Citizen Science Program Update

Mackerel Cobia AP

October 2022

Program Activities

- New CitSci Project Coordinator: Meg Withers
- SMILE Project
- Dolphin Stakeholder Workshops
- CitSci Initial Program: Evaluation Interviews
- SAFMC Release
- FISHstory pilot project

PC: REEF & Daryl Duda

SMILE Pilot Project

- Partners: REEF, SECOORA, UCSD Engineers for Exploration & SAFMC
- Partnering with recreational divers to collect length information on data limited species

PC: Troy Frady

Dolphin Stakeholder Workshops

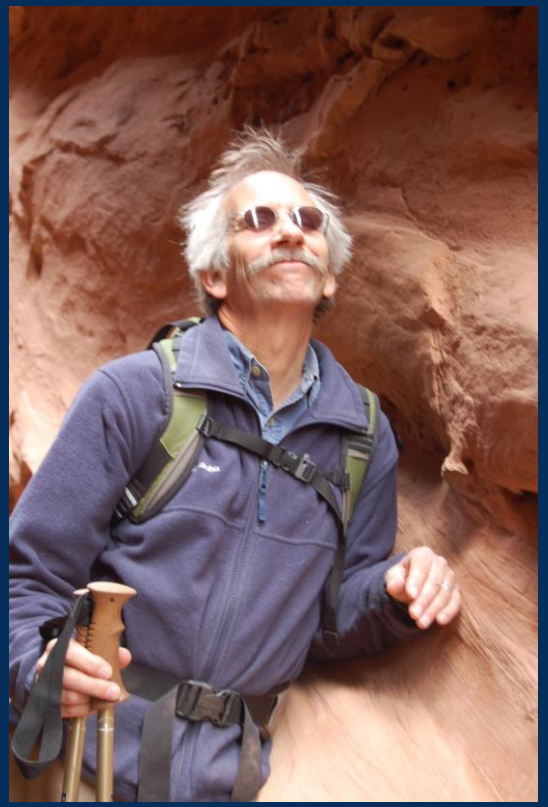
Focus on gathering information on preferences, priorities & concerns with dolphin fishery to evaluate future management strategies

- Week of October 4th, 2020: South Florida
- Week of October 31st, 2022: Rhode Island & New York
- Week of January 23rd, 2022: South Carolina, North Carolina & Virginia

NOAA FISHERIES

Citizen Science

Initial Program Evaluation Plan



Rick Bonney
Cornell Lab of Ornithology

Initial Program Evaluation Plan

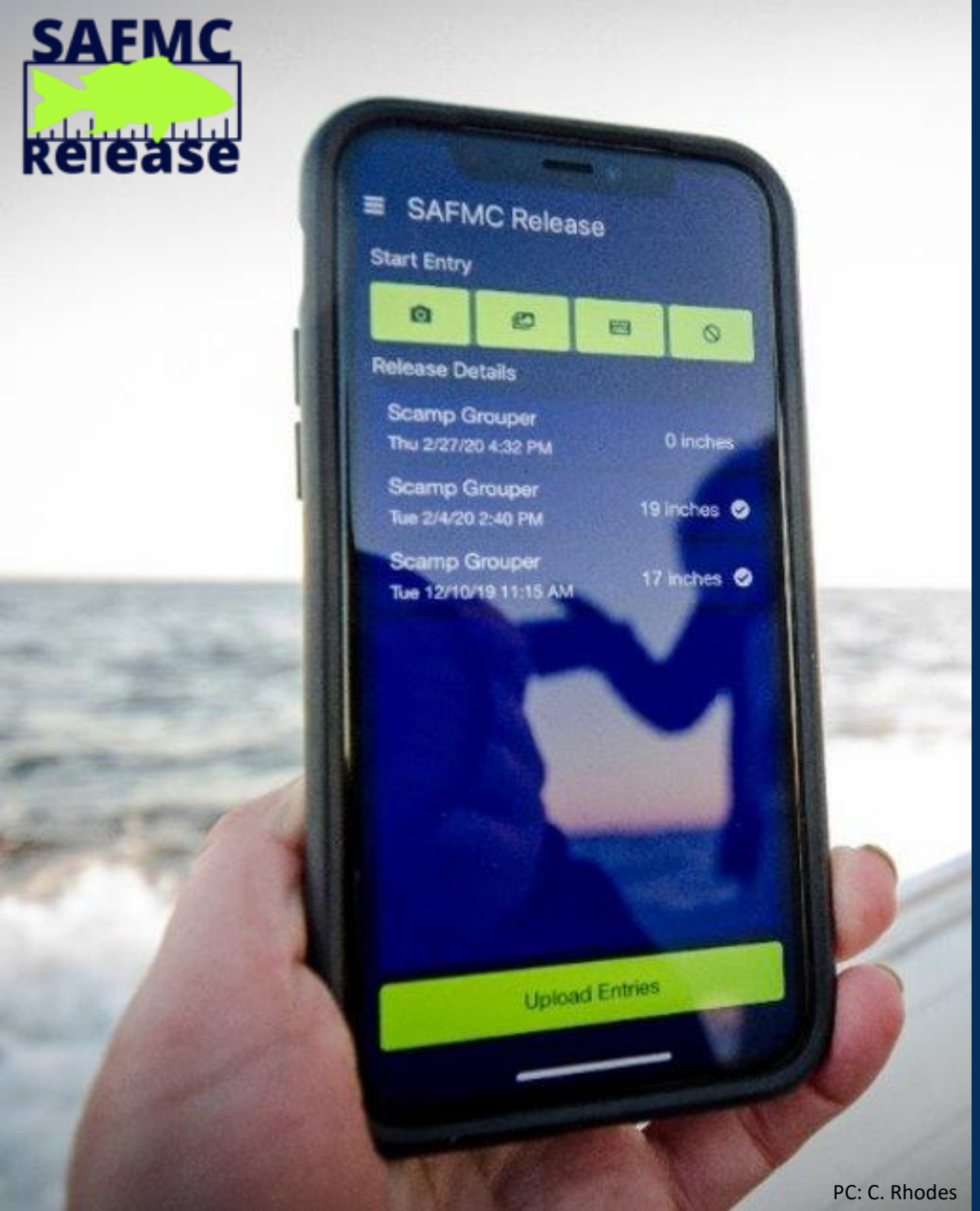
- Gather baseline data on knowledge, attitudes, collaborations, engagement, and trust levels of various stakeholders in three stages:

