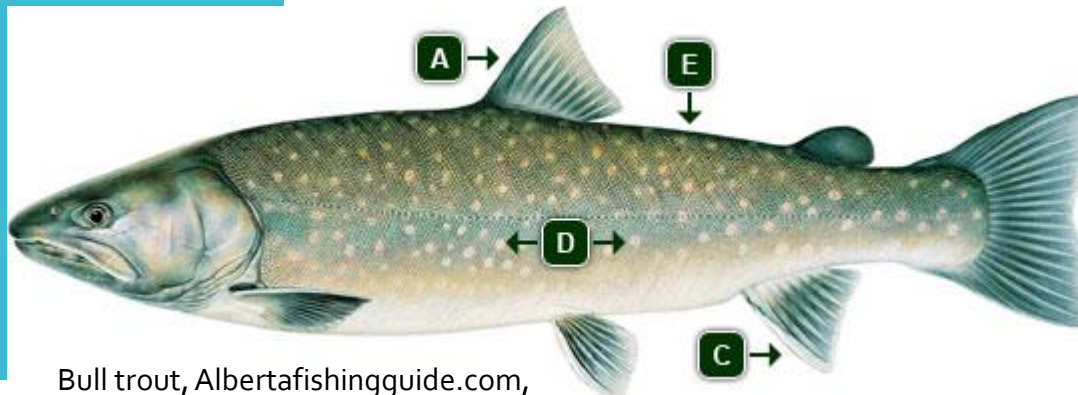


# Lamenting what we HADD?

Jason Unger

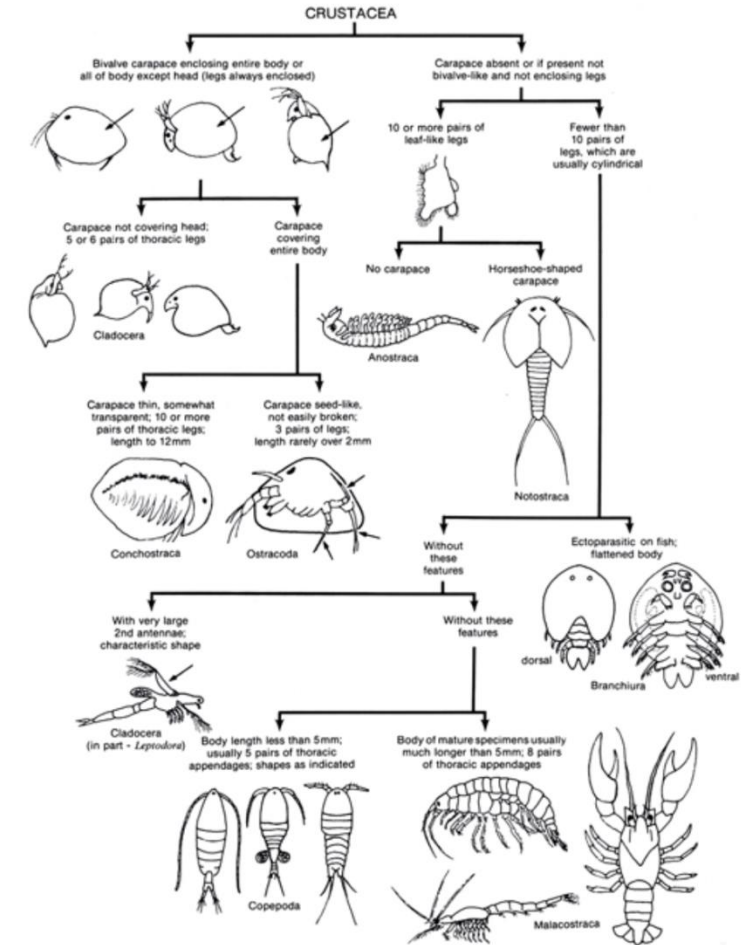
Nooksack Dace, Fisheries and Oceans Canada,  
<http://www.dfo-mpo.gc.ca/species-especes/species-especes/nooksackdace-naseauNooksack-eng.htm>



Bull trout, Albertafishingguide.com,  
<http://www.albertafishingguide.com/fish/bull-trout>

