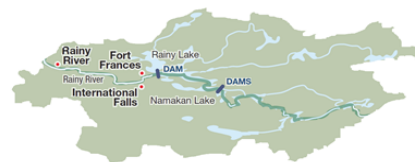




## International Rainy and Namakan Lakes Rule Curves Study Board



### RULE CURVE UPDATE WEBINAR Thursday, April 13, 2017 1:30-3:00 pm Central SUMMARY OF DISCUSSIONS

| RCPAG Members<br>Adaptive Rule Curve Committee<br>Rainy River Committee |   | IRLWWB and Others                          |   |
|---|---|--|---|
| Tim Snyder, U.S. Co-chair   | x | Steve Blair, CAG                           | x |
| Jeff Wiume, Cdn. Co-chair   |   | Tony Nagurski, RLPOA                       | x |
| John Spencer  |   | Eldon Voigt, IMA-WG                        | x |
| Paul Anderson   | x | Tom Mosindy, CAG                           | x |
| Jack Bartlett   | x | Gail Faveri, IRLWWB, WLC                   | x |
| Richard Boileau   |   | <b>Study Board Members</b>                 |   |
| Kayla Bowe  | x | Matt DeWolfe, Canadian Co-chair            | x |
| Travis Rob  | x | COL Calkins, U.S. Co-chair                 |   |
| John Carlson  | x | Scott Jutila, U.S. Co-chair Alternate      | x |
| Barbara Clark   |   | Larry Kallemeyn                            |   |
| Bob Anderson  |   | Erika Klyszejko                            | x |
| Tom Worth   |   | Kelli Saunders                             | x |
| Tyson Whitbeck  |   | Pam Tomevi                                 | x |
| Jerry Pohlman   |   | Syed Moin                                  | x |
| Francis DeBay   |   | <b>Technical Working Group</b>             |   |
| Tom Dougherty   | x | Jean Morin                                 | x |
| Deb Ewald   |   | Bill Werick                                | x |
| Georgia Growette  | x | <b>IJC Advisors and Staff</b>              |   |
| Kiley Shebagegit  |   | Nick Heisler                               |   |
| Lee Herseth   | x | Wayne Jenkinson                            | x |
| Mike Hirst  |   | Mark Gabriel                               | x |
| David Imes  | x | Mark Colosimo                              | x |
| Janice Imes   | x | <b>RAG Members, Other Resource Experts</b> |   |
| John Kabatay  |   | Bridget Antze                              | x |
| Tonia Kittelson   |   | Greg Chapman                               |   |
| Jim Krag  | x | Ryan Maki, VNP                             | x |
| Ron Medina  |   | Melissa Mosley                             | x |
| Alyse Walton  |   | John VandenBroeck                          | x |
| Kelly Sjerven   |   | Mary Graves                                | x |
| Kelly Voigt   |   | Drew LaBounty, VNP                         |   |
| Grant Walton  |   | Steve Windels, VNP                         | x |
| Mike Hansen   |   | Kevin Peterson                             | x |
| Dale Johnson  | x | Ben Vondra, MDNR                           |   |
| Kristie Duncan  |   | Rick Gervais                               | x |
| Jeff Kantor   | x | David Fay                                  | x |
|   |   | Jeff Ziegweid                              | x |

The webinar began with a presentation on modelling results for Plan C, as follow up to the initial discussions of this alternative at the Practice Decision Workshop in March 2017. Bill Werick presented results and opened the floor to discussions.

Q: With Plan C, cattails will increase, is this because habitat for muskrat will go up?

A: Total cattail area doesn't go up on Namakan, only 4% on Rainy; what is increasing is mat-forming cattails. Flood prediction reduces interannual variability, cattails become denser; interaction with muskrat not modelled here.

Q: What information is the statement based on that there are no muskrat on the two lakes – many have been observed in the field

A: Context requires explanation; even if muskrats build houses on Namakan, they aren't surviving the winter on the lake, they are surviving in other surrounding locations unless there are deep channels and cattails.

Q: What is variation in water level that muskrat can withstand?

A: Muskrats do best with 15 cm or less variation up or down. Survival chances are minimal if water levels drop 60 cm or more or if they rise about a foot (33 cm) or more.