Interviews → Complete: 6 fishermen, 6 scientists, 6 managers

Develop online survey → Beginning to draft survey questions

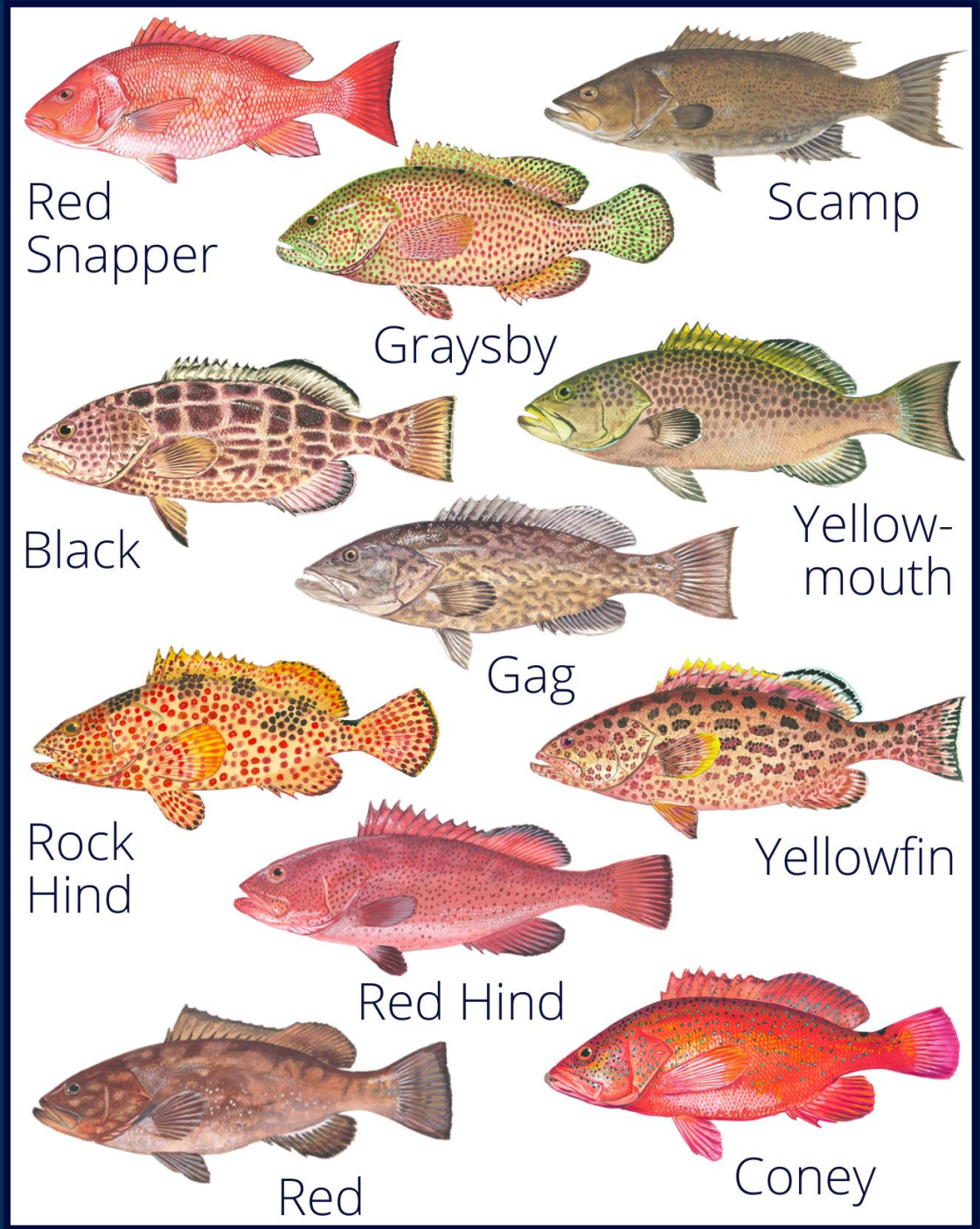
Implement & analyze survey

Interview results available → https://safmc.net/documents/2022/05/citsci_a1_safmc_stakeholderassessment1.pdf/



PC: C. Rhodes

SAFMC Release



Updates

- Added Red Snapper in April 2022
- Volunteers are logging shallow water grouper & Red Snapper data in SciFish app
- Outreach, recruitment, and retention push

Citizen Science

FISHstory Highlights

FISHstory
A SAFMC CitSci Project

FISHstory wouldn’t be possible without so many amazing partners & volunteers!

- Rusty Hudson, Ken Brennan, Amber Von Harten & Allie Iberle
- FISHstory Design & Validation Teams
- FISHstory Length Analysts
- FISHstory Zooniverse Volunteers
- Outreach Partners
- Many Council Staff
- NOAA Fisheries - Fisheries Information System Program

FISHstory Project Components

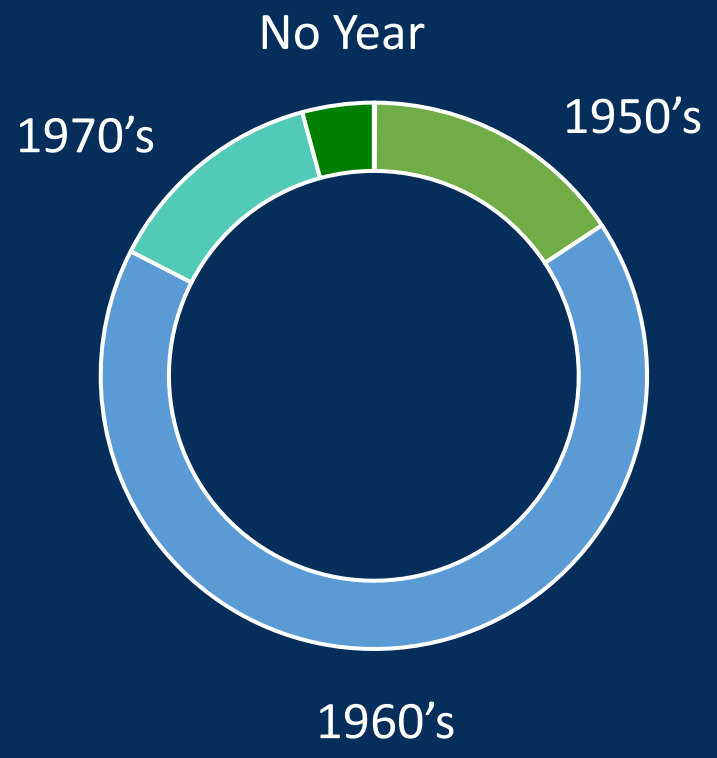
Digitize & archive historic photos → Over 1,374 photos digitized & archived

For-hire catch composition in Zooniverse → Over 2,120 volunteers made 35,740 classifications
Validation Team reviewed 180 photos

Method to estimate length - test on King Mackerel → All 1,374 photos reviewed for King Mackerel

Historical Photo Overview

Percentage of photos by decade
Photo range: 1949 - 1975



Percentage of photos by month

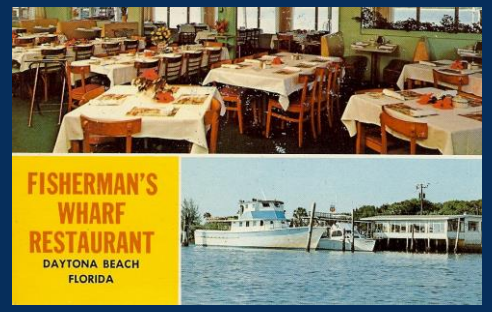
Historical Photo Overview

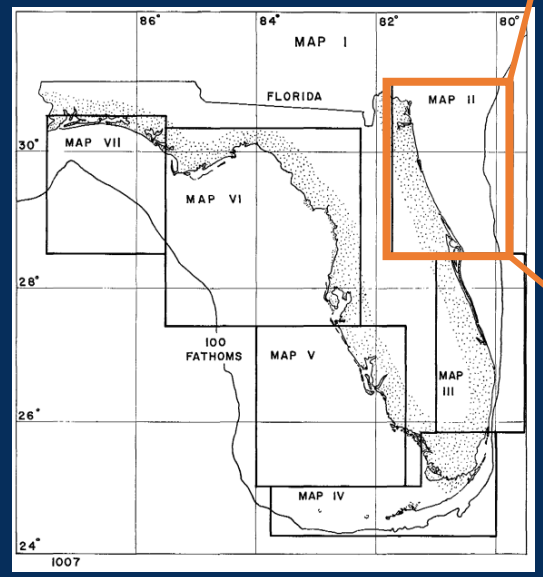
Photo Location:

