

STARTING POINT

- needs to be state of the art science
- Can exploit comparative approach to contrast two countries
- Why need international collaboration to do this?

NEEDS

- 3 potential programs with corporate interest, researchers with expertise in both countries, novel areas for research that will be successful.
- Think of these as problems for science and engineering needed to solve but in both countries.
- Outreach and education as a priority for all of these topics.
- Start with smaller studies and then make a case for larger scale later

TOPICS

- Non-point sources - watershed management
 - Strength – expertise in Canada, some expertise in Japan but working on other areas
 - Weakness – complex topic, scope
 - Opportunity in Canada, Japan
- Stream, restoration – may be a great option; NGOs (trout unlimited etc), governmental organizations like DFO, Environmental Canada
 - Many people interested in this, might be just case studies for lake
 - Time frame is an issue; transfer of knowledge
 - Challenge in both countries
- Eutrophication
 - Opportunities in Canada, Japan

TOPICS CONTINUED

- Reservoir – sedimentation
 - Important topic in Japan with many researchers
 - Capacity in Canada for modeling, expertise, how to manage flow to get out
- Dams and environmental flows
 - Synopsis of what is done in Japan for flow management, and contrast to what you can do in Canada but could not do much more
 - Policy perspectives, but not on effects, within 3 year time frame
 - Challenge for Canada and Japan
- Bass control; invasive aliens?
 - Very specific, strength and weakness
 - Clearly an issue in both countries but can we control it?

TOPICS CONTINUED

- Environmental monitoring programs
 - Opportunity for both countries
 - Export expertise from Canada, not sure there is a good research question
- PPCPs as point sources
 - Opportunities for both
 - Tractable in the time frame
- Source water protection and water taking
 - Business section very interested in this, not sure if academic interested in Japan
 - Challenge because not more than a few researchers working on this in Canada; opportunity in Japan
- Sediment impacts – suspended sediments having effects
 - Who would be the partner? Main components of non-point sources?
 - Opportunities for both Japan and Canada

BREAK OUT BY COUNTRY - CANADA

- Use criteria: Importance of issue, innovativeness, collaboration
- Top 5 for Canada:
 - PPCPs in the environment (8)
 - Sediment impacts (10)
 - Eutrophication (3)
 - Non point sources (1)
 - Generic invasive species, not limited to Bass control (6)

BREAK OUT BY COUNTRY - JAPAN

- Top 5 for Japan
- 7 – environmental effects monitoring,
- 1- non point sources
- 8 – PPCPs as point sources
- 3- Eutrophication, but seen with (5) dams and environmental flows,
- 4- reservoir sedimentation

COMMON PRIORITIES

- Non point sources
- Pharmaceuticals in the Environment
- Eutrophication and environmental flows

- Model:
- Realistic budget : 300K per year, up to 10 people on the project with 2-3 engineers and 2-3 aquatic ecosystem people per country
- constrained on field experimentation – one model system per country