



Citizen Science

Citizen Science Program Update

Dolphin Wahoo AP
November 2023

Program Activities



CitSci Advisory Groups



CitSci Project Idea Portal



SMILE Project Update



SAFMC Release Update & Annual Data
Summary



FISHstory: Pilot Project Results &
Gathering New Photos

Citizen Science Advisory Panels

- Participants members of the [CitSci Pool](#) and/or be a member of another Council AP



Operations Committee

Programmatic guidance

3-5 year terms

Meet 2 times per year

Appointments will be made in

Dec 2023



Projects Advisory Committee

Research priorities, volunteer engagement, etc.

Members of other Council APs

Term dependent on AP tenure

Meet 1 time per year



Ad-hoc Committees

Typically serve as review for program components

Currently no active ad-hoc committees

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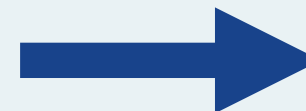
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Current DW AP representation

Jon Reynolds

Others?



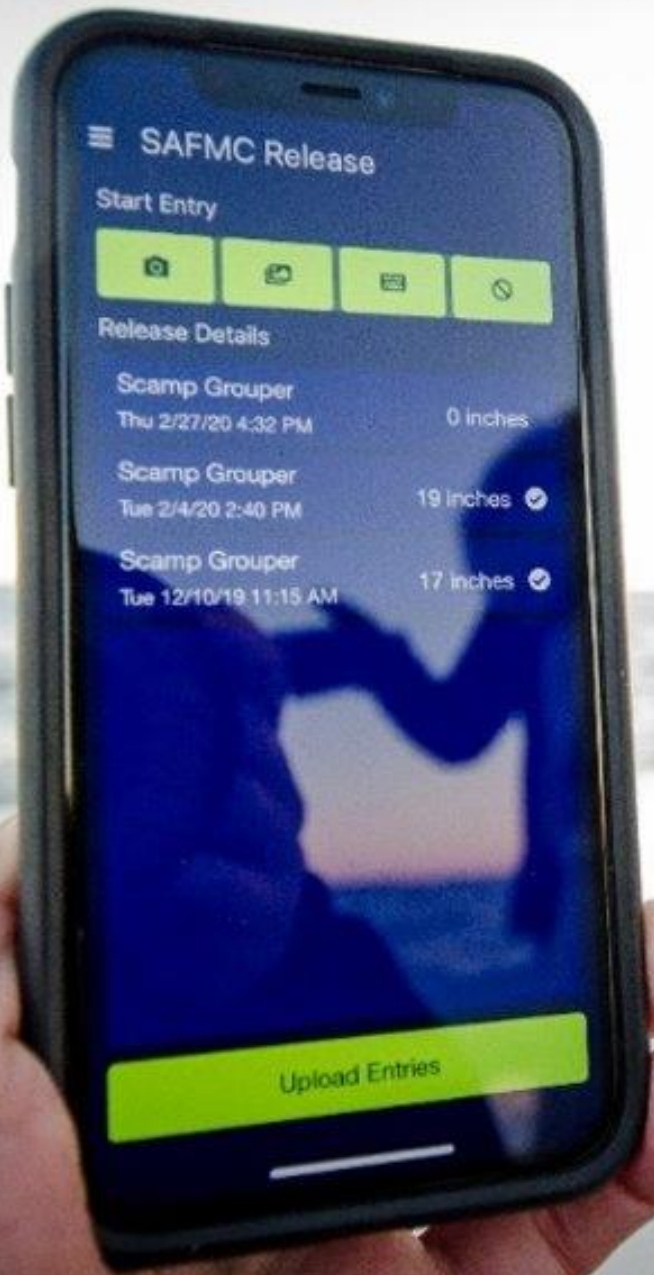
Citizen Science Project Idea Portal

- **Goal:** Develop online form to gather citizen science project ideas from stakeholders
- **How will the information be used?**
 - Ideas reviewed by Program in May and Oct
 - Compile & consider when citizen science research priorities updated
 - Help connect fishermen and scientists with similar research interests

SMILE Pilot Project

- Partnering with recreational divers to collect length information on data limited species
- Laser mounted Olympus underwater camera
- Field tested in FL Keys – Aug/Sept 2023





SAFMC Release



Updates



Participants recording released shallow water grouper and Red Snapper in SciFish app

Continued outreach, including collaboration with Best Fishing Practices initiative

Participant Recognition Program (PRP)

Annual Data Summary

Outreach



Partnerships

- FWC email
- BFP (e.g., Pitman Creek mailings)
- Articles



Social media

- Instagram, Facebook, Twitter, LinkedIn



Tackle shop visits

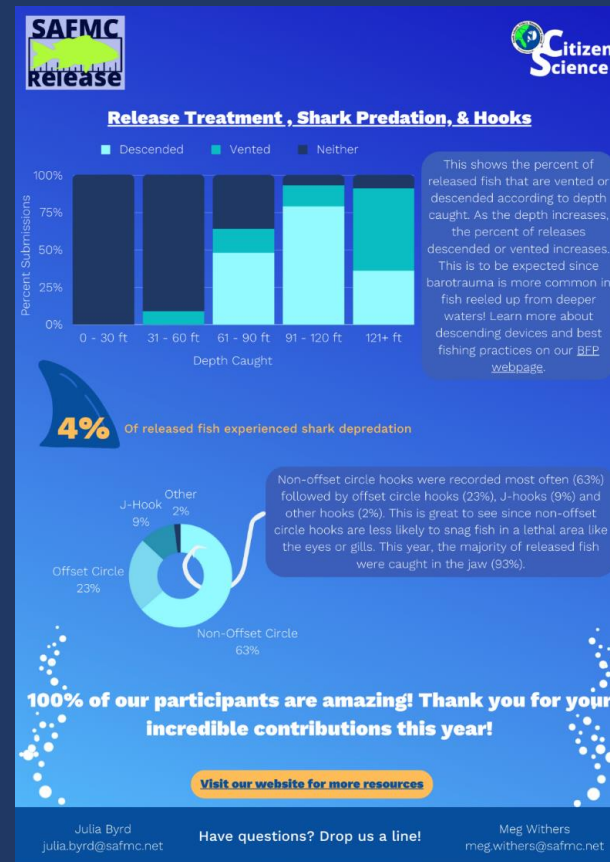
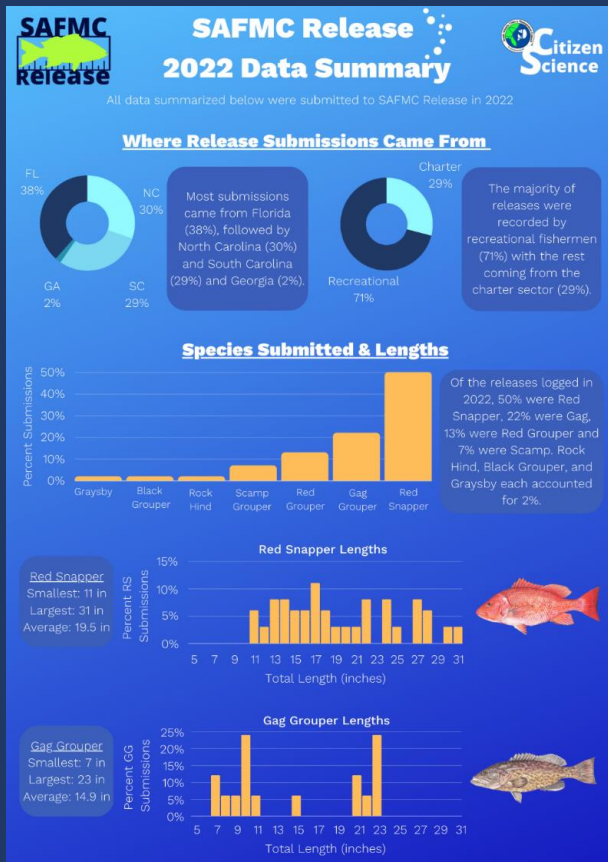
- Each state at least 2x