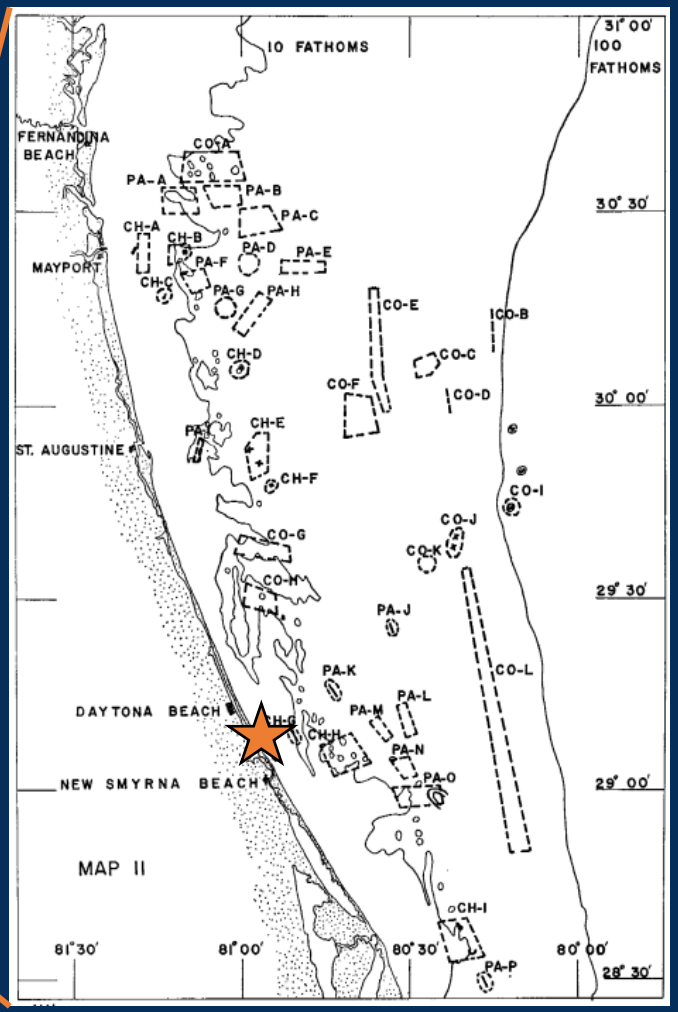
Daytona Beach, FL

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

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
7 27 74

For-Hire Catch: Process

Pre-launch

BUILD PROJECT IN ZOONIVERSE

DEVELOP TRAINING MATERIALS

RECRUIT & TRAIN VALIDATION TEAM MEMBERS

BETA TEST IN ZOONIVERSE & ADJUST

Post-launch

BATCH & ADD PHOTOS

IDENTIFY PHOTOS FOR & COORDINATE VALIDATION TEAM REVIEW

VOLUNTEER OUTREACH & ENGAGEMENT