## Pictorial Keys

### Pictorial Key for Crustacea



Aquatic Invertebrates of Alberta, Introduction to Crustacea,  
[http://sunsite.ualberta.ca/Projects/Aquatic\\_Invertebrates/?arth=1&Page=25](http://sunsite.ualberta.ca/Projects/Aquatic_Invertebrates/?arth=1&Page=25)

# Iterations of habitat protection

1977

- Works and undertakings resulting in harmful alteration, disruption, or destruction of fish habitat

Attempted FA renewal

- harmful alteration or disruption, or destruction

C-38

- work, undertaking or activity results in serious harm to fish of prescribed fisheries
- Permanent alteration to or destruction of

# The good and the bad of HADD

## Prohibition

- A potent tool
- *Larsen*
  - Impacts from riparian tree clearing on water temperature
  - No before and after quantification of harm (i.e. temperature of stream)
  - Convicted on Crown expert evidence of HADD

## Administration

- Letters of advice
  - Implications for EA and enforcement
- Operational statements
- Authorizations and compensation narrowly applied

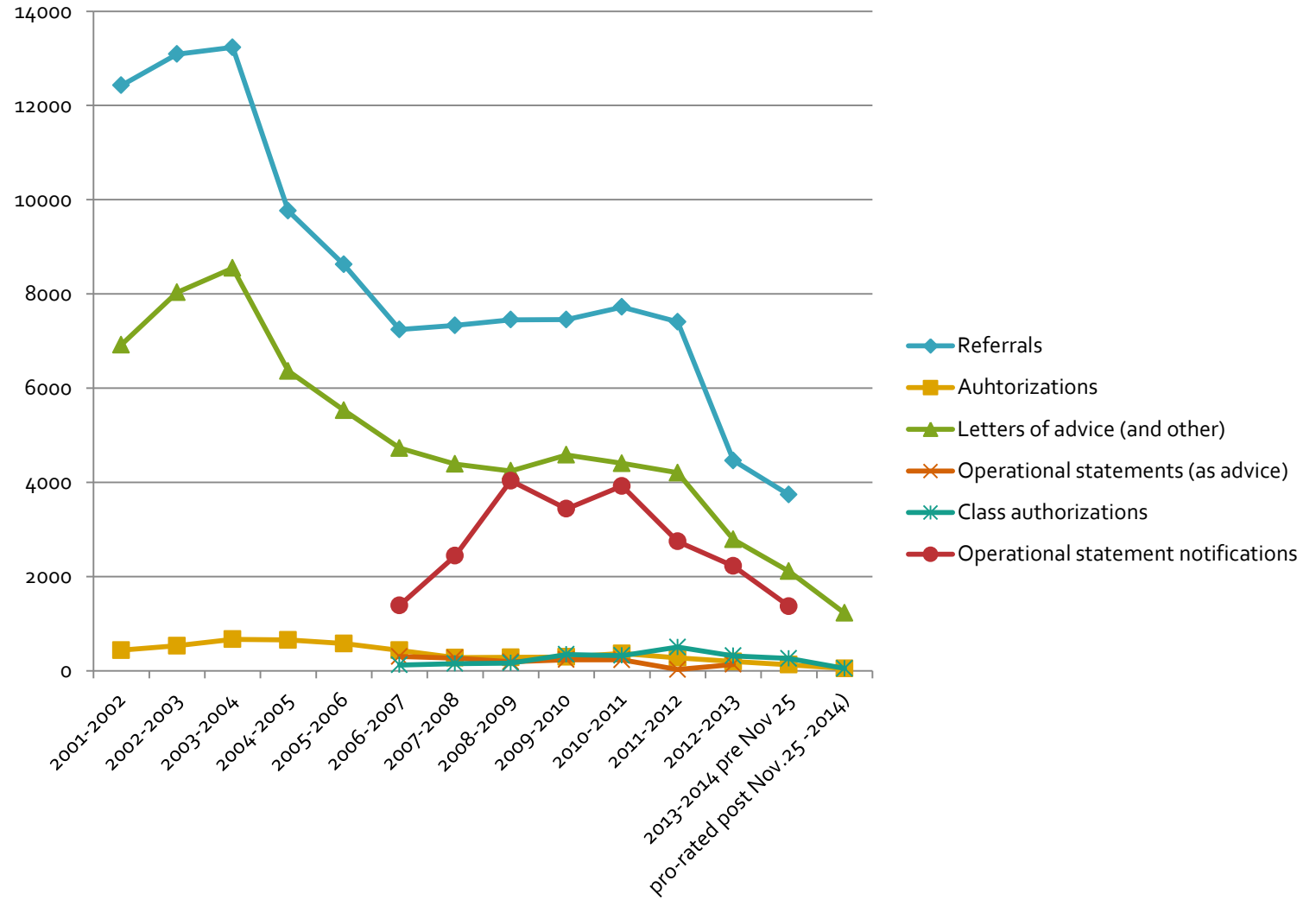
# EA backdrop

- Law List/CEAA
  - Mechanism of formalizing review and assessment (public participation and transparency)