Seminars & Events

- Haddrell's Fishing Expo
- SCDNR Open House
- ICAST
- JOSFC

2022 Data Summary



Summary includes:

- Release submissions by state & fishing sector
- Species submitted
- Length compositions
- Release treatment by depth
- Shark depredation
- Hook type & location



Citizen
Science

FISHstory



FISHstory Project Components



Digitize &
archive historic
photos



Over 1,374 photos digitized &
archived



For-hire catch
composition in
Zooniverse



Over 2,120 volunteers made
35,740 classifications
Validation Team reviewed 180
photos



Method to
estimate length

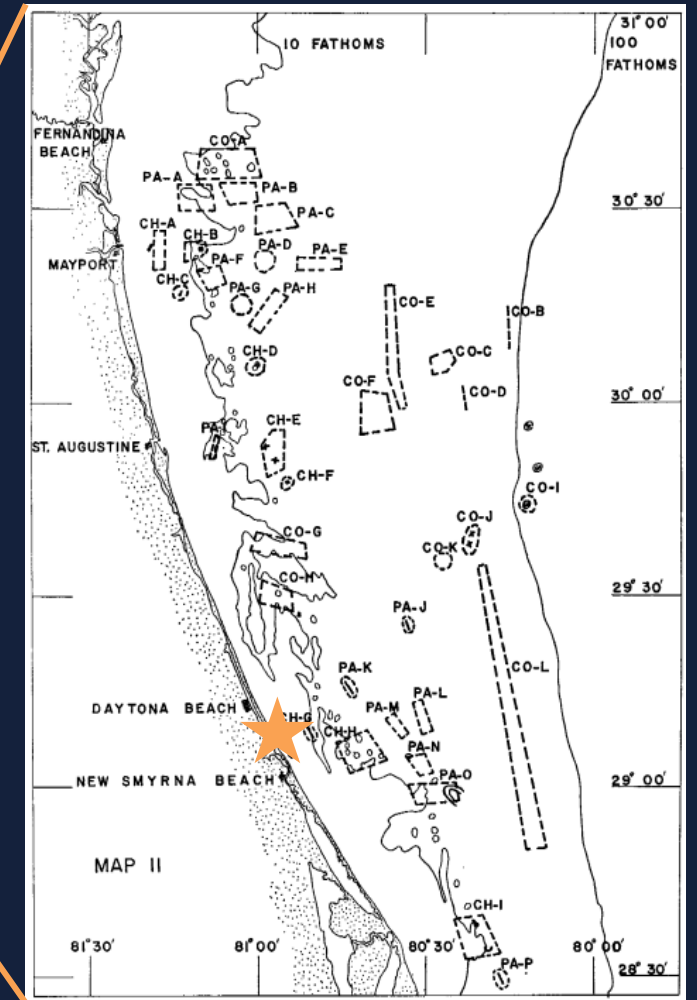
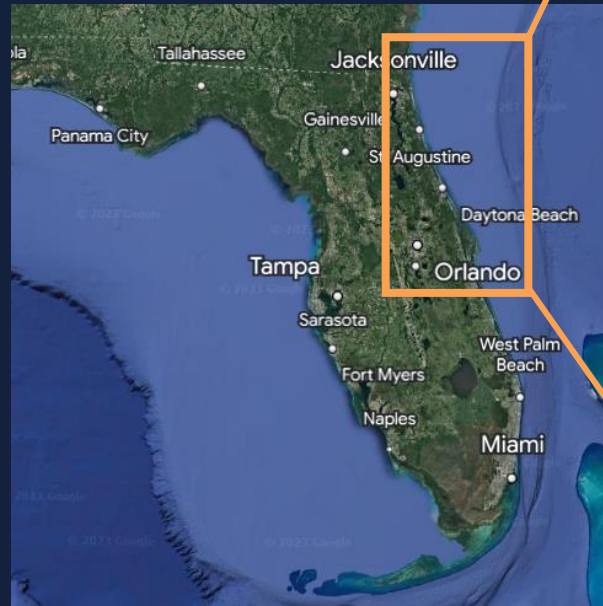


All 1,374 photos reviewed for
King Mackerel

Historical Photo Overview

Photo Location:
Daytona Beach, FL

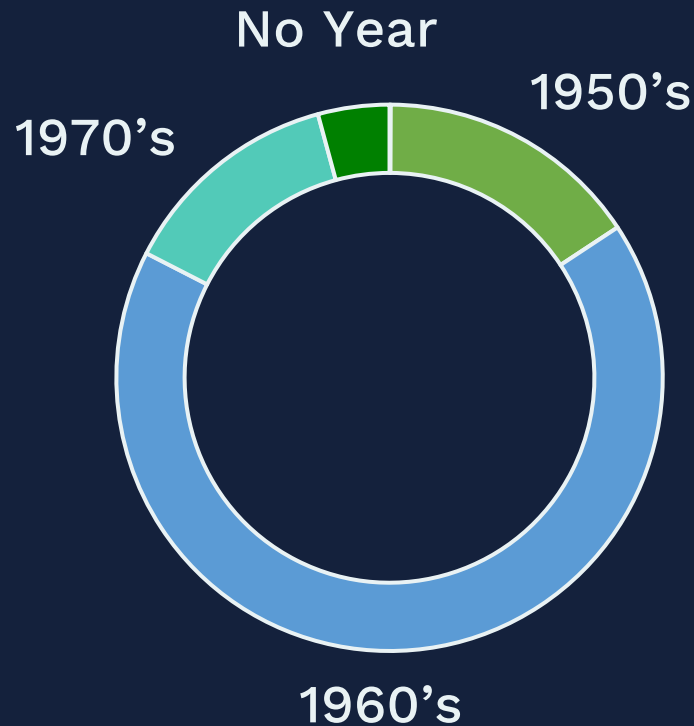
Photos from fishing trips
departing from:
Inlet Harbor & Timmons
Fish Camp