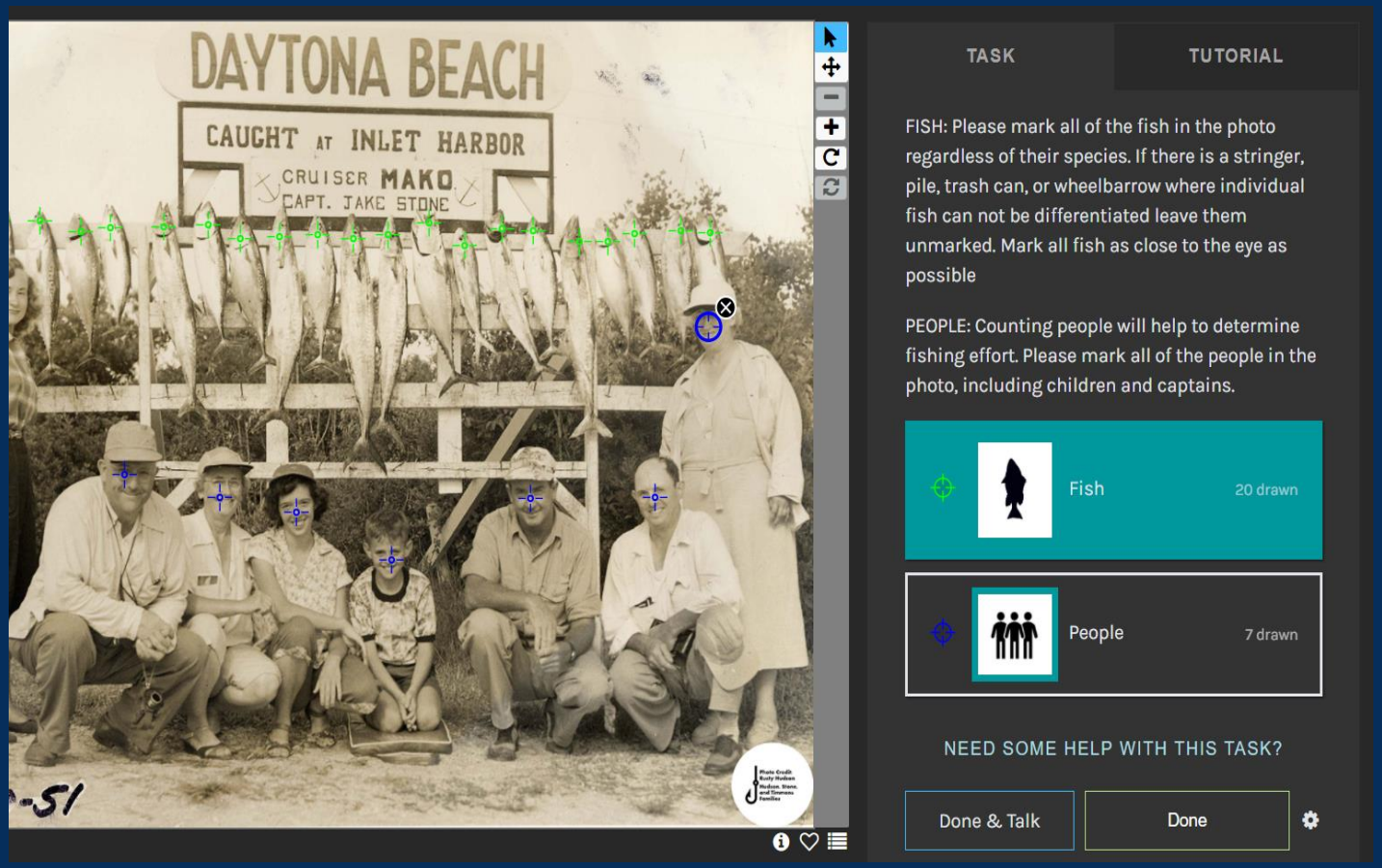
DATA ANALYSIS

SHARE RESULTS

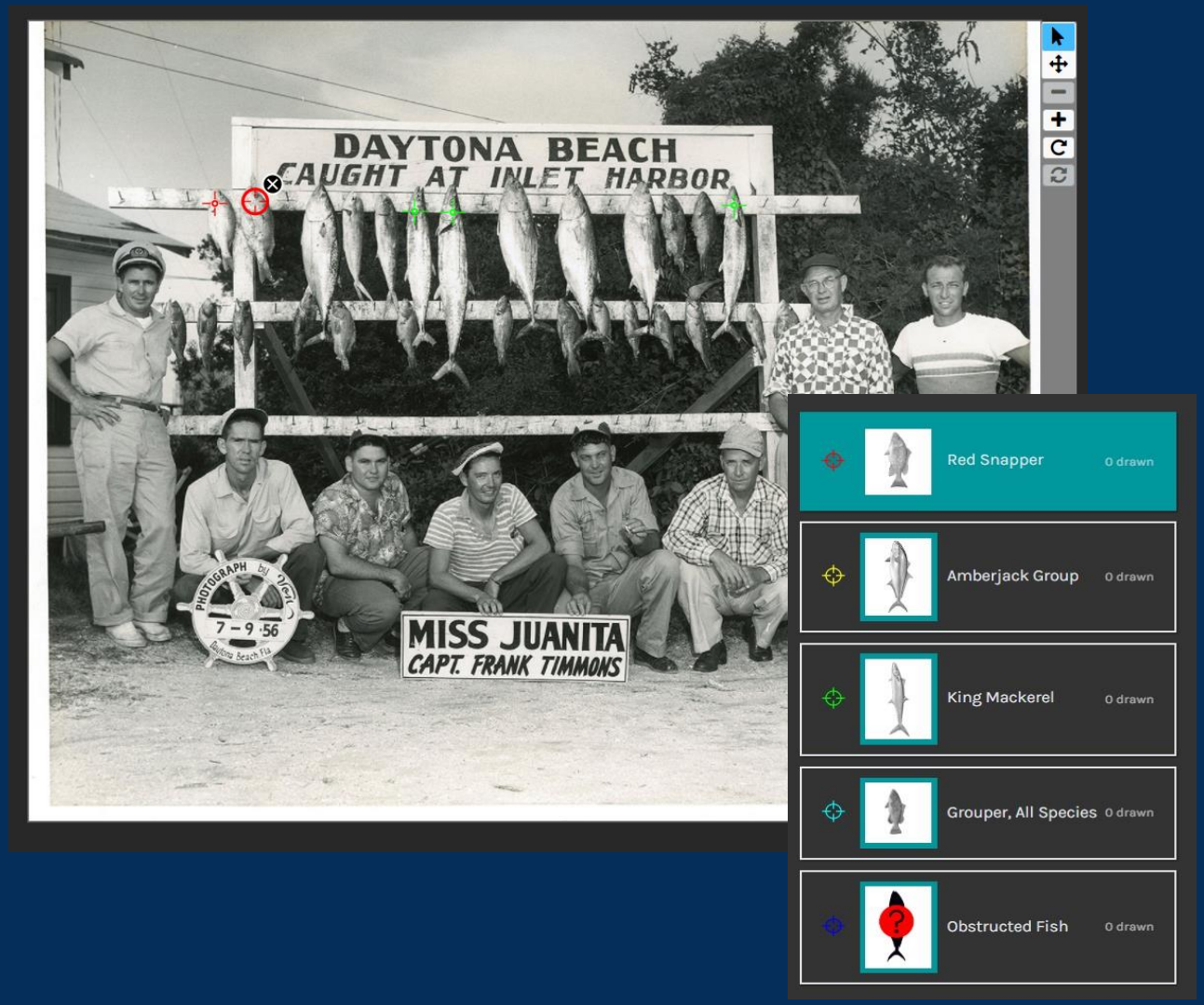
Zooniverse Workflows

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



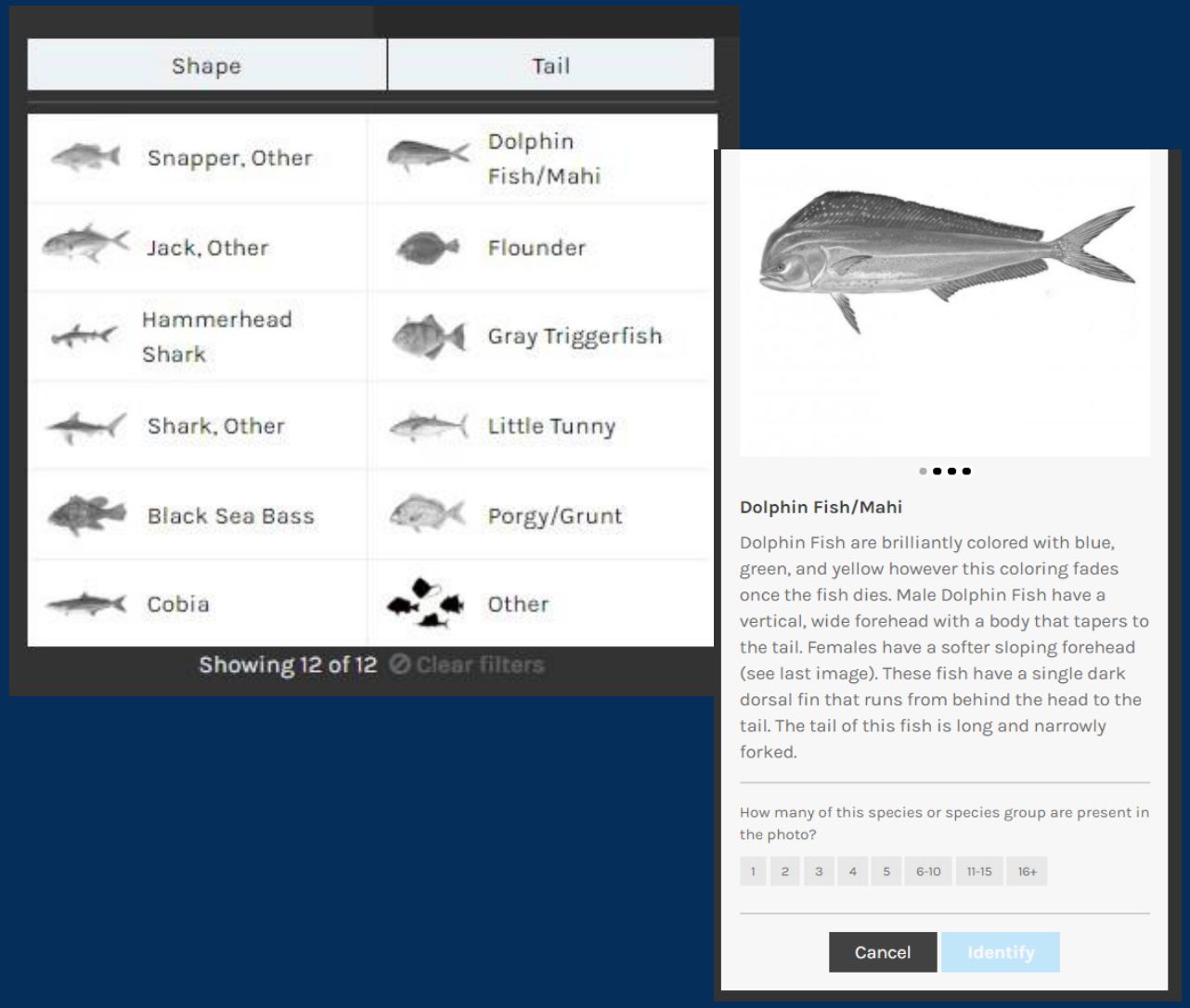
Zooniverse Workflows



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



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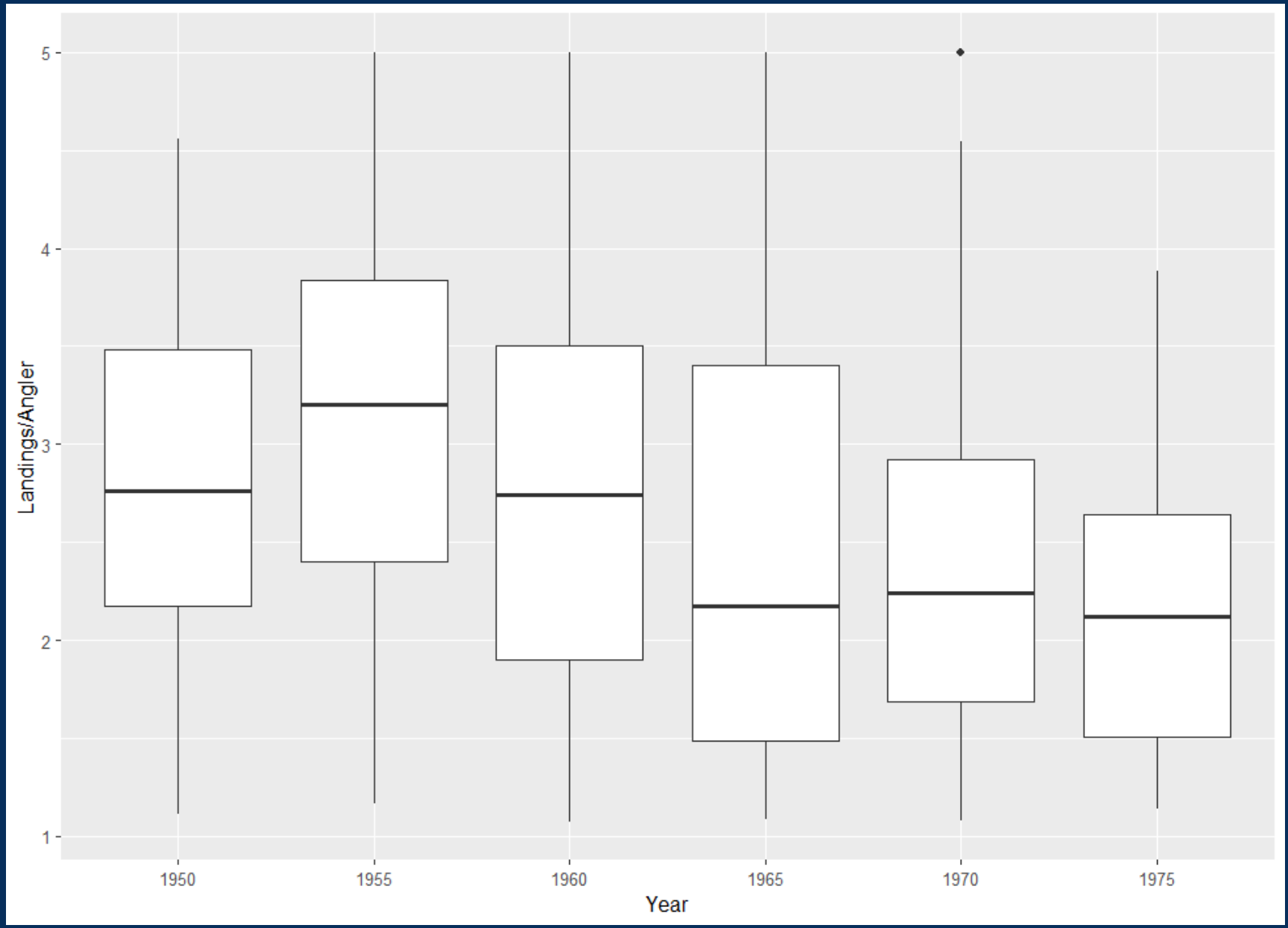
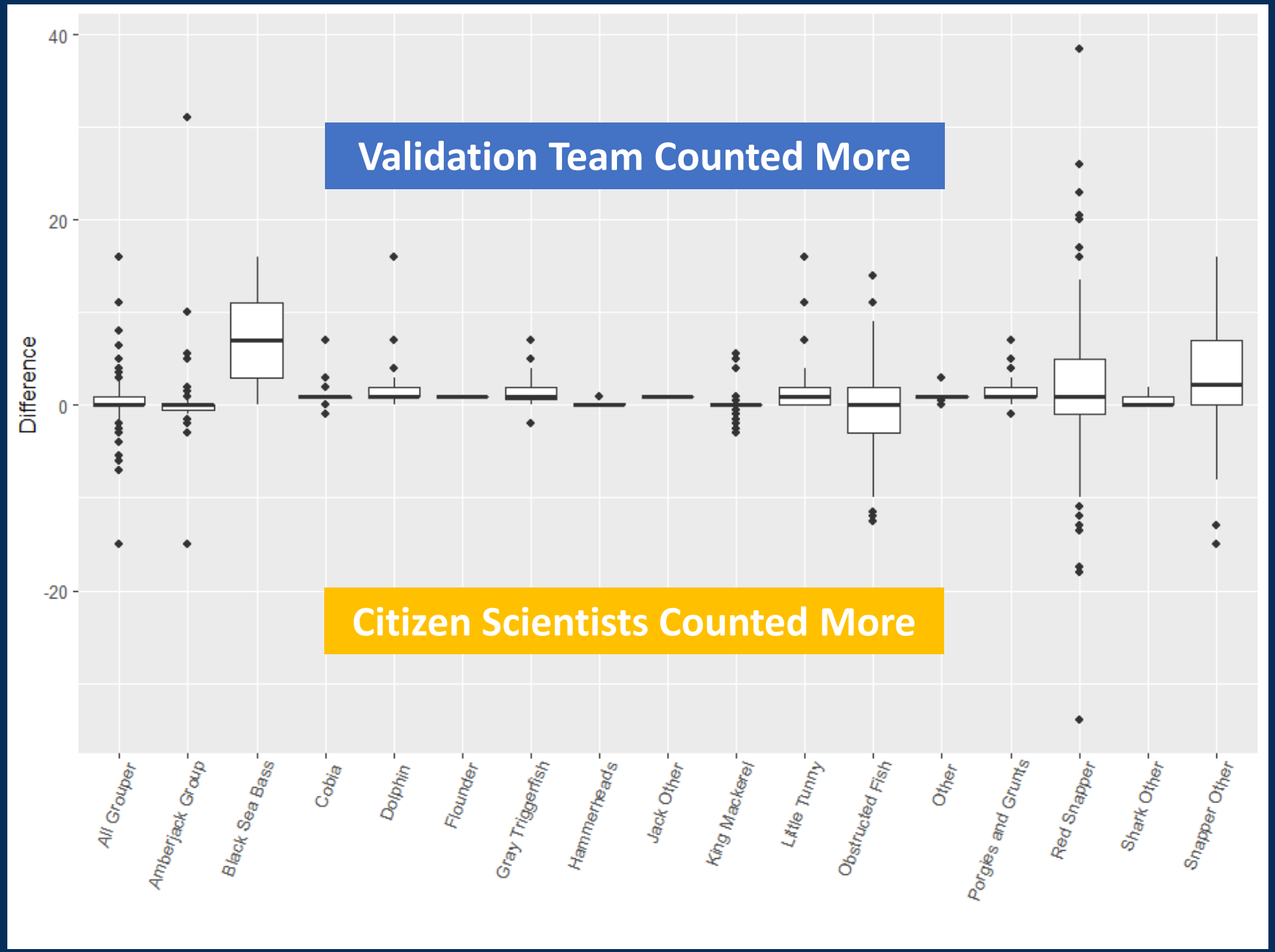
Total landings per angler in 5-year time blocks



