Canadian and EU watershed management: Two Rivers that do not meet
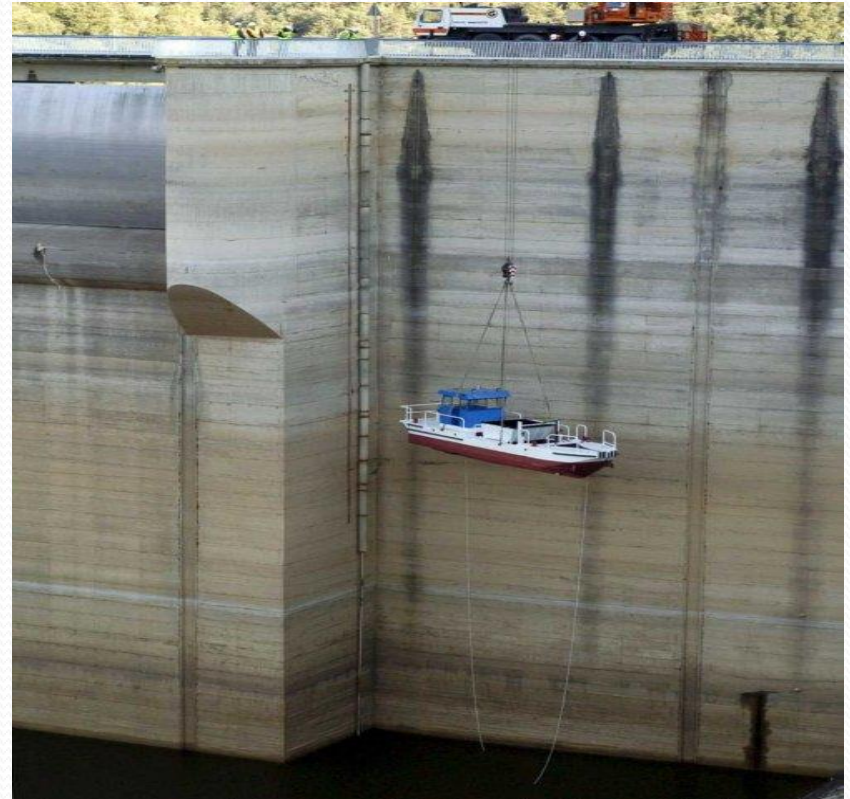
Inger Weibust
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March 10 2016

Water policy and governance:

Quality   Quantity

EU Water Framework Directive (WFD) 2000

- Covers both quality and quantity
- Mandates plans for managing all river basins, including water supply
- 4th Implementation reports on River Basin Management plans submitted by 2015

EU Water Framework Directive (WFD) 2000

- The 2000 WFD implements Integrated Water Resource Management (IWRM)

- Goal -- restore Europe's water quality to "good" status and prevent any deterioration in quality

- Consolidates earlier EU water directives

Water quality rules in the EU

- The EU first passed binding water quality regulations in 1973
- Some of the most important:
  - Emissions from industrial sources (1976)
  - Water quality at beaches (1976, 2006)
  - Drinking water quality (1980, 1998)
  - Nitrates in water (1991)
  - Municipal sewage treatment (1991)
  - Water Framework Directive (2000)

Status of European Union water quality policy in 2016

- Regulation of industrial pollutants continue to evolve
  - 2013 – added Environmental Quality Standards (EQS) for 15 additional substances known to be harmful to freshwater
  - Brings the total number of EQS to 48
  - Under WFD, member states required to report on monitoring and control efforts

Stark contrast with Canada…

Canadian Environmental Policy in general...