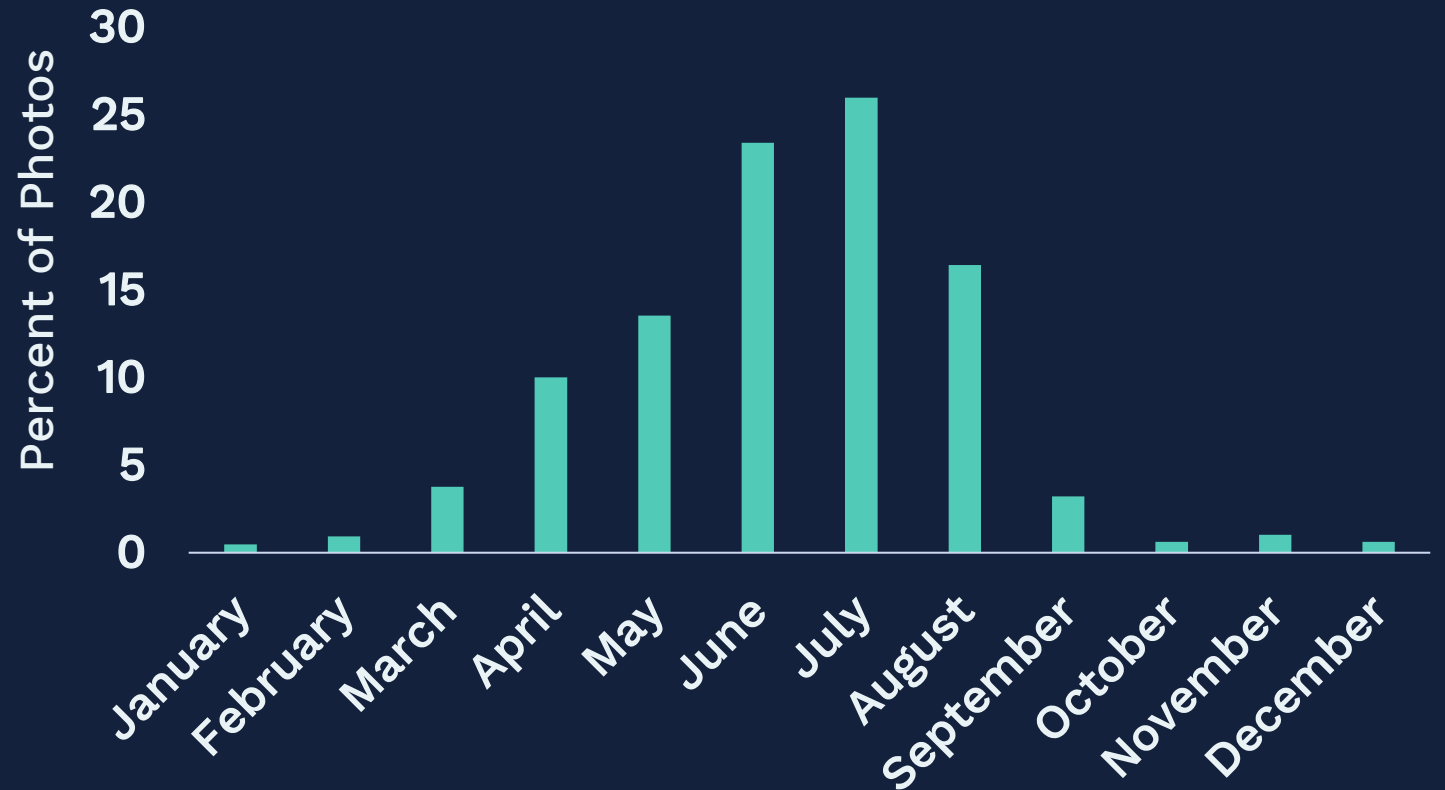
Moe, M. A. (1963). A Survey of Offshore Fishing in Florida (Rep. No. Four).

Historical Photo Overview

Percentage of photos by decade
Photo range: 1949 - 1975



Percentage of photos by month



Historical Photo Overview

88% of photos from 5 vessels



CAUGHT AT **TIMMONS** CL 3-5825
FISHING CAMP
DAYTONA BEACH, FLA.



CAUGHT AT
FISHERMAN'S PARADISE
DAYTONA BEACH, FLA. CALL 767-7676



Zooniverse Workflows

FISH & PEOPLE: Count

- Count the total number of fish and people in the photos
- 10 volunteers per photo
- No Validation Team Review
- 1,374 photos complete





TASK

TUTORIAL

FISH: Please mark all of the fish in the photo regardless of their species. If there is a stringer, pile, trash can, or wheelbarrow where individual fish can not be differentiated leave them unmarked. Mark all fish as close to the eye as possible

PEOPLE: Counting people will help to determine fishing effort. Please mark all of the people in the photo, including children and captains.

