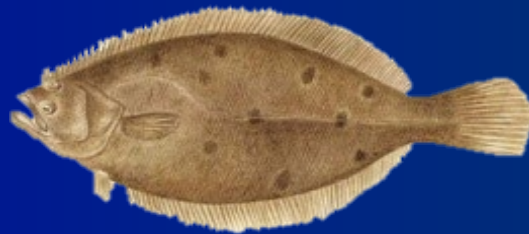




Summer Flounder Commercial Minimum Mesh Size and Exemptions



Council and Board
December 12, 2023

Overview

- Council staff and Andy Loftus (contractor) have been working on evaluation of 3 commercial summer flounder mesh issues:
 1. Summer flounder 5.5" diamond or 6.0" square minimum mesh regulation
 2. Small Mesh Exemption Program (SMEP)
 3. Flynet exemption
- These issues reviewed annually during specifications; this represents more in-depth analysis to address previously discussed concerns

Timeline

- **Summer 2023:** Preliminary discussions with Monitoring Committee, Advisory Panel, Council/Board
- **Fall 2023:** Continued analysis; discussions with industry
- **Oct. 19-Nov. 17:** Public comment form open
- **Nov. 1:** Public input webinar targeting relevant fishery participants
- **Nov. 13-14:** Monitoring Committee meeting
- **Dec. 4:** Advisory Panel meeting

Objectives

- Some changes can be made through specifications, others might require framework action/addendum
- For each issue, options include:
 1. Make no changes
 2. Adopt specific changes, if within range of specifications changes
 3. Identify additional information for reconsideration in August
 4. Initiate a framework action/addendum to further consider changes

1. SUMMER FLOUNDER COMMERCIAL MINIMUM MESH SIZE

Minimum Mesh Background

- Current requirement for trawl gear: 5.5" diamond or 6.0" square
- Regulations have been in place since 1993
 - There was limited information about square mesh selectivity for summer flounder, but recognition that square mesh reg. should be larger than diamond
- 6.0" square based on three sources:
 - Amendment 4 to the NE Multispecies FMP
 - Selectivity study for winter flounder
 - Selectivity Experiment on square mesh cod-ends

Problem Summary

- Recent mesh size study ([Hasbrouck et al. 2018](#)) indicates 5.5" diamond/6.0" square may not be equivalent
 - 6.0" square appears closer to 5.0" diamond
- The SFSBSB Monitoring Committee has expressed concern about retention of undersized summer flounder with 6.0" square
 - Recommendation to seek feedback from industry on use/need for square mesh nets and evaluate possible phase out or modification of 6.0" square option

SUMMER FLOUNDER Retention Probability (lengths at 50% and 100% are for both sexes combined)

