Discard rates and release outcomes for size-regulated species in the North Carolina commercial reef fishery

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Study Objectives

1. Measure discard percentages

2. Observe fate of discarded fishes

3. Assess potential factors related to release mortality

Methods

-Onslow Bay, NC, 2004 and 2005

-20-150 m deep

-2/0 – 12/0 J hooks

-Discard rate

-Hooking location

-Post-release index

Vermillion Snapper

Methods Release Indices (Patterson et al. 2000)

1- swam down vigorously

Presumed survival

2- swam down erratically

VS.

3- alive, floated at surface

mortality

4- unresponsive / dead

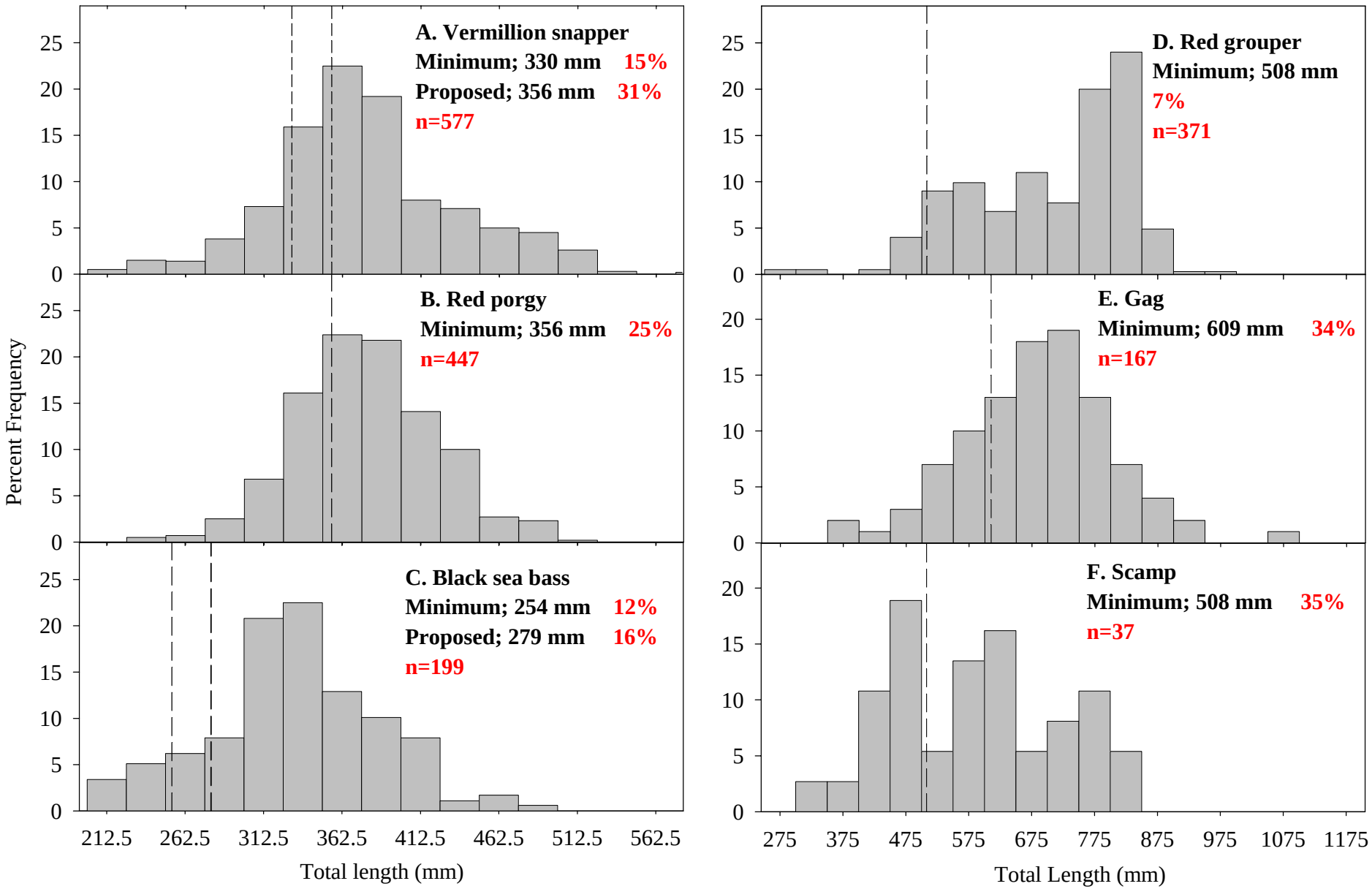
Results: Most abundant size-regulated species captured