 Fish 20 drawn

 People 7 drawn

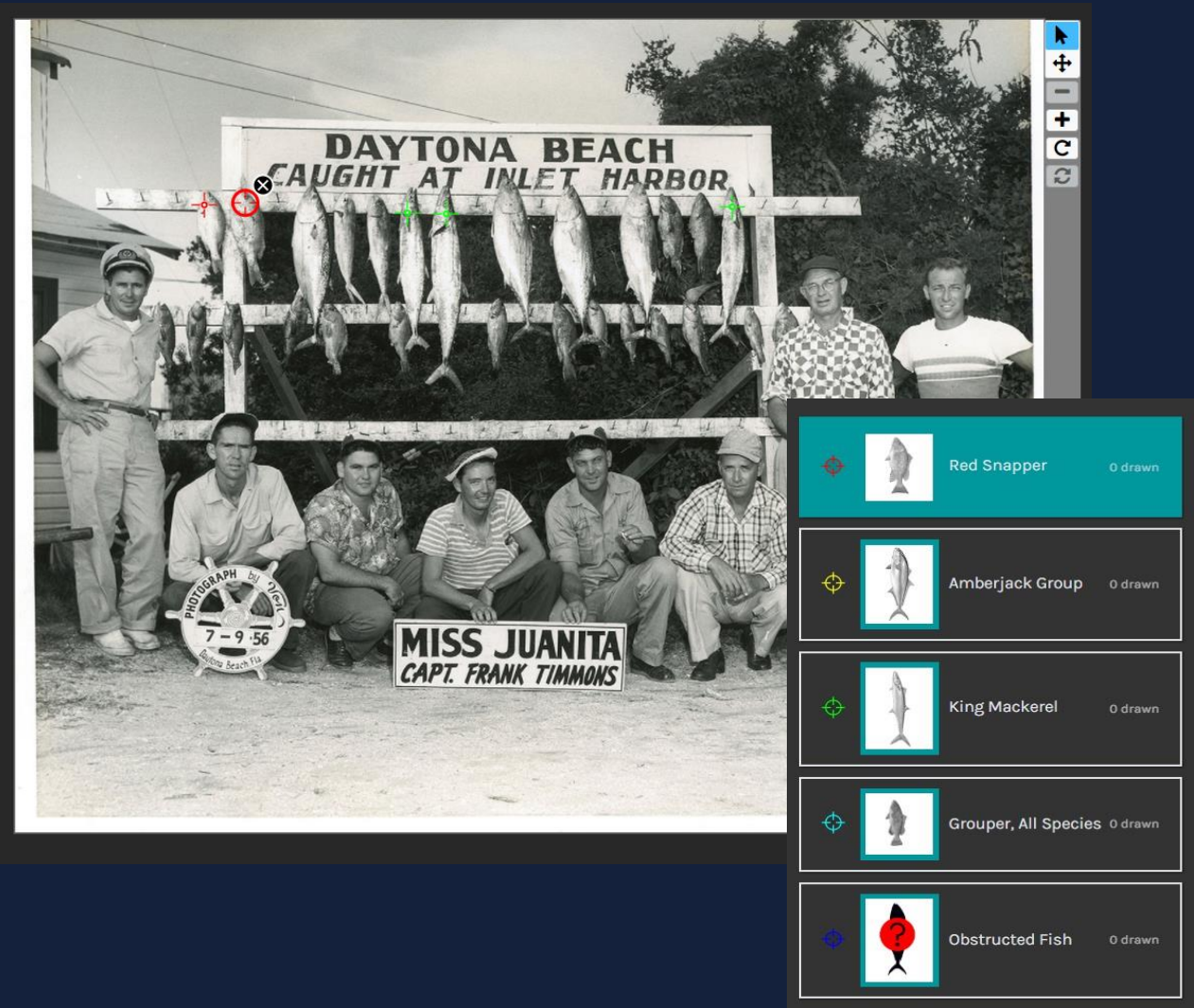
NEED SOME HELP WITH THIS TASK?

Done & Talk

Done















Zooniverse Workflows



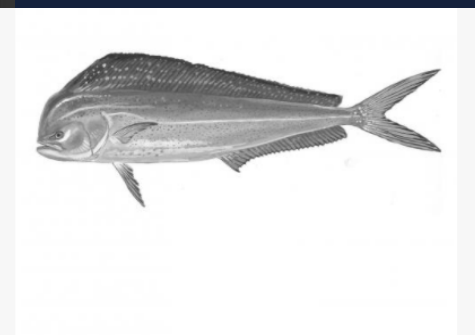
FISH: Classify

- Identify fish into 16 species or species groups
- Document obstructed fish
- Tiered data collection via two tasks
- 20 volunteers per photo
- Validation Team review when substantial disagreement
- 1,000 photos complete

Zooniverse Workflows

Shape	Tail
 Snapper, Other	 Dolphin Fish/Mahi
 Jack, Other	 Flounder
 Hammerhead Shark	 Gray Triggerfish
 Shark, Other	 Little Tunny
 Black Sea Bass	 Porgy/Grunt
 Cobia	 Other

Showing 12 of 12 [Clear filters](#)



Dolphin Fish/Mahi

Dolphin Fish are brilliantly colored with blue, green, and yellow however this coloring fades once the fish dies. Male Dolphin Fish have a vertical, wide forehead with a body that tapers to the tail. Females have a softer sloping forehead (see last image). These fish have a single dark dorsal fin that runs from behind the head to the tail. The tail of this fish is long and narrowly forked.

How many of this species or species group are present in the photo?

