



Using Knowledge Surveys to Inform Education and Outreach Initiatives on Asian Carps in Canada

Rebecca Schroeder
Invasive Species Centre

About the Invasive Species Centre



The Invasive Species Centre connects stakeholders, knowledge and technology to prevent and reduce the spread of invasive species that harm Canada's environment, economy and society.

Asian Carp Canada Program



Partners!

Website (www.asiancarp.ca)



Webinar Series



Digital Outreach



Knowledge Surveys



Toronto Zoo Exhibit



Information Sessions

Purpose

- What do Ontarians' know about Asian carps?
- Conducted a Baseline Knowledge Survey in 2015, and then ran a follow-up survey in 2017.
- Surveys began with general importance of ecosystem protection and their knowledge of invasive species in general
- They then focused specifically on Asian carps including questions focusing on:
 - General knowledge of the species
 - Opinions on their impacts
 - Knowledge of what the public can do
 - What is currently being done
- The results from these surveys are used to inform our outreach efforts

Methods

ISC Developed
survey
questions



Information
was collected
by Leger



Survey was
completed via
a web-based
survey



Surveys ran
from August
28 –
September 6,
2015 (baseline)
and from
December 7-
14, 2017
(Follow-Up)



1002 people
responded to
each survey



Respondents
were weighted
using Statistics
Canada
information
(gender, age,
language,
education,
region)

Profile of Respondents

REGION

ONTARIO	
Hamilton – Niagara Peninsula	10%
Kingston – Pembroke	3%
Kitchener – Waterloo – Barrie	10%
Greater London area	5%
Muskoka – Kawarthas	3%
Northeast	4%
Northwest	2%
Greater Ottawa area	10%
Stratford – Bruce Peninsula	2%
Greater Toronto area	46%
Windsor - Sarnia	5%