Comparison of Validation Team & Citizen Scientists



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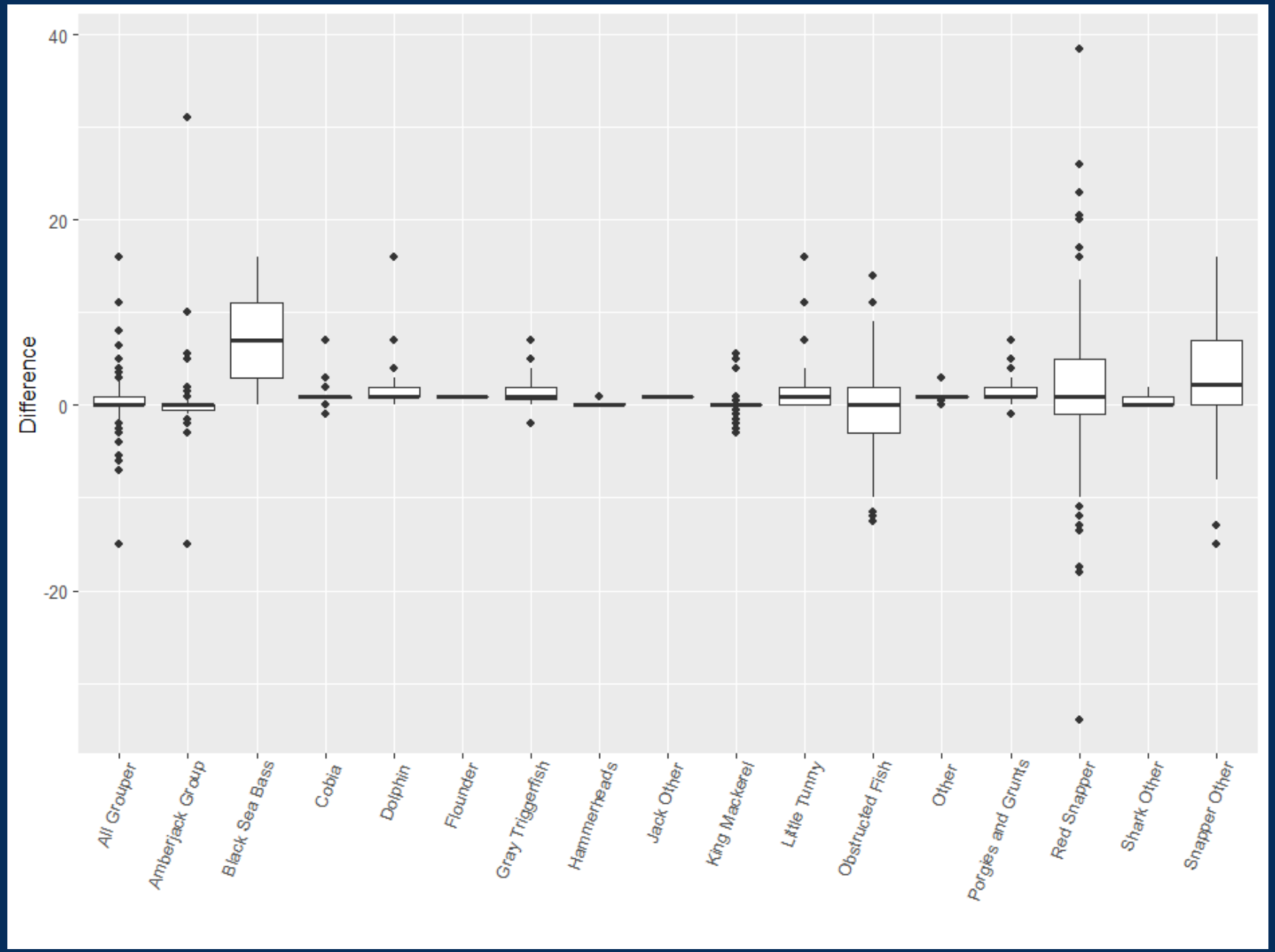

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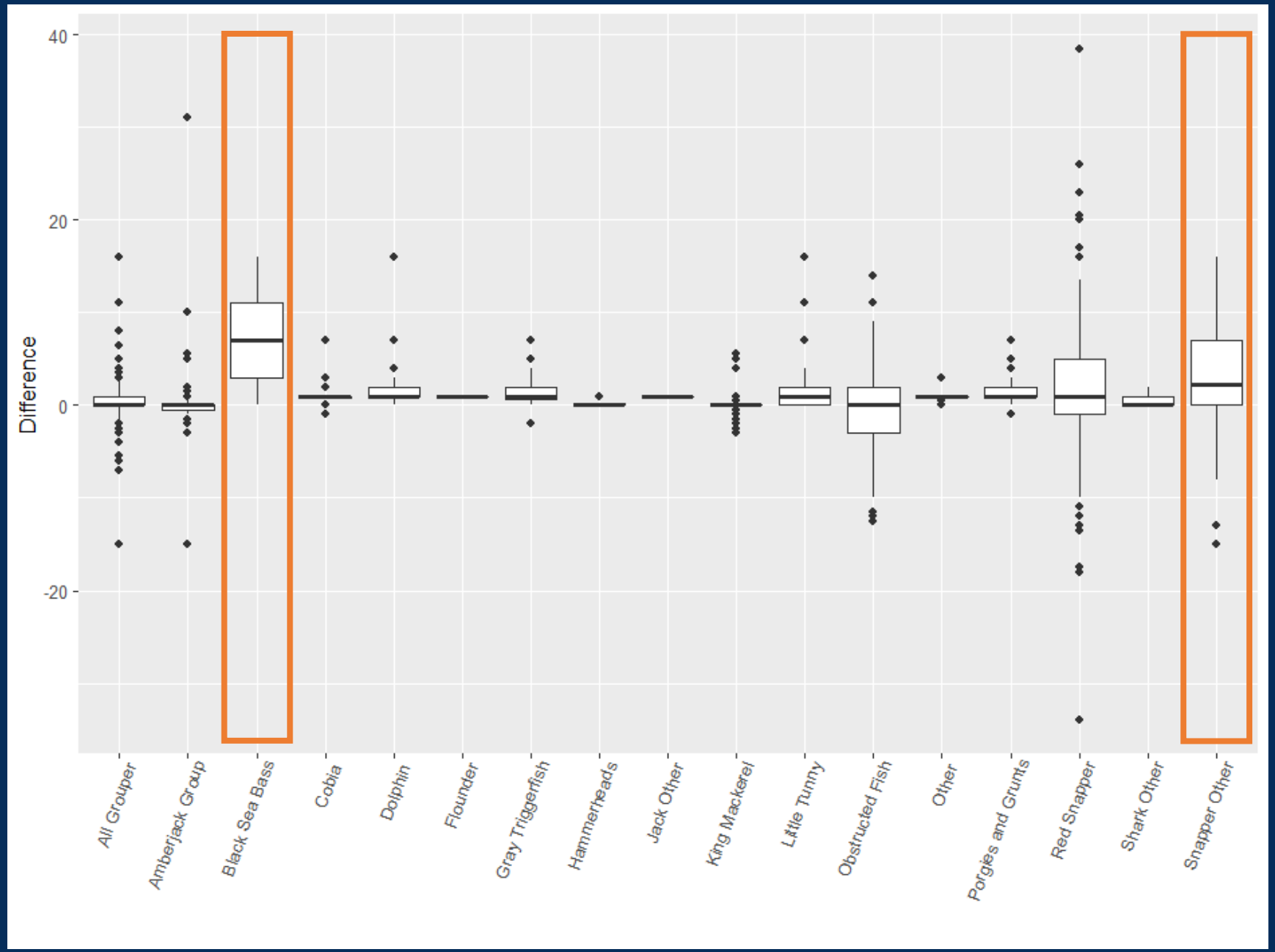

