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"An Act creating the Clam Gulch critical habitat area; and providing for an effective date."

COMMITTEE REPORT

1/29/76

HOUSE

Mr. Speaker:

Date 3-8-76

The Committee on RESOURCES has had SB 444

under consideration. A Majority of the members of the Committee

() recommends it DO PASS

() recommends it DO NOT PASS

() recommends it DO PASS WITH ATTACHED AMENDMENT(S)

recommends it BE REPLACED WITH CS FOR SB 444 AND THAT

CS FOR SB 444 DO PASS

() "and" recommends it BE REFERRED TO THE _____

COMMITTEE

() reports it back WITHOUT RECOMMENDATION

() "other"

Members signing the Majority report:

Robert Anderson _____

Members NOT concurring in the Majority report:

_____ recommends: DO NOT PASS

_____ recommends:

_____ recommends:

_____ recommends:

_____ recommends:

Robert Anderson Chairman

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

February 23, 1976

To: Representative Nels A. Anderson, Jr.
Chairman, House Resources Committee

- Capitol Rm. 118

Fr: Senator Chancy Croft

Re: Senate Bill 444

Dear Nels: Senate Bill 444 creating the Clam Gulch critical habitat area has been referred to the House Resources Committee. This legislation is important to protect the razor clam beds on the east side of Cook Inlet. It is strongly supported by the Alaska Department of Fish and Game. I would be happy to discuss this bill with you at any time and would appreciate an opportunity to testify before your Committee whenever the bill is being considered.

Very truly yours

Chancy Croft
Chancy Croft

CC/bf

Decided before 1976 to discuss on Tuesday AC

THE LEGISLATURE OF THE STATE OF ALASKA
FISCAL NOTE

Second Session - Ninth Legislature

I. REQUEST

Bill No. SB 444
 Title: An act creating the Clam Gulch Critical Habitat Area
 Requested by: Ruth Allington Date: 3/1/76
 Return Date Requested: 3/2/76
 Agency: Fish and Game Program: NRMEC

II. FISCAL DETAIL

Budget Request Unit(s) Affected: none

A. EXPENDITURES: (Thousands of dollars)

OBJECT	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		0	0			

B. FUNDING: (Thousands of dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						

C. POSITIONS:

PERMANENT/TEMPORARY	/	/	/	/	/	/
MAN MONTHS (P./T.)	/	/	/	/	/	/

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

There is no appreciable fiscal impact on the operations of the Department of Fish and Game anticipated as a result of passage of this legislation.

IV. ATTACHMENTS

V. DATE: 3/1/76 PREPARED BY: Jeffrey J. Morrison

Original: Legislative Finance
 cc: Budget and Management
 Prime Sponsor (First Legislator Named)

KENAI PENINSULA RAZOR CLAM INVESTIGATIONS

The Sport Fish Division of the Alaska Department of Fish and Game has monitored the recreational Kenai Peninsula razor clam fishery since 1966. During this ten year period Division personnel have contacted over 25,000 sport diggers who reported harvesting more than 860,000 razor clams or an average of 33.2 razor clams per digger per trip. The majority of this data is collected from the popular area of Clam Gulch located 22.5 miles south of Soldotna on the Sterling Highway. Minimum estimates on this six mile beach indicate a harvest of 2.6 million clams in the last ten years.

Division personnel have also dug more than 19,000 razor clams since the inception of these investigations. The samples are dug monthly (April through August). These clams are analyzed to determine the average age structure of the population as well as the average size of the clams which enter the recreational diggers creel. These samples are primarily from the northern beaches of Clam Gulch and Oil Pad Access (three miles south of Clam Gulch) but sufficient samples have been dug from the southern beaches of Ninilchik, Deep Creek and Whiskey Gulch to assess the stocks in these areas.

This report to the Board of Fisheries will review razor clam harvest and effort estimates with emphasis on the Clam Gulch area. Stock status at popular areas will also be reviewed and compared with other beaches both within and outside Alaska. The Sport Fish Division's management program for this valuable recreational resource will also be discussed.

