsheets to TWGs	Tony Eberhardt & Syed Moin	July 15
2	Need to provide a framework showing how data will be structured for next meeting	Joel Schlagel & Paul Pacioreck).	Aug 15
3	Terms of Reference for the new IM-GIS group	Study Team with Joel Schlagel & Paul Pacioreck	July 15
4	Coastal Processes TWG submit a proposal for additionally funded actions since they will differ from the items and costs previously approved by the Board	Mike Shantz and Scott Thieme	July 31
5	Response to suggestions made by Mark Dunning regarding all TWG contextual narratives	Tony Eberhardt & Syed Moin	July 31
6	Need a list of all TWG members.	All TWG Co-Leads to Study Managers	July 15
7	All contextual narratives will be provided to the Board prior to the September Board meeting for review and discussion at that meeting	Mark Dunning, TWG Co-Leads & Study Managers	Sept 1
8	Need to rationalize the population figures and other values (e.g., water demand) which Mark Dunning is using	Mark Dunning & Tony Eberhardt	July 15
9	Additional scoping on the peaking and ponding project	Mark Lorie to contact Tony Eberhardt to discuss	July 15
10	Completion of IERM2	Joe DePinto	Sept. 30
<b>For Study Board</b>			
1	A package will be provided listing guidelines, objectives, etc. asking Board members to point out what is not identified	Gene Stakhiv	July 23
2	The policy for collecting and displaying sensitive data will be displayed on the web site after it is reviewed by the Board	Ted Yuzyk	July 23
3	Options for replacing Jill Wingfield will be provided to PIAG Chairs	Study Team	July 9
4	Teleconference in July, August – doodle will be sent out asking Board availability	Tony Eberhardt	July 9

**Coastal Zone Technical Working Group  
Planning Objective Summary  
June 18, 2010**

**Background:**

Planning objectives represent the broad management goals that are hoped to be achieved through actions of the IUGLS. They define a collective vision on the intended outcome of management actions for a particular resource, geographic area, and time period.

When multiple planning objectives are defined, they do not always align and it may not be possible to achieve all objectives through the management actions of the IUGLS. In fact, given the broad geographic area of the IUGLS, it may not be possible to achieve a particular objective for the full defined area. As a result, the IUGLS Study Board will likely be required to make trade-offs between defined planning objectives if it is not possible to achieve benefits for all objectives in all interest groups. To support this effort, the TWGs will need to provide the appropriate context around each planning objective to ensure:

- the potential impacts can be measured (through performance indicators)
- the relative magnitude and sensitivity of each objective is defined
- the uncertainty in measuring expected outcomes is outlined, and
- potential external factors influencing planning objective outcomes outside the control of the IJC are discussed

At the Coastal Zone Technical Working Group (TWG) meeting held on April 13-15, 2010 in Windsor, Ontario, members of the TWG discussed and debated potential wording to define draft planning objectives for the Coastal Zone interests of the upper Great Lakes. The goal was to draft planning objectives that could be reviewed with the Study Board representative on the Coastal Zone TWG. In defining potential wording for the planning objectives, the Coastal Zone TWG aimed to:

- ensure planning objectives were consistent with outcomes being measured within the ongoing technical studies of the TWG (the performance indicators)
- align planning objectives with “on the ground” expectations of a range of constituents including property owners, users of public lands along the shoreline, and coastal managers
- consider the applicability of planning objectives in the context of adaptive management and climate change

The following **draft** objectives have been defined by the Coastal Zone TWG for specific theme areas being studied through the performance indicator effort. At this point, the Coastal Zone TWG has not assessed the potential to achieve the defined planning objectives or the extent to which multiple objectives align or conflict regarding their outcomes. They simply represent a set of proposed outcomes for consideration by the Study Board. ***It is expected that the Study Board will refine the wording to meet their collective objectives*** (e.g. minimize, reduce, maintain, etc). The Coastal Zone TWG members note that there are multiple factors outside of lake level management that could contribute to achieving the objectives or make them more difficult to achieve.

**Proposed Planning Objectives:**

Recognizing that fluctuating water levels and the physical response of the shoreline are ongoing natural processes that can be influenced, but not eliminated, by human modifications of lake levels through management actions:

**Flooding:**

Minimize potential flooding damages to shoreline property on all lakes and connecting channels

**Low Water:**

Minimize low water damages to shoreline property on all lakes and connecting channels

**Erosion:**

Recognizing that shoreline erosion provides sediment required for littoral transport and beach replenishment, minimize erosion damages to shoreline property on all lakes and connecting channels

**Shore Protection:**

Minimize water level related damages to shoreline protection infrastructure

The Coastal Zone TWG acknowledges that there is inherent conflict with the proposed objectives, both for individual objectives between geographic areas and between individual objectives. The Study Board will need to determine how to best balance objectives.