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Canada

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Canada

# Binational Risk Assessment of Asian Carps in the Great Lakes

Centre of Expertise for Aquatic Risk Assessment  
Fisheries and Oceans Canada  
Burlington, Ontario

**CEARA**

Centre of Expertise for Aquatic Risk Assessment  
Centre d'expertise analyse des risques aquatiques

Canada



## The Need

- High uncertainty and conflicting information on Asian carps – makes difficult decisions more difficult.
- In light of fiscal constraints – need to prioritize activities.
- Direction for effective, efficient actions based on a foundation of science.



## The Need

- Binational issue requiring binational cooperation.
- Canada-US discussions began last spring to determine how best Canada could contribute to protecting the Great Lakes.
- Identified expertise in Canada for **risk assessment** to help focus and guide prevention, monitoring and control actions.



## Risk Assessment - Objective

“..to evaluate, order, and structure incomplete knowledge so as to allow decisions to be made with as complete an understanding as possible of the current state of knowledge, its limitations, and its implications.” (Morgan, 1978)





# Biological Risk Assessment for Aquatic Invasive Species (AIS)

- Likelihood of an AIS introduction
  - probabilities of **arrival, survival, establishment, and spread**
- Magnitude of consequences (**ecological impacts**)
- Uncertainty
  - considers quality and quantity of data available to rank likelihood and magnitude
  - provides risk managers with indication of the inherent strengths and weaknesses in the risk assessment





## The Need

- But... we know there's a risk to the Great Lakes (Mandrak and Cudmore (2004), Kolar et al. (2005))
- Why do another risk assessment and what more could it tell us?



# The Plan

- Previous risk assessments were to answer broad questions: what is the risk to Canadian, American waters?
- Now there's a need for more targeted questions to address more specific management needs.
- Gaps have been identified
- Now have a greater understanding on Asian carp biology.





## The Plan

- 12 month ecological risk assessment:
  - includes 8 months complementary research
- CEARA to lead; GLFC to Coordinate
- USGS, USFWS RA writing team members
- Researchers from state, provincial, federal and academic groups
- NGO's study results if available
- Scientifically peer reviewed
- 4 month socio-economic impact assessment



# Identified Management Needs (some examples)

- Arrival:
  - All entry routes, detection limits
- Survival:
  - Areas with sufficient food
- Establishment:
  - # individuals needed to establish, vulnerable areas, key spawning areas (including non-tribs)
- Spread:
  - timeframe for spread within the lakes
- Impact:
  - Cumulative impact of additional planktivores



## Expected Outcome – Management Advice

- Focus prevention efforts on all high risk entry points.
- Identification of vulnerable areas for early detection and surveillance.
- Inform rapid response.
- Identification of key control points.





## Next Steps

- New and ongoing research identified – gaps to best answer RA elements?
- Data collection and modelling has begun.
- Management needs identified in a scoping document. Recognize constraints – time, resources.
- Reiterative process between management and science to ensure useful advice.



# Timeline: Key Milestones and Deliverables

	No	De	Ja	Fe	Mr	Ap	My	Jn	Jl	Au	Se	Oc	No	De	Ja	Fe	Mr
<b>MILESTONES:</b>																	
Managers Workshop	■																
Scientists Meeting	■																
Research	■	■	■	■	■	■	■	■	■	■							
Mid-Year Scientists Meeting							■										
Mid-Year Update to Managers							■										
Drafting of Risk Assessment (RA)											■						
RA out for review												■					
Scientific Expert Peer Review													■				
C&A Socio-economic Assessment															■	■	■
<b>DELIVERABLES:</b>																	
Meeting Record		■															
Scoping Document		■															
RA Workplan			■														
Draft RA											■						
Final RA														■			
Peer Review Proceedings														■			
Science Advisory Document														■			
C&A Socio-economic Assessment																	■





# RA Deliverables

- Biological Synopsis – up to date collection since 2005
- Annotated bibliography of the Russian literature
- Science peer reviewed Risk Assessment\*
- Proceedings from the peer review\*
- Science Advisory Report for managers\*
- Science to Policy Transfer meeting and associated documents?
- Primary publications

\* Within prescribed timelines





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# Questions?

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