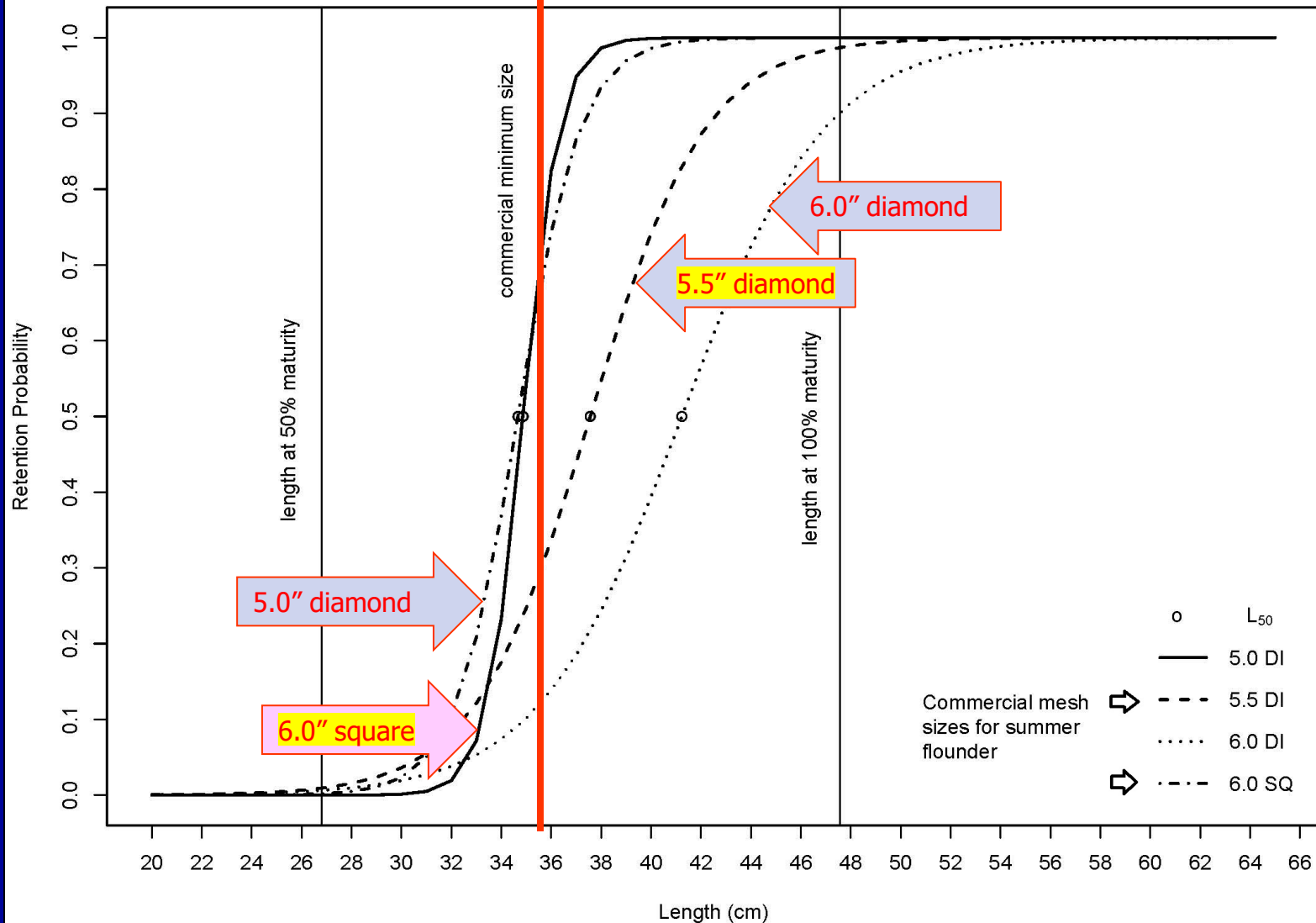


Figure 1: Logistic selective curve for summer flounder catches with 5 codends (4.5" diamond, 5" diamond, 5.5" diamond, 6" diamond, 6" square). Additional details can be found in the study report (Hasbrouck et al., 2018).