GENDER



Male

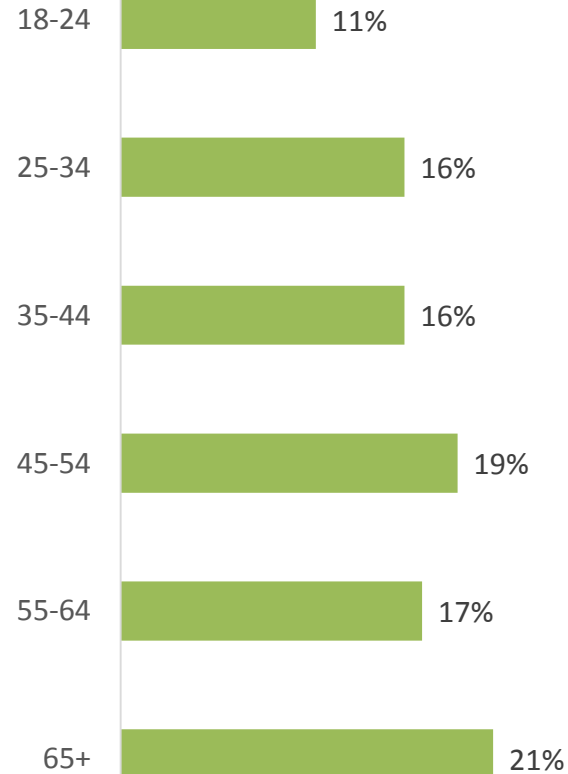
48%



Female

52%

AGE



EDUCATION

University

38%

College

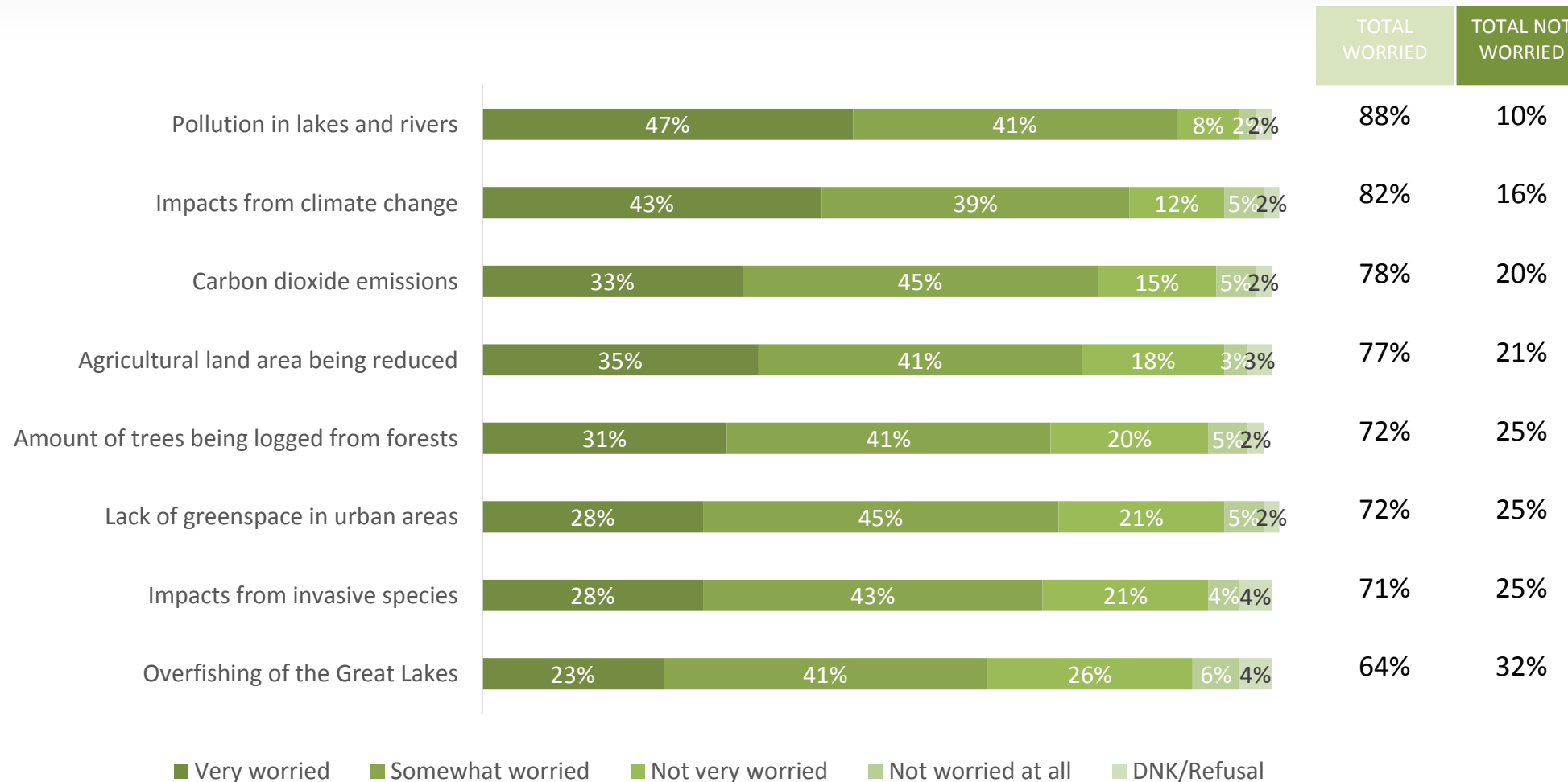
28%

Elementary/
Highschool

30%

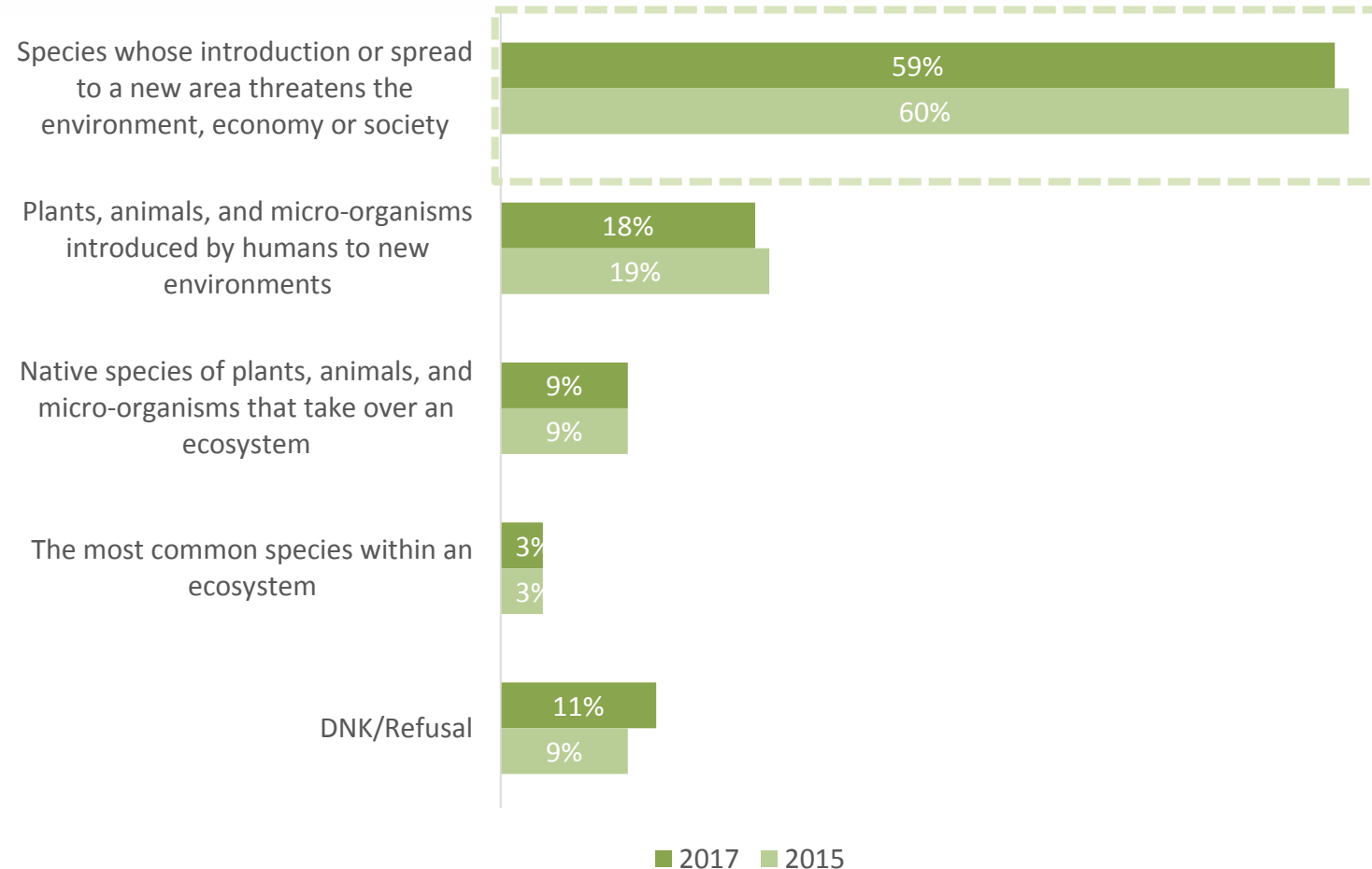
Results: level of concern with various environmental problems in Ontario

Question: Personally, how worried are you about each of the following issues in Ontario:



Results: knowledge of the definition of an invasive species in Ontario

Question: According to you, which of the following statements best describe invasive species in Ontario?



Higher proportion among:

- People who live in a household with an annual income above 100k
- Residents of Northeastern Ontario

Results: level of agreement with invasive species related statements

Question: To what extent do you agree or disagree with the following statements about invasive species:

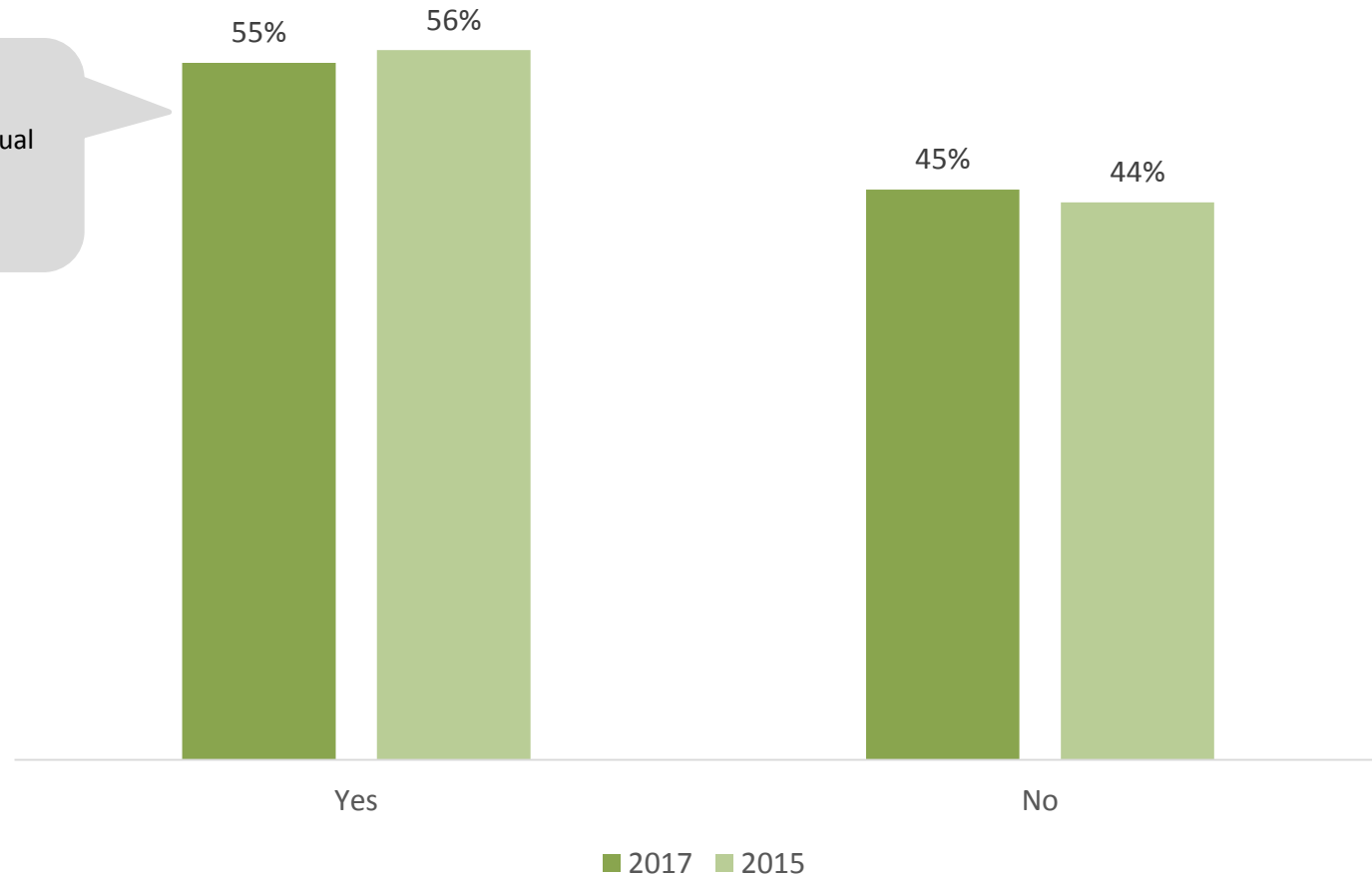
	TOTAL AGREE		TOTAL DISAGREE	
	2017	2015	2017	2015
Invasive species directly affect human health and societal well being	70%	71%	18%	17%
Canada's cold climate kills 90% of the invasive species that try to survive here	33% ↑	26%	46% ↓	54%
Invasive species increase biodiversity in Canada's forests and lakes	32%	30%	50% ↓	55%
There have been minimal environmental damages linked to invasive species	22%	20%	64%	67%
There is nothing the general public can do to help manage invasive species	17%	16%	73%	76%

Results: awareness of Asian carps

Question: Before today, have you ever heard, read or seen anything about Asian carps:

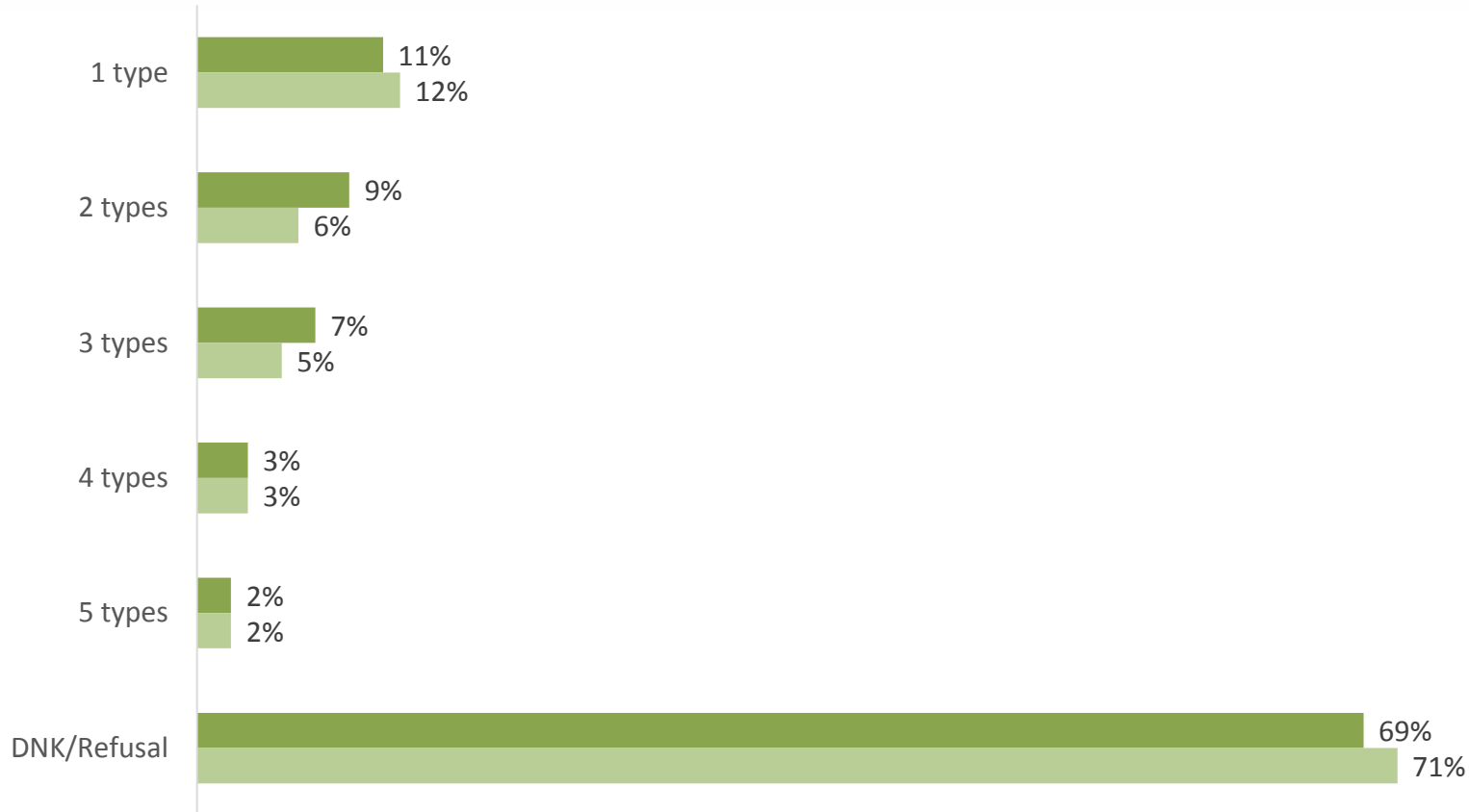
Higher proportion among:

- People 55 years of age or over
- People who live in a household with an annual income above 100k
- People who spend on recreational fishing
- Residents of Northeastern Ontario



Results: knowledge of the types of Asian carps

Question: According to you, how many types of Asian Carp are there?