HARVEST AND EFFORT

Since 1966 Division Biologists have contacted 25,969 recreational diggers at the popular area of Clam Gulch. These diggers reported harvesting 861,716 razor clams for a ten year mean of 33.2 razor clams per digger per trip. The total estimated minimum harvest on this six mile beach is therefore approximately 2.6 million razor clams during a ten year period. This information is summarized in Table 1.

TABLE 1. Summary of Razor Clam Creel Census Information Collected at Clam Gulch, 1965-1975.

<u>Year</u>	<u>No. Diggers Interviewed</u>	<u>Total Clams Enumerated</u>	<u>Clams/Digger</u>	<u>Estimated Harvest</u>
1965	Unknown	Unknown	35.2	32,500*
1966	91	3,790	41.6	39,000*
1967	987	32,455	32.9	45,800*
1968	997	27,334	27.4	84,700*
1969	2,998	93,836	31.3	279,480
1970	2,964	87,650	29.6	226,150
1971	1,465	43,201	29.5	126,260
1972	3,624	109,528	30.2	259,560
1973	4,054	145,489	35.9	392,140
1974	4,733	163,906	34.6	596,110
1975	<u>4,056</u>	<u>154,527</u>	<u>38.1</u>	<u>607,850</u>
Total/Mean	25,969	861,716	33.2	2,689,550

* Clam harvest figures for 1965-1968 are minimum estimates.

It is of interest to note that the average number of razor clams per digger per trip in 1975 was 38.1. This is an exceptionally high average which was exceeded only in 1966 by a limited number of diggers. Considering that this average reflects novice diggers new to the area, tourists, and individuals who come to dig only enough for a meal, it is indicative that digging was excellent in 1975.

Digger effort was relatively high in 1969 (8,580 man-days), decreased somewhat from 1970 through 1972, rose again in 1973 and peaked in 1974 when an estimated 17,550 individuals utilized the Clam Gulch area. Effort in 1975 decreased slightly to 15,710 man-days (Table 2). This decrease is not considered significant and is probably related to weather conditions as well as the timing and occurrence of the minus tides. It is anticipated that effort will display steady growth as Alaska's population continues to grow.

TABLE 2. Estimated Recreational Razor Clam Harvest and Effort, Clam Gulch, 1969-1975.

<u>Year</u>	<u>Total Estimated Effort (Man-Days)</u>	<u>Estimated Razor Clam Harvest</u>
1969	8,580	279,480
1970	7,540	226,150
1971	4,270	126,260
1972	7,860	259,560
1973	11,100	392,140
1974	17,550	596,110
1975	<u>15,710</u>	<u>607,850</u>
1969-1974 Mean	9,420	313,280

Table 2 also indicates that although effort was reduced by 1,840 man-days in 1975, the estimated harvest increased from 596,110 in 1974 to 607,850 razor clams in 1975. This increase is due to a high digger success rate.

Harvest and effort estimates are available for all east side Kenai Peninsula beaches since 1969 (Table 3). Table 3 indicates harvest and effort were relatively high in 1969 (12,200 man-days and 375,800 razor clams), decreased in 1970 and 1971, and increased sharply from 1972 through 1974.

TABLE 3. Estimated Recreational Razor Clam Harvest and Effort on All East Side Kenai Peninsula Beaches, 1969-1975.

<u>Year</u>	<u>Total Estimated Effort (Man-Days)</u>	<u>Estimated Razor Clam Harvest</u>
1969	12,200	375,800
1970	11,190	306,450
1971	6,800	187,760
1972	15,400	437,530
1973	23,770	682,600
1974	27,410	872,450
1975	<u>24,260</u>	<u>896,080</u>
1969-1974 Mean	16,110	477,100

In 1975 estimates for all east side Kenai Peninsula beaches (Kasilof River to Anchor Point) revealed 24,260 diggers harvested 896,080 razor clams. This is a decrease of 3,140 man-days compared to 1974 estimates, but due to excellent digging in the Clam Gulch area, harvest increased by 23,630 razor clams. Aerial surveys revealed 80.3% of the expended effort was concentrated on the northern beaches of Cohoe, Clam Gulch and Oil Pad Access. The remaining effort was shared by the southern beaches of Ninilchik, Happy Valley and Whiskey Gulch.

