



Lessons Learned from Grass Carp 2015 Responses in the Canadian Great Lakes

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Outline

- Background
- 2015 Grass Carp Captures
- Lessons Learned
- Next Steps



Outline

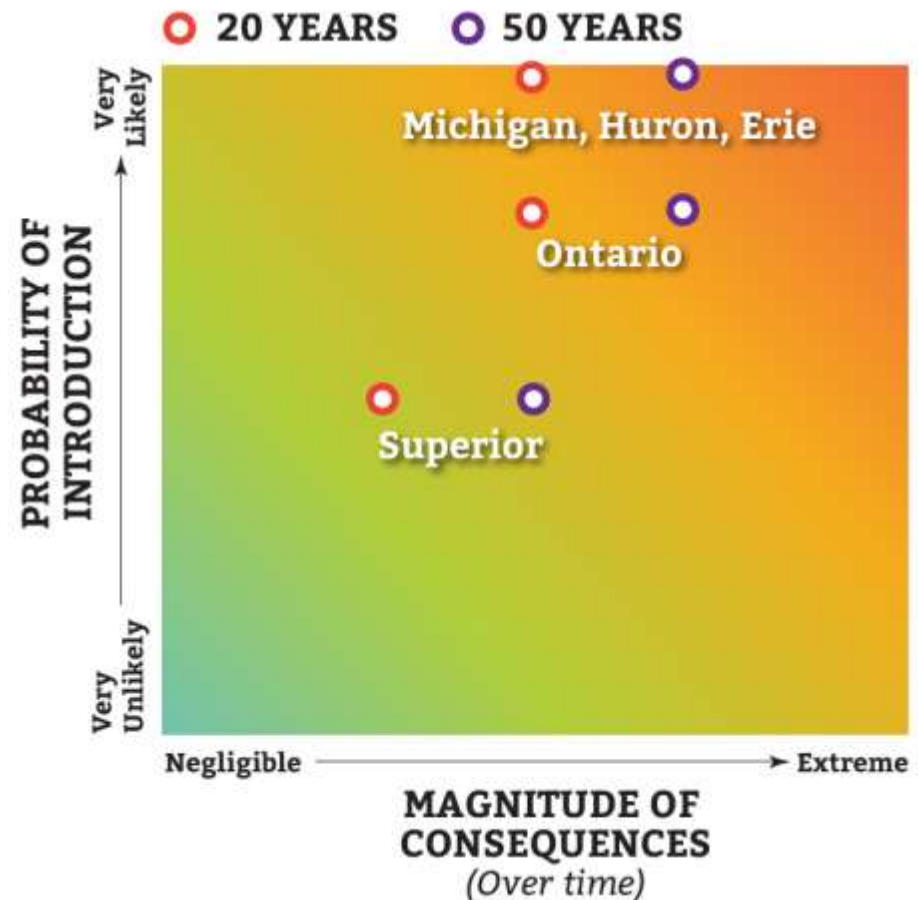
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2011 Bigheaded Carp Risk Assessment

Overall Risk

- If no additional actions are taken, the overall ecological risk of bigheaded carps to the Great Lakes is **high**.
- The impact of bigheaded carps on the Great Lakes is directly related to establishment. Therefore, preventing establishment is critical.
- ❖ **In Canada, need to focus on preventing introduction.**





DFO's Asian Carp Program (2012-2017)

Program Goal

Protect the integrity of the Great Lakes basin by preventing the introduction (arrival, establishment and spread) of Asian carps.