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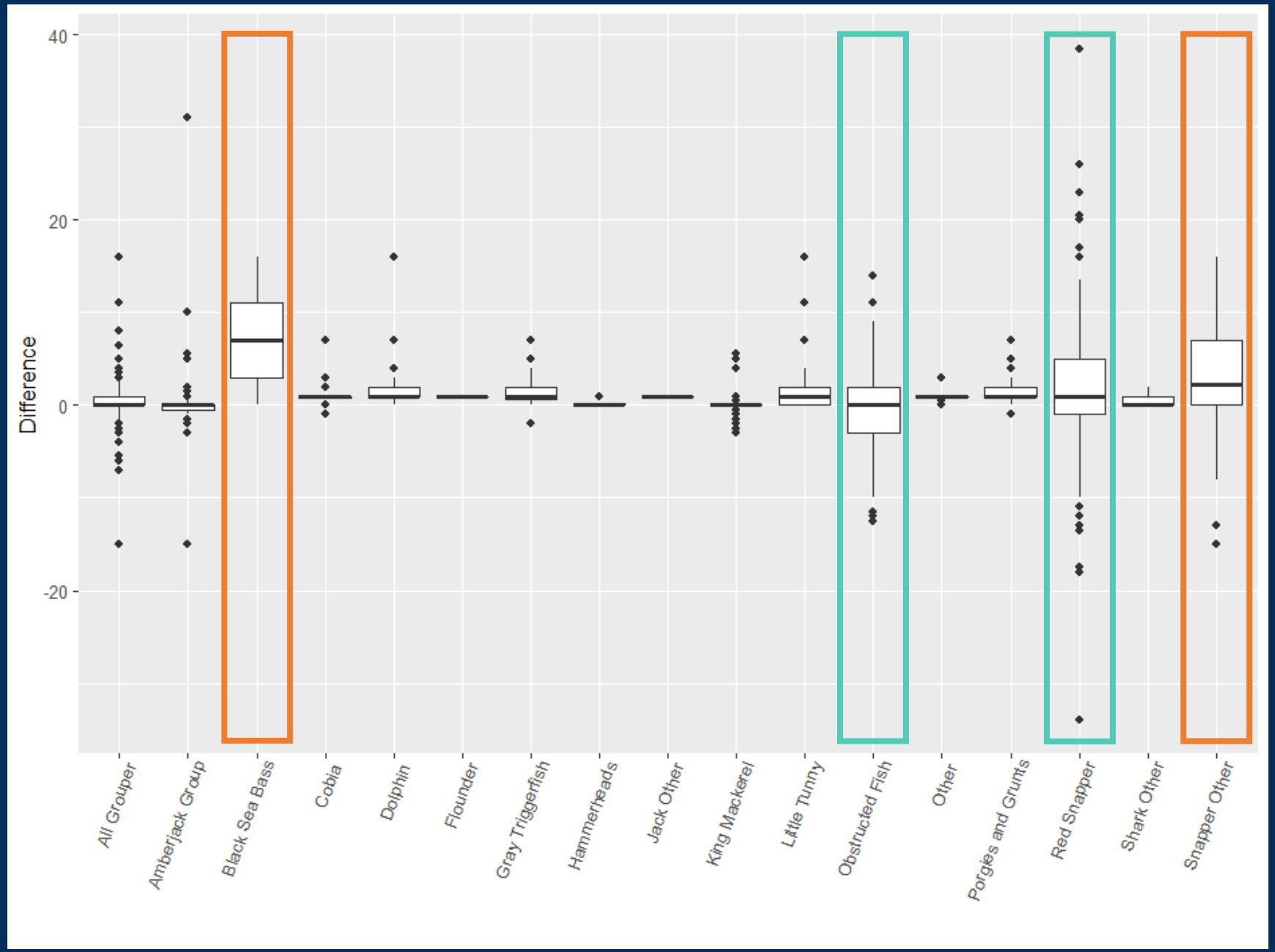