Red grouper
Gag
Scamp
Black sea bass

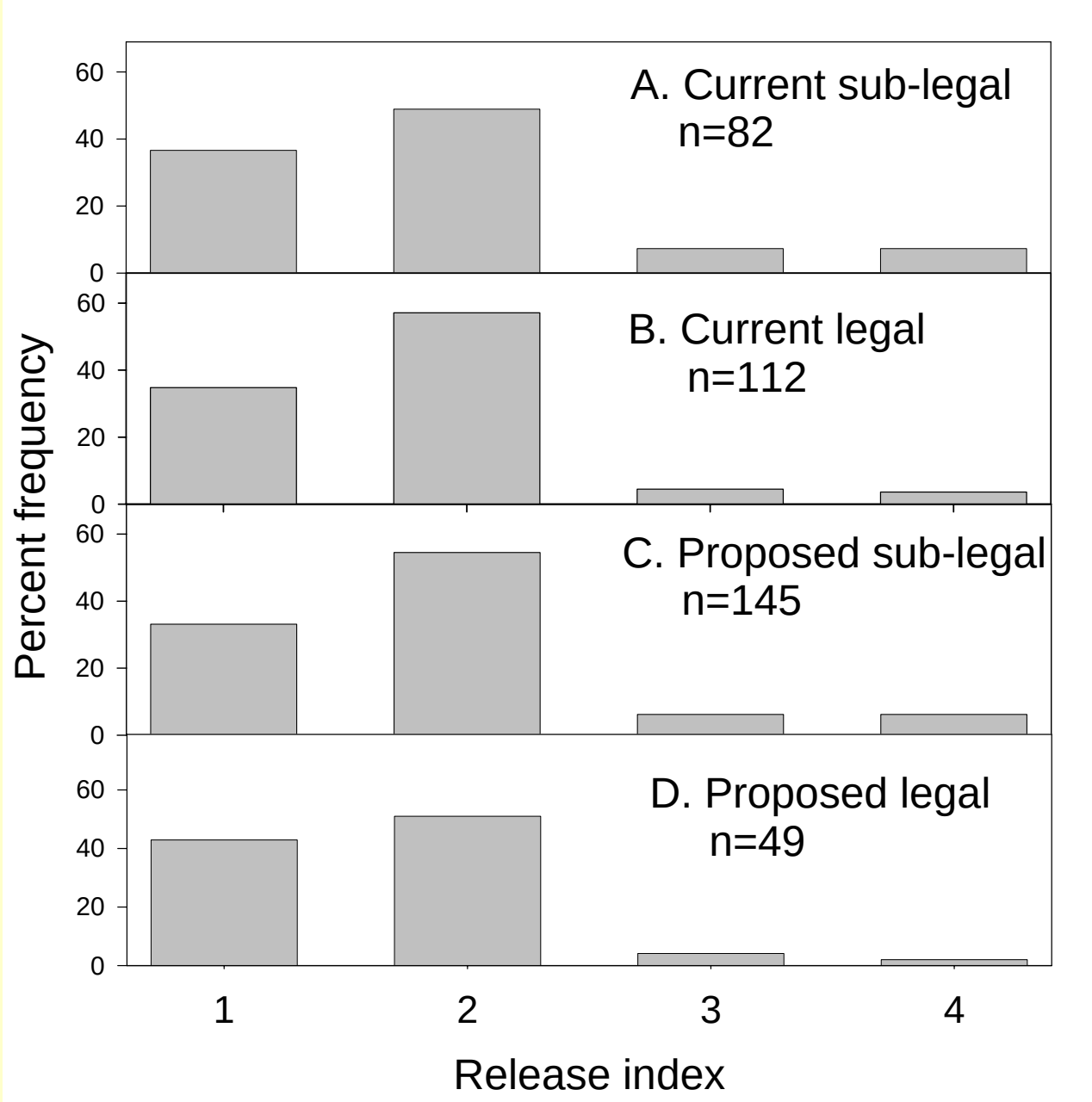
Vermillion snapper

Red porgy

Results: Discard percentages for size-regulated species



Results: Vermillion snapper release indices



% presumed survival

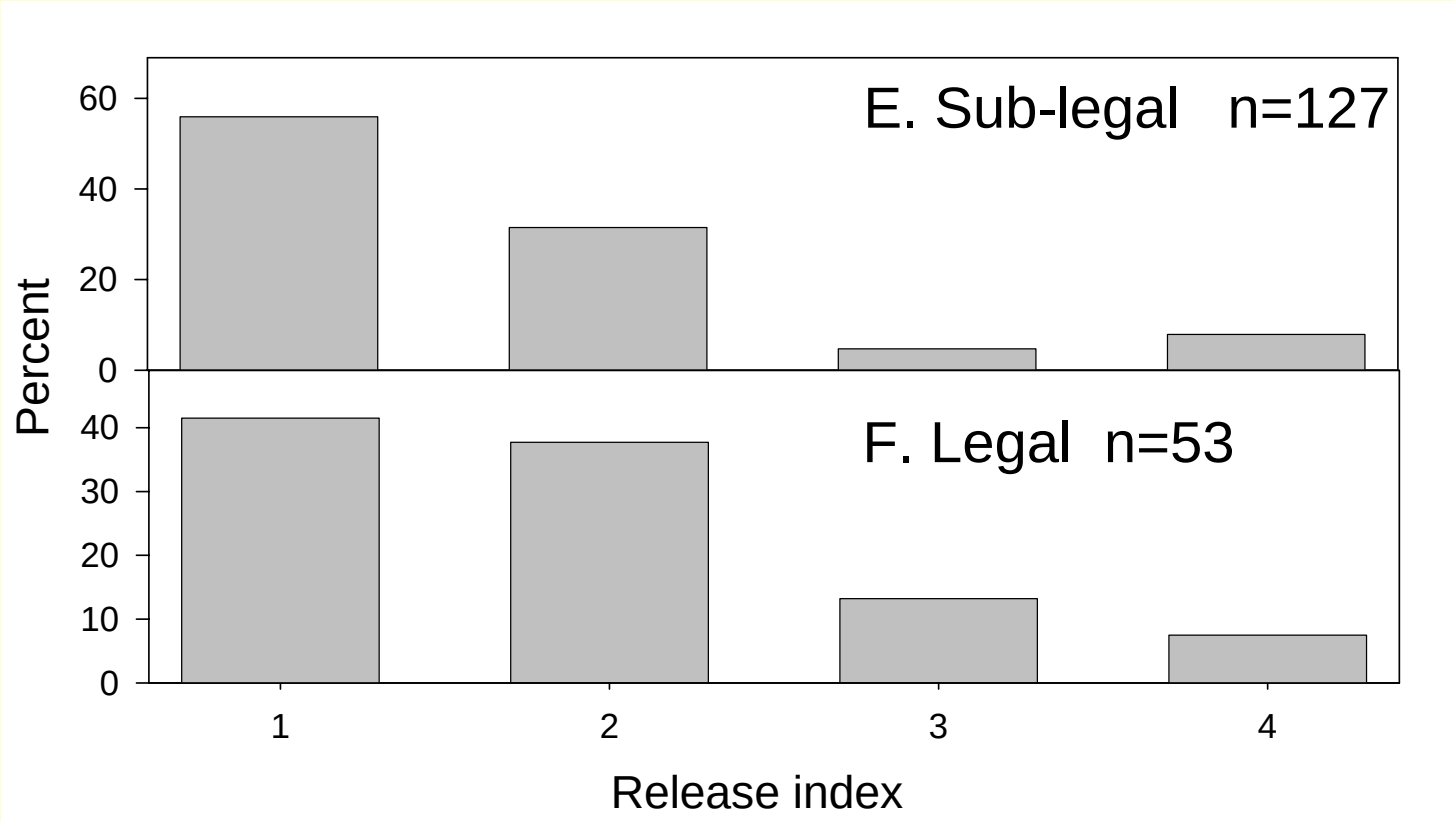
86

92

88

94