1 2 3 4 5 6-10 11-15 16+

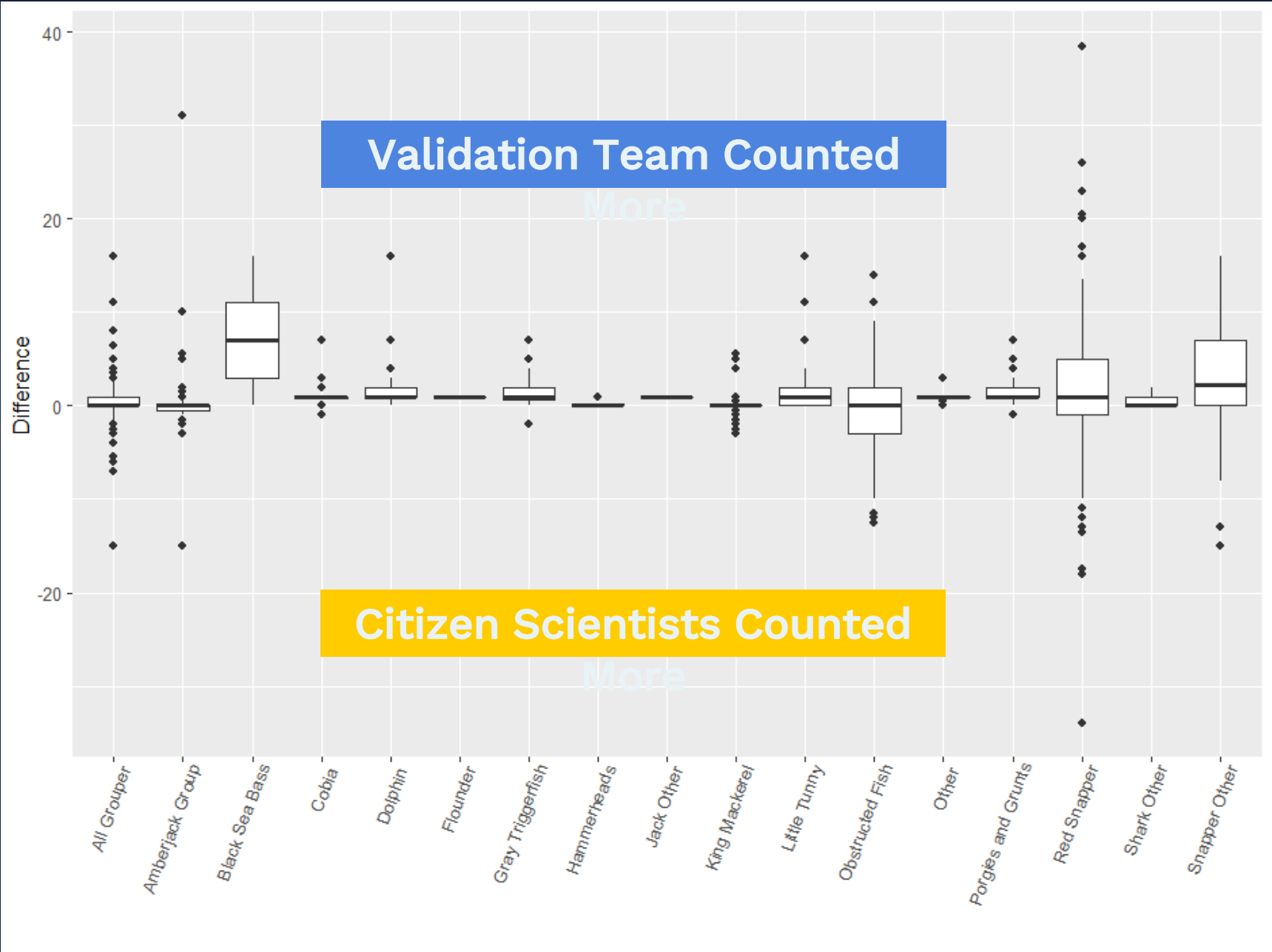
Cancel

Identify

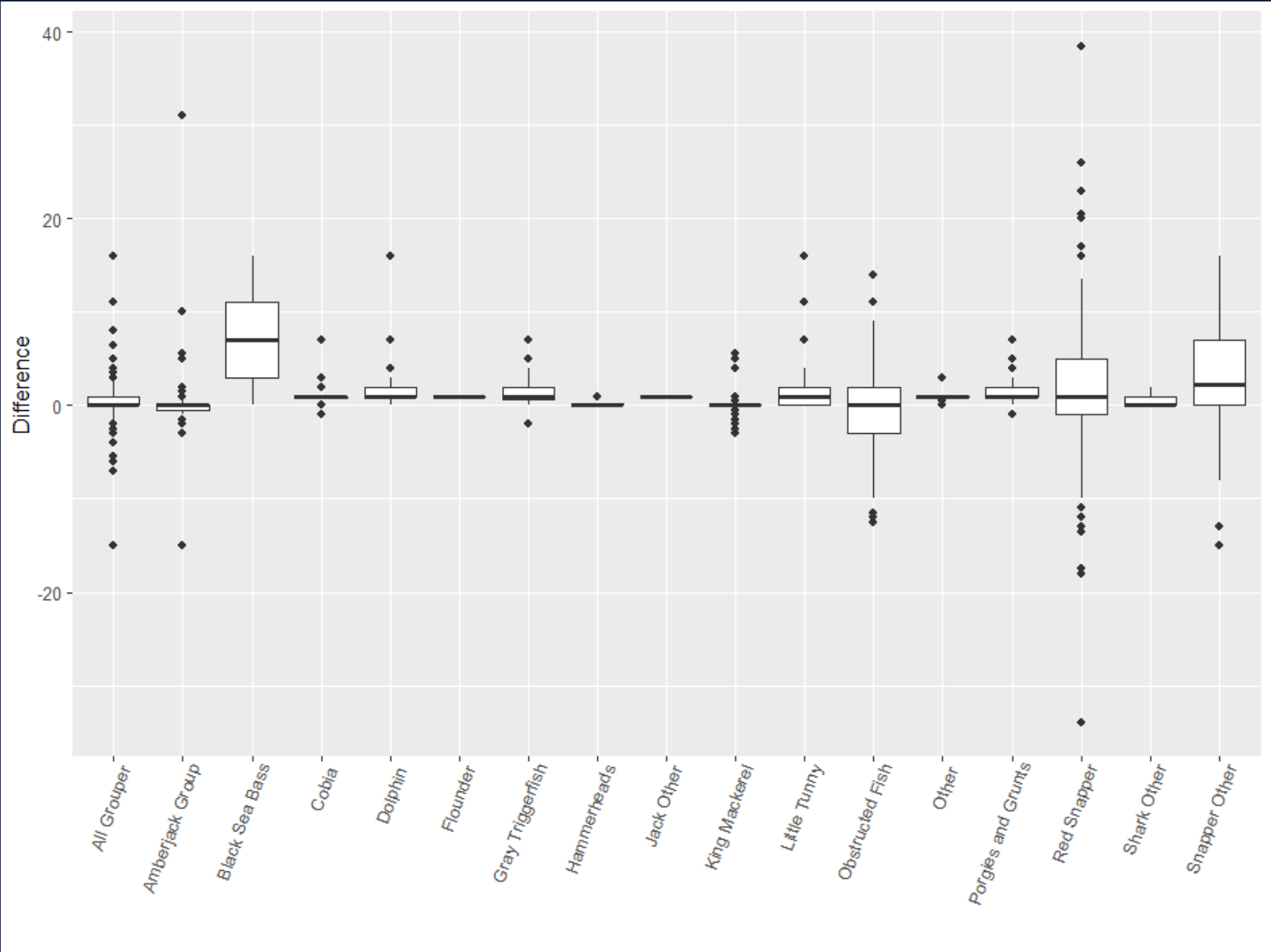
