

Albert C. Jensen
August 24, 1954

Stomach Sampling Trip

A trip was made August 18, 1954 on the dragger Cape Cod for the purpose of examining the stomach contents of various species of fish. A proportional sample was to be taken from several tows to determine how many (if any) baby haddock had been eaten by possible predators.

The Cape Cod, piloted by Capt. Manuel Phillips, left Provincetown harbor at 0500 hours. A heavy swell was running causing the vessel to proceed with some difficulty.

The first two tows were made in an area 5 miles NE of Race Point. Four additional tows were made in an area 5 to 6 miles ENE to NE of the Highland Light. The trawl used was standard whiting gear with a $2\frac{1}{2}$ " mesh cod end. Approximately 10 to 20 baby haddock were taken in each of these latter tows. The last tow was in at 1840 hours and the vessel docked in Provincetown at 2100 hours.

The first three tows and the last tow were sampled. Surface water temperatures were taken during the #1, #3, and #6 tows. The catches of fish were mostly whiting, with hake the second most common species. The remainder of each catch was composed of a few individuals each of haddock, flounders, goosefish, herring and skates. The approximate species composition in estimated percentages of the total catch is as follows:

Whiting	76%
Hake	19
Haddock	1.5
Miscellaneous	L

A total of 153 fish were examined; whiting, 111 individuals, (72.5% of sample); hake, 28 (18.3%); haddock, 9 (5.9%); miscellaneous species, 5 (3.2%).

Results

No baby haddock were found in the stomachs of the fish examined. A population of zero class haddock was present in the area off the Highland Light (as evidenced by those brought up in the trawl). However, none apparently were being utilized by the whiting or other fish which were sampled.

The most common item of food found in the whiting stomachs was other whiting. These were found in 13 stomachs. Herring were found in 3 whiting stomachs and squid in 2 stomachs. Below is a summary of the food items of whiting and hake as revealed on this trip.

Food Item	Whiting	Hake
	Number of Stomachs	
Whiting	13	---
Herring	3	---
Squid	2	2
Shrimp	1	1
Unknown fish	3	---
Misc. material	---	3

The author had been forewarned by Capt. Phillips that no baby haddock would be found in any of the fish stomachs. He stated that in his experience, fishing out of Provincetown, he had never seen small haddock in the stomachs of other fish.

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Stomach Contents
~~TAGGED Haddock Form~~

Tow # 1 DATE: Aug 18, 1964
 out 0645 LOCATION: 5 mi NE Race Point
 in 0830
 Depth 32 Fm. TAGGER: A. C. Jensen
 H₂O temp. 65°F

Species Composition
 (approx.)
 Whiting - 95%
 Hake - 2
 Macdotea - 1
 Gouletfish }
 Cust } - 2
 Flounder }

Weight of Catch - 2000 lb.

Species No.	Lgth. cm.	Stomach Remarks-Contents	Sp. No.	Lgth. cm.	Stomach Remarks-Contents	Sp. No.	Lgth. cm.	Stomach Remarks-Contents
Whiting	43.2 ♀	1 squid 1 herring	Wh.	45.1 ♀	Empty	Wh.	53.5	sand dollars
"	44.4 ♀	Empty	"	30.0 ?	"			
"	35.2 ?	"	"	37.1 ♀	"			
"	41.9 ?	"	"	56.1 ♀	"			
"	32.7 ?	"	"	47.7 ♀	"			
"	40.0 ?	"	"	32.7 ?	"			
"	34.9 ♀	"	"	39.1 ♀	"			
"	37.8 ♀	"						
"	33.9 ♀	"	Hake	39.9	Full. Small invertebrates			
"	38.2 ♀	"	"	41.2	Empty			
"	45.3 ♀	"	"	39.2	Full. Small invertebrates			
"	29.8 ♀	"	"	44.1	Empty			
"	44.5 ♀	"	"	34.9	"			
"	50.2 ♀	1 whiting 25+cm.	"	42.2	1/2 full. Small inverts.			
"	40.5 ♀	Empty	"	40.1	" "			
"	33.1 ♀	"	"	45.2	" "			
"	46.4 ♀	"						
"	35.2 ♀	"	Hake	42.5	Empty			
"	36.8 ♀	8 shrimp 1 whiting	"	42.0	1 dogfish 13 cm.			
"	40.1 ♀	Empty	"	48.2	3 shrimp 1 squid 1 crab			
"	31.6 ♀	"	"	43.2	Empty			
"	31.9 ♀	"						

118/11/26/53

* Denotes ripe condition.

~~Stomach Contents~~
Stomach Contents

Tow #2
Out: 0840
In: 1005

DATE: August 18, 1954

LOCATION: 5-6 mi. NE Race Point

Depth - 29-32 fm.

TAGGER: A.C. Jensen

Species Composition
(approx)

Whiting - 99%
Hake
Haddock } - 1%
Misc }

Wt. of Catch 3000 lb.

