A Water Quality Plan of Study for the Lake of the Woods Basin

January 29, 2015
Plan of Study Overview

- 32 recommended projects: ~ $8.4 M
- 5 themes of concern:
  - long-term monitoring
  - nutrient enrichment and harmful algal blooms
  - aquatic invasive species
  - surface and groundwater contamination
  - capacity building
- 4 immediate actions
Long-term Monitoring

Project 1: the Commission strongly recommends without delay the implementation of a robust monitoring system to provide long-term, consistent data for tracking trends in nutrients, contaminants and aquatic invasive species – designated as priority project

Challenges:
- Only project-specific data available
- Considerable differences between Canada and US in water quality monitoring and research
- Long-term, consistent data whole Basin unavailable
- Trends in nutrients, contaminants and aquatic invasive species impossible to track
Nutrient Enrichment and Harmful Algal Blooms

11 projects to improve management of harmful algal blooms (HABs) and reduce their severity and frequency

Challenges:

• Harmful algal blooms (HABs) in Basin due to climatic, chemical and biological factors

HABs can:

• affect recreational use of lakes
• alter population densities of fisheries
• cause undesirable taste and odor of drinking water
• compromise water treatment facilities
• release algal toxins
Aquatic Invasive Species (AIS)

7 projects to strengthen prevention measures and pursue control efforts

• Challenges:
  – Lake of the Woods Basin invaded by many non-native species over past 30 years
    • zebra mussel, hybrid cattail, spiny water flea, rusty crayfish, rainbow smelt
  – Invasive species can alter aquatic ecosystems permanently
    = loss of native species
    = reduced game fish populations
    = costly damage to water infrastructure
7 projects to better understand contamination sources, assess vulnerability of water resources and establish protective measures

- **Challenges:**
  - Legacy contaminated sites exist
    - historical mining
    - mercury contamination
    - agricultural inputs
  - Potential contamination due to large-scale mining, petroleum transport, catastrophic breaches
6 projects to help build greater capacity for engaging all interests on water quality management

• Challenges:
  – Comprehensive, coordinated approach for addressing water quality concerns lacking
  – Diverse approaches, different legislative frameworks and policies
  – Limited ability to coordinate management efforts
  – Public awareness, access to information
  – Engagement of indigenous peoples
Priority Projects for Immediate Action

32 projects recommended; 4 opportunities for immediate action

1. Project 1: *International Monitoring Program for the Lake of the Woods Basin*

2. Project 27: *International Platform for Implementation*

3. Project 14: *Rapid Evaluation and Implementation of Options to Manage Recent Zebra Mussel Infestation in Headwaters Areas in Minnesota*

4. Components of Projects 5 and 7: *Implementation of Proven BMPs and Removal of Solids from Effluent*
Questions?
Comments?

IJC.ORG
Commission@ottawa.ijc.org
Commission@washington.ijc.org