Diamond vs. Square Mesh

Observed Trawl Hauls, 2007-2022

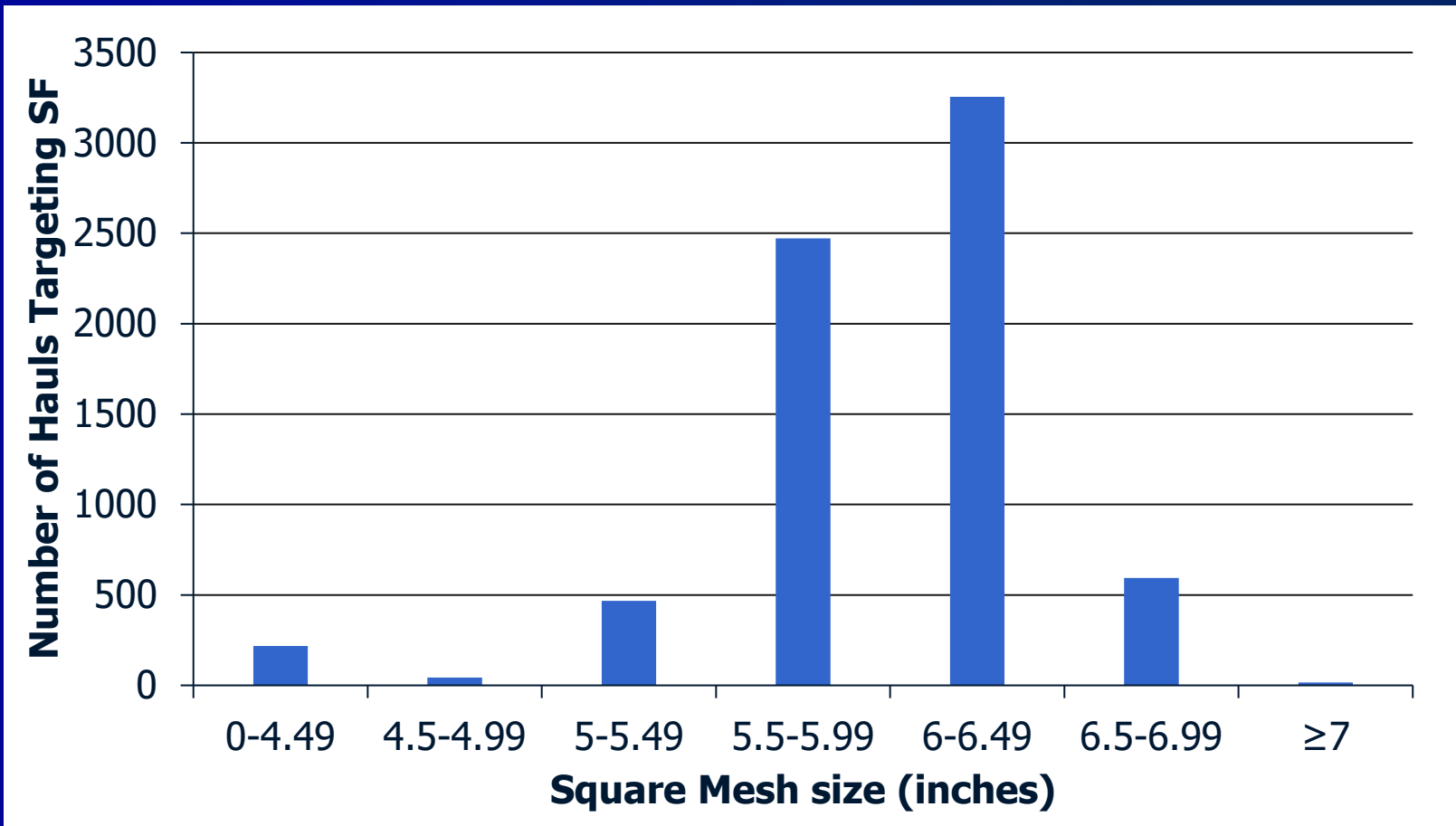
Where Primary Target Species = Summer Flounder

Mesh Type	Proportion of Total Hauls	Total Hauls
Diamond	68.07%	17,423
Square	31.10%	7,961
Unknown	0.65%	167
Combination	0.10%	25
Square/ Wrapped	0.07%	18
Grand Total	100.00%	25,594

Square Mesh Sizes

Observed Trawl Hauls, 2007-2022

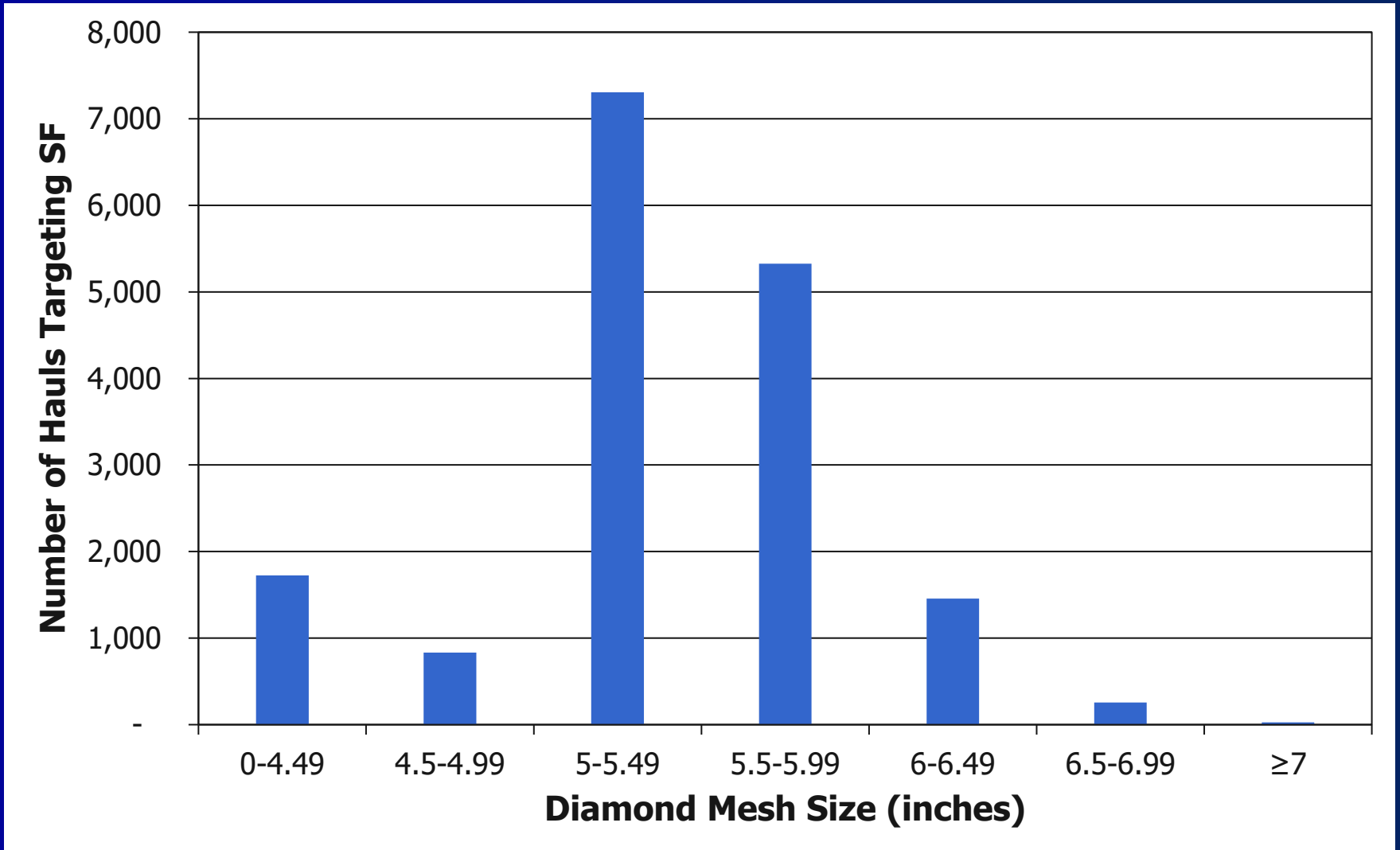
Where Primary Target Species = Summer Flounder