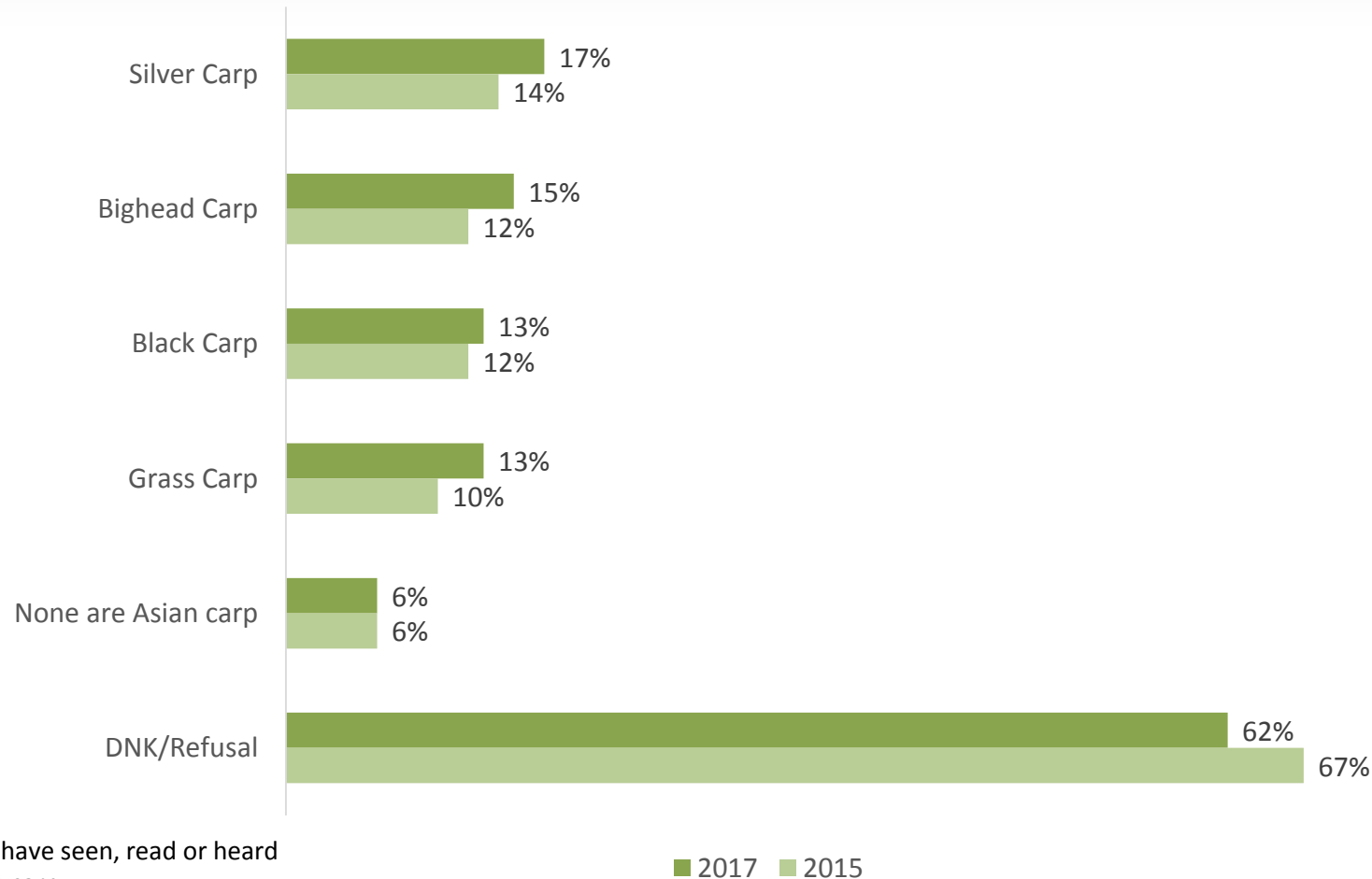


Base: respondents who have seen, read or heard information about Asian carp

■ 2017 ■ 2015

Results: known species of Asian carps

Question: According to you, which of the following is a type of Asian carp?



Few people knew that there are four species of Asian carps. 33% of people in 2017 and 28% of people in 2015 knew that at least one of the species listed was an Asian carp with a higher proportion of those people being recreational fishermen.

Base: respondents who have seen, read or heard information about Asian carp

■ 2017 ■ 2015

Addressing the Gap



Can you identify the four species of Asian carps? Can you differentiate them from native species? Visit our Confused with Carp page to learn more asiancarp.ca/ASIAN-CARPS/Co...

ASIAN CARP IDENTIFICATION

GRASS CARP curved line from gill to tail no barbels pelvic fin anal fin	BLACK CARP no barbels pelvic fin anal fin
BIGHEAD CARP eye below centre of body no barbels pelvic fin keel anal fin	SILVER CARP eye below centre of body no barbels pelvic fin keel anal fin



invasivespeciescentre • Following

invasivespeciescentre Do you know your species of #Asiancarp?

"Asian carps" refers to four distinct species: silver carp, bighead carp, grass carp, and black carp. These species were originally brought over from Asia in the early 1970s for biological control of algae, plants, and snails in aquaculture ponds. They later escaped into the Mississippi River Basin and became #InvasiveSpecies.