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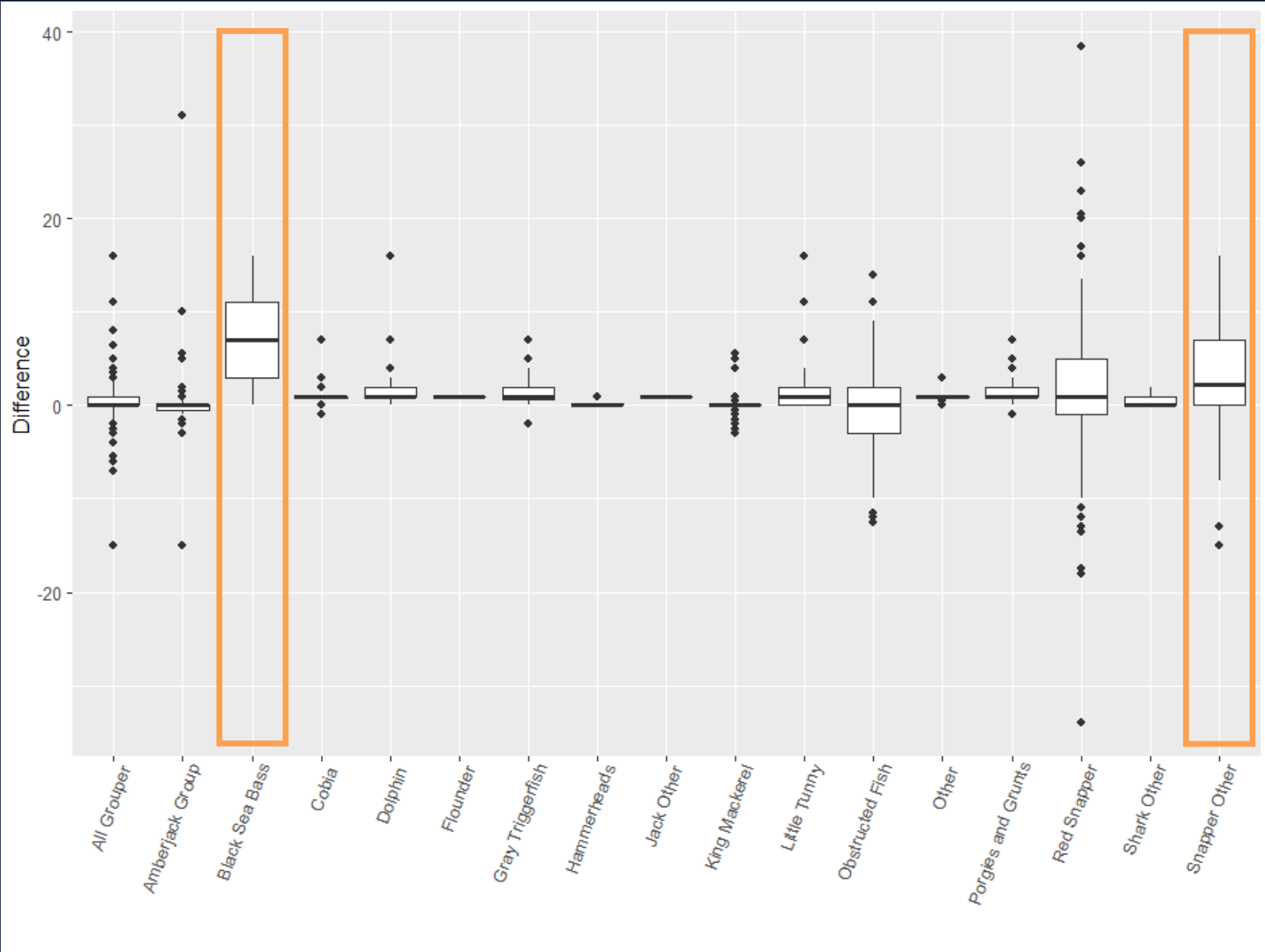
Comparison of Validation Team & Citizen Scientists



