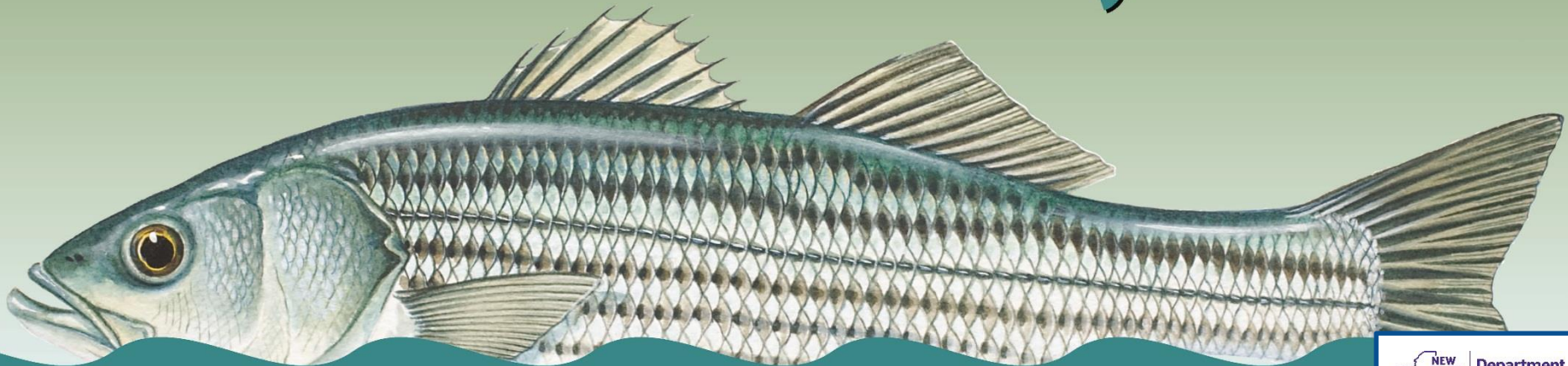


Hudson River Fish Advisory Outreach  
Project Update 2009-2016

Appendix: Preliminary Results of Hudson River  
Fish Consumption Surveys  
September 2016

New York State Department of Health

# Hudson River Fish Advisory Outreach



Can you eat that fish from the Hudson River? [www.health.ny.gov/fish](http://www.health.ny.gov/fish)



# NYSDOH Hudson River Fish Advisory Outreach Program Fish Consumption Assessment

This Appendix offers:

- A brief overview of Hudson River Fish Advisory New York State Department of Health (NYSDOH) advice
- Information from fish consumption surveys done by New York State Department of Health and our migrant partners
- How this information targets future efforts

# Hudson Fish Advisory Outreach Consumption

## What Is the Advice

- The goal of the Hudson River Fish Advisory Outreach program is that all Hudson fish consumers know, understand and follow the NYSDOH advice on eating Hudson fish
- The advice depends upon who you are, where you fish, and what you catch
- Women under 50 (childbearing years) and children under 15 should not eat any Hudson fish or crabs downstream of Corinth in Saratoga County to the New York Battery

**WARNING!**

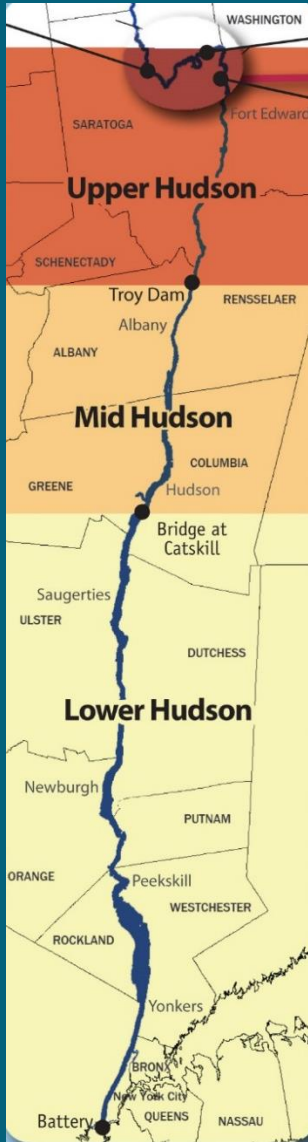
**Fish** and crabs from these waters contain chemicals and may be **harmful to eat**, especially for women and children.



*Learn more! Call NYS Department of Health*  
518-402-7800  
800-458-1158

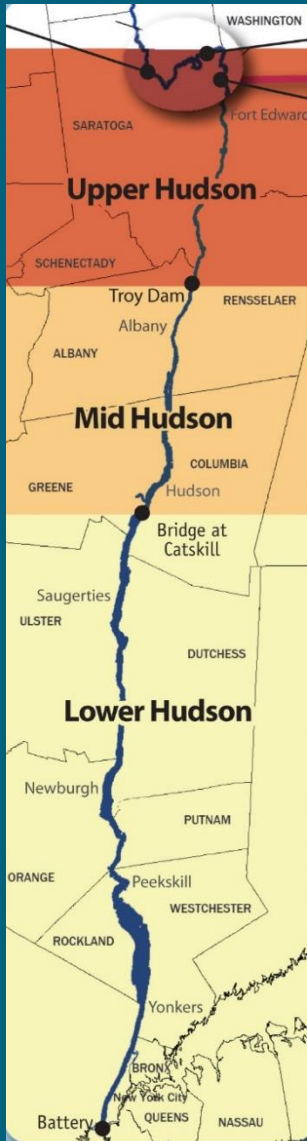
# Hudson Fish Consumption

## What Is the Advice



- From Hudson Falls to Troy – New York State Department of Environmental Conservation (NYSDEC) regulations are in place - catch and release fishing only, no one can take fish home
- From Troy to Catskill, women above 50 and men can eat four species up to once a month
- From Catskill to New York City, women above 50 and men can eat most species up to once a month and some marine species up to once a week

# Hudson River Advice for Men and Women above 50: Hudson Falls to Catskill



**Upper Hudson**  
From the Rt. 9 Bridge to Troy Dam





Do not eat fish from the Route 9 Bridge to the Troy Dam.

From Baker's Falls to the Troy Dam, New York's State Department of Environmental Conservation's "catch and release" regulations apply.

**Take No Fish. Eat No Fish.**



















**Mid Hudson**  
From Troy Dam to Bridge at Catskill

Eat up to one meal a month:

 Alewife	 Rock bass
 Blueback herring	 Yellow perch

**Do not eat other fish from the Mid Hudson including striped bass**

# Hudson River Advice for Men and Women above 50: Catskill to NYC

<p><b>Lower Hudson</b> From Rip Van Winkle Bridge at Catskill to the NYC Battery</p>	 Men over 15 and Women over 50	 Women under 50 and Children under 15
 <b>Walleye</b>  <b>White catfish</b>  <b>Channel catfish</b>  <b>American eel*</b>  <b>Gizzard shad</b> <i>*DEC regulations prohibit taking American eel for food from the Hudson River</i>	DON'T EAT	DON'T EAT
 <b>Striped bass</b>  <b>Smallmouth bass</b>  <b>Largemouth bass</b>  <b>Bluefish</b>  <b>Brown bullhead</b>  <b>White perch</b>  <b>Carp</b>  <b>Rainbow smelt</b>  <b>Goldfish</b>  <b>Atlantic needlefish</b>	Up to 1 meal/month	DON'T EAT
 <b>Blue crab</b> Do not eat the tomalley (green stuff, mustard) or reuse cooking water	Up to 6 crabs/week	DON'T EAT
All other species	Up to 4 meals/month	DON'T EAT

# Hudson Fish Consumption

Particularly below Catskill, much of the fish eaten from the Hudson may be consistent with the NYSDOH advice

Hudson fish consumption that is a concern includes:

- Anyone eating fish from Hudson Falls to Troy (NYSDEC “Catch and Release” area)
- Any Hudson fish eaten by women under 50 (childbearing years) and children under 15
- Anyone eating heavily contaminated “do not eat” species: catfish, eel, walleye and gizzard shad





# Hudson Fish Consumption

Other Hudson fish consumption that is a concern includes:

- Most of the fish, including striped bass, consumed from Catskill to Troy
  - Advice is that only four species can be eaten up to once a month in this section
- Fish or crabs that are eaten more frequently than advised

**Mid Hudson**  
From Troy Dam to Bridge at Catskill

Eat up to one meal a month:

 Alewife	 Rock bass
 Blueback herring	 Yellow perch

**Do not eat other fish from the Mid Hudson including striped bass**



# NYSDOH and Hudson River Fish Advisory Minigrant Partner Surveys

NYSDOH and Cornell Cooperative Extension (CCE) minigrant partners do a variety of outreach activities, including local and Hudson fish consumption surveys

- CCE Dutchess County (CCE Dutchess) coordinates surveys from five counties on eating locally-caught fish, including the Hudson
- CCE Saratoga County (CCE Saratoga) collects surveys on eating Hudson fish in Saratoga and Washington counties
- NYSDOH collects convenience sample surveys on eating Hudson fish at outreach events staff attend from Saratoga County to NYC

# NYSDOH and Hudson River Fish Advisory Minigrant Partner Surveys

NYSDOH and partner surveys meet two outreach goals:

- Education - local fish eaters receive fish advisory materials after survey
- Information collected helps our program target resources

# NYSDOH and Hudson River Fish Advisory Minigrant Partner Surveys

## Survey limitations:

- All are self-report
- CCE surveys are collected at a variety of community locations, but respondents are not selected to statistically represent Hudson Valley residents
- NYSDOH surveys reflect the people at the events we attend
- Surveys reflect bias of who chooses to participate

# NYSDOH and Hudson River Fish Advisory Minigrant Partner Surveys

Survey limitations continued:

- Surveys are very short to encourage participation
  - we do not collect information on how much of each species is consumed or how each type of fish is prepared
- People do not answer every question and in upcoming slides we present results for the number of people who answered the question, may be slightly different from the total responses

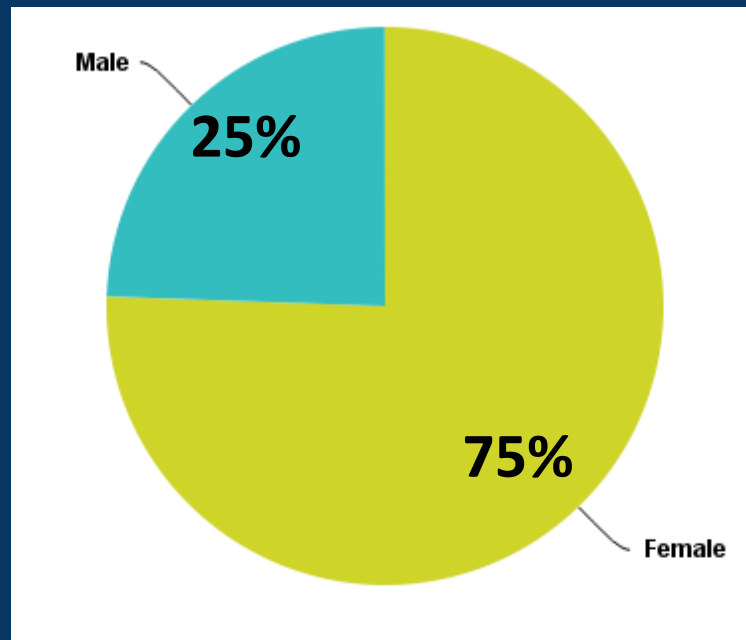
# CCE Dutchess Partners

## Local Fish Consumption Surveys

- Since 2012, CCE Dutchess has coordinated local fish consumption surveys from Dutchess, Columbia, Greene, Orange and Ulster counties
- Surveys are collected at food banks, low income daycare centers, clinics, farmers markets, substance abuse recovery programs and other sites used to recruit nutrition program clients



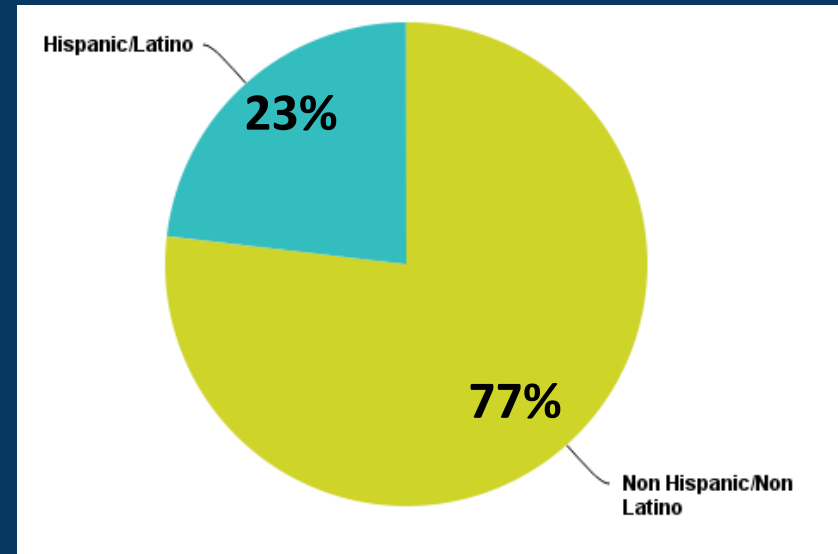
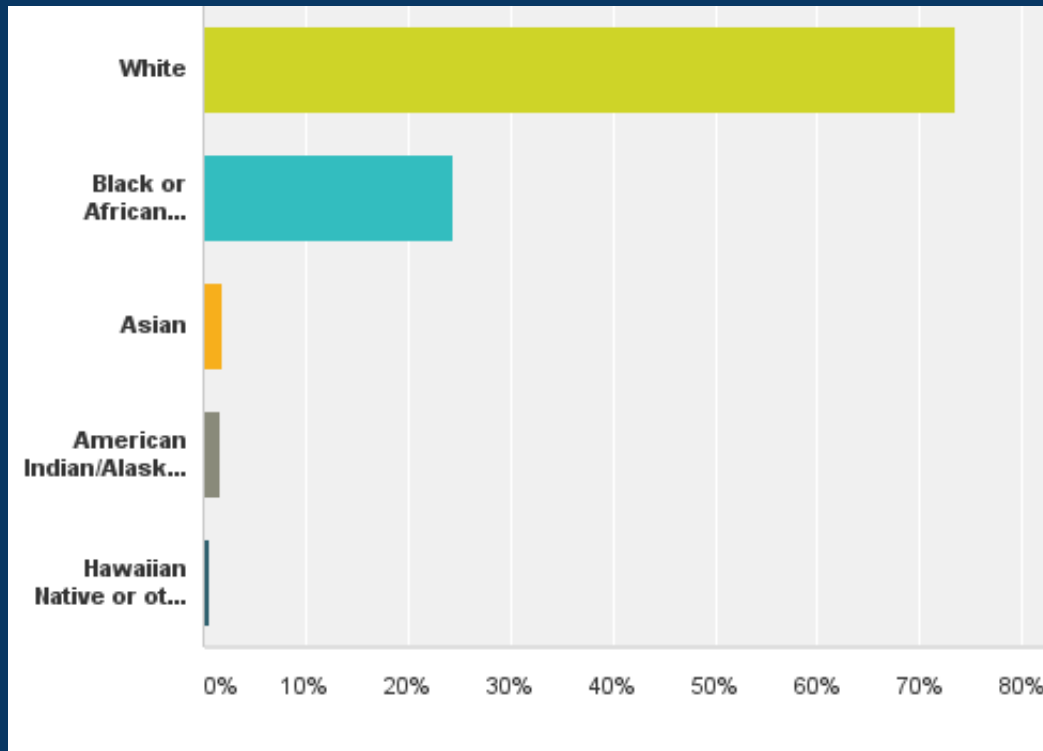
# CCE Dutchess Partners Local Fish Consumption Surveys



- CCE Dutchess partners have access to a major target audience for Hudson fish advisory messages, women of childbearing age, in five Hudson Valley counties
- 72% of respondents are under 55