It is illegal to possess live Asian carps in Canada, and several groups are hard at work to keep this aquatic invader out of the #GreatLakes. If you think you've seen an Asian carp, report your sighting to the @irvspesies

Liked by zacdodds and 76 others



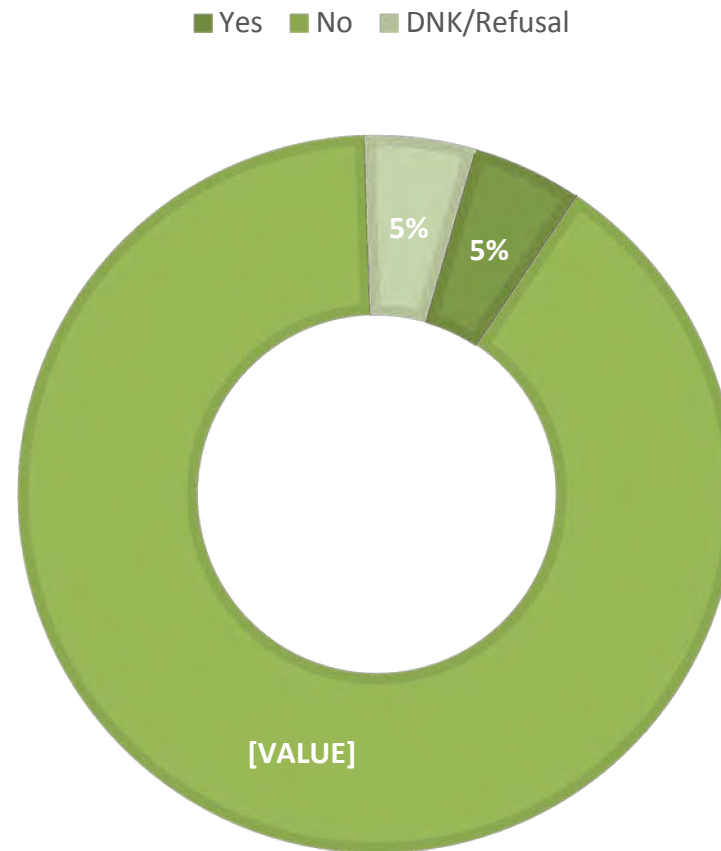
Results: probability of having ever caught an Asian carp

Question: Have you ever caught this fish out of the Great Lakes? (new question in 2017)




This image was shown

Base: all respondents




91% of people have said they have not caught a Grass Carp. However, people still don't know that there are multiple species

Addressing the Gap

 **Asian Carp Canada**
Published by Deborah Sparks [?] · 21 October at 10:58 · 🌐

Grass Carp look similar to Common Carp and the two species are commonly confused. The key differences are that Common Carp have a long dorsal fin and barbels next to their mouths while Grass Carp have a short dorsal fin and lack barbels! Think you've spotted a Grass Carp? Take a picture and report it! <https://asiancarp.ca/ASIAN-CARPS/Confused-with-Carp>



Asian Carp Canada
Non-governmental organisation (NGO)

8,447 People reached 374 Engagements

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Confused with Carp

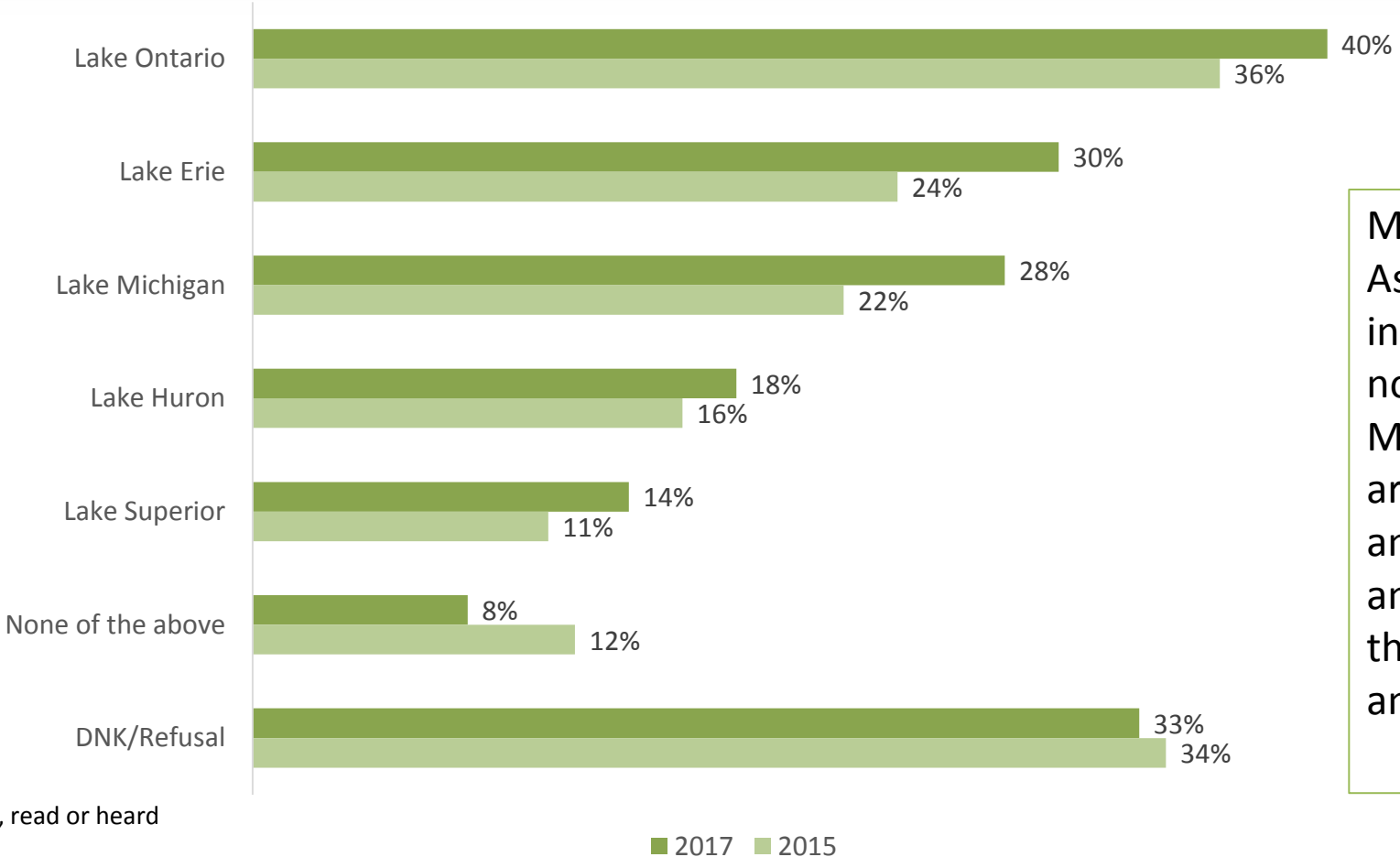


In the Baseline Knowledge Survey for Ontario, it was discovered that 26% of Ontarians believe that they can identify an Asian carp. While only 3% of Ontarians know that there are four species of Asian carp. As such, there are many incorrect reports of Asian carps directed to the Invading Species Hotline. This implies that the public, while receiving the message about the risks of Asian carp, are still unable to properly differentiate Asian carps from native lookalikes. Here are a few of the main lookalikes that often get confused with carp!

