

Job Report

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Project Name: Studies of the Blue Crab Populations of the Texas Coast
Period Covered: January 1, 1963 to December 31, 1963 Job No. 9

Population Studies of the Blue Crabs of Gulf Area 20

Abstract: The commercial blue crab, Callinectes sapidus, was not abundant in the inshore Gulf. The population consisted almost entirely of female crabs. The abundance peak occurred in June and July. In June, July, and August, 20 to 50 per cent of the females carried eggs.

The little blue crab, Callinectes danae, was abundant in June and July, with a high percentage of ripe females during this period. In 1963, almost five times as many Gulf blue crabs were taken as in 1962.

Of other crabs associated in the catches, the speckled crab, Arenaeus cribrarius, was most abundant.

Objectives: To study the blue crab and Gulf blue crab populations of Gulf Area 20 as to seasonal abundance and size. To record and evaluate associated organisms sampled and hydrographic factors at time of sampling.

Procedure: In conjunction with shrimp and fish research, regular stations were set up for weekly samples in the inshore Gulf off Port Aransas, Texas, in depths of 2 to 17 fathoms.

Daytime sampling was accomplished from the 38-foot Commission shrimp boat Goby using a 42-foot flat otter trawl of 2-inch stretch mesh opened by 6-foot doors. Duration of sample was thirty minutes. Hydrographic data were taken at time of sampling. Length-frequency sheets were completed for blue crabs and Gulf blue crabs. Information sheets were used for other organisms.

Findings and

Discussion: Crab Study: Commercial Species
Blue crab, Callinectes sapidus Rathbun:

168 crabs	4 males	2 per cent
	164 females	98 per cent

Blue crabs were not abundant in the Gulf samples. An abundance peak was found in June and July with some indication that the population was composed of larger crabs in June at 135-165 mm, dropping to 100-110 mm specimens through July (Figure 1).

With the exception of 3 males taken in April and 1 in October, the population was solely female.

In June, 20 per cent of the females carried eggs; in July, 51 per cent; and in August, 42 per cent. Most of the crabs were taken in the 3 to 7 fathom zone.

Crab Study: Non-Commercial Species
Gulf blue crab, Callinectes danae Smith:

3,082 crabs

2,116 males

69 per cent

966 females

31 per cent

Gulf blue crabs were taken in the samples for each month and were very abundant in June and July, diminishing in number through August. Almost five times as many C. danae were caught in 1963 as compared to the catch of 1962.

In contrast to the sex percentage found for blue crabs, C. danae populations were predominately male. Since this crab inhabits the Gulf almost exclusively, males and females were found together. The common blue crab populations split into male and female components which inhabit different areas, generally in the bays.

Most of the females carried eggs in June and July, and a few sponge crabs were present throughout the year. Gulf blues were taken mainly from slightly deeper water than the blue crab, usually in the 10 to 14 fathom zone (Figure 1).

The relative abundance of other organisms taken with the two species of crabs is presented by month in Table 1. Only Arenaeus cribrarius and Portunus gibbesi were taken in any abundance throughout the year. The month of February produced the greatest number of crab species.

Hydrography: No particular affect of temperature or salinity was found in regard to the Gulf crab populations (Bradley and Compton 1963).

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Bibliography

Bradley, E. and H. Compton. 1963. Population Studies of the Blue Crabs of Gulf Area 20. Project MC-R-2, Job 9, Texas Game and Fish Commission Coastal Fisheries Reports.

Table 1
Non-Commercial Crabs Caught by Month

	<u>Feb.</u>	<u>Mar.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>
<u>Number of samples:</u>	4	5	4	10	12	19	13	9
<u>Organism:</u>								
<i>Petrochirus bahamensis</i>	14	-	-	-	-	-	-	2
<i>Pagurus floridanus</i>	21	-	-	-	-	-	-	-
<i>Calappa sulcata</i>	5	-	-	14	2	2	-	-
<i>Hepatus epheliticus</i>	23	1	-	36	1	-	-	-
<i>Persephona punctata</i>	4	-	-	-	-	-	-	-
<i>Portunus gibbesi</i>	25	25	-	2	5	10	4	4
<i>Portunus spinimanus</i>	19	7	1	2	5	-	-	1
<i>Arenaeus cribrarius</i>	4	-	31	8	20	29	5	22
<i>Ovalipes ocellatus</i>	-	-	-	4	2	-	-	2
<i>Anasimus latus</i>	-	-	-	8	1	1	-	-
<i>Labinia emarginata</i>	14	-	-	-	-	-	-	-

Figure 1
Blue Crab Abundance by Month