Diamond Mesh Sizes

Observed Trawl Hauls, 2007-2022

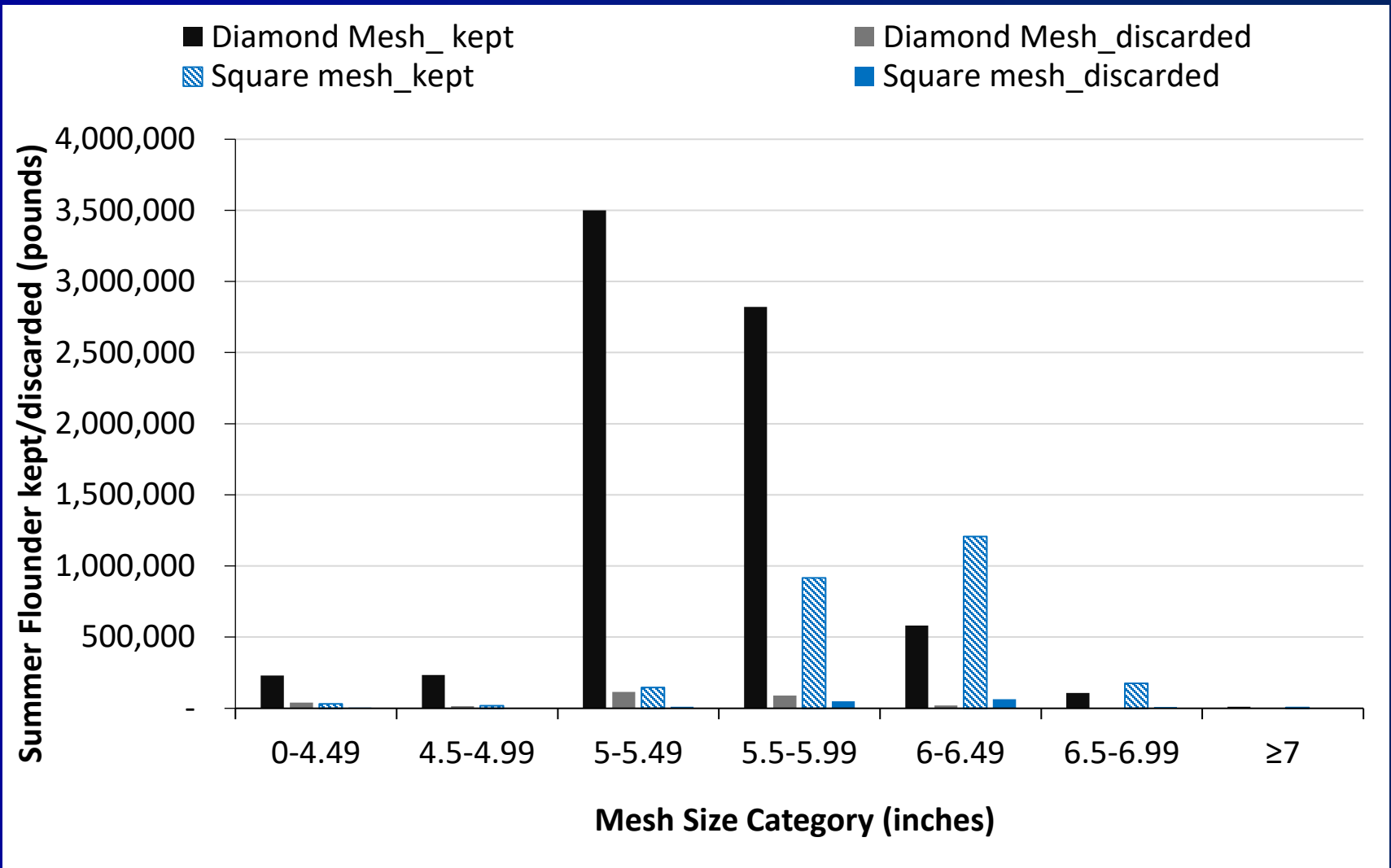
Primary Target Species = Summer Flounder