Results: Red porgy release indices

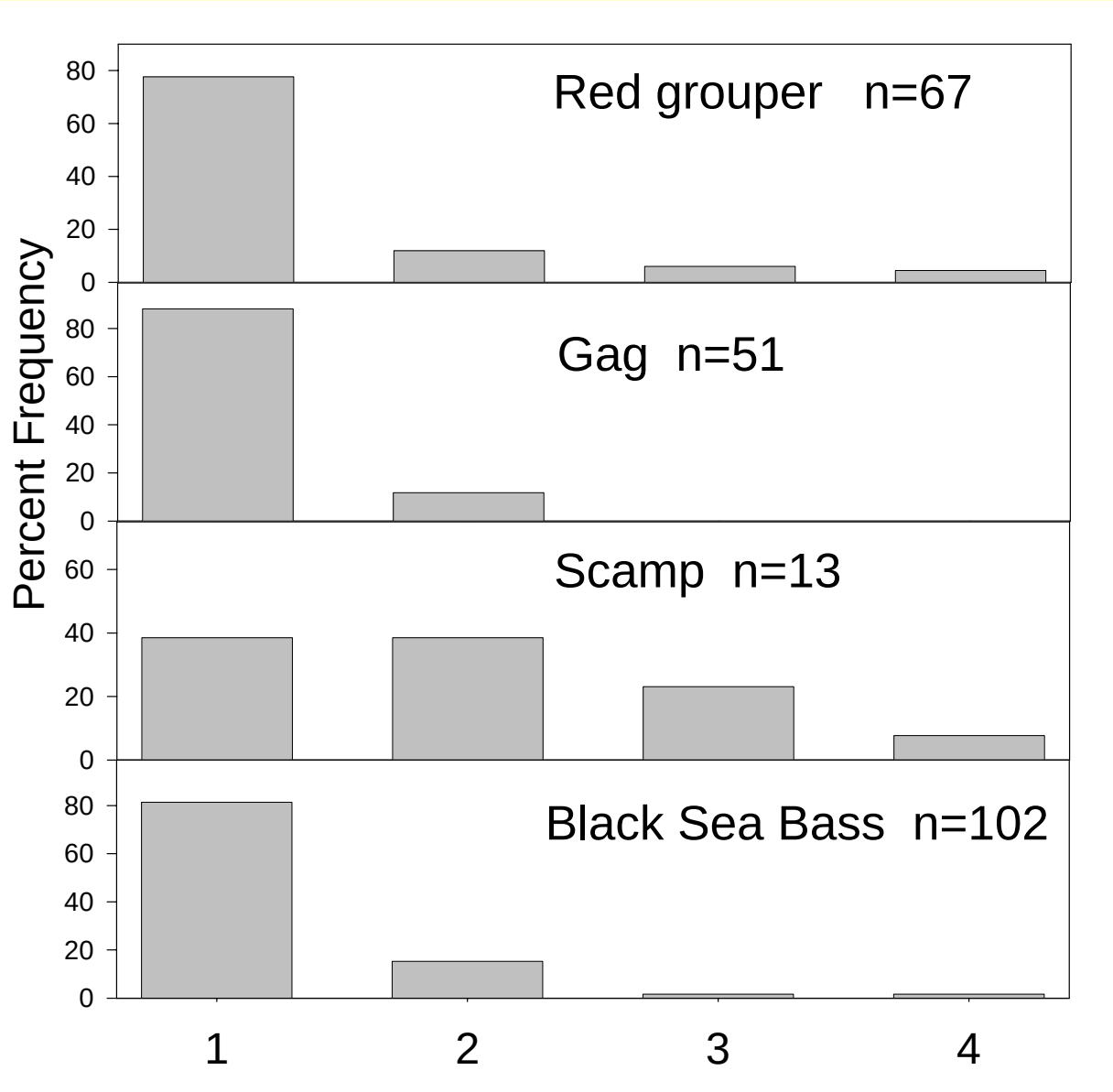


% presumed survival

87

79

Results: Serranid Release Indices



% presumed survival

90

100

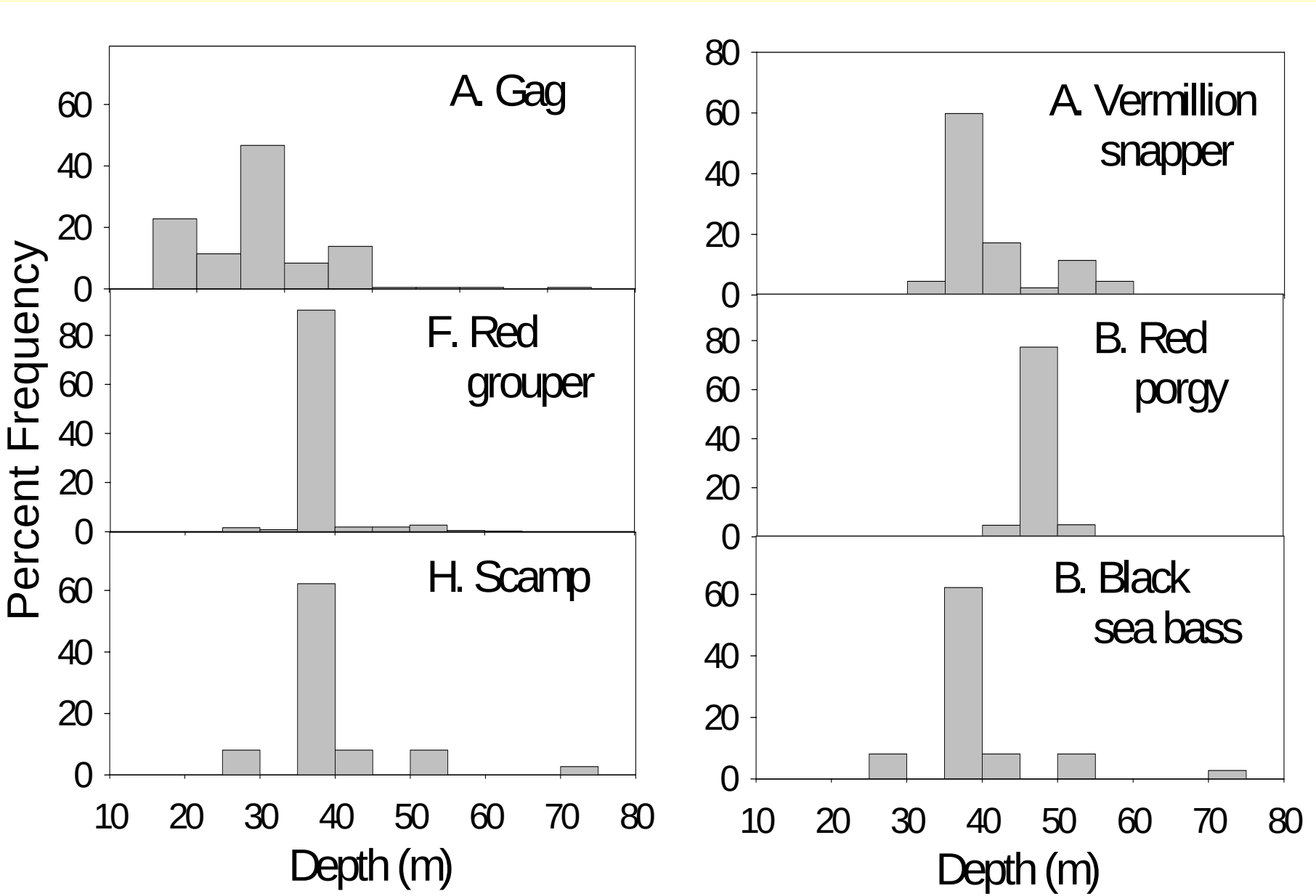
77

96

Results: Hooking location

	%Jaw	%Gut
V. snapper	92	7
Red porgy	89	9
Red grouper	89	10
Gag	99	1
Scamp	98	0
Black sea bass	80	13

Results: Depths at which fish were caught



Results Correlation between depth and release index

Species	Spearman r	p-value
Gag	-0.12	0.392
Black sea bass	-0.12	0.341
Red grouper	0.03	0.799
Red porgy	0.12	0.089
Vermillion snapper	0.25	0.000*
Scamp	0.61	0.026*

Conclusions

-High discard % for VS (?), RP, Gag, Scamp.

-Favorable releases indicate effective min. size limits at depths observed in this study.

-Observer data important for SAB fishery.

Potential ideas for follow-up research

1. SCUBA-diver observation

2. Tagging released fish
   to document survival