Program Framework

Multi-discipline approach within 4 Program Phases

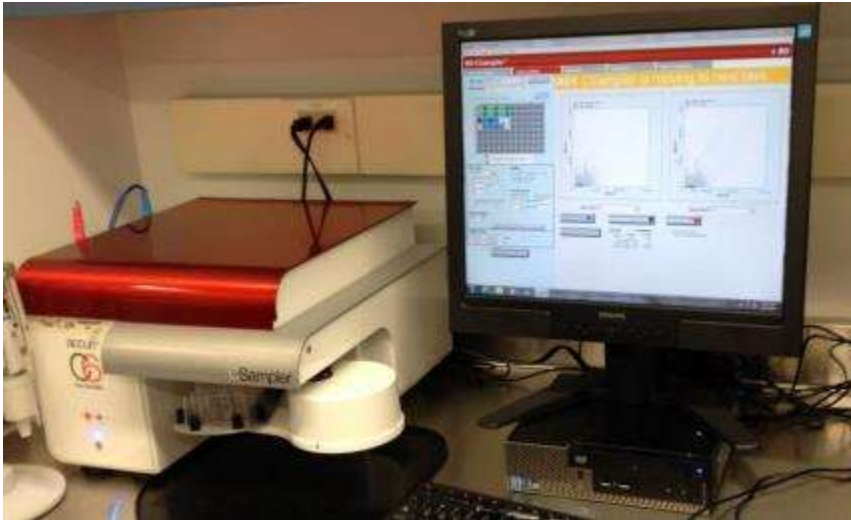


1. Prevention	2. Early Warning	3. Response	4. Management
<ul style="list-style-type: none"> • Outreach • Research • Risk assessment 	<ul style="list-style-type: none"> • Surveillance 	<ul style="list-style-type: none"> • Advice and analysis • Action 	<ul style="list-style-type: none"> • Regulations • Pathway management



Lab Analyses

- Ploidy testing of Grass and Black carps
- Other biological sampling of specimens





Management

- Training
- Coordination
- Action
- Protocol Development





Grass Carp in the Canadian Great Lakes

2013:

- 2 sterile fish (April, August) - Grand River, Lake Erie

2014:

- 1 sterile fish - Grand River, Lake Erie



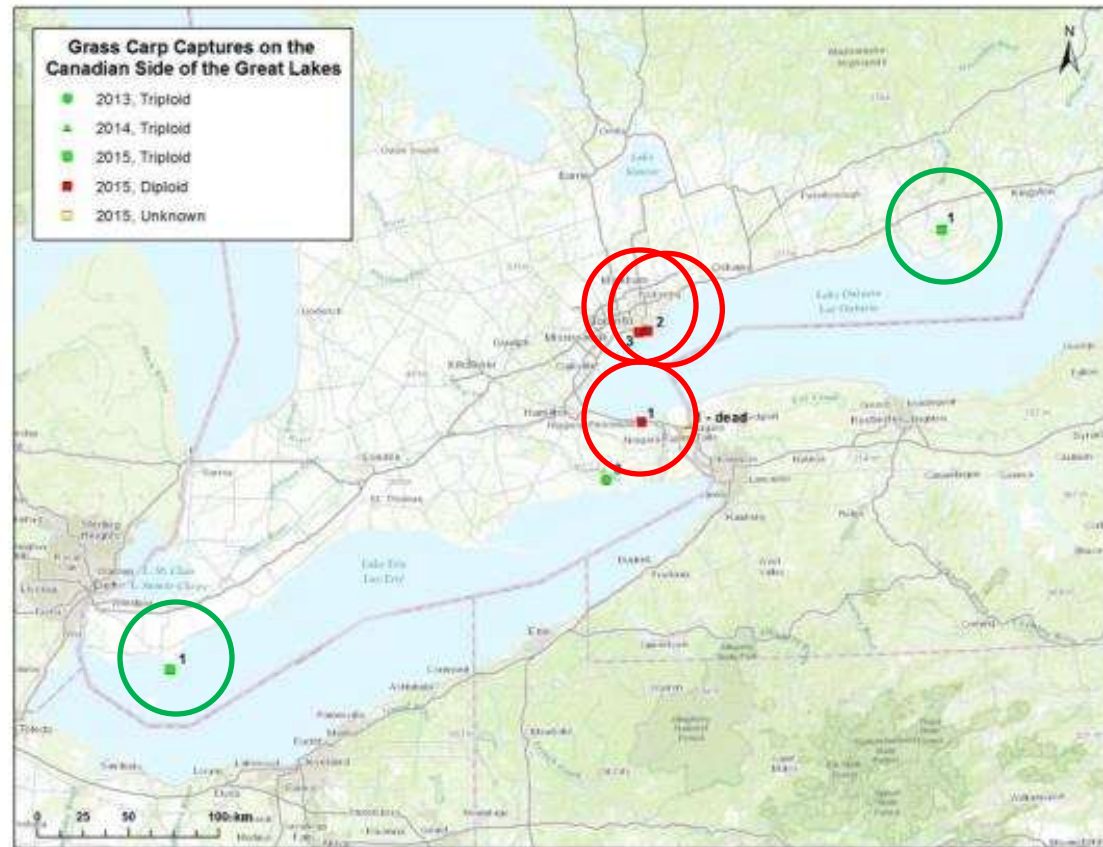


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Grass Carp in the Canadian Waters of the Great Lakes

- 9 fish
 - 6 fertile – first recorded in Canadian waters
- 5 separate responses using the Incident Command System (ICS)





Incident Command System (ICS)

- Standardized approach to the command, control, and coordination of emergency response providing a common hierarchy, terminology and communication protocol.