- About Asian Carps
- Bighead Carp
- Black Carp
- Grass Carp
- Silver Carp
- Common Carp
- Confused With Carp
- Confused With Carp: Baitfish Edition
- Asian Carp Identification Key

Results: known presence of Asian carps in various water bodies

Question: According to you, Asian carps are currently established in which of the following water bodies?



Most people believe that Asian carps are established in the Great Lakes, or did not know if they were. More people believe they are established in Lakes Erie and Michigan than in 2015, and less people believe they aren't established in any than in 2015.

Base: respondents who have seen, read or heard information about Asian carp



Addressing the Gap



Asian Carp Canada @asiancarpca · Mar 15

There are currently no established populations of Asian carps in the Great Lakes. There have been a few rare captures of individual species but there is no evidence of an established population & monitoring continues. Visit our FAQ page to learn more! asiancarp.ca/RESOURCES/FAQs



3 6



Asian Carp Canada @asiancarpca · Feb 26

Grass Carp are not established in the Great Lakes but have been captured in all of the Great Lakes except Lake Superior. Analysis of some of the captured fish found that survival and over wintering occurred in areas close to the Great Lakes. waves-vagues.dfo-mpo.gc.ca/Library/406011... #InvSpWk



2 2 8

Results: level of agreement with various statements about Asian carps

Question: To what extent do you agree or disagree with the following statements about Asian carps:

	TOTAL AGREE		TOTAL DISAGREE	
	2017	2015	2017	2015
Asian carps are a serious threat to the Great Lakes economically.	84%	83%	10%	11%
If Asian carps enter the Great Lakes, they will destroy the ecosystem.	83%	80%	12%	12%
Canada should spend more money on Asian carp prevention.	82% ↑	77%	10%	12%
Asian carps will enter the Great Lakes regardless of prevention efforts.	44%	40%	47%	50%
An Asian carp invasion into the Great Lakes will have no impact on my life.	17%	18%	77%	75%
If Asian carps enter the Great Lakes, I will have more fish to catch.	14%	13%	75%	78%
Canada should not worry about a fish that is not in the Great Lakes yet.	11%	9%	85%	87%
Asian carp will not affect other fish populations.	9%	9%	87%	87%
Asian carps cannot survive in the Great Lakes.	8%	7%	80%	79%

Addressing the Gap

Asian Carp Canada
@asiancarpca

Asian carps could have many negative economic impacts! Follow along this week as we highlight the economic value of the Great Lakes, and the impact Asian carps could have if established!



1:22 PM - Jan 28, 2019 - Twitter Web Client

Asian Carp Canada
@asiancarpca

Grass Carp primarily consume aquatic vegetation. They can eat up to 40% of their body weight in food daily. Just 10 adult Grass Carp per hectare can reduce wetland vegetation by up to 50%. Think you've spotted a Grass Carp? Take a picture and report it! asiancarp.ca/ASIAN-CARPS/Gr...



11:07 AM - Oct 11, 2019 - Twitter Web App

Asian Carp Canada
@asiancarpca

A recent study found that juvenile Bighead & Silver carps could survive the winters with 85% survival rates! Future climate warming could increase their chances of survival. The harsh winters in the Great Lakes region would be no problem for them. #InvSpWk bit.ly/2SVCOHs



REPORT SIGHTINGS!
HOTLINE
1-800-563-7711
EDMAPS ONTARIO
Eddmaps.org/Ontario
Apple/Android App

Asian Carp Canada
@asiancarpca

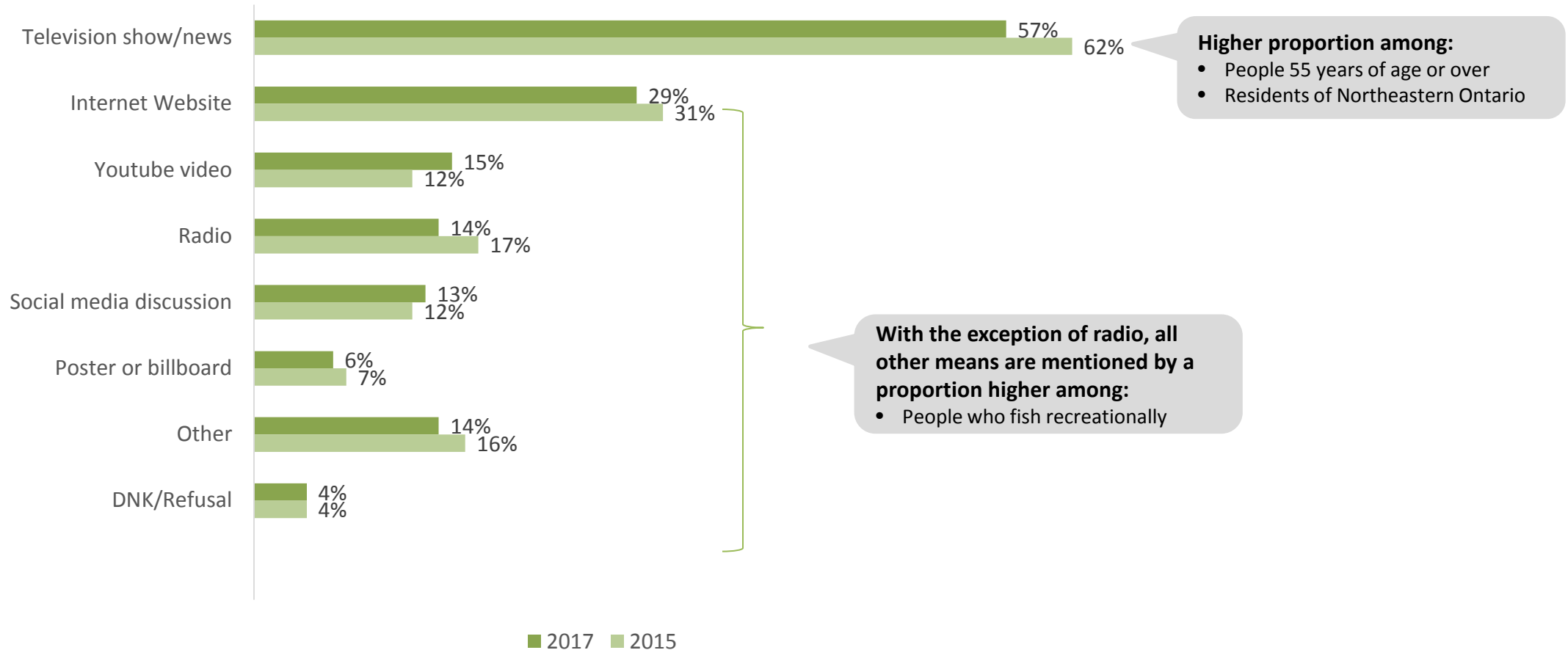
Silver Carp are also known as "Flying Carp" because they can leap up to 3 m (9 ft) out of the water when startled by boat motors! This is a hazard to recreational water users. If you think you've spotted an Asian Carp, make sure to report it! asiancarp.ca/Report-a-Sight...



