The Current March 2020

In 2016, as a result of catastrophic flooding along Lake Champlain and the Richelieu River in spring 2011, the governments of Canada and the United States instructed the International Joint Commission (IJC) to "fully explore the causes, impacts, risks and solutions to flooding in the Lake Champlain-Richelieu River basin." The IJC established a Study Board to oversee the Study and to provide recommendations. The IJC also established a Public Advisory Group to assist the Study Board with engaging the public over the course of the Study. The Public Advisory Group publishes this bimonthly newsletter to help keep the public informed about the Lake Champlain Richelieu River (LCRR) flooding study.

Important Notice

On March 24, 2020, the Study Board cancelled the public meetings and no further dates have been determined. This is in response to the COVID-19 pandemic.

Letter from the Public Advisory Group Co-Chairs

We hope you are all as well as you can be during these difficult times. Earlier in March, we had prepared this update on study progress and we have chosen to send it out to you today.

In early February, a group of professional planners and researchers who specialize in floodplain management decisions and strategies from both Canada and the United States came together for a day and a half to focus on potential floodplain management options that may be considered for recommendation in the Lake Champlain-Richelieu River basin.

Dr. Daniel Henstra, Associate Professor and Senior Fellow at the University of Waterloo, and Dr. Len Shabman, a former Virginia Tech faculty member and current Senior Fellow at Resources for the Future, set the stage for participants. By defining flood risk and flood risk management actions and policies within the United States and Canada, they framed a conversation for participants to engage in rich discussion about perceived feasibility and potential for various floodplain management options to be accepted by community members, leaders, and planners within communities alongside Lake Champlain and the Richelieu River.

Team members from the floodplain management and social, political and economic working groups will take this information into consideration as they develop a report from the workshop, define next steps for research needs, and as they begin to formulate possible recommendations to present to the Study Board. This "experts" workshop is the first of two that were planned. The next line of work will focus on flood forecasting and models, tools being developed and flood response plans. A First Responder Survey went out in February to better understand which forecasting products are used in the LCRR basin and results will be available in April.

The Study Board is also pleased to announce the release of the Causes and Impacts report of past floods in the Lake Champlain-Richelieu River Basin. This report is now available on the IJC website in both French and English. A highlights booklet has been developed to help share key findings with all who are interested and has also been posted. We will share copies of the booklet with 20 libraries in communities adjacent to Lake Champlain once they are printed.

Madeleine Papineau, Canadian Co-Chair Kristine Stepenuck, US Co-Chair

Study News

The 2011 spring flood left most roads and much of the community's infrastructure underwater along the Richelieu River (photo by Teresa Gagnon)

Study on State Hazard Mitigation Plans

The US contingent of the Social, Political, and Economic Technical Working Group (SPE TWG) recently completed a study in which the state hazard mitigation plans of New York and Vermont were compared and contrasted to assess if, and to what extent, the two states consider flooding a hazard, and their approach to build flood resiliency over time. While the two states' plans differed in their recommended approaches to flood hazard mitigation and planning – in part due to differences in geographic size and governance structures – both identified flooding as a critical vulnerability. This was due to both having long histories of flooding and associated damages. Likewise, both plans recognized an Intergovernmental Panel on Climate Change (IPCC) finding that the potential for future flood risks will increase in the northeastern United States as a result of predicted increase in storm frequency, intensity, snowpack, and spring meltwaters.

Nonetheless, differences between the two states' approaches to reduce future flooding impacts were clear. New York's plan focused primarily on strengthening physical infrastructure (especially roads and bridges) to address known flooding challenges in specific locations. (Notably, those mentioned in the plans were generally outside of the Lake Champlain basin.) Conversely, Vermont's plan focused on identifying policy and planning solutions to address flooding. This included educational goals such as improving community leaders' understanding of hazard mitigation. The SPE TWG will continue their research by hosting focus groups and

conducting interviews with local leaders and emergency responders, and by assessing county and local hazard mitigation plans.