# CCE Dutchess Partners

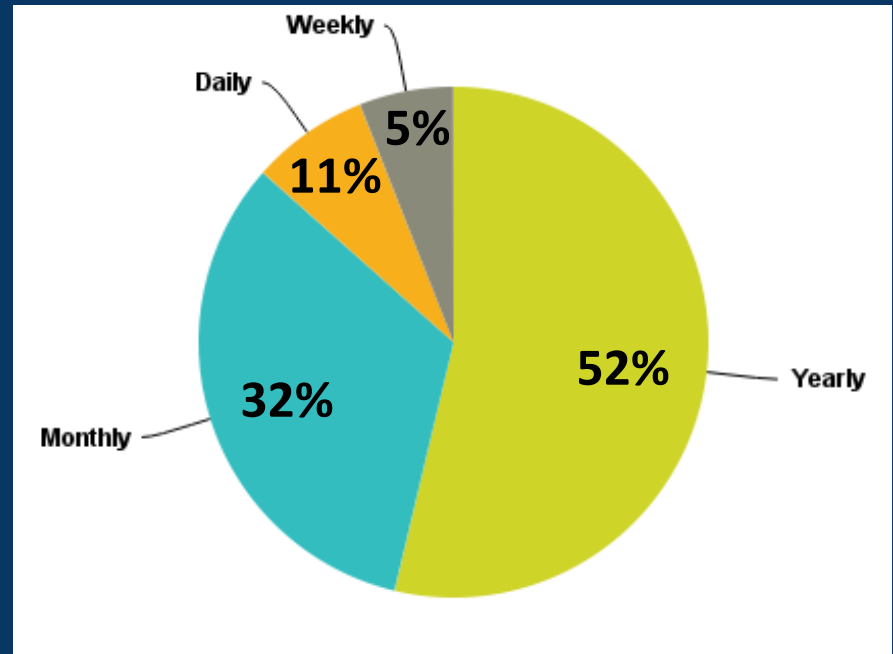
## Local Fish Consumption Surveys Race and Ethnicity



- Able to reach some minority populations

# CCE Dutchess Partners Local Fish Consumers

- 1338 surveys
- 17% report they ate fish or crabs they or someone they knew caught from a local water (232)
- Stopped asking species information as many respondents did not know because they do not fish themselves
- More than half report eating local fish (including from the Hudson) annually

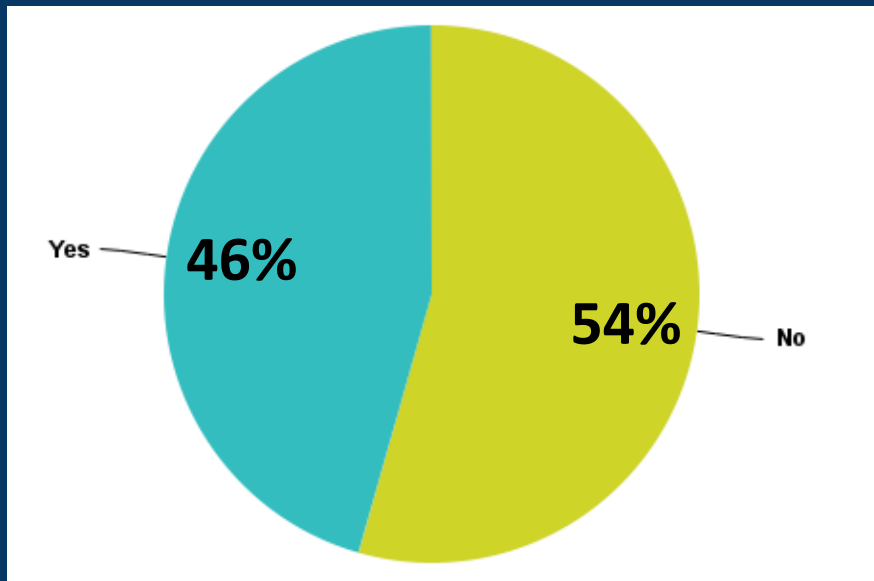


How Often Do You Eat Locally Caught Fish?



## CCE Dutchess Partners Hudson Fish Consumers

- 1338 respondents
- Over half of local fish eaters ate fish or crabs from the Hudson – about 10% of all respondents (136)
- 44% of Hudson fish consumers are male



Have you heard health advice about eating fish and/or crabs people catch?

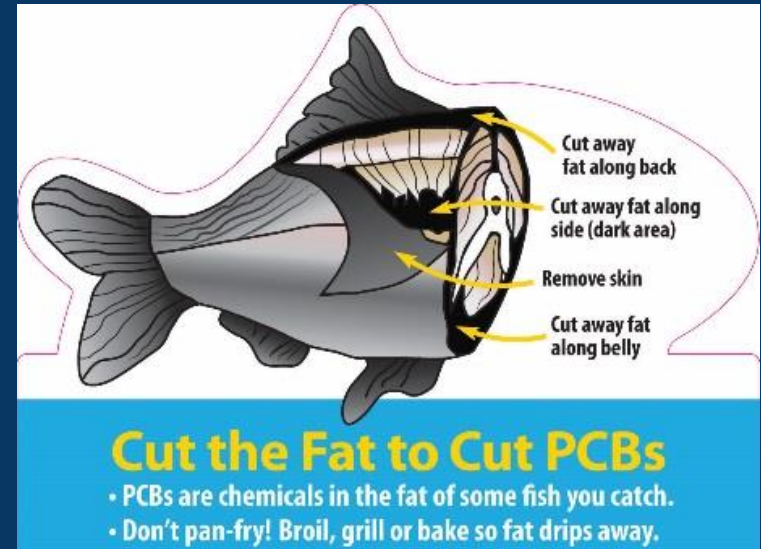
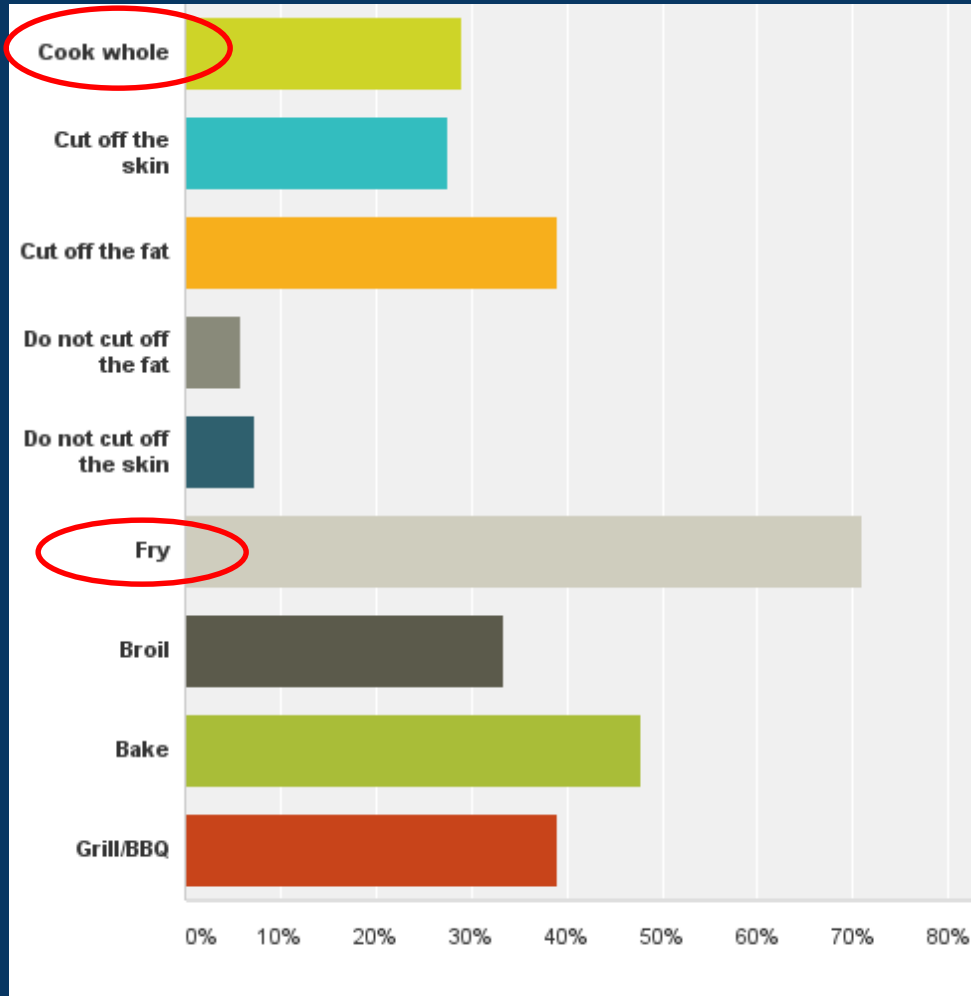
# CCE Dutchess Partners Hudson Fish Consumers

Number	Eating Hudson Fish	Eating Hudson Crabs	Eating Hudson Fish or Crabs
Respondents	72	64	136
Women under 55	29	20	49

## 1338 surveys

- 29 respondents who ate fish or crabs from the Hudson reported their children under 15 ate fish
- 25% of the people who ate crab ate the tomalley (mustard), which contains a lot of chemicals

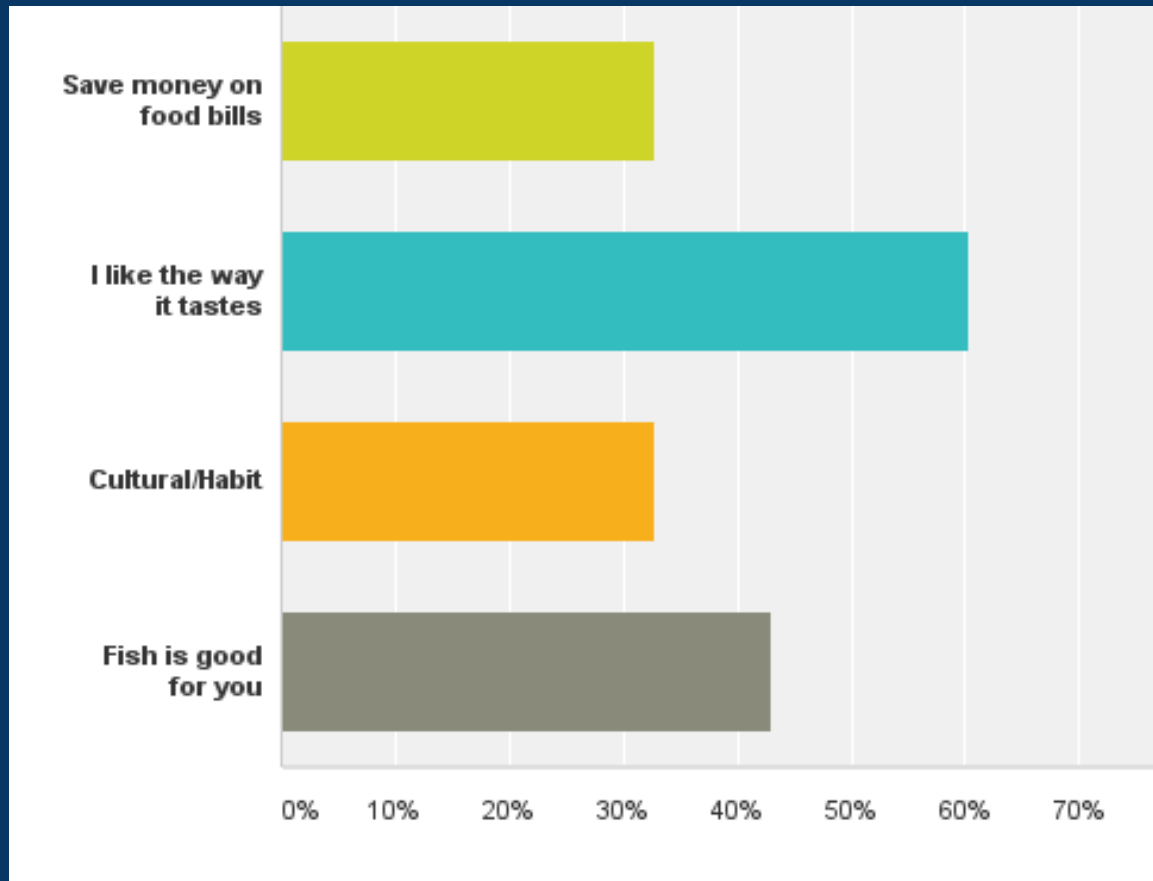
# CCE Dutchess Partners Local Fish Consumption Surveys



How Do You Prepare Local Fish? (Including Hudson River)

Almost 30% report they cook fish whole and frying is most popular

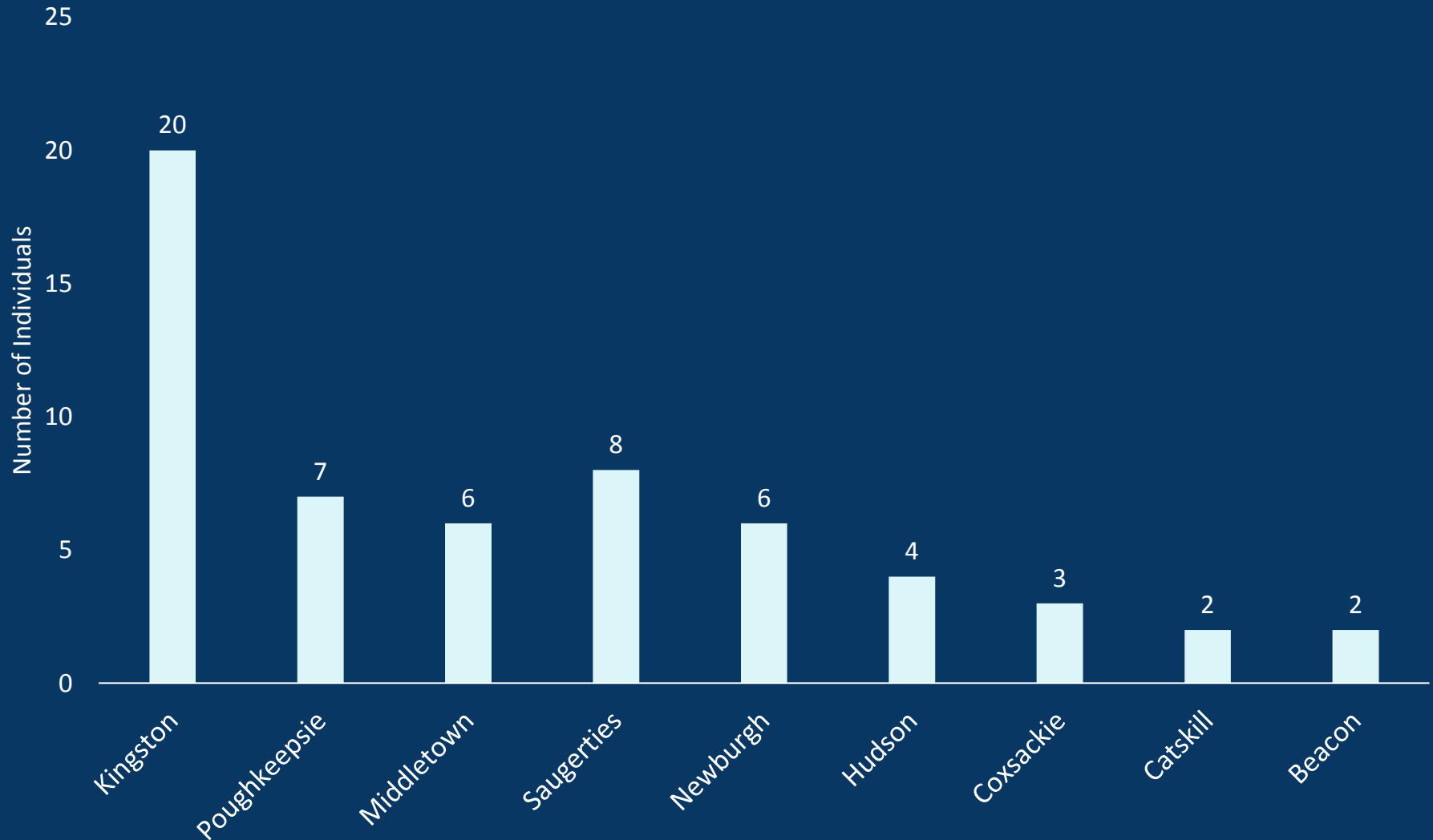
# CCE Dutchess Partners Hudson Fish Consumers



Responses from people eating Hudson fish to “What are the best reasons for eating fish or crabs that you catch? (check all that apply)”