Government of Canada
Invasive Species Centre

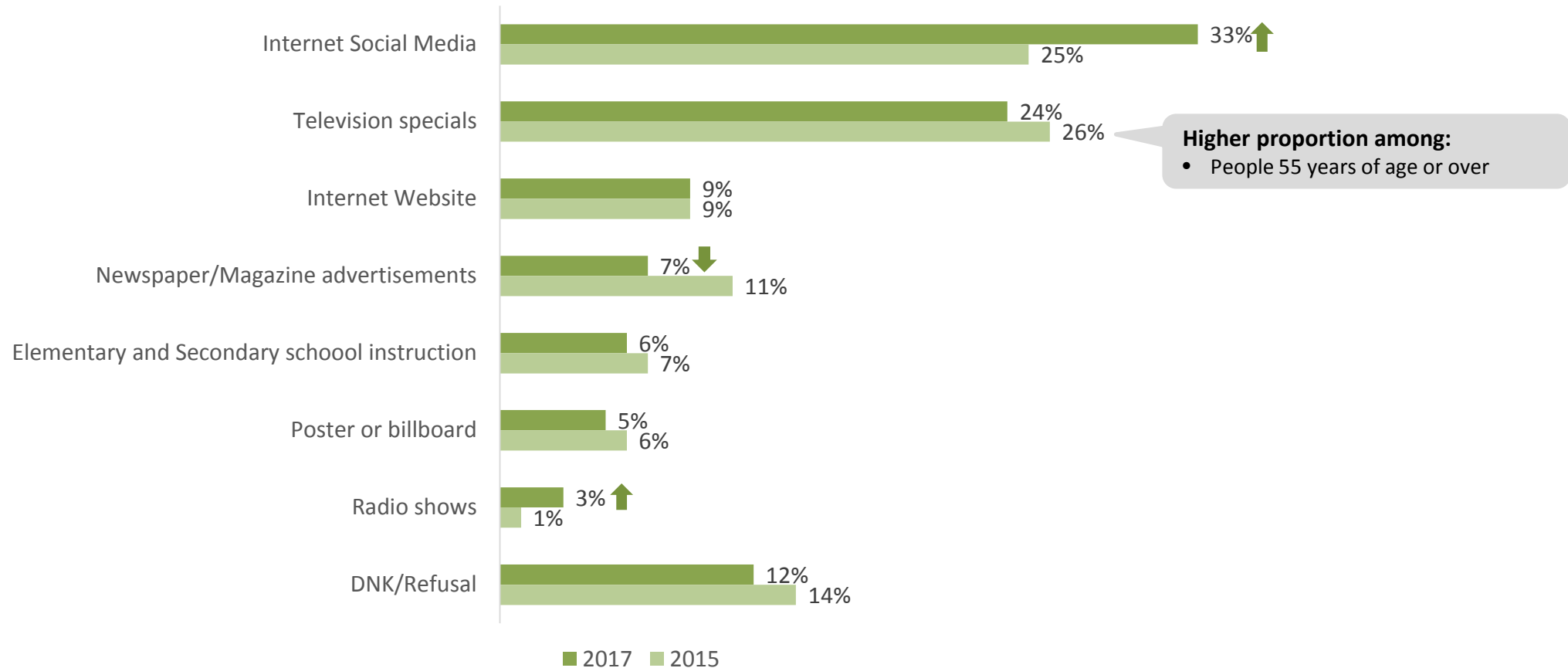
Results: sources of information about Asian carps

Question: Where did you see, read or hear about Asian carps?



Results: preferred sources of information about Asian carps

Question: According to you, what is the best way to inform people about Asian carps?



Addressing the Gap



www.anglersatlas.com



How Much Do You Know About Asian Carps?!

This summer I had the opportunity to travel to the Toronto Zoo to visit the new Asian carp exhibit. During...


www.shelovestofish.com



Have You Ever Seen an Asian Carp?!

1,061 views · Aug 29, 2019

30 likes · 0 dislikes · SHARE · SAVE · ...