  - Cumulative effects
- DFO scoping (and related JR)
  - TrueNorth
  - i.e. EA avoidance under FA and under CEAA



Canada.com, Martha Kostuch  
<http://www.canada.com/story.html?id=4d68o175-d2e0-427b-9576-776712d37637>

Mitigation  
going great  
guns!



# Lamenting HADD

## Industry

- Uncertainty
- Delay
- Wanted clear proof of harm to fish
- Remove EA trigger

# In with the new lament

## Temporal nature of impacts restricted

- Remove disruption
- “permanent”
- “serious”
- DFO policy
  - Similar pathways of effects
  - Guidance of mitigation remains

## The fishery question

- Prescribed fisheries
- Pre- C-38 case law has always had some level of focus on fisheries
  - “Right” and “site” vs. fishery as a resource (just one organism in the system)

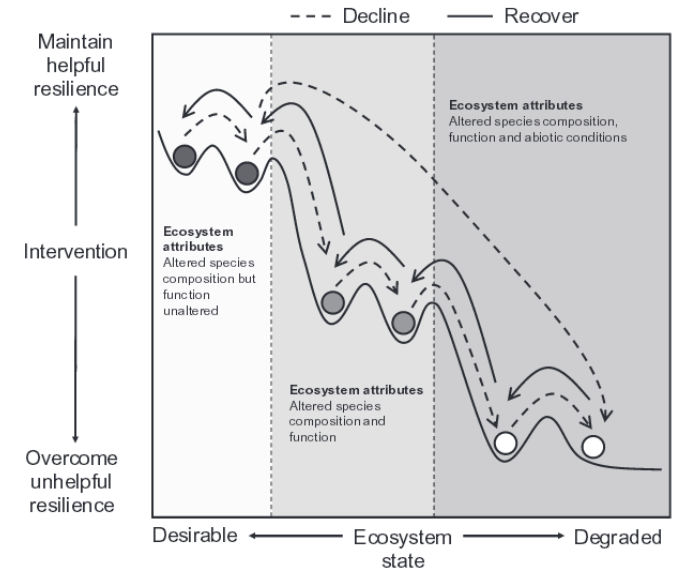
# DFO interpretation

- a **permanent alteration** to fish habitat of a spatial scale, duration or intensity that limits or diminishes the ability of fish to use such habitats as spawning grounds, or as nursery, rearing, or food supply areas, or as a migration corridor, or any other area in order to carry out one or more of their life processes;