- Much less centralized than European Union
  - Ottawa plays smaller role than Brussels does
  - Very little legislation/regulation at federal level
- Environmental policy system -- Fragmented and balkanized
  - Provinces have far more autonomy than EU member states
  - Lacks transparency, hard to monitor

Water quality in Canada

- *The Fisheries Act* is the most important national water quality law
  - Basis for industrial effluent regulations, although these are limited in number
  - Implemented by provinces

Fisheries Act revision 2012

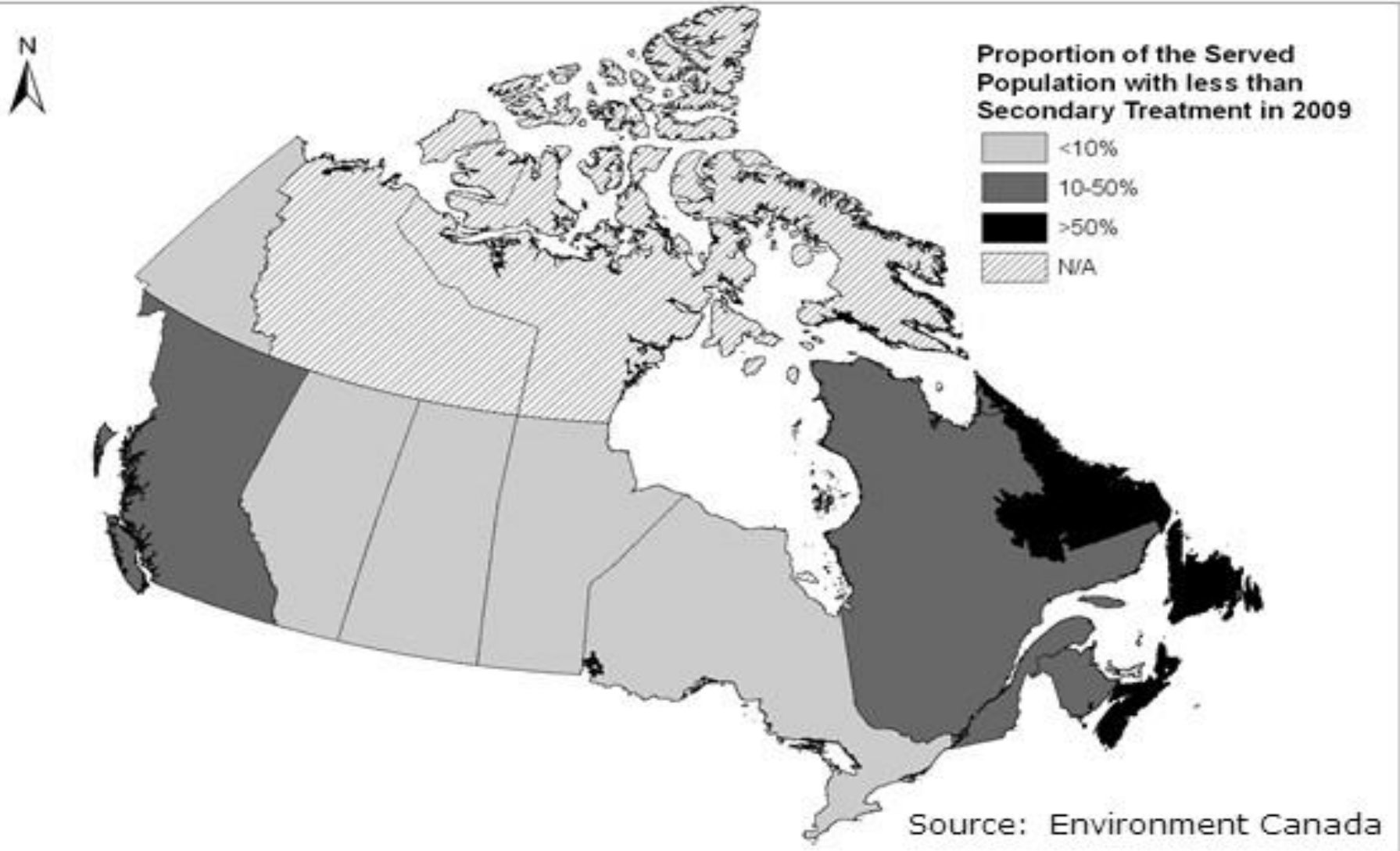Now covers only fish of *commercial value,* not *all fish* habitat