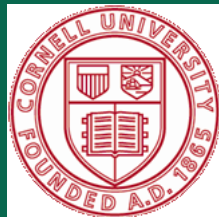
# CCE Dutchess Partners

## Primary Locations People Report Eating Hudson Fish



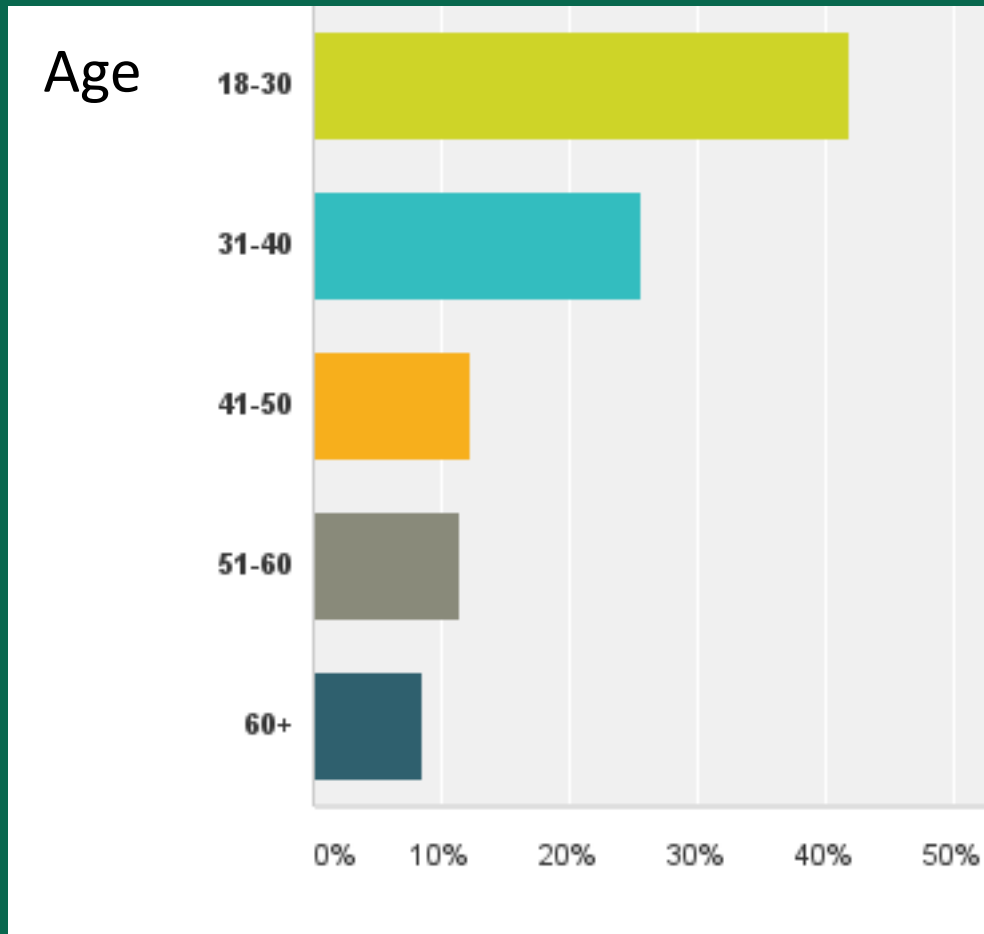
# CCE Saratoga Partner Hudson Fish Consumption Surveys

- Since 2014 CCE nutrition educator surveyed 488 people at Women Infant and Children clinics, fairs and community events in Saratoga and Washington counties
- 212 fished the Hudson
- Will focus on the 107 people who said they most frequently fish the Hudson from Troy to Hudson Falls
- Troy to Hudson Falls has NYSDEC regulations - catch and release fishing only



Cornell University  
Cooperative Extension  
Saratoga County

# CCE Saratoga Partner Fish Troy to Hudson Falls Most Often

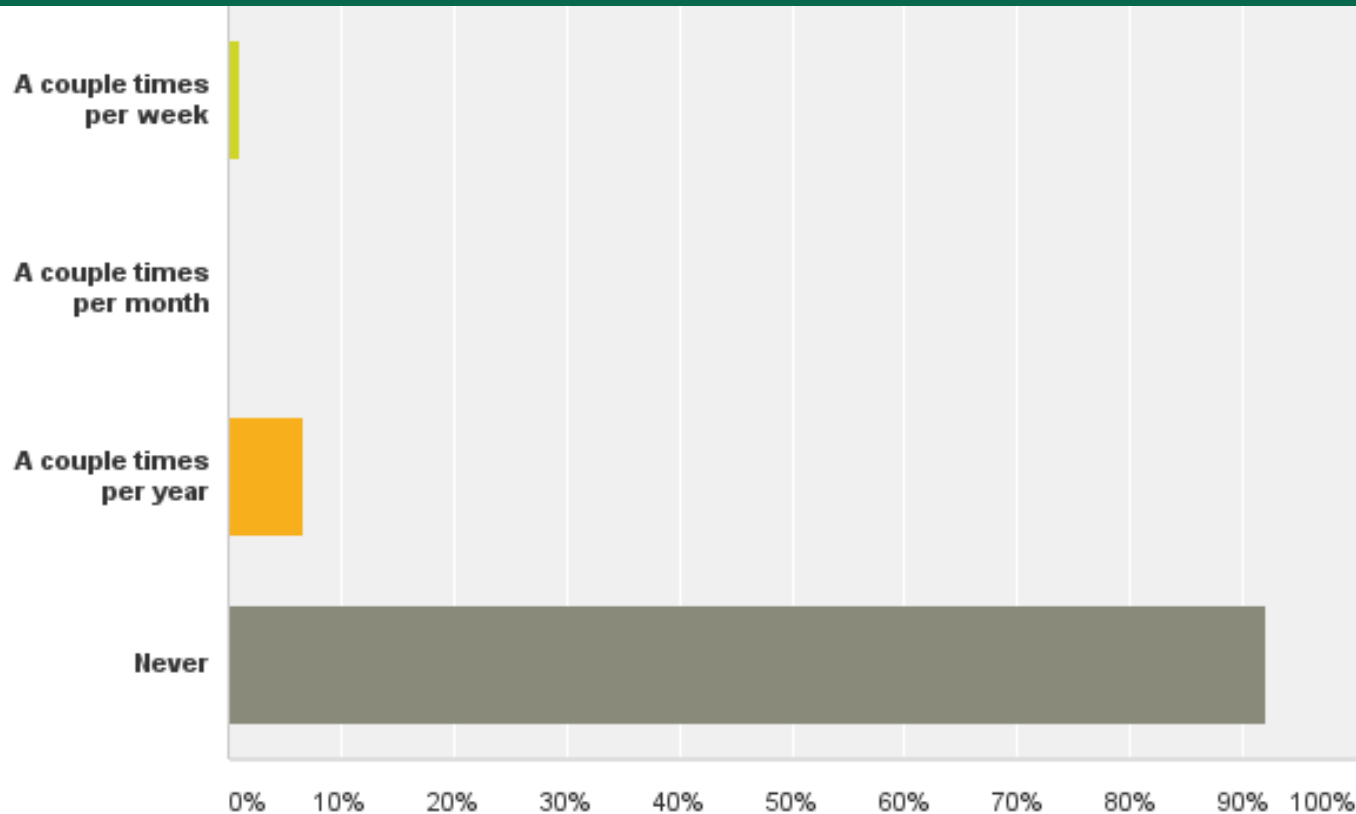


107 individuals

- 56% male
- 44% female

# CCE Saratoga Partner

## Hudson Fish Consumption Troy to Hudson Falls



How often do you eat Hudson fish?



# CCE Saratoga Partner Fish Reported Eaten

These responses are from people who most frequently fish the Hudson from Troy to Hudson Falls, but they may not be exclusively fishing in that area:

- Catfish (1)
- Walleye (1)
- Smallmouth Bass (1)
- Sunfish/bluegill (1)
- Trout (1)
- Striped Bass (2) – generally south of Troy dam
- Bluefish (1) – marine species
- Don't know species (1)



# NYSDOH

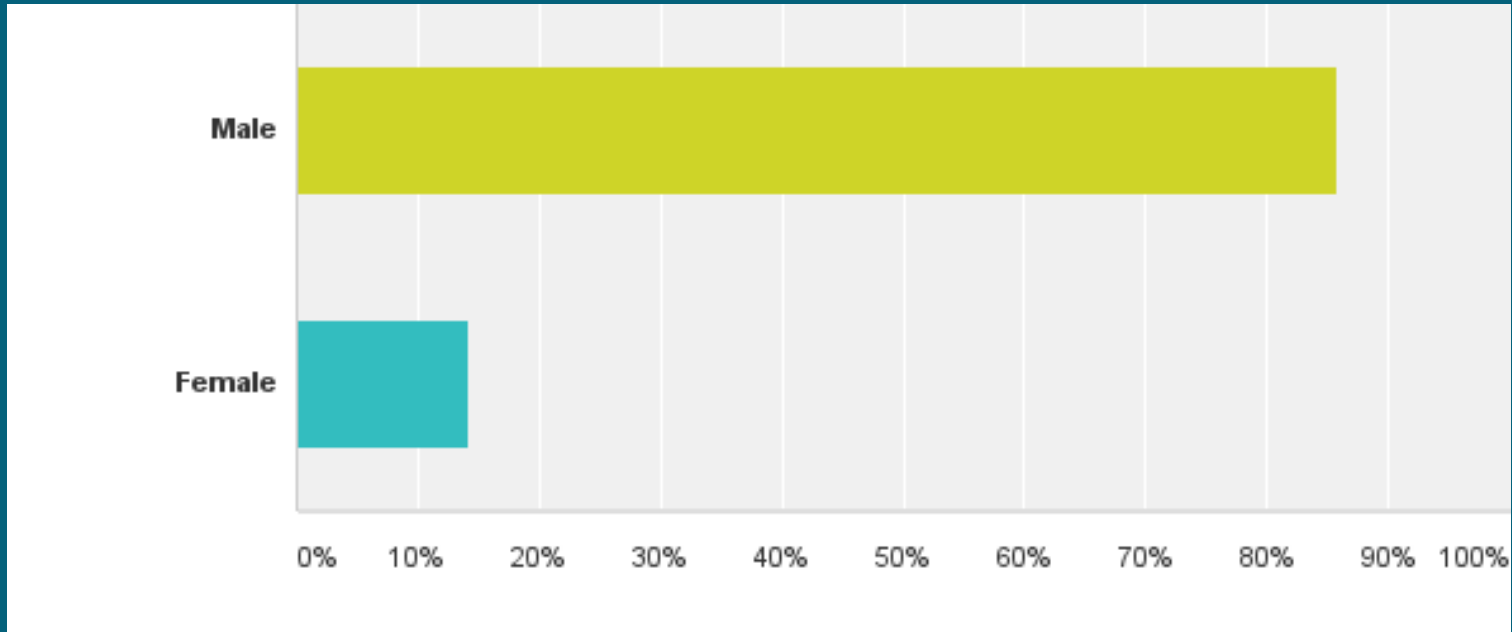
## Hudson Fish Consumption Survey

- 786 “convenience” samples – one page surveys done since 2013 at outreach events NYSDOH staff attend in the Hudson Valley throughout the 200-mile Project Area, from Saratoga to NYC
- All respondents fish on the Hudson River
- Since 2015 we attended a large outdoor show in Rockland County – almost half of our surveys are from this event
- Offer incentive of reusable “striper” bag, bass lures or measuring tape



# NYSDOH

## What Is Your Gender?

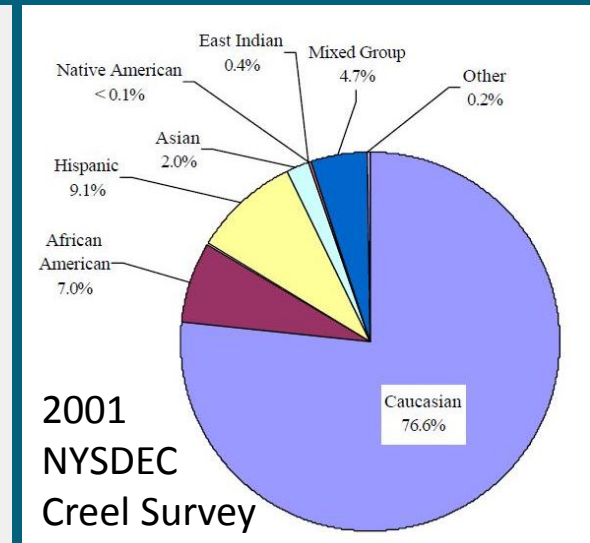
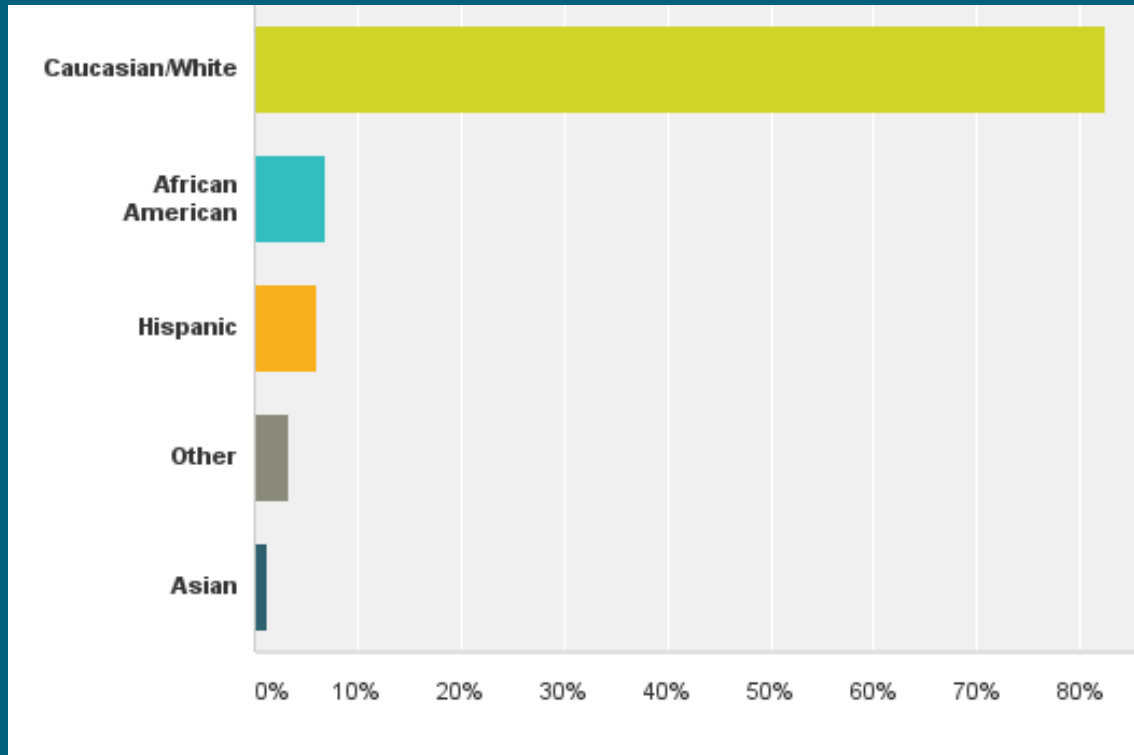


Not representative of Hudson Valley residents, but is similar to a 2001 NYSDEC “creel survey” of 4,800 people fishing the Hudson, with 10.5% female respondents

“Assessment of Hudson River Recreational Fisheries” conducted by Normandeau Associates for the NYSDEC

# NYSDOH

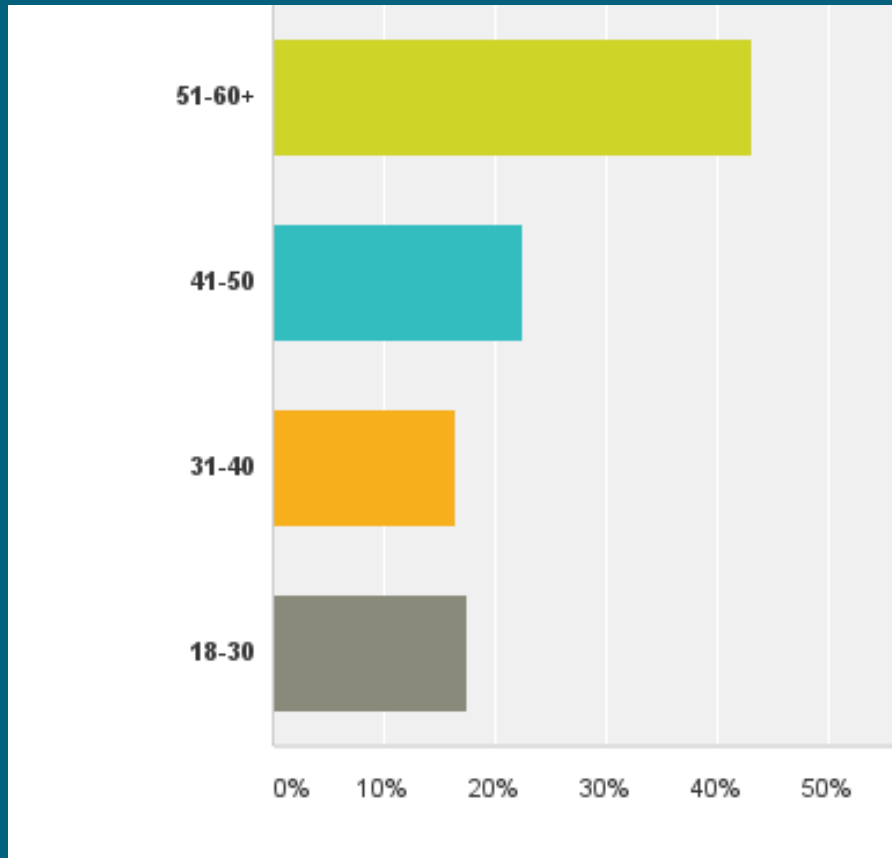
## What Is Your Ethnicity?