# Consequences

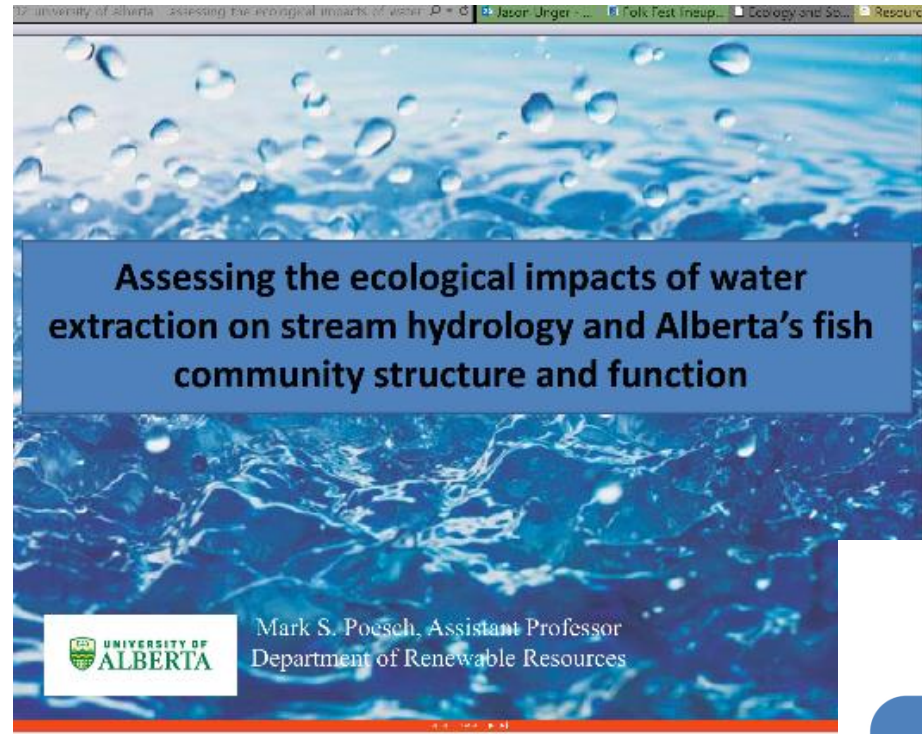
- Risk based assessment and management = reliance on ecosystem/species adaptability and resilience
- C-38 went step further – low risks and temporary impacts are not covered
- When and how do cumulative effects get managed?
- This requires management around thresholds



**Fig. 2.** An expanded version of Fig. 1 illustrating the possible spectrum of ecosystem states, their likely responses to disturbance (i.e., decline or recovery), and the corresponding options for their management. Note that pathways of decline and recovery can differ in the case of hysteresis (Suding and Hobbs, 2009) and this figure presents representative pathways only. Ecosystem attributes can indicate whether the state is desirable (i.e., historic pre-disturbance) or degraded, and experimental or observational data can indicate the presence of thresholds

Standish *et al*, "Resilience in ecology: abstraction distraction, or where the action is? (2014) *Biological Conservation* 177.

Scientific impacts may be significant



Dr. Mark Poesch, *Assessing the ecological impacts of water extraction on stream hydrology and Alberta's fish community structure and function*, online: Alberta Innovates, [http://www.ai-ees.ca/media/11206/12-university\\_of\\_alberta\\_-\\_assessing\\_the\\_ecological\\_impacts\\_of\\_water\\_extraction\\_on\\_stream\\_hydrology\\_and\\_alberta\\_s\\_fish\\_community\\_....pdf](http://www.ai-ees.ca/media/11206/12-university_of_alberta_-_assessing_the_ecological_impacts_of_water_extraction_on_stream_hydrology_and_alberta_s_fish_community_....pdf)

## Broad Goals

Understand which species and what life-history characteristics are most vulnerable to changes in stream hydrology

Understand whether different types of water extraction result in different impacts (e.g. duration, magnitude, frequency, seasonality), and timing.

Mitigate impacts and design effective water use policies

# Lament for the death of general treatment of habitat

- Environmental law is a balance between certainty of application (and prohibition) and flexibility and ambiguity to integrate scientific knowledge and cumulative effects management
- Narrowing of prohibitions means excluding scientific treatment of habitat impacts and related impacts on suitability
- Is there an assumption in the legislation that temporary impacts will not impact fish productivity? Yes.

# Conclusion

- Bill C-38 = industry appeasement + legislative integration of a limited risk based management system(read “significant harm”)
- Complexity and uncertainty of habitat/species needs could have been ameliorated by a broad and general prohibition informed by an EA process
- Reliance on resilience and adaptability of species/ecosystems (fingers crossed)
- Nature of general habitat prohibitions allow for multi-jurisdictional approach (but provinces are also wed to a risk based approach)
- Another chapter in the story of
  - Flexible and adaptable integration of science into habitat prohibitions vs. vested rights.