Q: Concerns with Plan C re both lakes as of March 1, as water level on that date would be 1 foot higher than current (and this is when runoff begins); difficult to lower level when already higher in spring; concern if it's a wet year. Flat curve from Nov. 15- March 1, how will this affect companies?

A: Flood damages are very similar on B and C; C better than A. As we enter flood season with Plan C, very similar to A. Statistically, higher flows don't happen until around April; curves at last half of March are quite broad, allowing WLC and companies to have flexibility depending on conditions. It is true that average releases in first quarter of year are smaller for C, power companies get it back later in the year.

Q: How do you assess risk of a flood when holding levels higher in March?

A: Risk is about the same on Namakan; on Rainy, because we use Plan B flood reduction on Plan C, it reduces risk (reduces magnitude of flooding).

Q: Who makes decision to go from Plan B to C?

A: We propose it is responsibility of WLC – decision gets made in early March in consultation with stakeholders in basin.

Q: In drought years (76-78), what was found?

A: As seen in material sent out prior to webinar, when A, B, C are in fall drought, there is no difference if you get down to minimum flows.

Q: There is quite a difference in navigation season in those drought years

A: Mother Nature and minimum flow requirements are key.

Q: In mid-March, if there's lots of snowpack and a flood situation – by April 15 if you are targeting low end of band, how does it affect Rainy? Can one month accommodate for over one foot drop?

A: Spill required is not substantial and would be manageable; additional water would go down river

Q: Can things be tried on experimental basis or for a number of years rather than sticking with a rule curve for 15 years?

A: Study Board will be recommending an adaptive management approach that will allow for monitoring and ongoing research to substantiate any needed changes and not to wait for another 15 years.

Q: Can you review why simulations are showing less walleye spawning habitat under Plan C?

A: Caused by increased water level during incubation period under flooding conditions; in flood years, Rainy gets drawn down so this impacts walleye; need to remember that decisions will be made by real people with actual conditions and knowledge of state of walleye population (model uses fixed rule curve targets not affected by ice-out dates, flexibility that the WLC would have).

Q: Downstream effects on Rainy River – would increased flows and sharper drawdown in fall impact river via erosion?

A: Most erosion is due to flows coming in from Big and Little Fork River; fall flows are generally lower than in spring.

Q: For Plan B for Namakan, the band from October to November looks narrow, is this an issue for WLC?

A: Vertical measurement shows it's just about the same as 2000RC.

Q: Do stable water levels protect structures?

A: One foot higher water won't affect docks, but higher levels when there is ice is more of an issue re dock damage during ice out (wind breaking up ice)

Comment: Drawdown can help enhance spawning conditions

Q: Is there ability to release more when lake levels higher?

A: Yes. If freshet comes at start of April, haven't maintained any storage depth (rare); but if it's later in April, there's less water so can shave a bit off flood peak

Q: Maximum discharge capability at dam in mid March?

A: 2000 RC, 560; Plan C, 680 (have never seen 680 inflows in mid-March)

Q: Drawdown in September/October ok for navigation?

A: Sailing season over by mid October; Plan C is OK for navigation, B is better, A even better. Very much in favour of adaptive management.

Q: How does Plan C perform for walleye on Namakan?

A: Same as 2000RC.

Comment: A lot of concerns with Plan C have been relieved; in low water level year, Plan C is beneficial

A: Decisions and timing of decisions can be altered when WLC talks to stakeholders; more responsive regulation. The Operational Guidelines we are recommending will provide the tools to the WLC to make responsive decisions by knowing impacts of those changes on different ecosystem components.

Q: Will early fall drawdown affect wild rice harvesting?

A: Not much on Namakan for harvesting; mid band on Rainy for Plan C in July-September is within range of 2000 RC when levels are important for wild rice

Q: Will there be any assessment of Plan C on Rainy River bank erosion?

A: River discharge is greater than what dam itself can release due to tributaries; Study Board will try to consider this. Plan C shouldn't change what the river already experiences.

Q: Keeping levels flat in winter, will flows be really low on river?

A: Flows are reduced, but not to 0; minimum flow requirements are the same as now. The river itself will not be majorly deprived of water in winter, but Plan C will provide for less water than A or B, providing more flow in the spring. The Board is waiting to hear from power companies on the impact of reduced winter flows, increased spring flows on power production.