Minorities are under-represented compared to Hudson Valley population, but the composition is fairly similar to the 2001 NYSDEC creel survey of people fishing the Hudson

# NYSDOH

## What Is Your Age?



A 2011 survey of New Yorkers holding fishing licenses found that over half are 55 or older (2011 National Survey of Fishing Hunting and Wildlife-Associated Recreation)

# NYSDOH

## Locations: Where in the Hudson River Do You Fish Most Often

North of Troy Dam

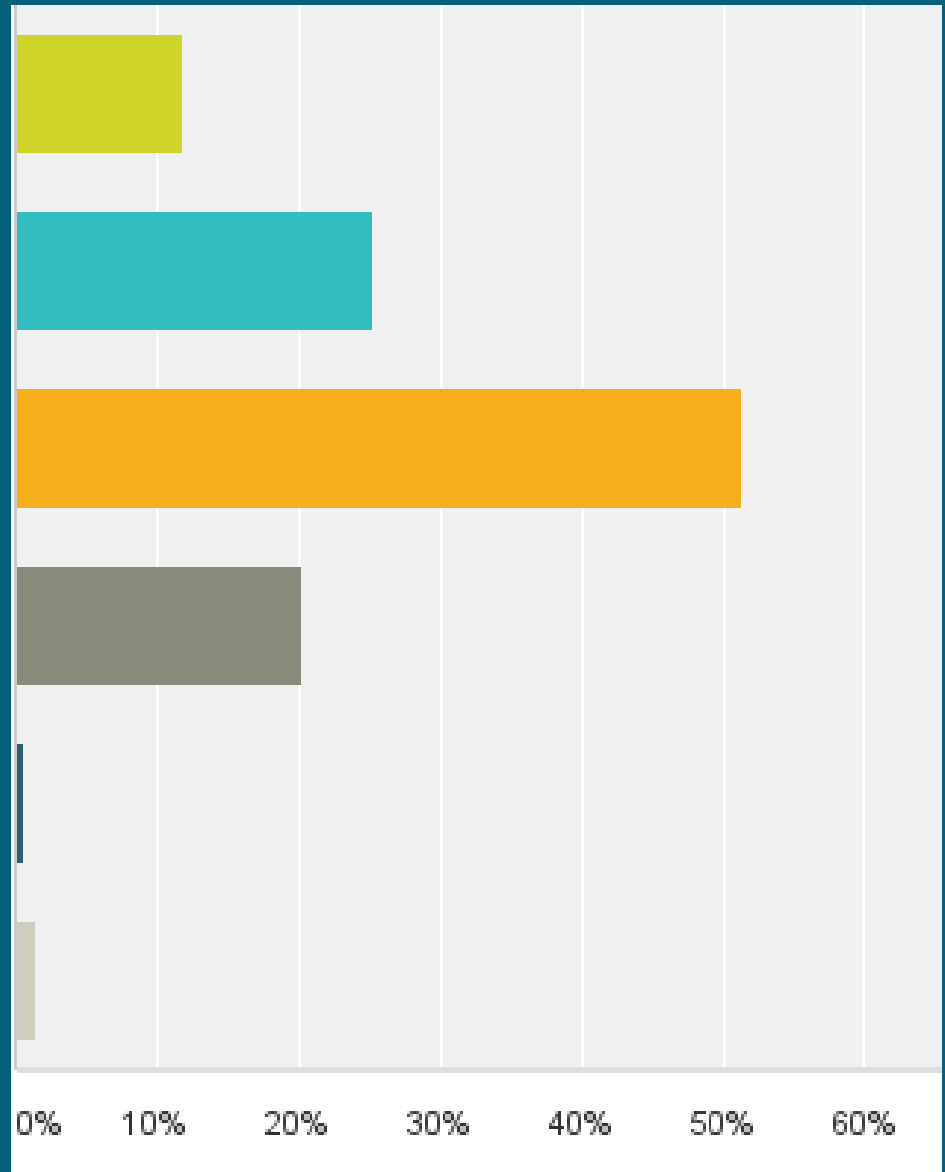
Troy to Catskill

Catskill to Tappan Zee Bridge

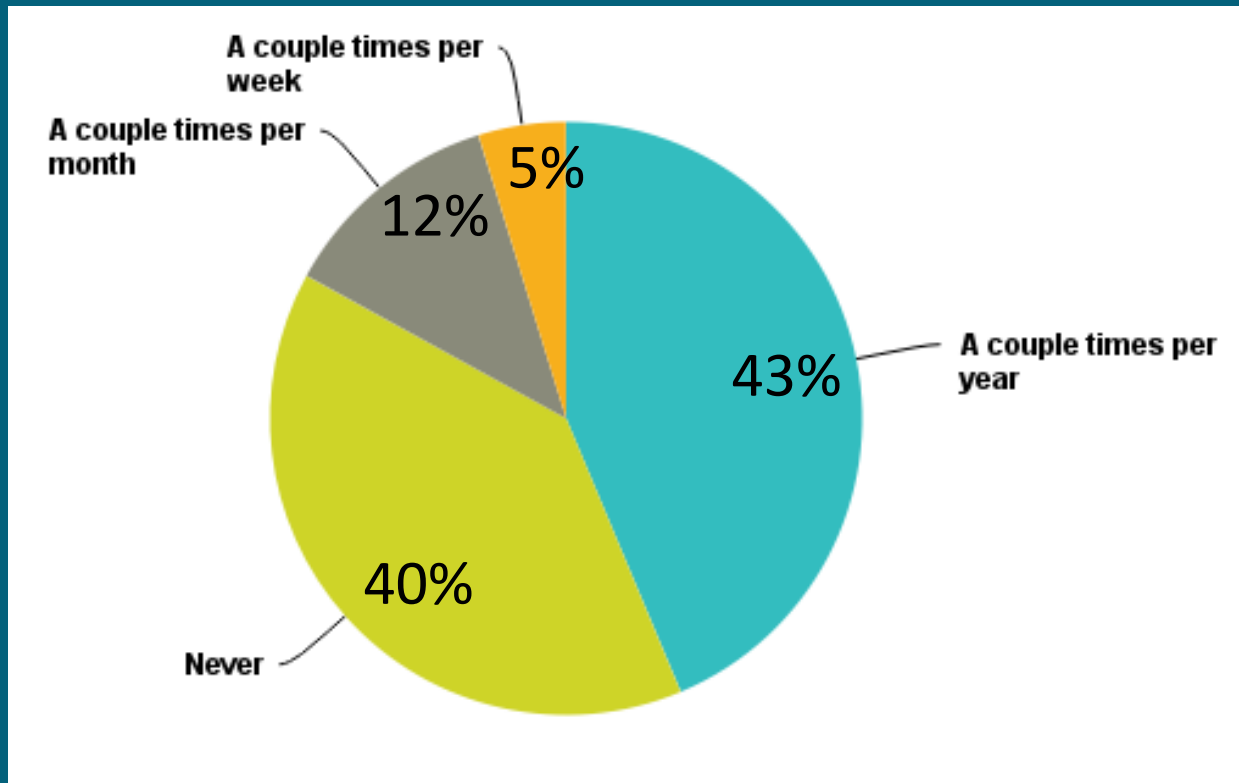
Tappan Zee Bridge to  
George Washington Bridge

Tappan Zee to George  
Washington Bridge

George Washington Bridge  
to Battery

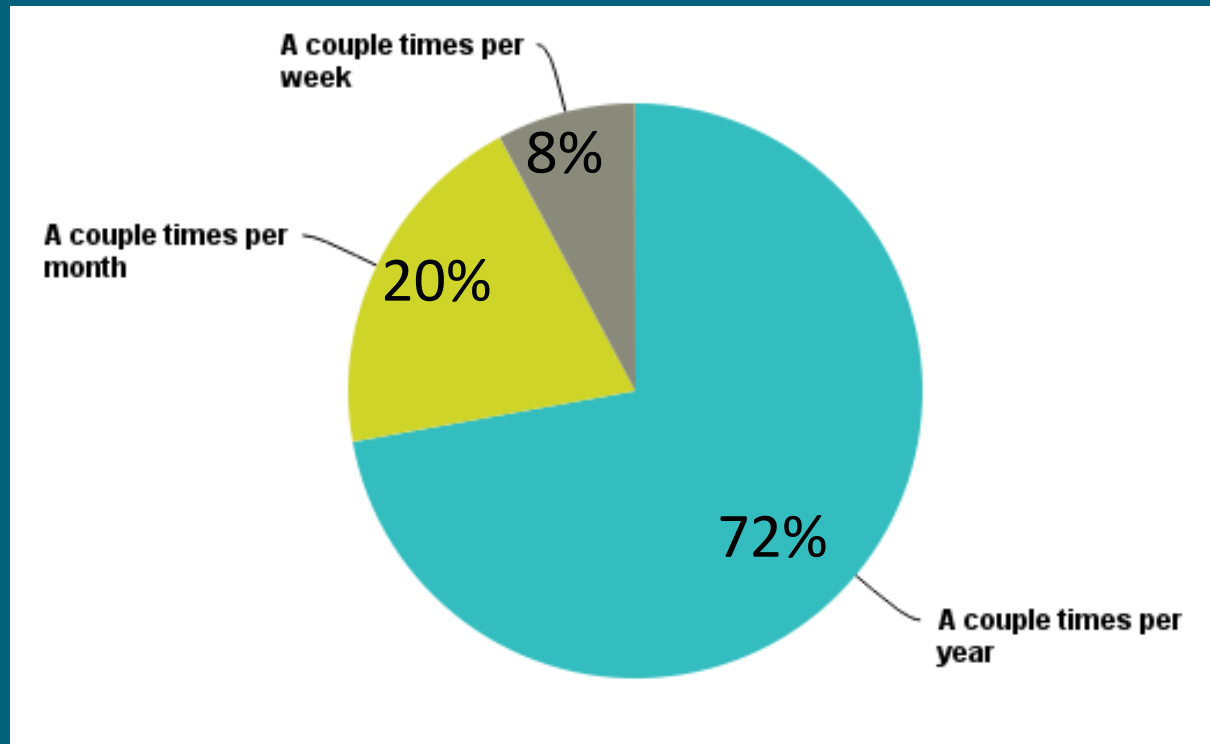


# NYSDOH How Often Do You Eat Hudson Fish (All 786 Respondents)



40% of respondents say they practice catch and release

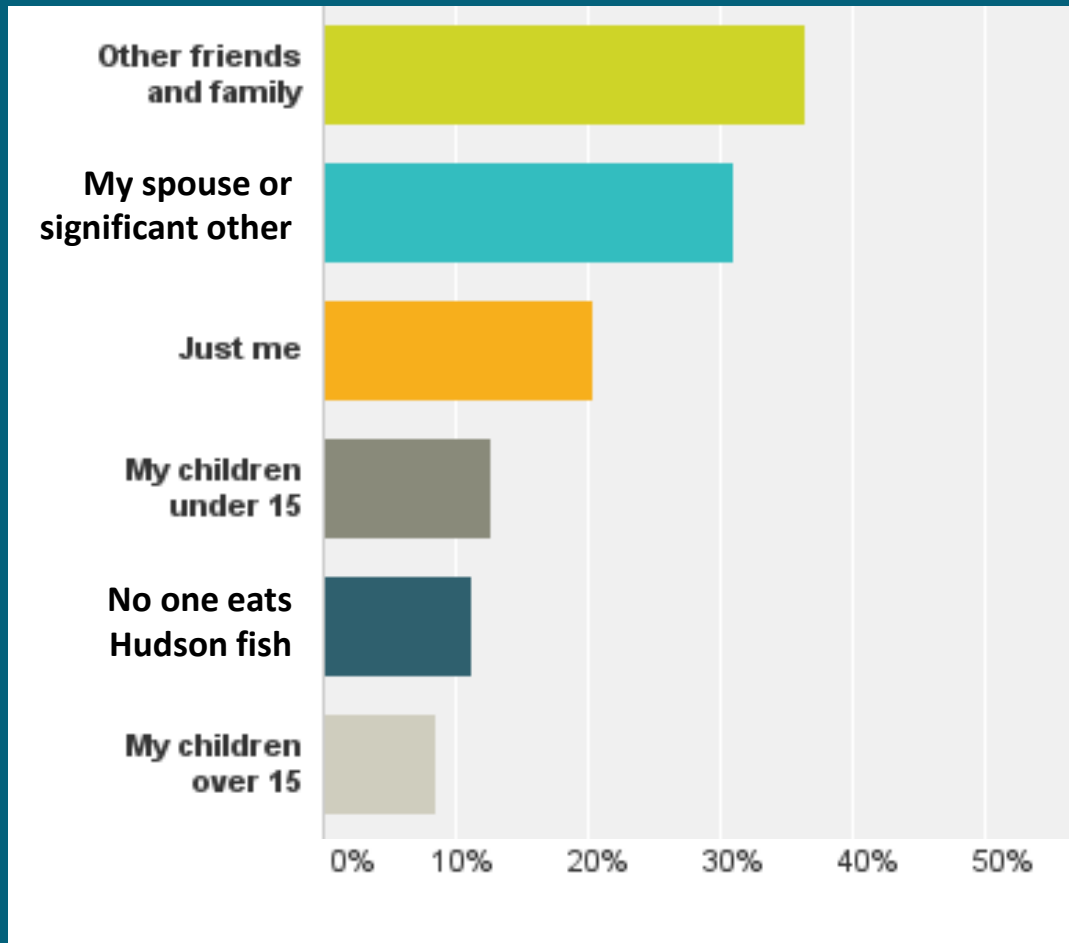
# NYSDOH How Often Do You Eat Hudson Fish? (460 Hudson Fish Consumers)



Most Hudson fish consumers report eating Hudson fish a couple times per year, but some eat more often than is advised



# NYSDOH Who Else Eats Hudson Fish? (460 Hudson Fish Consumers)

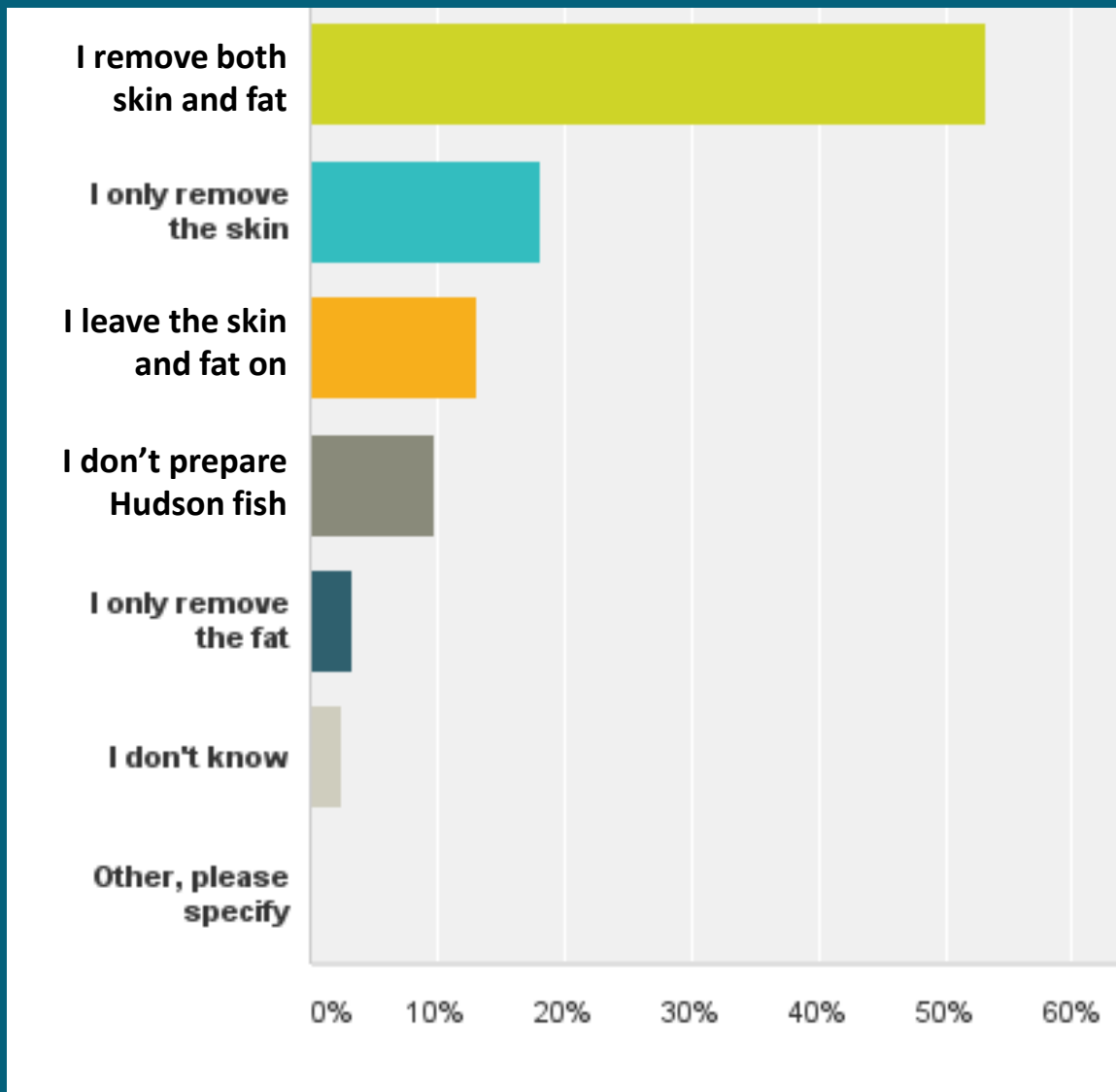


Sharing is common

Sharing with children under 15 is a concern (58)