Expert Advisor Highlight

Continuing our series to highlight subject matter experts who are working closely with the Study Board, we spoke with Marianne Bachand, the Canadian co-lead for the Resource Response (RR) Technical Working Group.

Marianne Bachand is a native of Saint-Jean-sur-Richelieu and witnessed the 2011 floods firsthand. Her work as a project coordinator in ecohydraulic modeling for the Hydrology and Ecohydraulic section of Environment and Climate Change Canada led to her involvement in the Lake Champlain-Richelieu River study.

The Resource Response TWG has been focused on developing one of the key reports for the LCRR Study — the Causes & Impacts Report, that reviews the key factors that led to the 2011 flood, and the full extent of the flooding. (The report is available online at https://www.ijc.org/en/lcrr/causes-and-impacts-past-floods-lake-champlain-richelieu-river-basin-historical-information.

In addition, the RR TWG is responsible for coordinating the development of Performance Indicators used to evaluate different potential mitigation measures. The Performance Indicators include impacts on wildlife, damages to homes and infrastructure, economic losses, and other metrics (see an example in the next section). The RR TWG team also develops what is known as ISEE – the Integrated Socio Economic and Environmental system — to evaluate different flood damage mitigation measures for specific areas based on complex modeling algorithms.

Marianne Bachand, Canadian co-lead, Resource Response TWG

Marianne has more than seven years of experience studying the impacts of water and floods, and earned a grant for her post-doctoral work from NSERC (the Natural Sciences and Engineering Research Council of Canada). Beyond her work with the LCRR Study, she specializes in habitat

modeling to evaluate impacts of climate change, water management plans, and mitigation measures through her role with the Canadian government.

Performance Indicator: Marinas and Campground Economic Losses

The LCRR study is working to understand the impact of flooding on the recreation sector along the shorelines of Lake Champlain and the Richelieu River. This will be measured by estimating the economic losses of marinas and campgrounds that are affected by floodwaters. The study will reach out to owners of campgrounds and marinas to inquire about losses during past floods. This information will be used to estimate (using a sophisticated computer model) total economic losses at different flood water levels.

People

Dr. Ann Ruzow Holland has joined the LCRR Study Board as a US Member. Dr. Ruzow Holland has worked as a regional planner for Essex and Clinton Counties, NY, and was the founding Executive Director of the Friends of the North Country, a New York regional non-profit devoted to sustainable development in and around the Adirondacks and Champlain Valley of New York. She has owned and operated a NYS-Certified Woman Based Enterprise (WBE) since 2002, serving local governments, non-profits, and for-profit businesses in the areas of environmental, regional, and community planning, organizational management, and sustainable development. Dr. Ruzow Holland holds a BA and MA in Environmental Science and a CAS in Leadership & Administration from SUNY Plattsburgh, and a Ph.D. in Environmental Studies from Antioch University New England. She has lived on the western shore of Lake Champlain since 1963.

On the Web

If you would like to read the Causes and Impacts report or the booklet, they are available on the Study Board's website (https://www.ijc.org/en/lcrr) in the "Publications" section under the "Library" tab on the home page.

Check the new article on the Water Matters website: Lake Champlain-Richelieu River Studies Causes of Floods to Help Lessen Future Damages.

Stay updated on the Study Board's work and publications by signing up to receive electronic updates via our email distribution. Click on our home page (https://www.ijc.org/en/lcrr) and scroll to the bottom to join.

On a Bulletin Board Near You

Members of the PAG (Public Advisory Group) are working to post each issue of The Current in local communities to help spread the word to a broader audience about the study. Please contact us if you know of a business, library or other public venue that hosts a public bulletin board that would be a good place to post these news updates, or if you are willing to post the newest edition of a bulletin board near you. We have recently partnered with 20 community libraries in Lake Champlain shoreline communities within New York and Vermont. Each will post the most recent issue of the Current and a Study brochure to help inform a broader group of people about Study happenings.

Public participation is an important part of the study process. Want to know how you can be part of the conversation? Send us an email at lcrr@ottawa.ijc.org.