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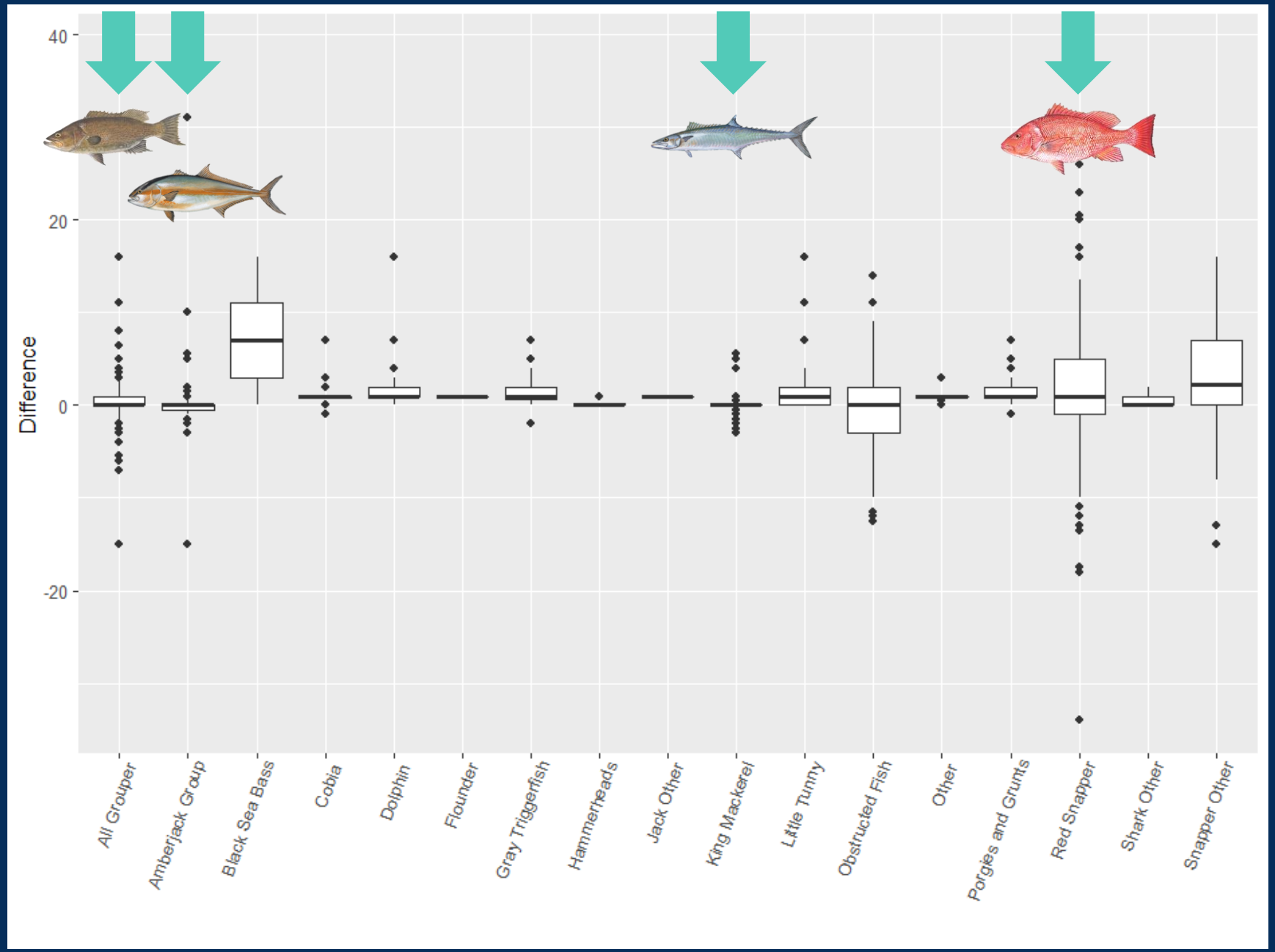
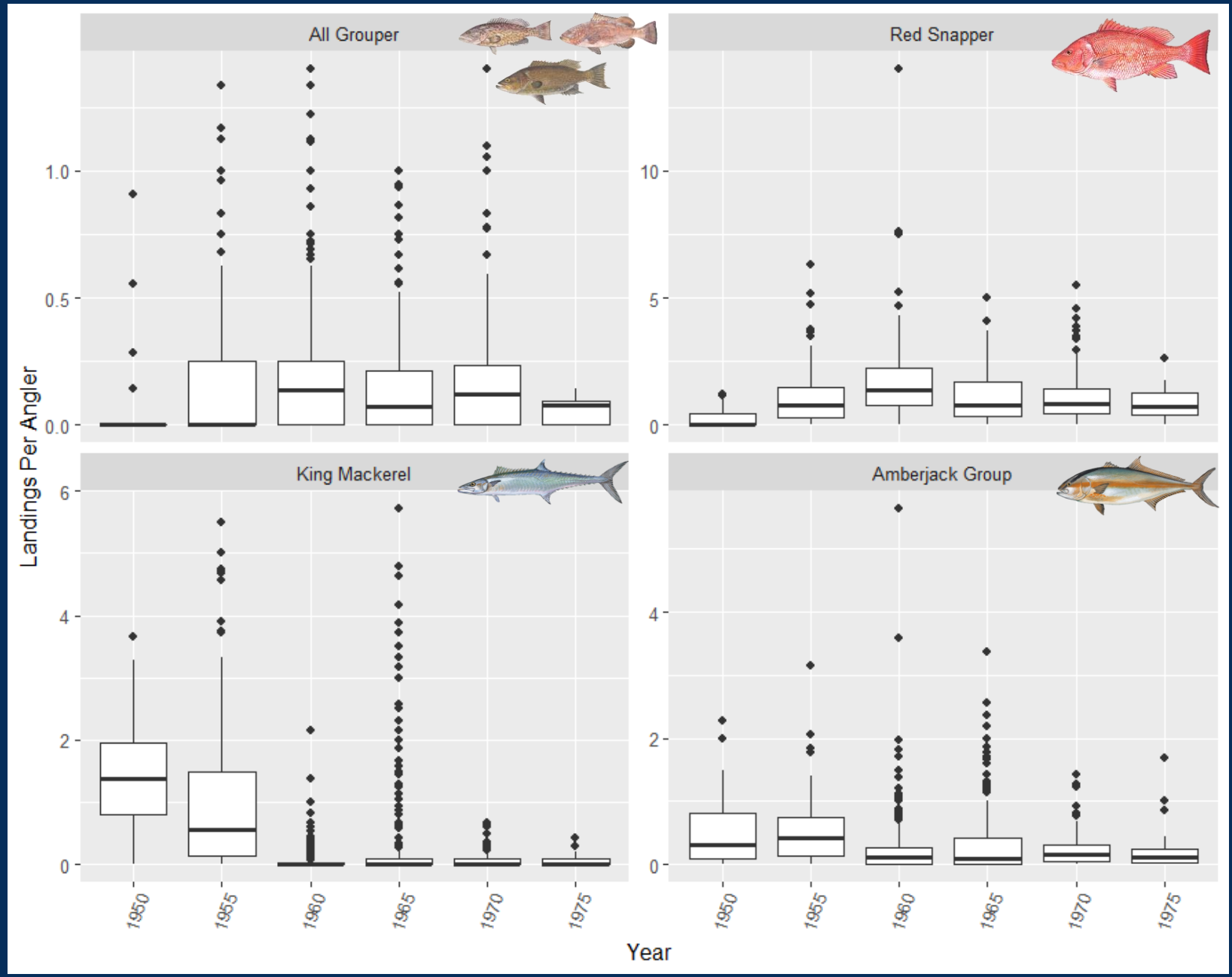
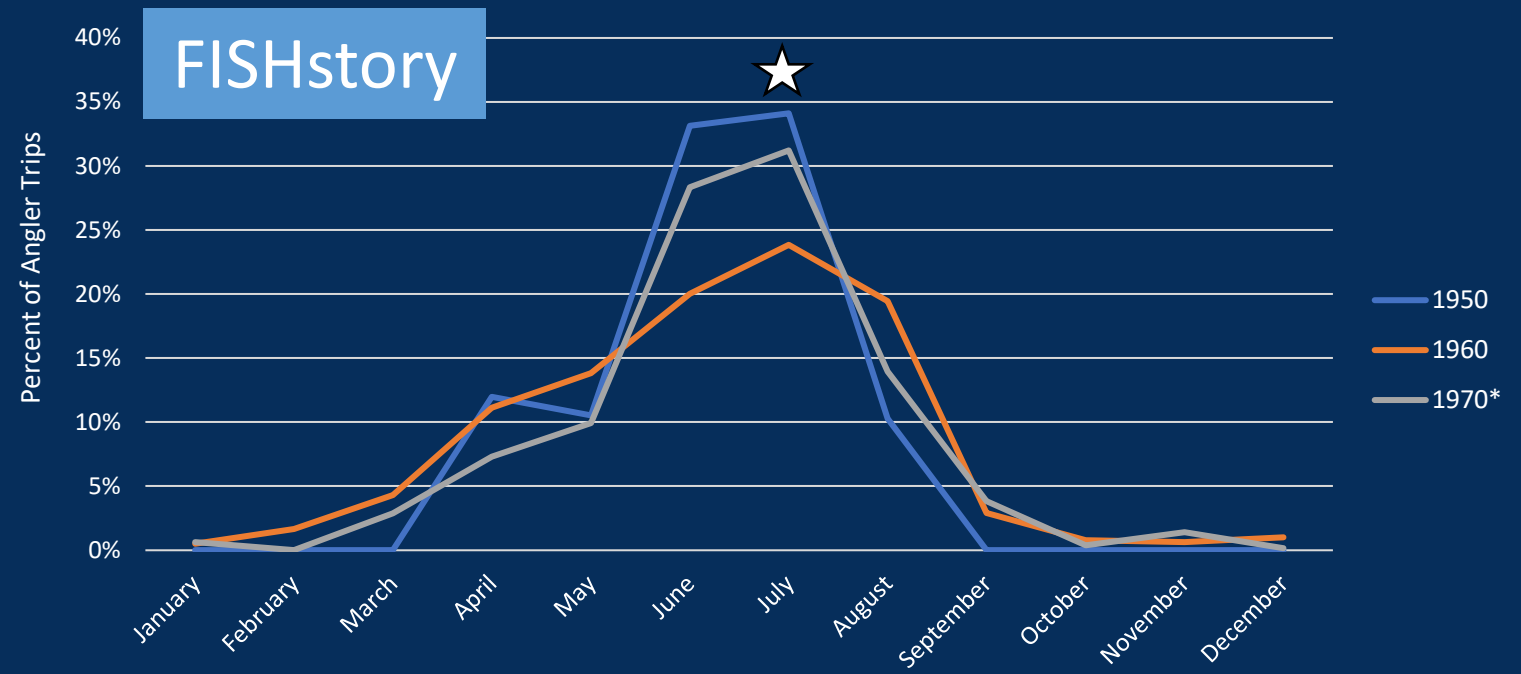
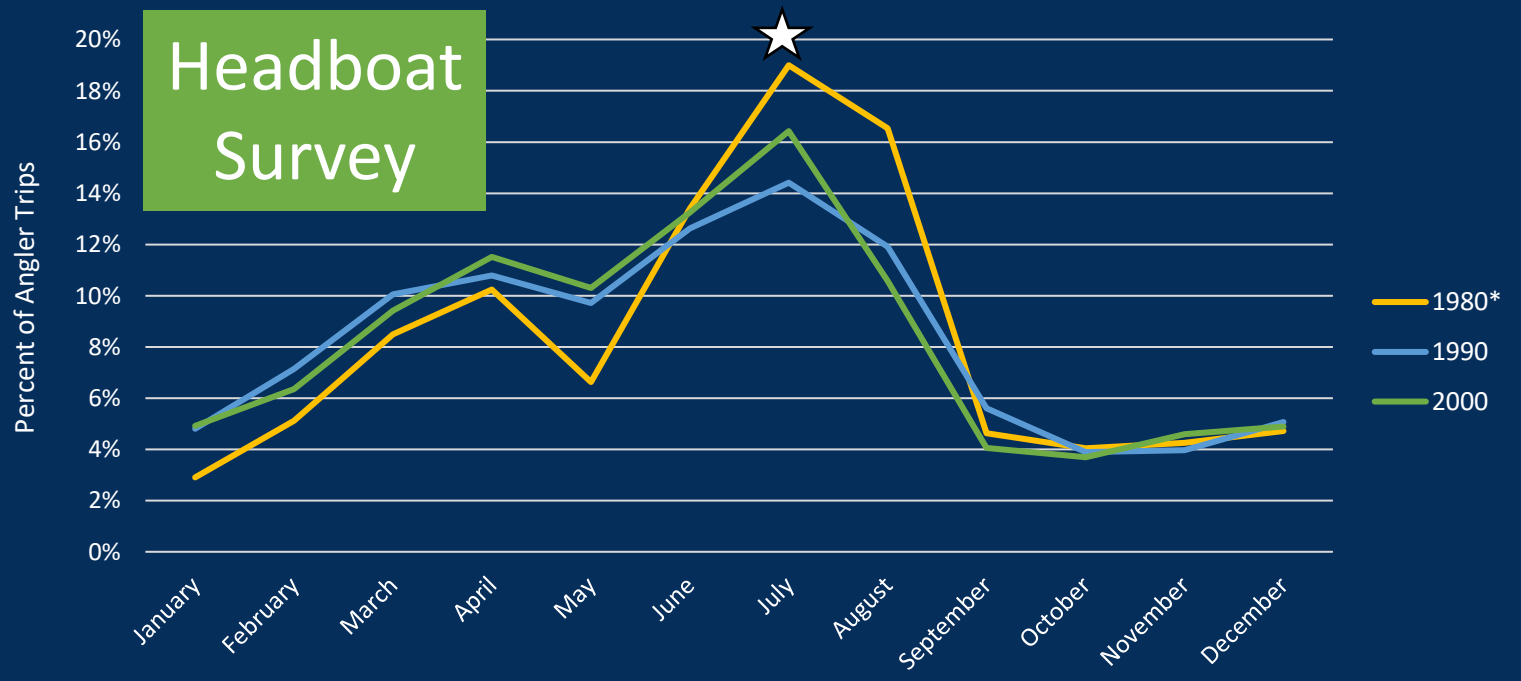