ICS Example – July 2015

- Incident Commander: DFO
- 3 agencies: federal (DFO), provincial (OMNRF) and Toronto & Region Conservation Authority
- 7 boats; 20 staff onsite/day
- Over 550 man hours of onsite activity conducted+ 182 hours DFO offsite
- ~19 hours of electrofishing; over 10km of trammel net deployed; 14 trap net sets; 11 fyke net sets

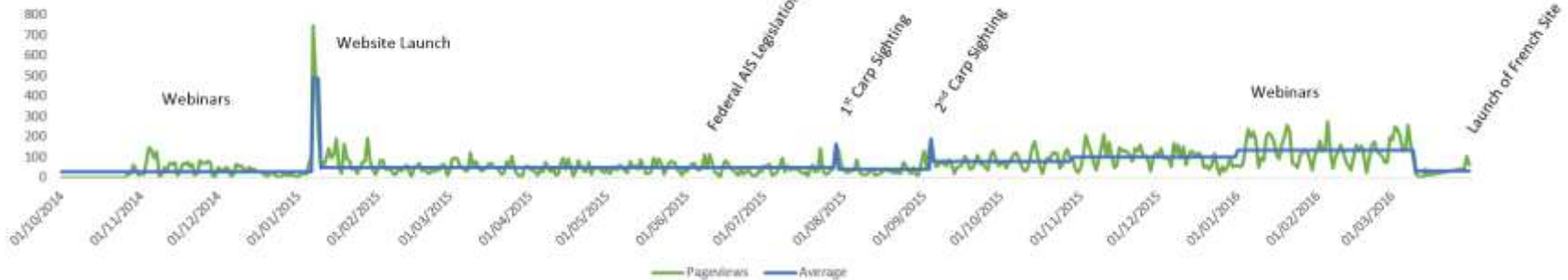
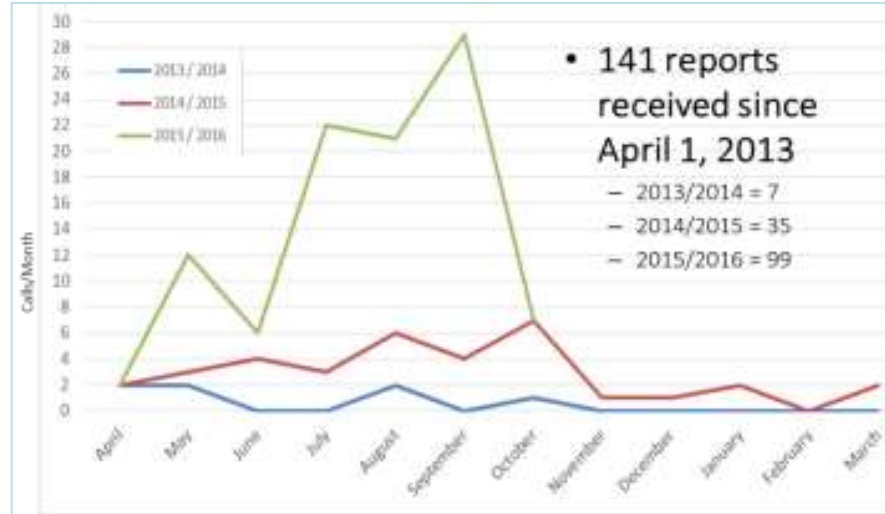




- Increased public interest

Calls to
hotline:

Visits to
website:



- Significant media attention – 9 on-camera interviews in 1 day

Market in Illinois, USA

Tilapia
红立: \$3.99/lb

Run Fish-Big
大太陽魚: \$8.99/lb

Raw Fish
生魚: \$5.99/lb

加拿大鯉魚
Canadian grass carp
整条 3.69 磅
开边 3.99 磅

Striped Bass
鲈鱼: \$7.99/lb

Large Mouth Bass
盲曹: \$9.99/lb

黑立
\$3.99

海包
\$3.99

黑立
\$3.99





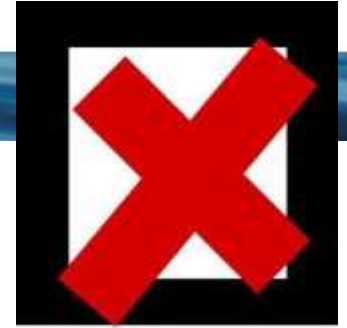
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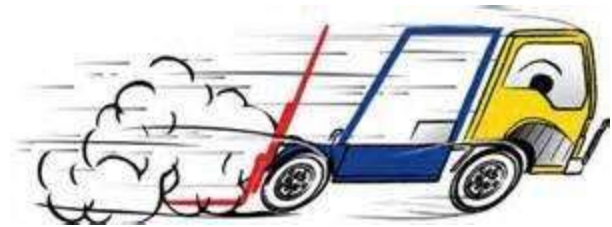
What Went Well

- ICS works well – common understanding and expectations
- Previous training and experience - main operational players within DFO knew what to do
- Moved into action quickly (usually within an hour)
- Cooperation with partners – leverage to increase resources, step in to accomplish what one agency can't do (media, work with harbour, IC)
- At end of day, goals accomplished



What Went Wrong

- Day 1: no internet/blackberry service
 - Not everyone understood the ICS structure
 - Taming the curious and helpful
 - Didn't have protocols written out
 - Week of September 14th:
 - Bay of Quinte (eastern Lake Ontario)
 - Point Pelee (western Lake Erie)
- = ~1100 km in 4 days. Both triploid individuals.





What Went Wrong

- Communication. Communication. Communication:
 - Need to know/not need to know
 - Informing players
 - Naming players (“*the Dave problem*”)
 - Too many cooks in the kitchen, breakdown in structure, information management and decision-making
 - Feeding the beasts – senior management, media
 - Federal election called during 2nd response! Writ period instituted.





Lessons Learned

- Training and experience pays off – results in ability to immediately implement action. Found real life small incidents more useful than table top exercises.
- Important for all people within, and adjacent to, incidences to understand ICS reporting structure, not usual lines of briefing.
- Partners can be key!





Lessons Learned

- Plan, plan, plan...*but* can't plan for everything. Must be flexible and move immediately into short-term Plan B, C, D.... And think about long-term corrections after incident.
- Important to hot wash – what went wrong, but also acknowledge positives! Adapt protocols and plans moving forward with corrections and with what worked.
- ICS is purposefully regimented and unilateral – not a democracy.



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Next Steps

- Pre-planned ICS framework and formal protocols
 - including briefing requirements and times
 - functions outlined
- Define response levels and formalize ICS triggers
- Continued training – potential on-water mock response?
- Begin planning for larger events
- **Prepared for 2016!**



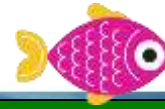


THANK YOU!

Questions?



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1. Prevention

2. Early Warning

3. Response

4. Management

2015 GC

Date Captured	Captured By	Capture Method	Location Description	Weight (kg)	Total Length (m)	Ploidy	Sex	~Age (pectoral spine)
27-Jul-15	TRCA	boat electrofisher	Lake Ontario, Tommy Thompson Park	14.7	1.02	Diploid	Male	13
28-Jul-15	DFO	trammel net	Lake Ontario, Tommy Thompson Park	10.2	0.97	Diploid	Male	14
26-Aug-15	DFO	trammel net	Lake Ontario, Jordan Harbour	16.68	1.048	Diploid	Male	16
01-Sep-15	TRCA	boat electrofisher	Lake Ontario, Toronto Islands	10.64	0.91	Diploid	Male	11
01-Sep-15	TRCA	boat electrofisher	Lake Ontario, Toronto Islands	16.56	1.018	Diploid	Female	9
02-Sep-15	DFO	boat electrofisher	Lake Ontario, Toronto Islands	9.1	0.893	Diploid	Male	13
14-Sep-15	Commercial fisher	trap net	Lake Ontario, Bay of Quinte, Muscote Bay	12.7	1.037	Triploid	Female	13
16-Sep-15	Commercial fisher	trap net	Lake Erie, near Point Pelee	10.61	0.976	Triploid	Female	8
19-Sep-15	Angler	dead on shore	Lower Niagara River	8.1	0.95	Unknown	Unknown	10

WHEN??

- Will take several months before all pieces are in to see big picture.
- Hope for some conclusive evidence to eliminate some hypotheses.





Current Status

- Do we have introduction? – *no. Arrival, maybe?*
- Do we have establishment ?– *no.*
- Is it game over? – *not by a long shot.*