No. Species	Lgth. cm.	Stomach Remarks Contents	Sp. No.	Lgth. cm.	Stomach Remarks Contents	No.	Lgth.	Remarks
Whiting	47.9 ♀	Empty	Wh.	37.2 ♂	Empty			
"	47.5 ♀	"	"	34.5 ♂	"			
"	61.2 ♀	"	"	34.2 ?	"			
"	57.8 ♀	1 whiting 27cm.	"	38.9 ♀	"			
"	47.9 ♀	Empty	"	33.5 ♂	"			
"	63.0 ♀	"	"	34.0 ♂	"			
"	54.1 ♀	"	"	31.9 ♂	"			
"	58.0 ♀	"	"	32.3 ♀	"			
"	32.2 ♂	"	"	35.7 ♂	"			
"	49.2 ♀	"	"	28.2 ♂	"			
"	49.0 ♀	1 squid						
"	35.7 ♂	Empty						
"	38.5 ♀	"						
"	33.3 ♂	"						
"	32.5 ?	"						
"	41.4 ♀	1 whiting 13cm.						
"	32.3 ?	Empty						
"	33.3 ♂	"						
"	33.4 ♂	"						
"	35.9 ♂	"						
"	37.8 ♀	1 fish (?)						
"	37.2 ♀	Empty						

~~Star~~ ~~Contents~~
~~BASED~~ ~~BOOSE-TURN~~

Tow #3
out: 1100
in: 1220
Depth: 30 fm.
H₂O temp. 66.5°F.

DATE: August 18, 1954
LOCATION: 5 mi. ENE Highland Light
TAGGER: A. C. Jensen

Species Composition
(Approx)
Whiting - 60%
Hake - 30%
Misc. - 10%

Wt. of catch: 4000 lb.

No. Species	Lgth. cm.	Stomach Remarks Contents	Sp. No.	Lgth. cm.	Stomach Remarks Contents	No.	Lgth.	Remarks
Whiting	47.6 ♀	1 whiting 15 ⁺ cm.	Wh.	62.1 ♀	1 whiting 23 ⁺ cm.			
"	61.6 ♀	Empty	"	57.1 ♀	Empty			
"	55.5 ♀	"	"	53.6 ♀	1 whiting 22 ⁺ cm.			
"	37.7 ♀	"	"	48.7 ?	Empty			
"	36.8 ♀	1 fish (?)	"	60.1 ♀	"			
"	39.1 ♀	Empty	"	59.8 ♀	"			
"	61.4 ♀	"	"	31.2 ♂	"			
"	56.3 ♀	"	"	49.1 ♀	"			
"	36.9 ♀	"	"	48.9 ♀	"			
"	31.1 ♀	"	"	24.2 ?	"			
"	50.4 ♀	"						
"	57.8 ♀	1 whiting 27 ⁺ cm. Hake	"	33.4 ♂	Empty			
"	58.5 ♀	1 herring 13 ⁺ cm. 1 whiting 20 ⁺ cm.	"	48.1 ♀	"			
"	45.6 ?	Empty	"	48.5 ♀	1 crab			
"	37.5 ♀	"	"	40.8 ♂	Empty			
"	35.0 ♀	"	"	57.5 ?	1 squid 14 ⁺ cm.			
"	37.5 ♀	"	"	41.7 ♀	Empty			
"	26.1 ?	"	"	32.8 ♀	"			
"	49.7 ♀	1 herring 25 ⁺ cm.	"	27.4 ♂	"			
"	49.8 ♀	Empty						
"	49.4 ♀	"	Hadd.	25.0	Empty			
"	23.5 ?	"						

119/11/24/53

* Denotes ripe condition of gonads.

Stomach Contents
TAGGED HADDOCK FORA

Tow #6 (last one
this trip)

DATE: August 18, 1954

Species Composition
(Approx)

out 1655
in 1840

LOCATION: 5-6 mi. NE Highland Light

Whiting - 50%
Hake - 45%
Misc - 5%

Depth - 26-30 fm.

TAGGER: A.C. Jensen

H₂O temp. - 65.0°F

Wt. of Catch: 4000 #

No. Species	Lgth. cm.	Stomach Remarks Contents	Sp. No.	Lgth. cm.	Stomach Remarks Contents	No.	Lgth.	Remarks
Whiting	30.8 [♂]	Empty	Hake	35.7 [♀]	Empty			
"	37.7 [♀]	1 whiting 15cm	"	47.6 [♀]	"			
"	29.3 [?]	Empty	"	33.8 [♂]	"			
"	33.6 [♂]	"	"	34.6 [♂]	"			
"	32.1 [♀]	fish remains	"	31.3 [♂]	"			
"	32.5 [♀]	Empty	"	45.0 [♀]	"			
"	57.9 [♀]	1 whiting 22cm	"	35.7 [♂]	"			
"	49.1 [♀]	1 whiting 12cm	"	38.7 [♀]	"			
"	26.3 [♂]	Empty	"	38.0 [♀]	"			
"	28.7 [?]	"	"	33.7 [♀]	"			
"	41.2 [♀]	"	"	33.5 [♂]	"			
"	60.4 [♀]	1 whiting 2cm	"	33.2 [♂]	"			
"	35.0 [♀]	Empty	"	32.5 [♂]	"			
"	41.7 [♀]	"	"	37.8 [♂]	"			
"	27.1 [♀]	unk. material	"	34.5 [♂]	"			
"	28.4 [♀]	Empty	"	27.8 [♂]	"			
"	29.7 [♂]	"						
"	30.6 [♂]	"						