Landings per angler for mark species in 5-year time blocks



Comparison of angler trips between FISHstory & Headboat Survey by decade





Comparison of mark species between FISHstory & Headboat Survey

	FISHstory			Headboat Survey		
Species Groups	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**
All Grouper 	**4**	**3**	**3**	**3**	**2**	**1**
Amberjack Group 	**3**	**2**	**2**	**2**	**3**	**3**
King Mackerel 	**1**	**4**	**4**	**4**	**4**	**4**
Red Snapper 	**2**	**1**	**1**	**1**	**1**	**2**

FISHstory: Length Component

- Method developed to measure fish length

Identify scalar & develop protocol

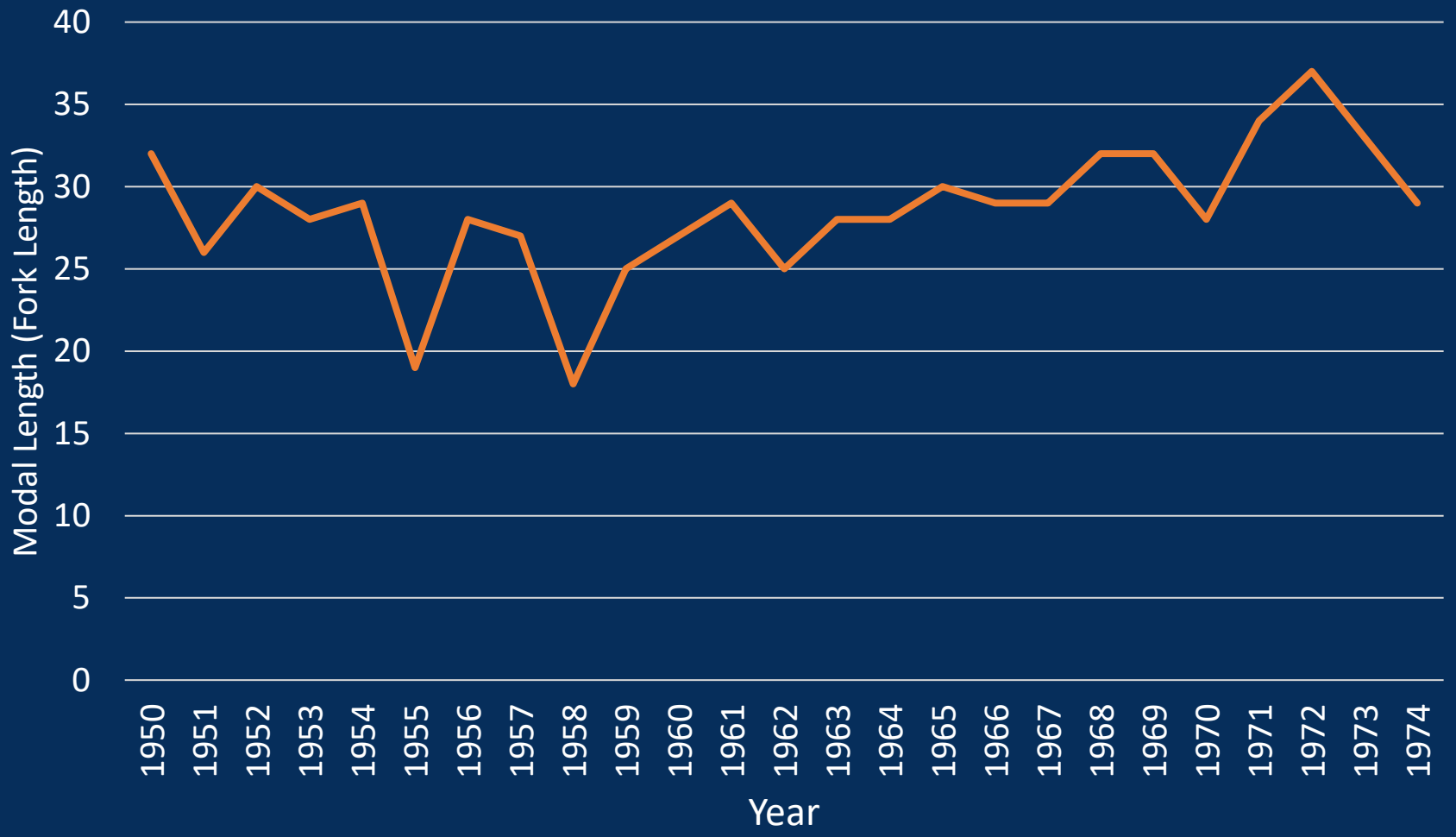
Test protocol

Train length analysts

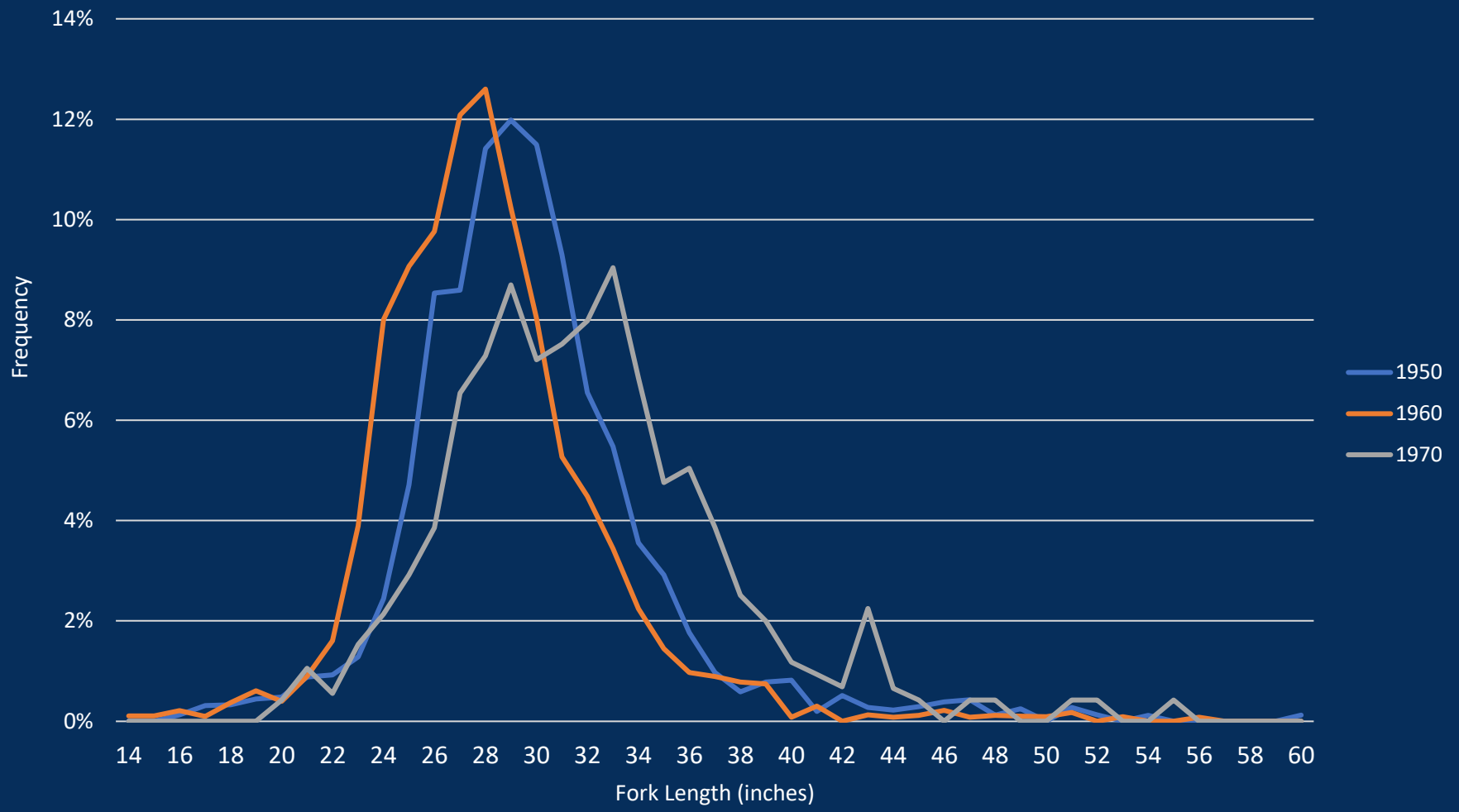
Coordinate & measure King Mackerel

Share Results

King Mackerel modal length by year



FISHstory 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
- Citizen science is not a no cost endeavor
- 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**

Pursue funding to grow project

Expand geographic & temporal range of photos

Improve efficiency of processes

Estimate length compositions for more species

Explore oral history component

Keep Up with Projects & the Program!

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

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