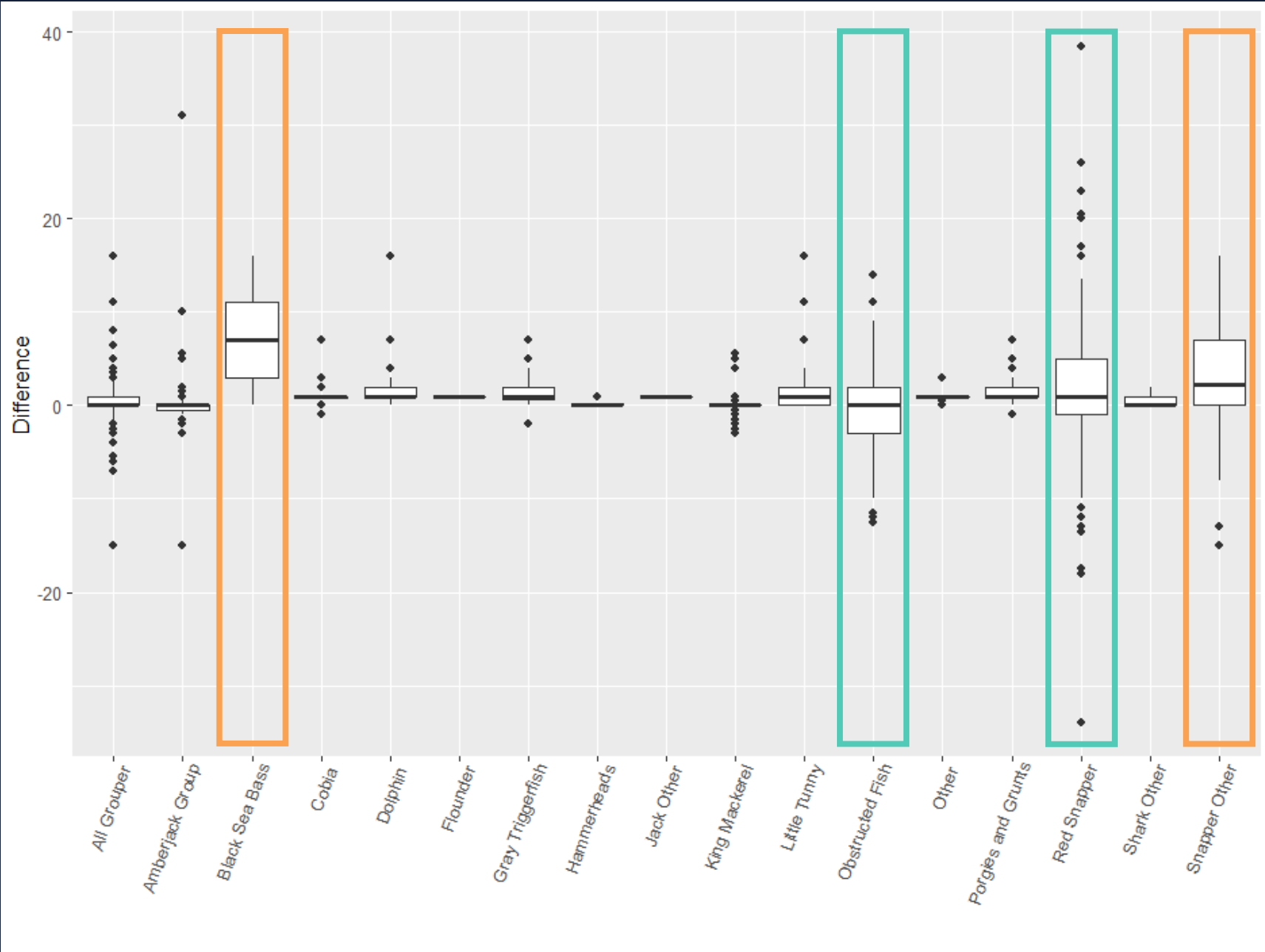
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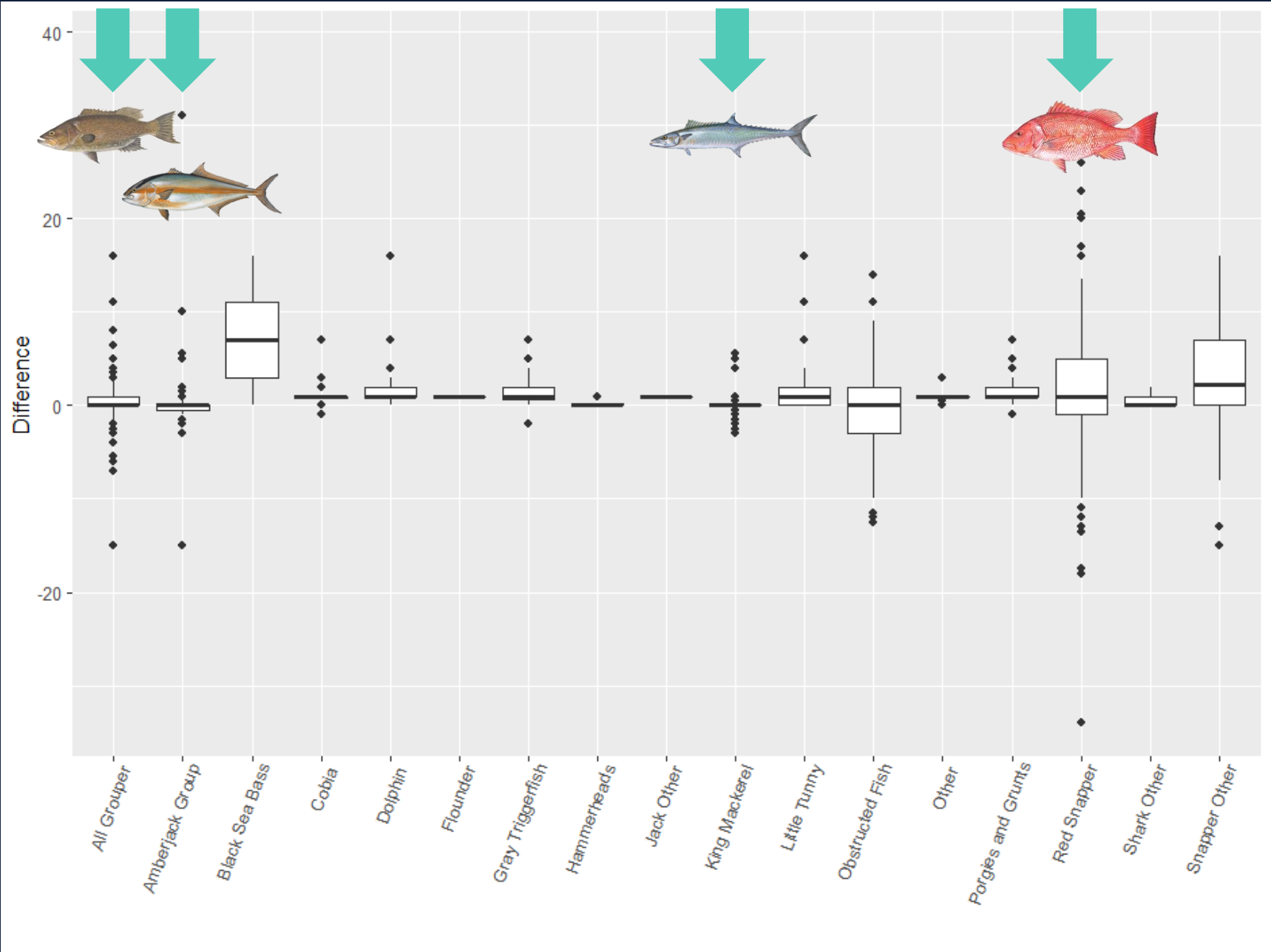
Comparison of Validation Team & Citizen Scientists