. STOCK STATUS AND COMPARATIVE DATA

During the 1975 season (April through August) Sport Fish Division Biologists dug five monthly samples from the heavily exploited Clam Gulch area. Similarly, five samples were dug from the relatively unexploited area of Oil Pad Access three miles to the south. The samples were analyzed and provide an excellent comparison between exploited and an unexploited razor clam population. The results of this comparison are presented in Table 4.

TABLE 4. Average Size (in millimeters and inches) of Clam Gulch and Oil Pad Access Razor Clam Samples Dug by Department Biologists, 1966-1975.

Year	Clam Gulch		Oil Pad Access	
	Sample No.	Average Size	Sample No.	Average Size
1966	527	113.2 mm (4.5")	285	111.4 mm (4.4")
1967	1,186	115.2 mm (4.5")	649	116.6 mm (4.6")
1968	823	118.6 mm (4.7")	796	118.4 mm (4.7")
1969	1,116	121.0 mm (4.8")	1,045	120.3 mm (4.7")
1970	731	118.2 mm (4.7")	663	111.1 mm (4.4")
1971	688	113.6 mm (4.5")	733	109.8 mm (4.3")
1972	897	113.5 mm (4.5")	555	116.0 mm (4.6")
1973	561	115.5 mm (4.5")	402	117.6 mm (4.6")
1974	480	124.3 mm (4.9")	753	129.0 mm (5.1")
1975	503	126.2 mm (5.0")	481	127.2 mm (5.0")
1966-1974 Average	779	117.0 mm (4.6")	653	116.7 mm (4.6")

It is of interest to note that the average size of clams dug in both areas was identical, i.e.; 5.0". This is an exceptionally large average size and indicates that the average razor clam dug by the recreational digger in 1975 was

larger than those dug during the preceding nine year period. The large average size of both exploited and unexploited beach areas suggests to Department biologists that at the present level of exploitation, environmental factors exert a greater influence on razor clam stocks than does recreational digging.

Harvest and effort estimates at Clam Gulch indicate a rapidly expanding fishery which is expected to increase with Southcentral Alaska's expanding population. However, it should be noted that data collected are comparable with other razor clam fisheries and do not reflect an excessive harvest.

In 1973 a report was received from investigators monitoring razor clam populations in Washington. This state has three major razor clam beaches for which 20 years' data are available. These beaches total 49 miles in length and have an annual average (weighted) harvest of 3,217,575 razor clams or 196,833 clams per mile per year. Clam Gulch is presently harvested at less than 50% of this rate.

Oregon's 1967 sport harvest was 1.7 million clams by 74,000 diggers. Seaside beach was heavily dug, supporting 42% of the diggers and 43% of the harvest or 731,000 razor clams. The salient point here is that Seaside Beach is only two miles long. Clam Gulch presently supports a smaller fishery, yet has three times the beach area of Seaside.

A paper prepared by Lou Gwartney (ADF&G Biologist) while investigating Swikshak Beach on the Alaska Peninsula, indicated that during the 1930's and 1950's the beach produced nearly 500,000 pounds of razor clams annually. At an estimated 3 clams/pound, the harvest was approximately 1.5 million. Swikshak Beach is only four miles long. In 1975 an estimated 607,850 clams were harvested from approximately seven miles of beach at Clam Gulch. It is therefore evident that Swikshak has been subject to three or four times more pressure than Clam Gulch which yielded 86,835 clams per mile in 1975. A comparison of razor clam

harvests from various beaches and average annual clams per mile of beach is presented in Table 5.