# NYSDOH

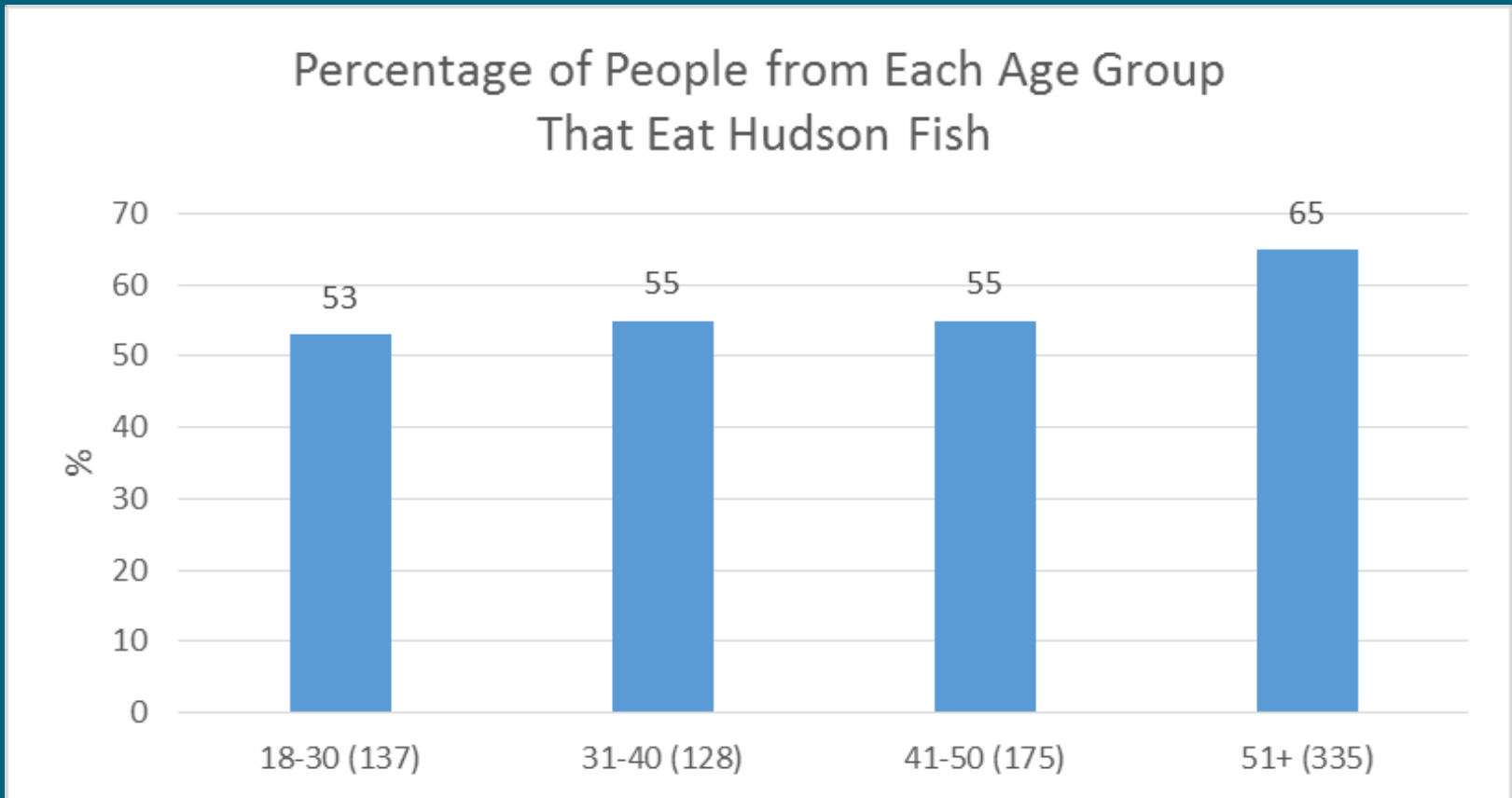
## How Do You Prepare Hudson Fish?



Most Hudson fish consumers remove the skin and/or fat that contain a lot of PCBs

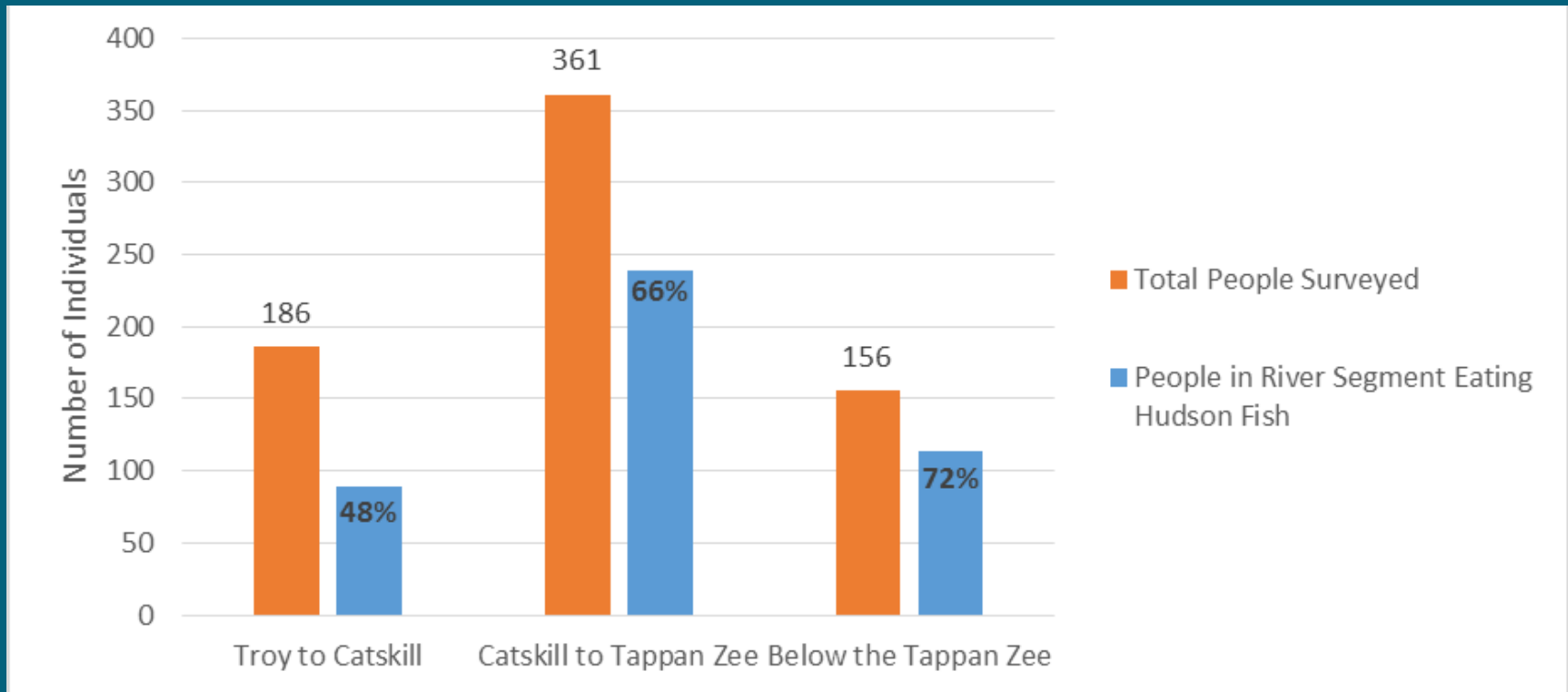
# NYSDOH

## Hudson Fish Consumption by Age



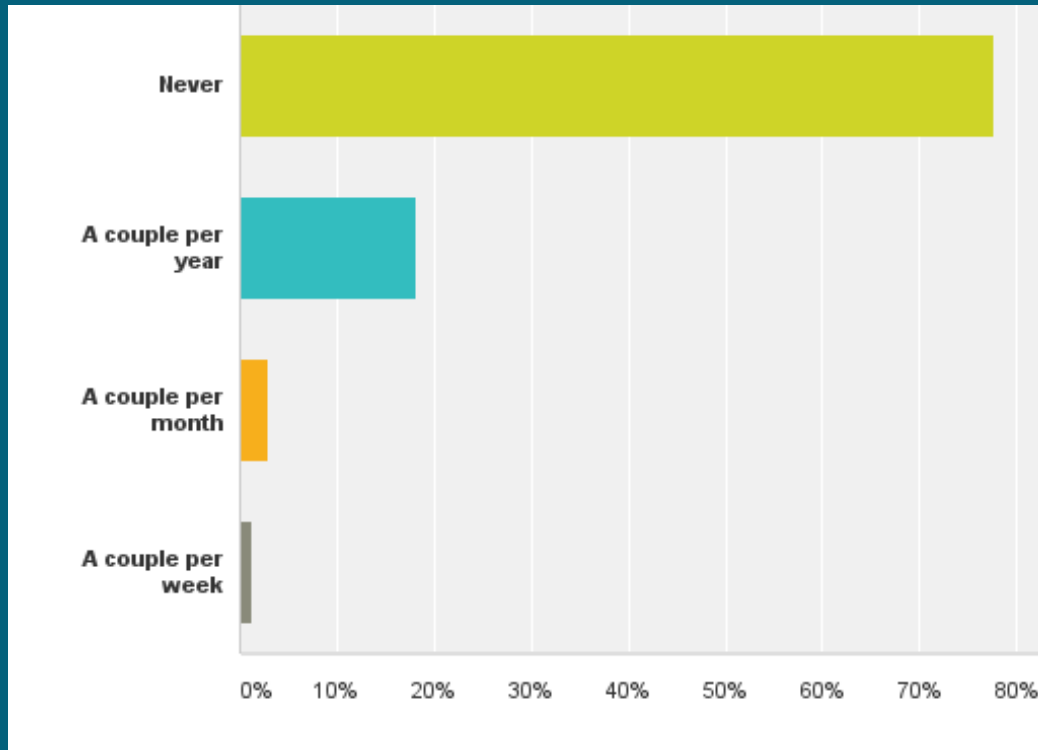
People 51 and older report eating Hudson fish slightly more than other age groups

# NYSDOH Percentage of People Eating Hudson Fish Varies Along the River



Fewer people report eating Hudson fish from Troy to Catskill

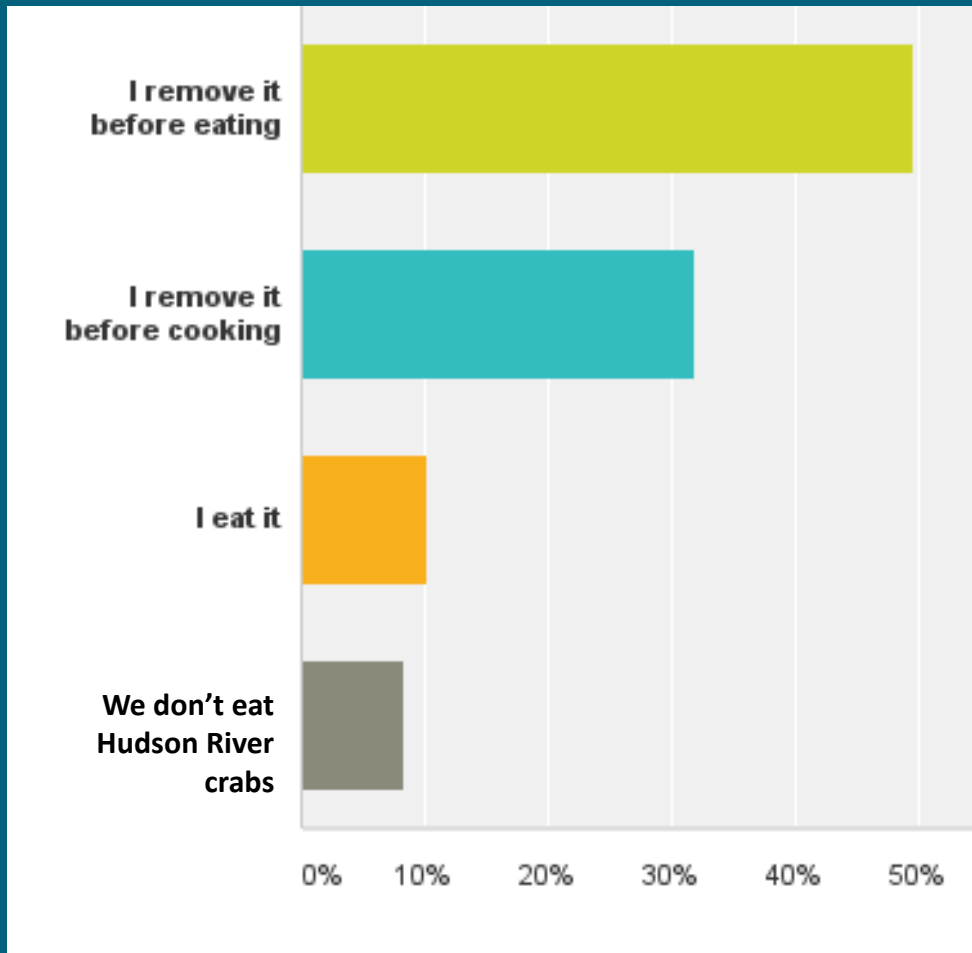
# NYSDOH Crab Consumption



How often do you eat Hudson crabs?