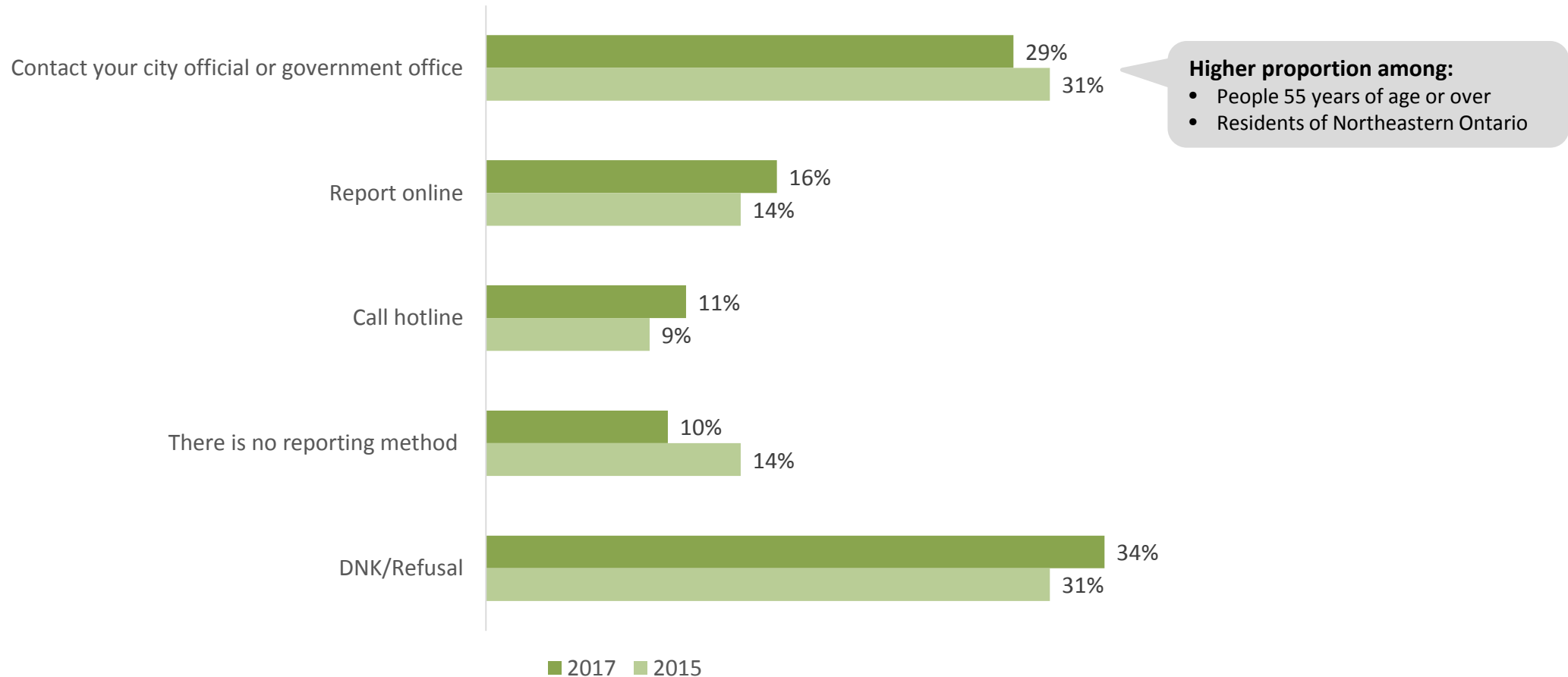
 She Loves To Fish
1.4K subscribers

SUBSCRIBE

Social Media Angler Influencer – YouTube Video

Results: reporting options for Asian carps

Question: How would you report an invasive species sighting?



Addressing the Gap

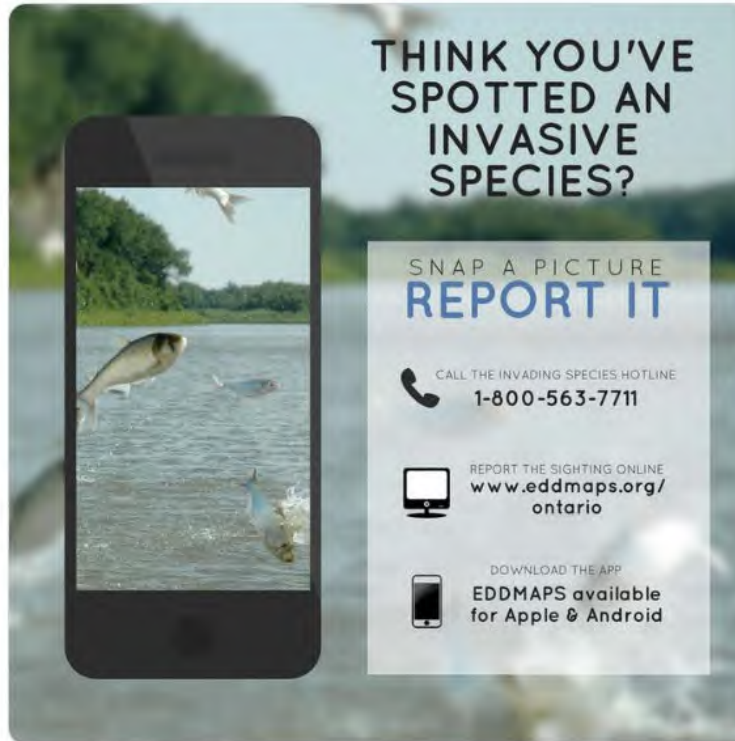
 Asian Carp Canada
@asiancarpca

Meet the Grass Carp: one of the four species of Asian carps threatening to invade the Great Lakes. Grass Carp could have serious ecological & economic impacts if they were to establish. Think you've spotted a Grass Carp? Take a picture and report it! asiancarp.ca/ASIAN-CARPS/Gr...



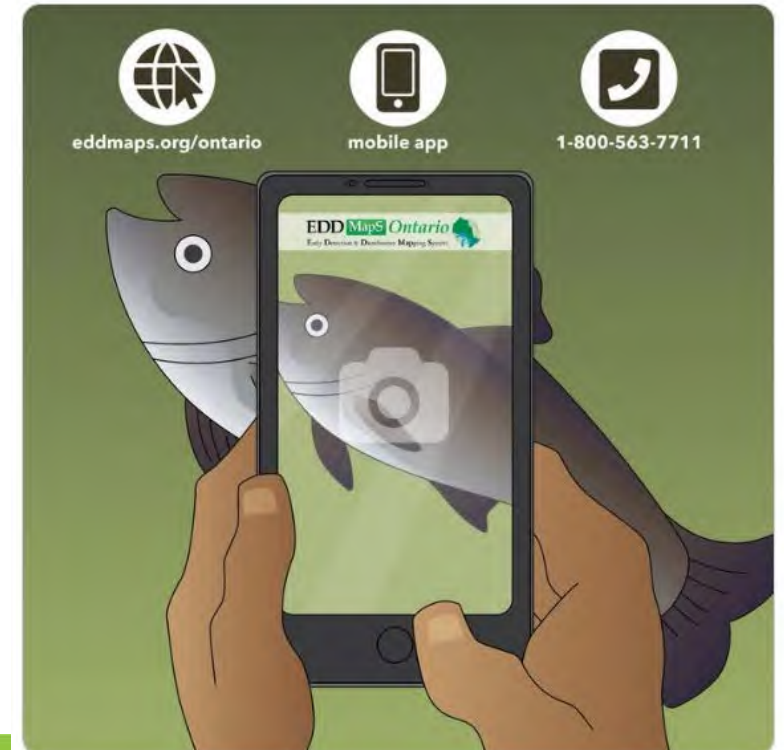
 Asian Carp Canada
@asiancarpca

Spending your #longweekend on the water? Be on the lookout for aquatic invaders like Asian carps and report any sightings!



 Asian Carp Canada
@asiancarpca

Want to help prevent an establishment of Asian carps in the Great Lakes? Learn how to identify the four species and report any sightings! Online reporting can be done by visiting eddmaps.org/ontario



Conclusion

- Surveys have been useful in helping us understand what Ontarians' know about Asian carps and how to develop campaigns to fill in the gaps
- There little change in knowledge between each survey with a few exceptions
- Future survey will be more specific to our target audience of anglers to determine what they know and how they like to receive their information

Questions?

Rebecca Schroeder

Invasive Species Centre

rschroeder@invasivespeciescentre.ca