TABLE 5. Razor Clam Harvest and Clams/Mile of Beach for Washington, Oregon, Swikshak and Clam Gulch Beaches.

Beach	Beach Length (Miles)	Harvest	Harvest/Mile
(Washington)			
Long Beach	22.0	3,162,400 ^{1/}	143,745 ^{1/}
Twin Harbors	13.0	2,666,000 ^{1/}	205,077 ^{1/}
Copalis	14.0	3,816,450 ^{1/}	272,603 ^{1/}
Mocrowks	7.5	825,700 ^{2/}	110,093 ^{2/}
(Oregon)			
Seaside	2.0	731,000 ^{3/}	365,500 ^{3/}
(Alaska)			
Swikshak	4.0	1,500,000 ^{4/}	375,000 ^{4/}
Clam Gulch	7.0	607,850	86,835

1/ Twenty year mean (1949-1968)

2/ Ten year mean (1959-1968)

3/ 1967 harvest

4/ Harvest in 1930's and 1950's

5/ 1975 harvest.

MANAGEMENT

Current management activities are directed toward a determination of razor clam harvest and effort estimates. Additionally, monthly samples are dug from exploited (Clam Gulch) and unexploited (Oil Pad Access) areas. These samples are analyzed and population trends may then be determined.

From data collected during the 1975 season, it is evident that the razor clam stocks are in excellent condition. The harvest per digger per trip was the highest since the inception of this study in 1966. This indicates that many clams were available to the recreational digger. The average size of the clams dug was also exceptionally large indicating that diggers are harvesting older

clams which have spawned several times, leaving the juvenile clams which will be available in future years. Data collected by other investigators from various beaches indicate that the popular Clam Gulch area is not being over harvested and that the harvest rate may be increased without detrimental effects on the population.

It is recognized that at some future date, razor clam populations on east side Kenai Peninsula beaches may decline. This reduction could be the result of excessive harvest, but will probably be related to environmental factors. If this occurs and adequate protection is given, the stocks should return to former levels of abundance.

This assumption is made in that razor clams exist in offshore waters not exposed by minus tides. Research conducted by the Habitat Section indicated juvenile clams existed three to four miles off the mouth of the Kaslof River. Their preliminary investigation indicates a population in these outer waters which, in all probability, contribute to exploitable clam populations. It might be suggested that these populations act as "reserve brood stock" for Kenai Peninsula beaches.

SUMMARY

In summary, the following should be considered when discussing Kenai Peninsula razor clam stock status and management:

- (1) The Division of Sport Fish has extensive data relating to this fishery which has been collected annually since 1966.
- (2) Clam Gulch receives the majority of the recreational diggers effort, and should a management problem occur, it will first become apparent in this area.

- (3) Harvest and effort have increased dramatically in recent years. Although this increase is appreciable, it does not appear excessive when compared to Swikshak Beach (Alaska), Seaside Beach (Oregon), and Washington beaches.
- (4) Harvest per digger per trip is more important in management than total harvest and effort estimates. Harvest per digger in 1975 was the highest recorded. This demonstrates that as many or more clams are available to the sport digger today as they were in prior years.
- (5) Average size of clams at Clam Gulch was larger in 1975 than in 1966. This shows a larger number of mature clams are available and juveniles are not being exploited to an appreciable degree.
- (6) Average size of Clam Gulch razor clams compares directly with samples from the relatively unexploited beach at Oil Pad Access. This suggests environmental factors presently exert greater influence on razor clam stocks than does recreational digging.
- (7) The Sport Fish Division presently has a sampling and monitoring program whereby changes in relative abundance and population structure can be determined.
- (8) Offshore razor clam populations exist in Cook Inlet. These populations undoubtedly contribute to east side Kenai Peninsula razor clam stocks.
- (9) The Sport Fish Division is pleased to report to the Board of Fisheries that despite increased recreational usage, Kenai Peninsula razor clam stocks are continuing to maintain themselves at a high level.