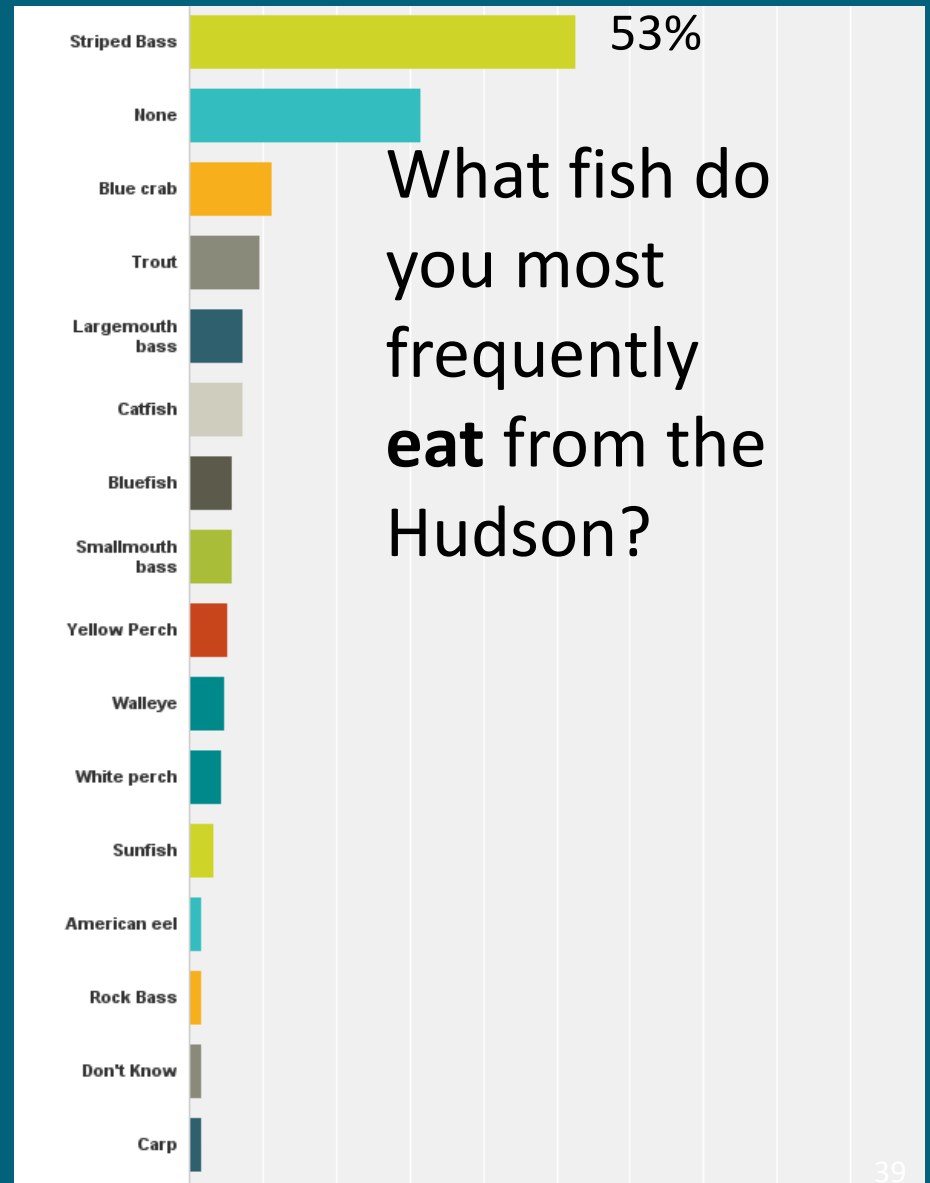
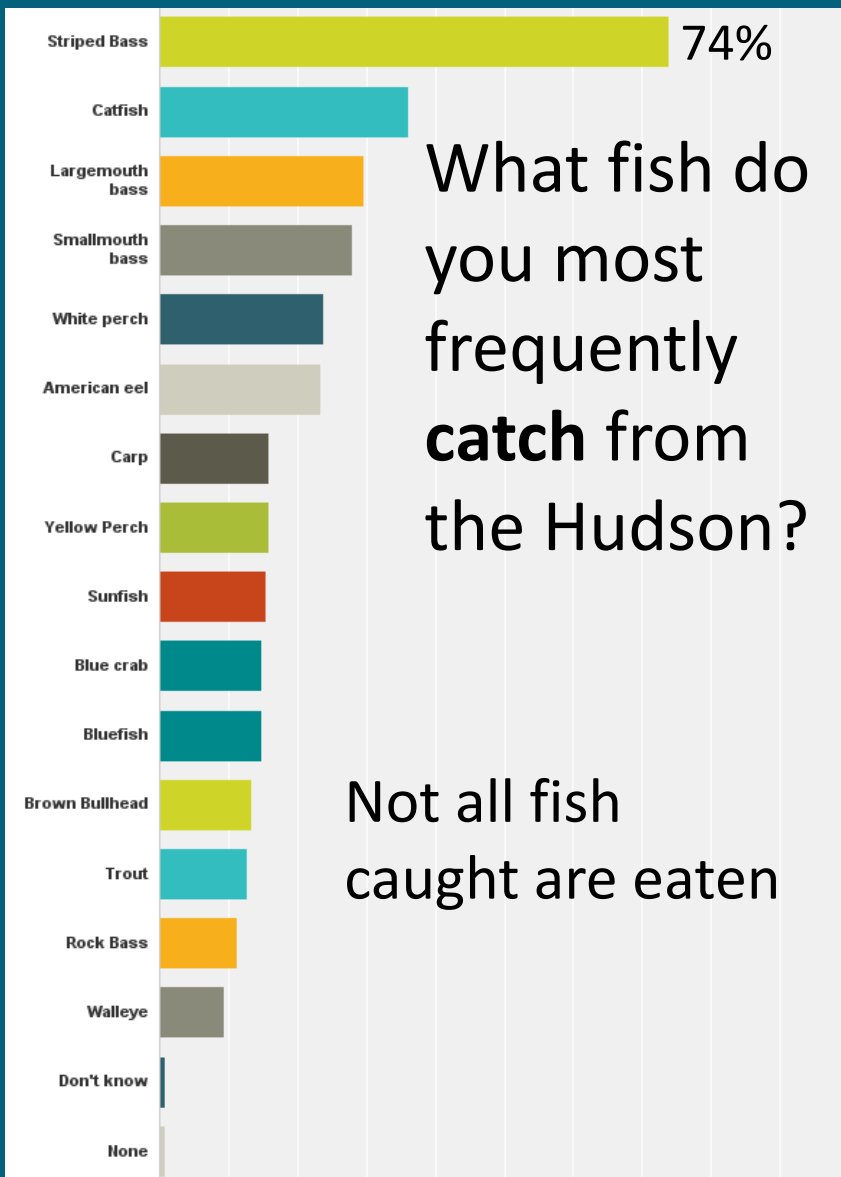
- Crabs are much more common in the lower River
- 22% of respondents eat crab (168 of 786 surveys)
- 86% of crab-eaters eat Hudson fish too

# NYSDOH Crab Tomalley Consumption



What do you do with the tomalley (mustard) (168)?

## Hudson Fish Caught and Eaten



# NYSDOH Hudson Fish Consumption (460)

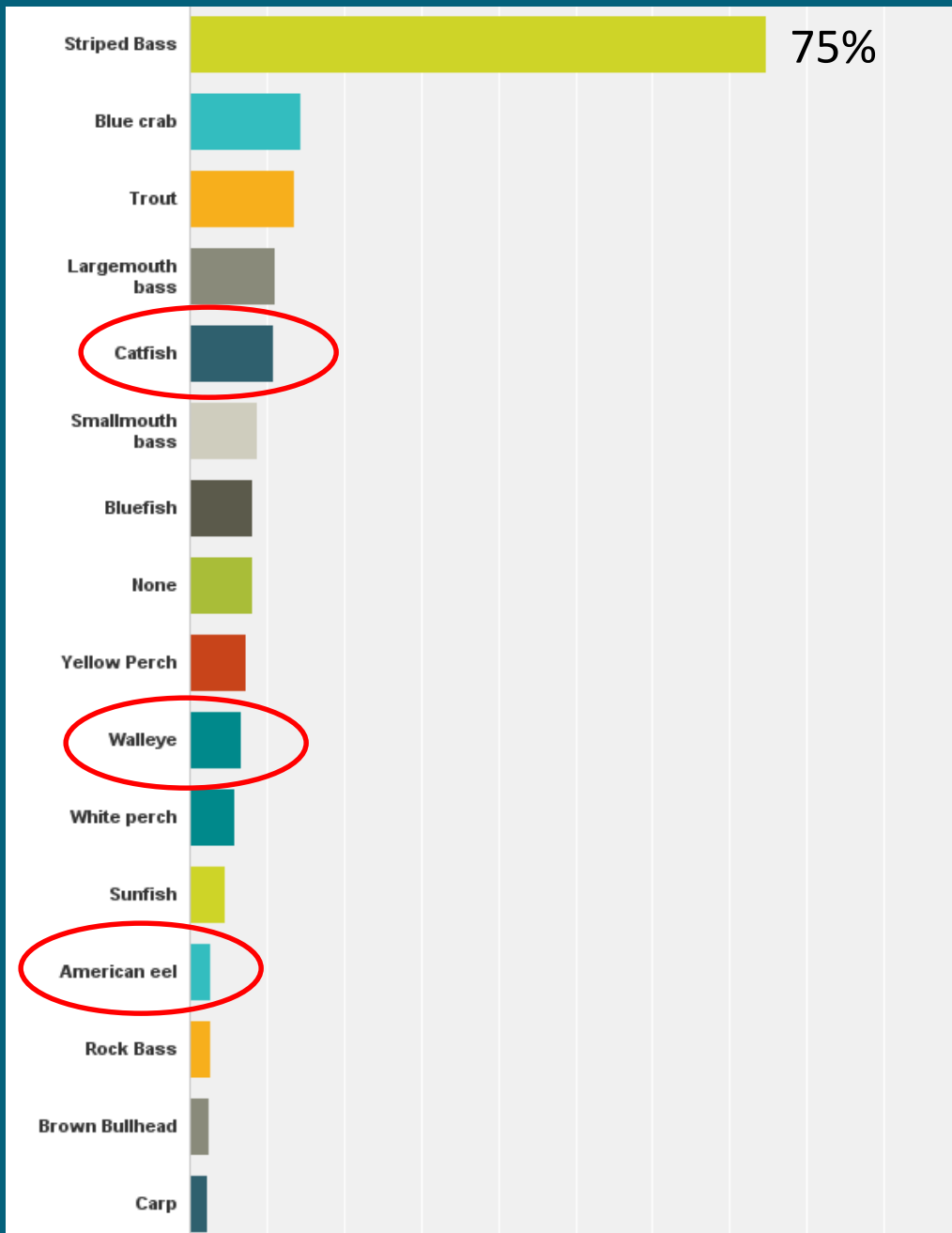
What fish do you most frequently eat from the Hudson? (all that apply)

NYSDOH advises on one should eat Hudson catfish and (as of 2016) walleye

Striped bass are less contaminated south of Catskill, and striped bass from the ocean waters around Long Island and NYC are the healthiest choices

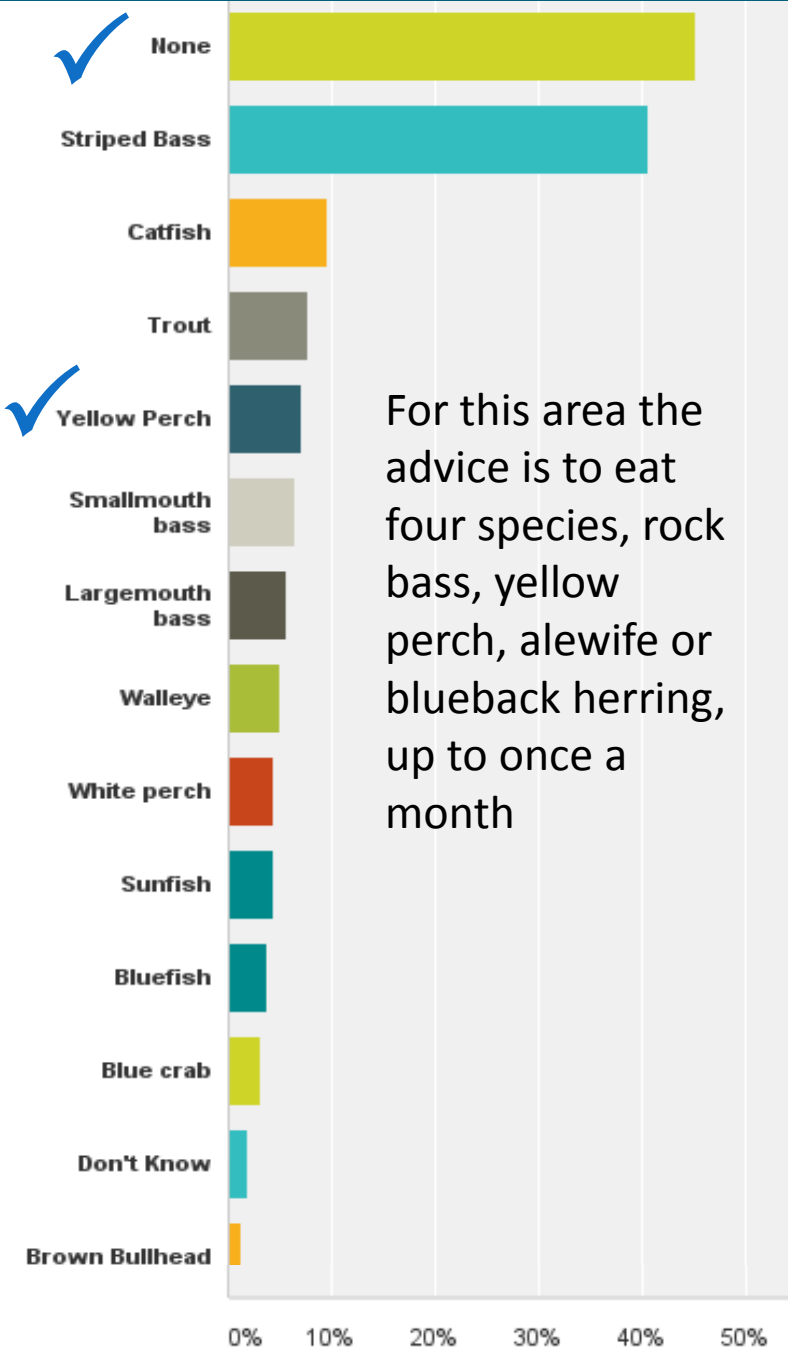
There are no alternative local waters for striped bass, as there is for catfish and walleye

No one should eat eel per both NYSDEC regulations and DOH advice



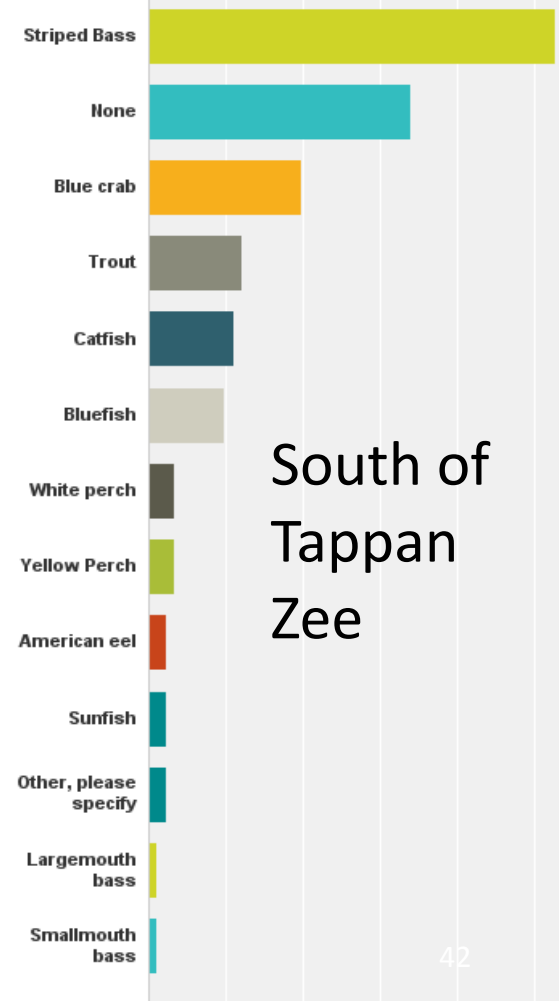
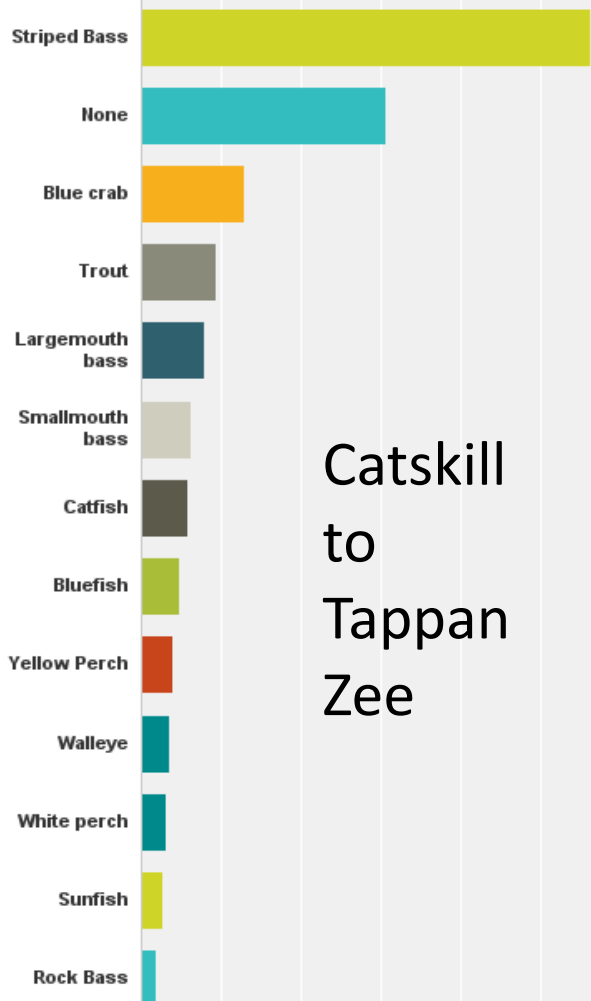