Summer Flounder Kept/Discarded by Mesh Type/Size

Observed Trawl Hauls, 2007-2022

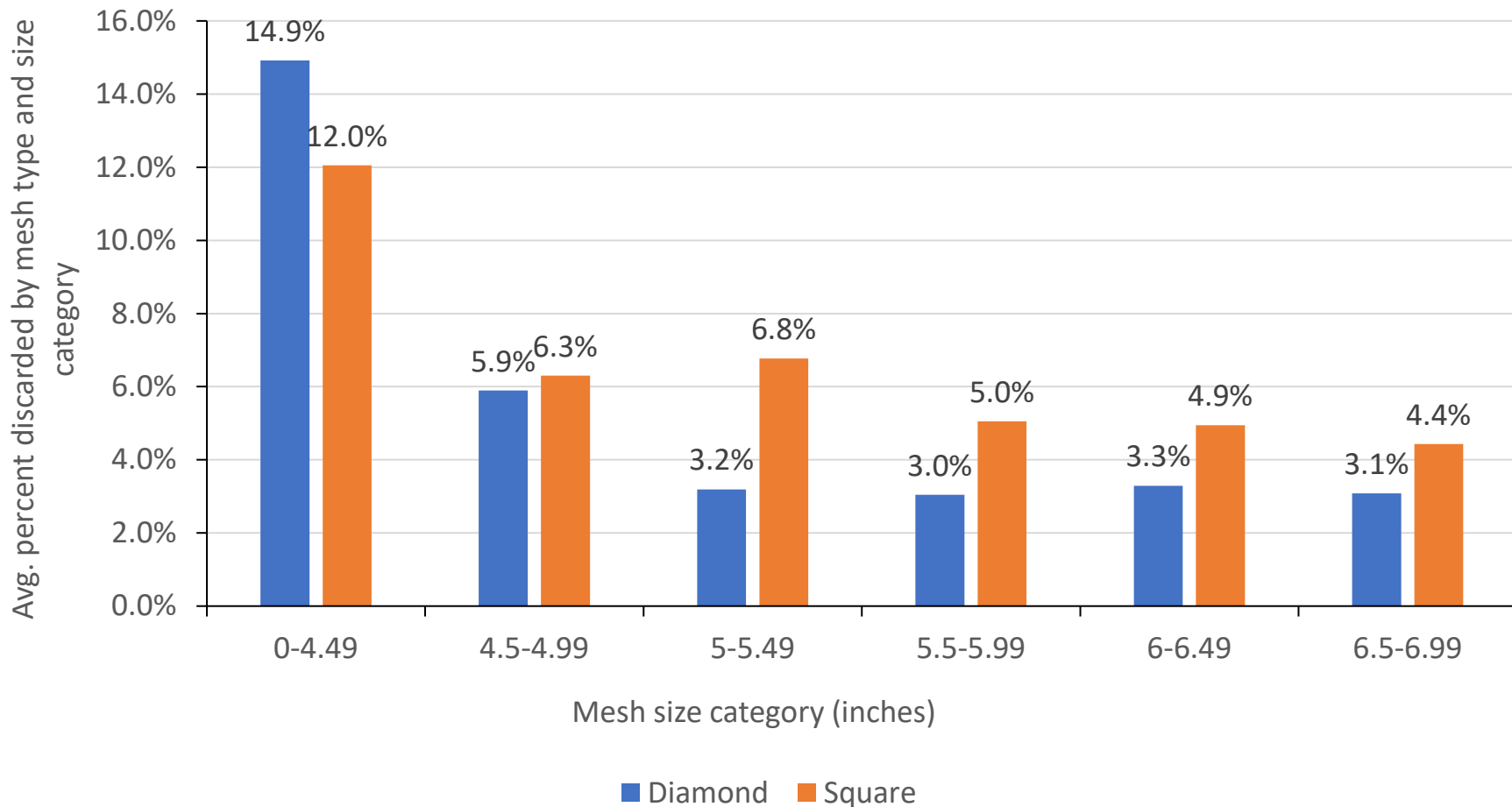
Where Primary Target Species = Summer Flounder