Canadian Environmental Protection Act (CEPA) 1999

- Risk assessments of potentially toxic substances (23,000 on list)
- The *most* toxic substances are targeted for Virtual Elimination
- Most recent update in 2006
  - 2 toxic substances are targeted for Virtual Elimination

Water quality in Canada

- There have never been binding national laws or regulations on:
  - Drinking water quality
  - River basin management
  - Agricultural wastes, such as nitrates

Water quality in Canada

Proportion of the Served Population with less than Secondary Treatment in 2009
- <10%
- 10-50%
- >50%
- N/A

Source: Environment Canada

Water quality in Canada

- In 2011, federal sewage treatment standards introduced

- If follow timelines, all of Canada will comply with EU 1992 standard in 2040
  - no penalty for non-compliance

Water quality: Convergence?

- No evidence than Canada and the European Union are converging
- The EU Water Framework Directive is extensive and intrusive
  - The mandatory River Water Management Plans and follow up implementation plans are demanding
- No similar requirements are imposed by the Canadian federal government

Governance of Water Quantity

Water quantity in river basins

- European Union & Canada
- Some water scarcity or drought in each
- Irrigation is the major consumptive use for both
  - As high as 80% of water use (Greece)
- In Canada (Alberta), cities compete with irrigators for river water supply

EU Water Framework Directive (2000)

- Based on principles of Integrated Water Resources Management (IWRM)
  - Ecological quality of rivers
  - Water metering and pricing
  - Demand (not supply) management
  - River Basin Level governance

→ No measures explicitly about water quantity

EU Approach to Water Quantity

- WFD requires basin level governance bodies and management plans
- WFD requires all river withdrawals to be authorized
- Recognizes ecological value of leaving water in rivers

Canada's Approach to Governing Water Quantity

- Like other natural resources, surface water belongs to provincial governments

- So no national measures on water quantity or river basin management

- Little evidence of application of IWRM
  - Fraser River, BC only case

Watershed Management for Interprovincial Rivers

- Big interprovincial rivers all in Western Canada
  - Saskatchewan, Mackenzie, Peace
  - → *Alberta upstream riparian in all*
- Interprovincial agreements exist for
  - Saskatchewan River
  - Mackenzie River

The Saskatchewan River

The Saskatchewan River

- Used for irrigation, drinking water and hydroelectricity
- South Saskatchewan very heavily used for irrigation
  - Some tributaries fully allocated
    - All the flow in those tributaries is claimed by somebody

Prairie Provinces Water Board

- PPWB governs Saskatchewan River
- Only federal and provincial governments
- Alberta commits to giving Saskatchewan half of the flow at the border (1969 formula is core of agreement)
  - In a drought, Alberta (upstream) is guaranteed a minimum amount of water
- Obscure and nontransparent
- → No minimum ecological flows – not IWRM

Mackenzie River Basin

Mackenzie Basin Agreement

- Signed in 1997, after 25 years negotiation

- Almost no substantive content in the agreement

- Substantive issues to be determined later by 7 separate bilateral agreements between provinces and NWT

Mackenzie Basin Bilaterals

- Very slow – as of 2002, one agreements signed (Yukon/NWT)
- 2015 – BC/NWT and Alberta/NWT bilateral signed
- Watershed moment – agreement sets quality and quantity targets
  - Praised by David Schindler, noted freshwater ecologist and activist

Comparative water governance

- No sign of convergence on managing water quality at national level Very limited evidence of adoption of principles of IWRM, particularly governance based on river basins instead of political boundaries
  - Federal liberals may repeal *Fisheries Act* revision
  - Even before revision, scope of Canadian policy very limited compared to EU
- Very limited evidence of adoption of principles of IWRM, particularly governance based on river basins instead of political boundaries
  - Recent Mackenzie River agreement is an exception here