Comparison of Validation Team & Citizen Scientists



Comparison of Validation Team & Citizen Scientists



FISHstory: Length Component

- Method developed to measure fish length



Identify scalar &
develop protocol



Test protocol



Train length
analysts

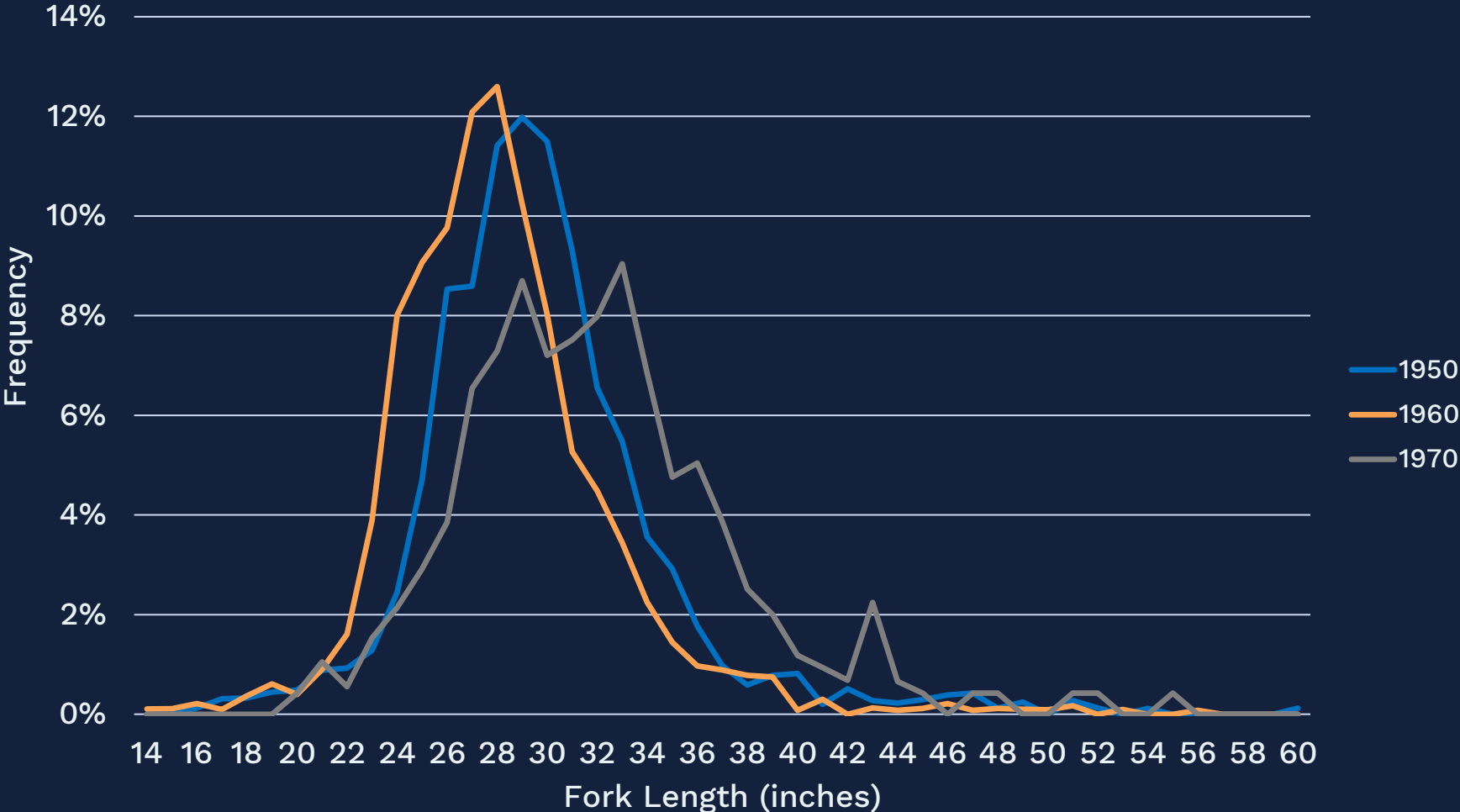


Coordinate &
measure King
Mackerel



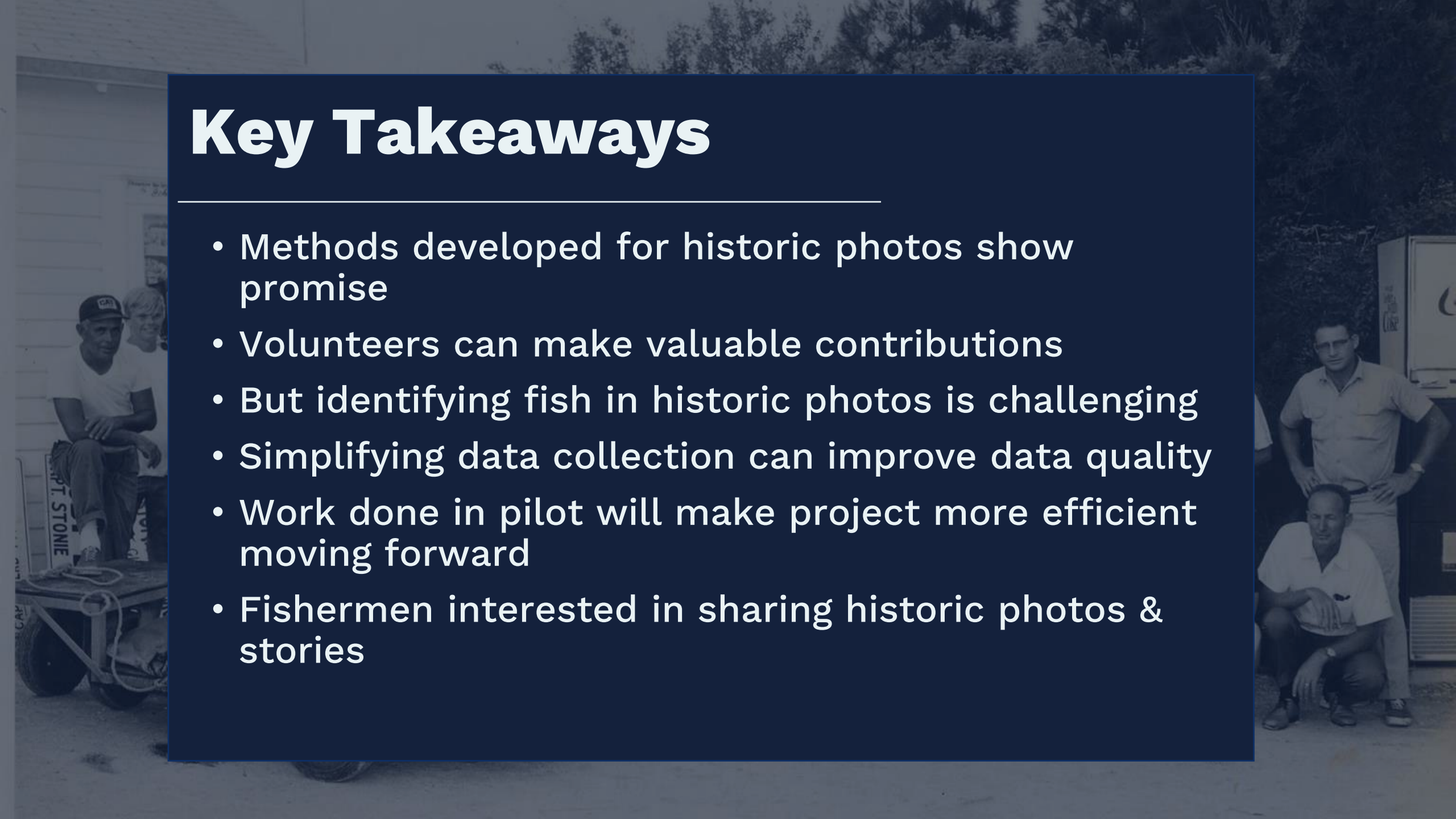
Share Results

King Mackerel length compositions by decade



Key Takeaways

- Methods developed for historic photos show promise
- Volunteers can make valuable contributions
- But identifying fish in historic photos is challenging
- Simplifying data collection can improve data quality
- Work done in pilot will make project more efficient moving forward
- Fishermen interested in sharing historic photos & stories



Next Steps

- Move from pilot to full scale project



Funding to
grow
project



Expand
geographic &
temporal
range of
photos



Improve
efficiency of
processes



Estimate
length
compositions
for more
species

FISHstory Scanning Events

- Goal: Collect historic fishing photos from across the South Atlantic region from the 1940s – 1980s for the FISHstory project
- Host in collaboration with upcoming Council & Advisory Panel meetings
 - ✓ September Council meeting
 - ✓ Outreach & Communication AP meeting
 - ✓ Fall Snapper Grouper AP meeting
 - Dolphin Wahoo AP meeting
 - Mackerel Cobia AP meeting
 - December Council meetings

FISHstory Scanning Events



Bring hard copy photos or digital photos to the event



Scan hard copy photos



Save digital photos



Collect photo details



Share digital copies of photos with provider

FISHstory: Photos for Analyses

Photo Description	Good	Better
Photo Type	Picture taken at the end of a trip displaying harvested catch with anglers	Fish hanging on leaderboard
Photo Date	Year	Month & Day
Photo Location	State	City & Dock
Photo Background	Photo provider name & contact	Vessel name & captain name



Good

Picture taken at end of trip displaying harvest with anglers

Year

State

Photo provider name & contact

Better

Fish hanging on leaderboard

Month

City & dock

Vessel name & captain name



Good

Picture taken at end of trip displaying harvest with anglers



Year

State

Photo provider name & contact

Better

Fish hanging on leaderboard



Month

City & dock

Vessel name & captain name



PC: Judy Helmey

Good

Picture taken at end of trip displaying harvest with anglers

Year

State

Photo provider name & contact

Better

Fish hanging on leaderboard

Month

City & dock

Vessel name & captain name

PC: Judy Helmey



Good

Picture taken at end of trip displaying harvest with anglers



Year



State



Photo provider name & contact



Better

Fish hanging on leaderboard

Month

City & dock



Vessel name & captain name



Exploring other avenues to gather historic photos



**HISTORICAL SOCIETIES
AND ORGANIZATIONS**



LIBRARIES



RESTAURANTS

Discussion Questions

- Have historic photos? Visit the FISHstory table!
- We are exploring holding scanning events outside of Council related meetings. Do you have suggestions on where (cities, venues) we could hold events?
- What other avenues should the Council explore to gather additional historic photos?
- Are there individuals or organizations in your area that may be good contacts to gather historic fishing photos?

Keep Up with Projects & the Program!

<http://safmc.net/citizen-science-program/>



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