Summer Flounder Avg % Discarded by Mesh Type/Size

Observed Trawl Hauls, 2007-2022

Where Primary Target Species = Summer Flounder



Public Feedback

Key Take-aways

- Choice of mesh type used influenced by state regulations, personal preference, target species, anticipated non-target species, and bottom type
- Concern about cost associated with change to mesh requirements
 - Net replacements can cost tens of thousands of dollars
 - 6" square nets are still being purchased and represent large investments
 - Change would result in significant financial burden
- Most support **no change** to current requirements
 - 6" square reduces discards and retains market size fish
 - One recommendation to investigate a larger square mesh
 - Recommendation to implement 5-inch mesh from Nov.-April for summer flounder, scup, and black sea bass

MC and Staff Comments & Recommendations

- Recommend **no change** to minimum mesh regulations at this time
 - Square mesh still commonly used; removal would impose substantial financial burden on industry
 - Insufficient evidence to suggest a change is warranted
 - Limited data on which to base change/identify alternative square mesh size
- Increasing square mesh size could decrease discards of undersized summer flounder, but unclear to what degree, impact on retention of legal sized fish, and whether effects would be worth tradeoffs of high cost
- No information to identify revised square mesh size recommendation

MC and Staff Comments & Recommendations

- Support adding future mesh size studies to research priorities (include range of square mesh options)
- If Council/Board consider changes (now or in future), MC recommended a longer phase-in time to help alleviate cost
- Recommended additional evaluation of biological and economic impacts if changes are desired

BACKUP

Table 1: Maximum likelihood fit of logistic selectivity curve parameters for 5 codend mesh sizes and SELECT model goodness-of-fit measures for summer flounder. Standard error is shown in parentheses. Coefficient of variation is shown in double parentheses. 5.5" Diamond and 6" Square are the current regulation minimum mesh sizes (Hasbrouck et al., 2018).

	4.5" Diamond	5" Diamond	5.5" Diamond	6" Diamond	6" Square
N tows (paired)	24	24	24	24	22
N length classes	55	50	51	47	57
Length class range (cm)	21-75	27-76	28-78	32-78	25-81
a	N/A	-47.78	-16.30	-14.42	-27.72
b	N/A	1.37	0.43	0.35	0.80
p - relative fishing efficiency	N/A	0.49 (0.02)	0.55 (0.02)	0.55 (0.03)	0.50 (0.02)
L₂₅ (cm)	N/A	34.07 (0.72) ((0.021))	35.03 (1.19) ((0.034))	38.09 (1.05) ((0.028))	33.29 (1.51) ((0.045))
L₅₀ (cm)	N/A	34.87 (0.67) ((0.019))	37.56 (0.87) ((0.023))	41.23 (1.22) ((0.030))	34.67 (1.16) ((0.034))
L₇₅ (cm)	N/A	35.67 (1.04) ((0.029))	40.1 (1.39) ((0.035))	44.37 (2.00) ((0.045))	36.04 (1.66) ((0.046))
Selection range	N/A	1.6 (1.17)	5.06 (1.92)	6.28 (2.07)	2.75 (2.18)
Selection factor	N/A	6.94	6.83	6.87	5.78
Model deviance	N/A	144.45	230.77	133.48	92.49
df	N/A	113	178	93	73
p-value	N/A	0.0245	0.0047	.0038	0.0615