# Fish Consumed Troy to Catskill (186)

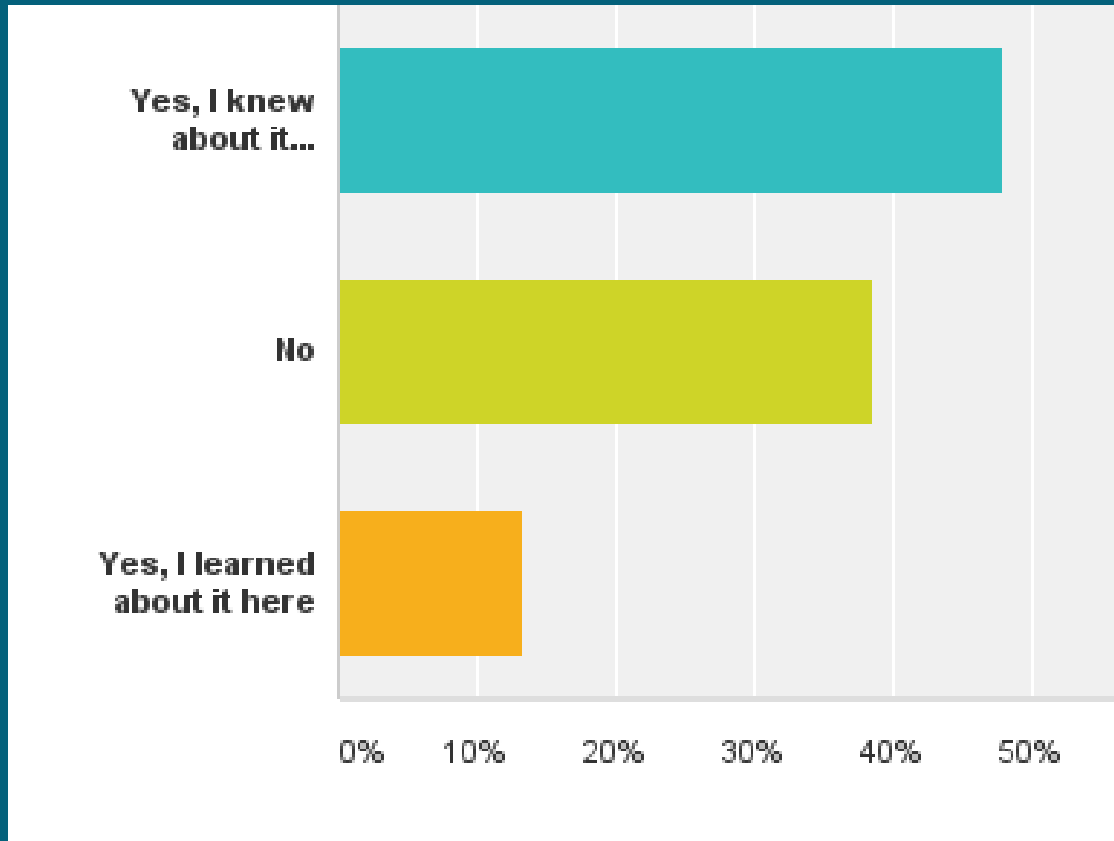


- Most fish consumption from Troy to Catskill is not consistent with the NYSDOH advice
- Many people feel striped bass are “ocean fish” and do not know, or do not agree, that they should not eat them from Troy to Catskill

# NYSDOH: Most Frequently Eaten Fish Varies by River Section

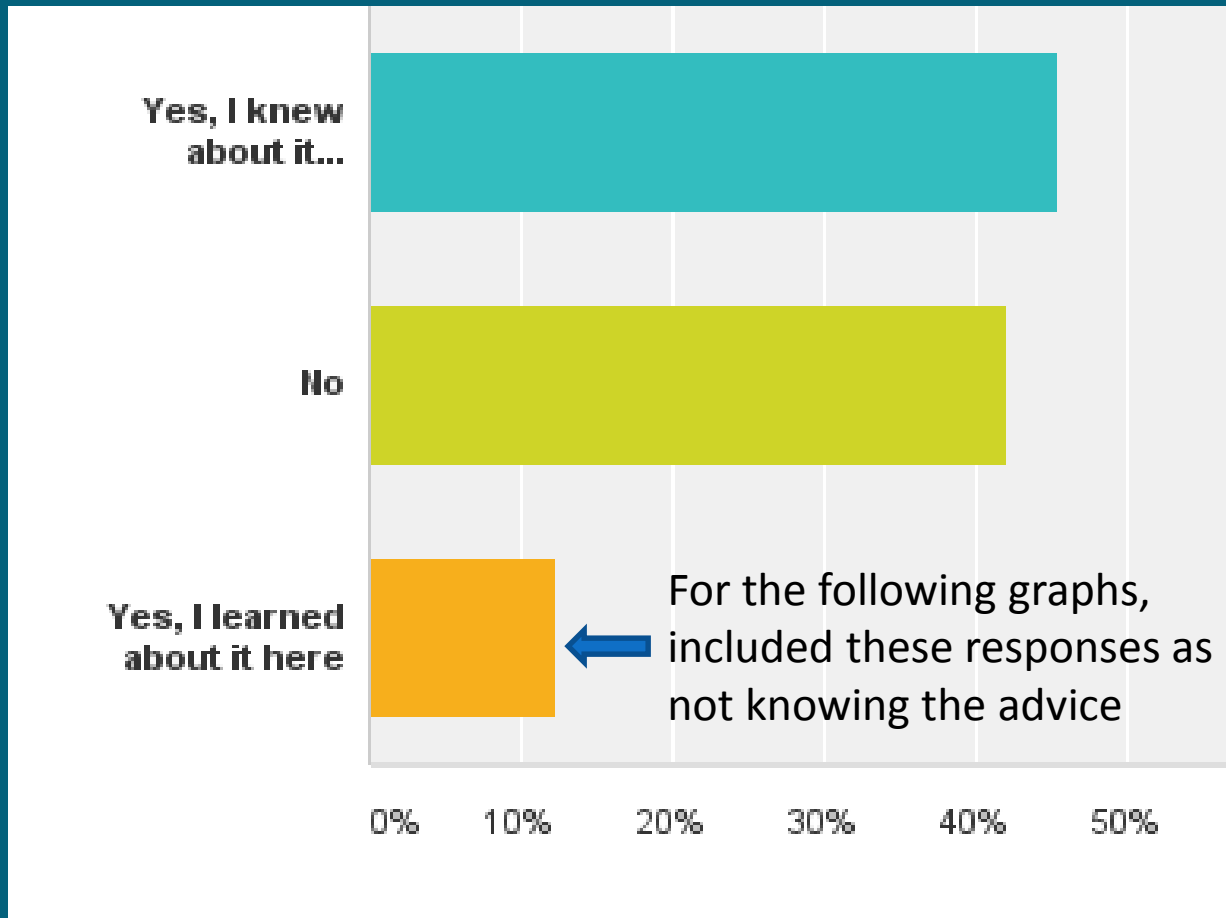


# NYSDOH Awareness of Advice (460 Hudson Fish Consumers)



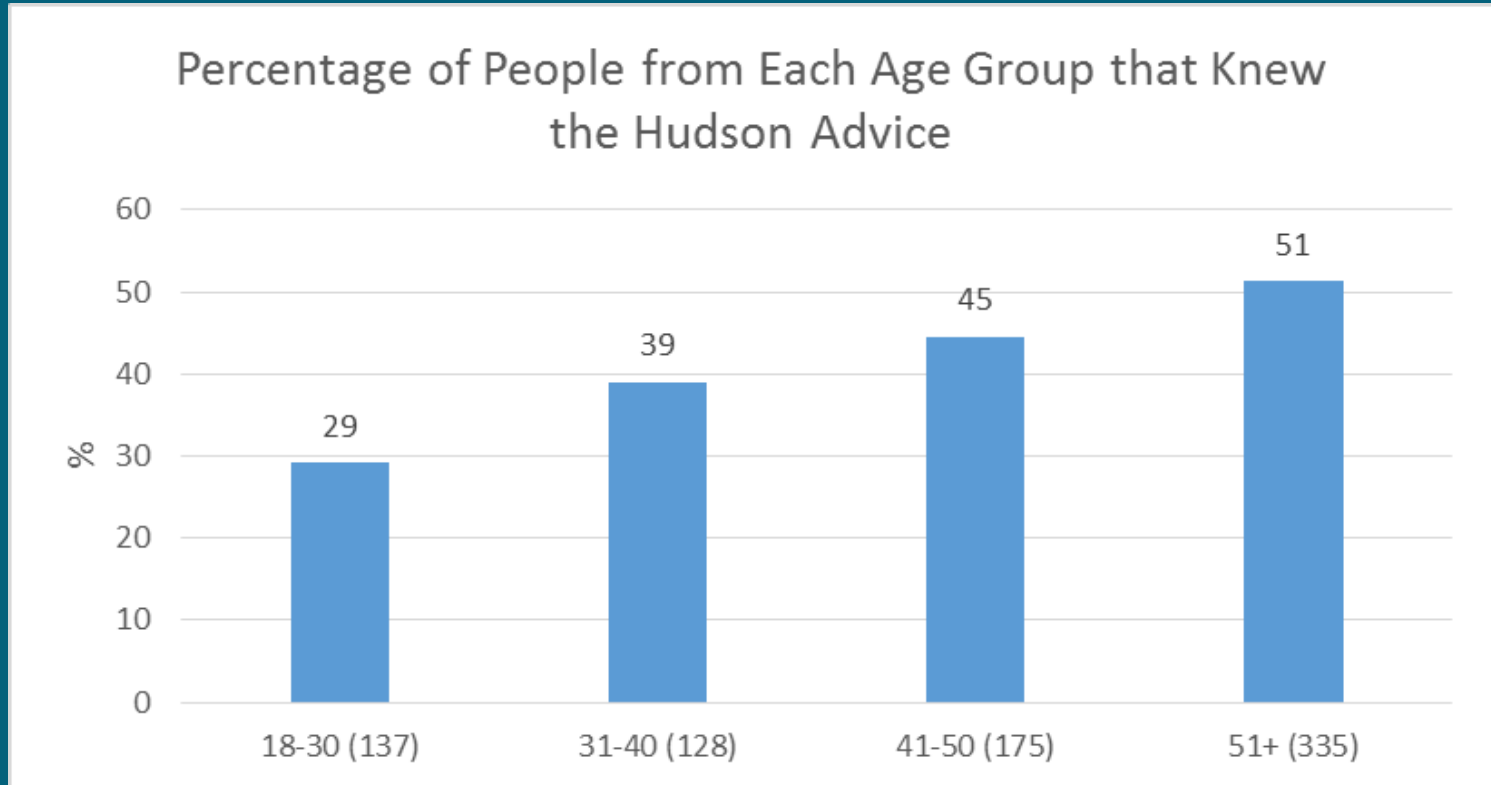
Many Hudson fish consumers report they do not know the advice

# NYSDOH Have You Heard Any Advice About Eating Hudson River Fish Or Crabs?



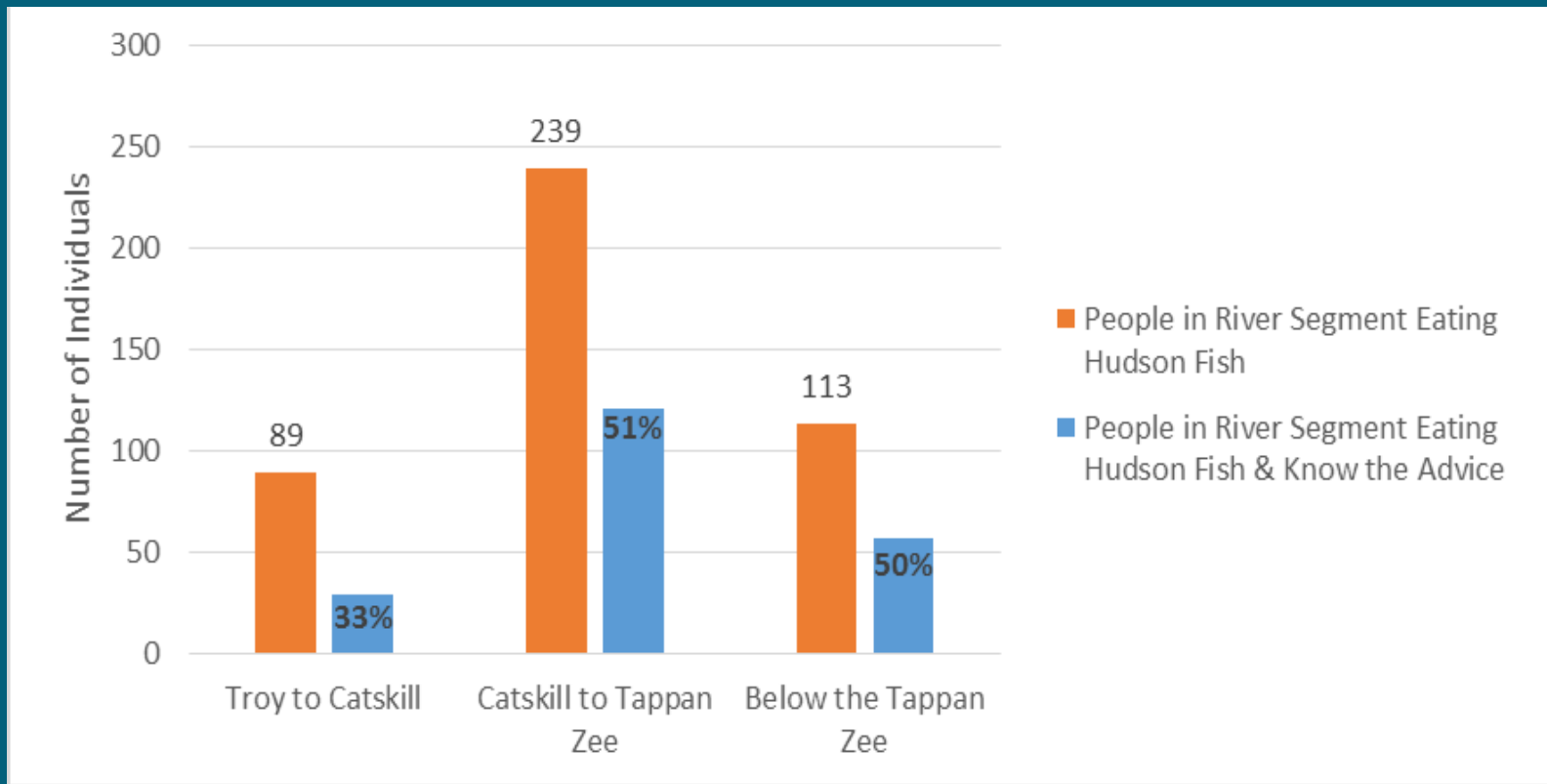
All respondents

# NYSDOH All Respondents Awareness of Advice by Age



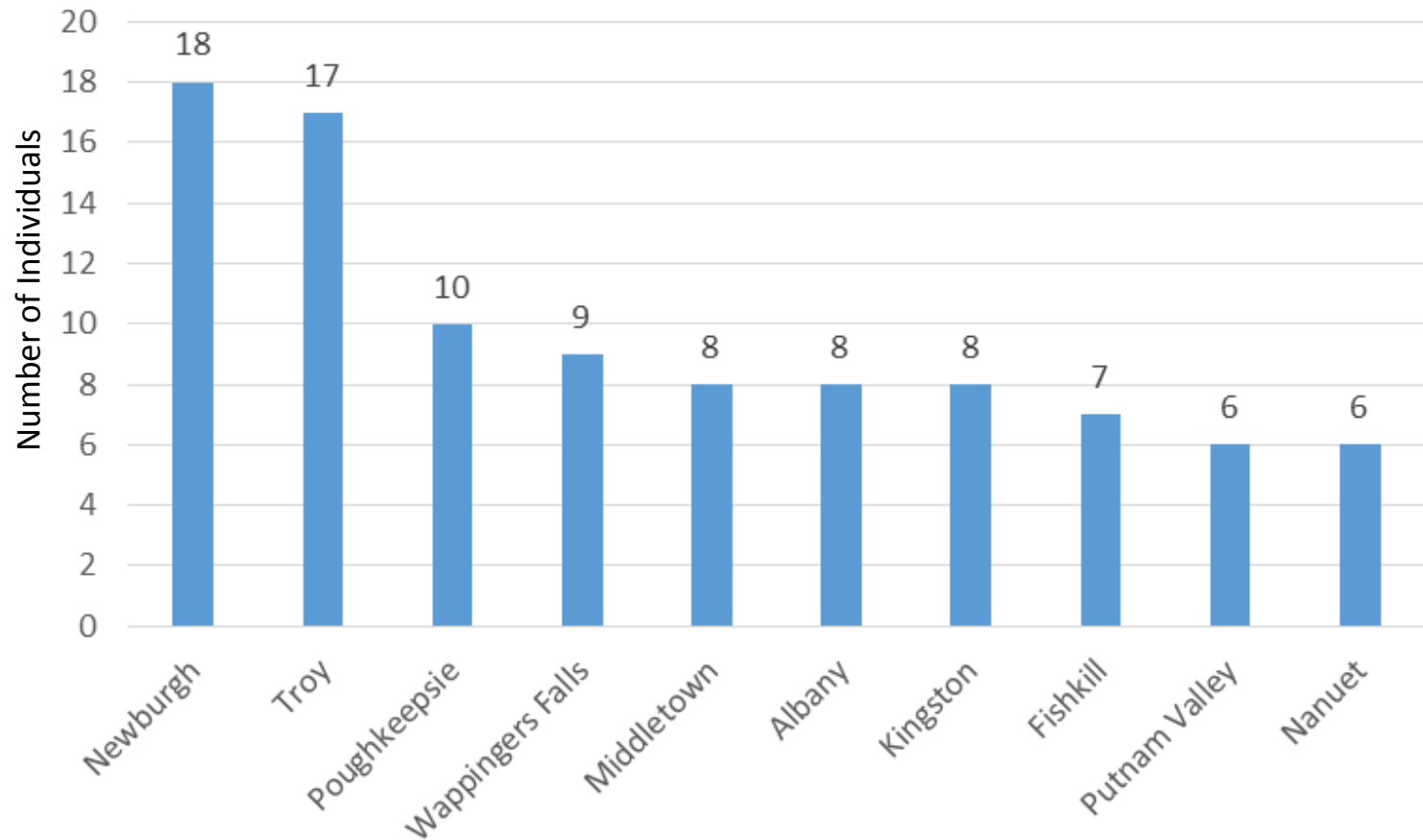
Younger people are less aware of the advice

# NYSDOH Hudson Fish Consumers Awareness of the Advice by River Segment

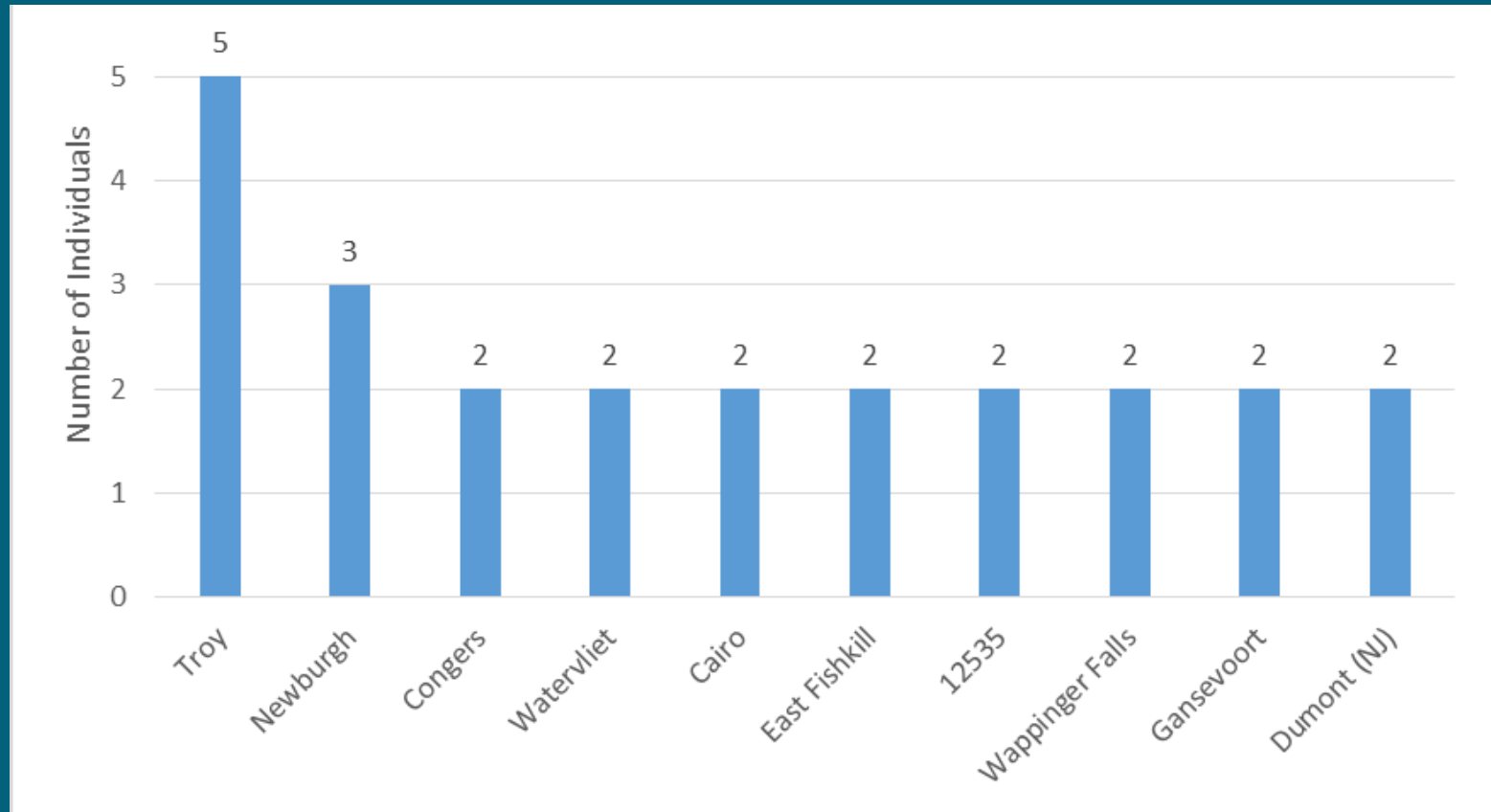


Awareness of advice is lower from Troy to Catskill

# NYSDOH: 10 Locations With Largest Number of People Eating Hudson Fish or Crabs (Residence Zip Code)

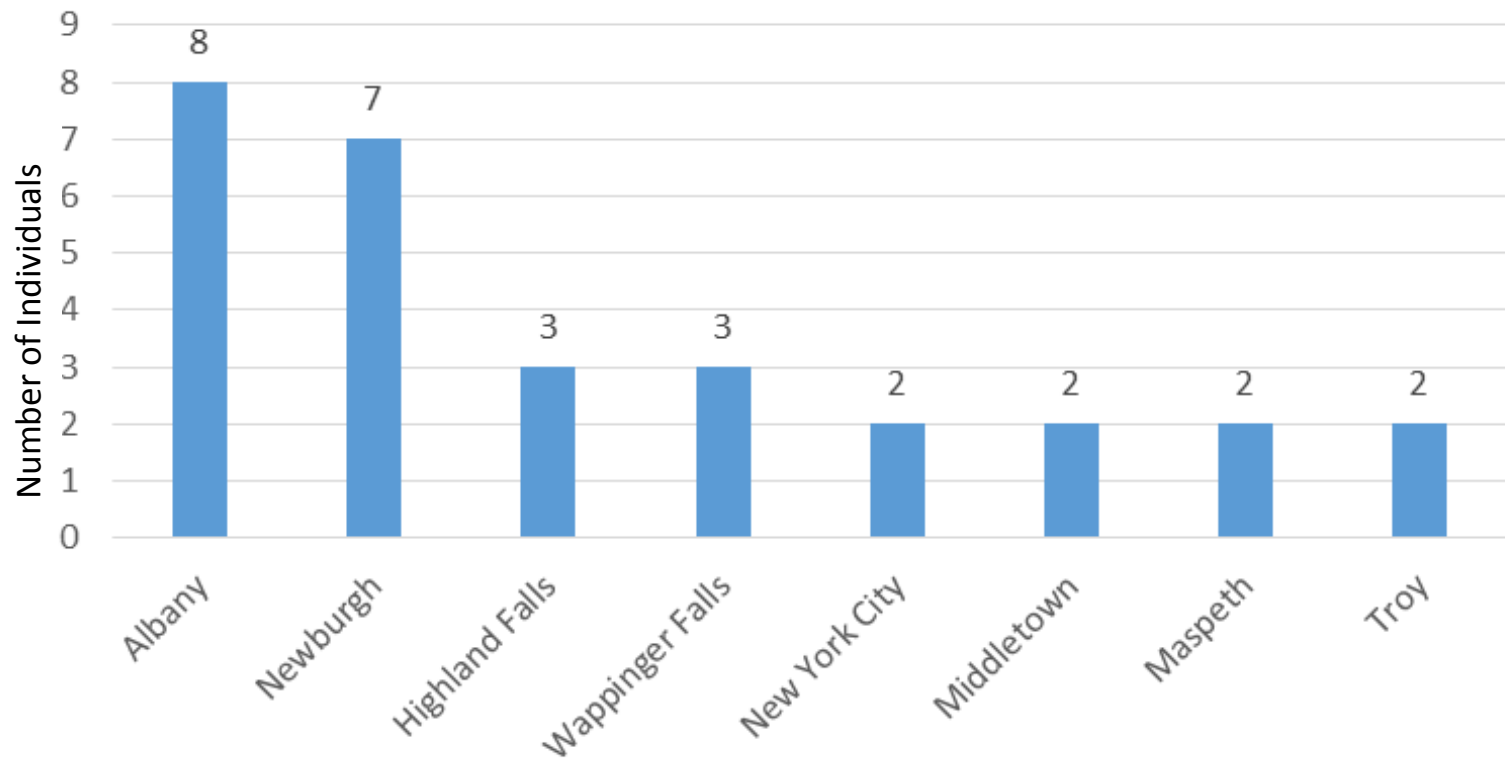


# NYSDOH: 10 Locations With Women under 50 Eating Hudson Fish or Crabs (Residence Zip Code) (24)

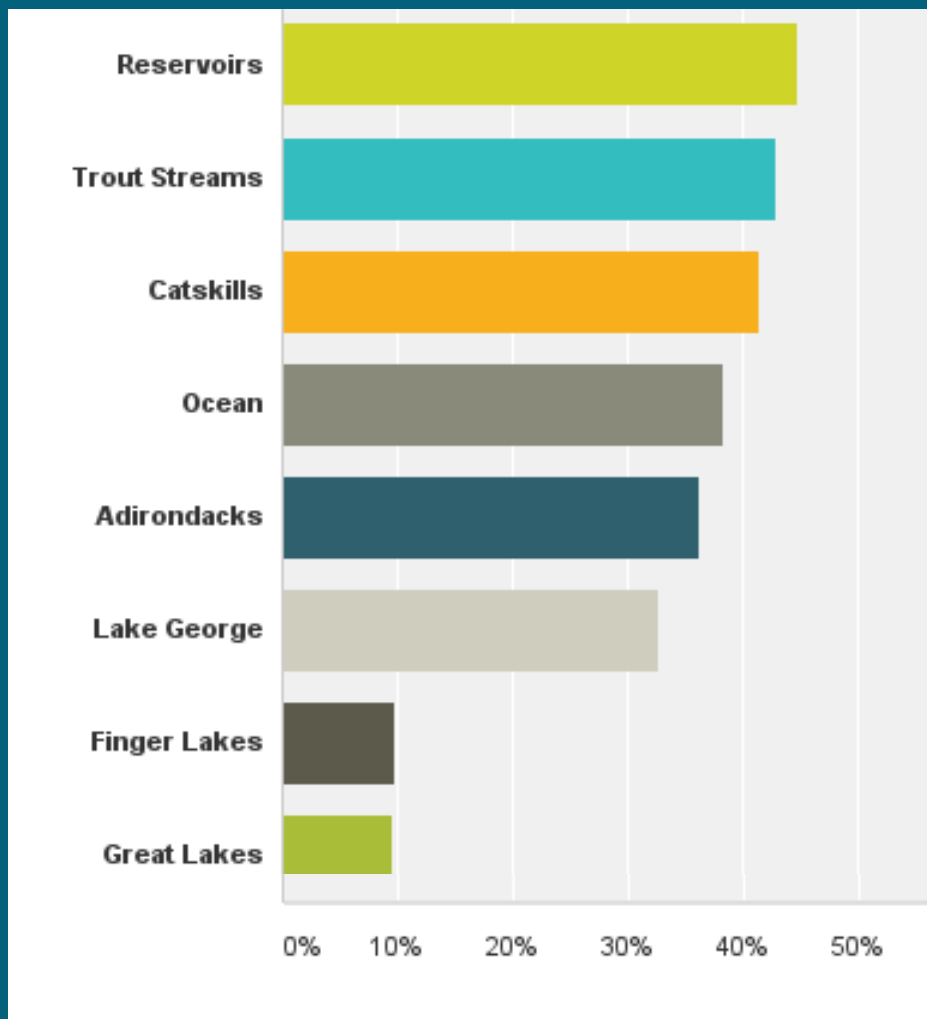




# NYSDOH: 10 Locations With Largest Number of Hispanics and African Americans Eating Hudson Fish or Crabs (Residence Zip Code)



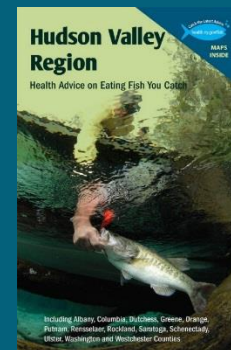
# NYSDOH Other Locations Fished



- Besides the Hudson, What Other Places in New York Do You Fish ?  
(check all that apply)

Many people also fish in other water bodies

2015 brochure lists alternative water bodies in each county where the family can eat fish



# NYSDOH Follow-up Survey

- In 2016 we began to request email addresses on surveys to do an electronic follow-up survey
- The follow-up survey asks about what people learn what survey respondents remember from discussion with NYSDOH or materials, if they told any other people, and if they changed their behavior in eating or sharing Hudson fish
- Small number of respondents: 24
- We had a 22% response rate

# NYSDOH Follow-up

## Reported Changes in Consumption

Response (all that apply)	Percentage (N=24)
No changes in Hudson fish consumption because was not eating Hudson fish	50%
Ate the same amount of fish from the Hudson	8%
Ate less fish from the Hudson	25%
Stopped eating or ate less of a particular species	25%
Gave less Hudson fish to children	12%
Gave less Hudson fish to women under 50	8%
Ate fewer Hudson crabs	4%
Stopped using cooking water from crab in soups and stews	4%
Found out about NYSDOH fish consumption advice for other water bodies	21%

# NYSDOH Follow-up

## What Do You Remember from Reading Materials or Talking to NYSDOH?

Response (all that apply) – I remember	Percentage (N=24)
PCBs stay in the fat and skin of fish	70%
Striped bass have chemicals like other fish in the Hudson	48%
Making a fillet and baking or grilling fish can cut down PCBs in a fish meal	43%
The NYSDOH advice around Albany and Troy is to not eat most fish	30%
The graph with PCB levels in striped bass	22%
Some fish in the Catskill and Adirondacks have chemicals	22%
The color-coded maps with blue (okay for families) and red (not good for families)	9%
Some supermarket fish have more chemicals than others	4%
I didn't remember anything	0%

# NYSDOH Follow-up

## Who Did You Share the Information With?

Response (all that apply)	Percentage (N=24)
No one	8%
My family	54%
A friend	21%
More than one friend	54%

# NYSDOH Follow-up

## Awareness of NYSDOH Advice

Responses	Percentage (N=24)
I knew the advice about eating Hudson fish	21%
I had an idea about the Hudson advice but didn't know the specifics	75%
I did not know there was any advice	4%

# Moving Forward

- Discourage sharing fish and crabs with women and children
- Discourage catfish and eel consumption
- Discourage striped bass and other fish consumption in Catskill to Troy, which is more heavily contaminated than lower river
- Discourage crab tomalley consumption
- Increase awareness of the advice among younger Hudson fish consumers



# Moving Forward

- Reinforce that contamination levels in fish will take a long time to drop after the dredging
- Continue to create more connections to immigrant communities, whom are likely to be less aware and have been found to eat large amounts of local fish
- Seek more information on minority community consumption
- Try to learn more about Hudson fish consumption in NYC

For more information: [hrfa@health.ny.gov](mailto:hrfa@health.ny.gov) or [regina.keenan@health.ny.gov](mailto:regina.keenan@health.ny.gov) or 518-402-7530