

An Overview of the Economic Status  
of Alaska's Limited Entry Permit Types  
Commercial Fisheries Entry Commission Report Number 22-01N

Caitlin Stern and Jon Haghayeghi

06 July 2022

## OEO/ADA Compliance Statement

The Alaska Commercial Fisheries Entry Commission is administratively attached to the Alaska Department of Fish and Game.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

- ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526
- U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203
- Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW, MS 5230, Washington DC 20240.

The department's ADA Coordinator can be reached via phone at the following numbers:

- (VOICE) 907-465-6077
- (Statewide Telecommunication Device for the Deaf) 1-800-478-3648
- (Juneau TDD) 907-465-3646
- (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

Commercial Fisheries Entry Commission (CFEC)  
Research Section  
8800 Glacier Highway, Suite 109  
P.O. Box 110302  
Juneau, Alaska 99811-0302

(907) 789-6160 phone

(908) 789-6170 fax

DFG.CFEC.Research@alaska.gov

# Contents

<b>1</b>	<b>Abstract</b>	<b>4</b>
<b>2</b>	<b>Introduction</b>	<b>5</b>
<b>3</b>	<b>Methods</b>	<b>6</b>
3.1	Data availability and confidentiality . . . . .	6
3.2	Permit holder participation . . . . .	6
3.3	Estimated annual gross earnings . . . . .	6
3.4	Estimated permit value . . . . .	6
3.5	Correlations among indicators . . . . .	6
3.6	Combined score and index of economic health . . . . .	7
3.7	Relationships between economic status and species group, area, or gear type . . . . .	7
<b>4</b>	<b>Results</b>	<b>7</b>
4.1	Permit holder participation . . . . .	7
4.2	Estimated annual gross earnings . . . . .	7
4.3	Estimated permit value . . . . .	7
4.4	Correlations among indicators . . . . .	12
4.5	Combined score and index of economic health . . . . .	12
4.6	Relationships between combined score and species group, area, or gear type . . . . .	12
<b>5</b>	<b>Conclusions</b>	<b>16</b>
<b>6</b>	<b>Appendix A: Species, area, and gear type groups</b>	<b>17</b>
<b>7</b>	<b>Appendix B: Permit type summaries</b>	<b>19</b>

# 1 Abstract

The purpose of this report was to identify and apply objective indicators of economic health for Alaska's 79 limited entry permit types to better understand which permit types are more likely to be experiencing economic health and which economic hardship. The indicators we used were 1) permit holder participation, 2) estimated permit value, and 3) estimated annual average gross earnings. For each permit type, we calculated the percent difference between the mean over all years that the permit type existed and the mean over 2016-2020 for each indicator. We calculated a combined score as the sum of all three percent differences, and used this score to define a ranked index of economic health. We also investigated which species groups, areas, and gear types were associated with this combined score. We found that, while some limited entry permit types seemed to be experiencing economic health according to the indicators we studied, the majority of limited entry permit types were experiencing lower recent participation, gross earnings, and permit value than the historical average. There are many factors beyond the three indicators of economic health analyzed in this paper that are required to evaluate the economic viability of fishing a permit, and a great deal of complexity is involved in assessing whether a permit type is economically healthy. By establishing a framework for quantifying economic status in a way that allows comparisons among permit types, this analysis serves as a reference and starting point for future analyses.

## 2 Introduction

In 1973, the Limited Entry Act established the Commercial Fisheries Entry Commission (CFEC), tasking the quasi-judicial agency with the mission to promote conservation and the sustained yield management of Alaska's fishery resource and the economic health and stability of commercial fishing in Alaska by regulating and controlling entry of participants into the commercial fisheries in the public interest and without unjust discrimination.<sup>1</sup> The legislature's finding that commercial fishing for fishery resources had reached levels of participation, on both a statewide and an area basis, that had impaired or threatened to impair the economic welfare of the fisheries of the state, the overall efficiency of the harvest, and the sustained yield management of the fishery resource, motivated the establishment of CFEC.<sup>2</sup>

The general duties and powers of the commission establish that to accomplish the purposes set out in aforementioned AS 16.43.010, the commission shall establish, for all types of gear, the optimum number of entry permits for each administrative area.<sup>3</sup> The statute further details that, following the issuance of entry permits under AS 16.43.270, the commission shall establish the optimum number of entry permits for each fishery.<sup>4</sup>

For the commission to adopt an optimum number range into regulation, an optimum number study must be conducted based upon a reasonable balance of the following general standards:

- (1) the number of entry permits sufficient to maintain an economically healthy fishery that will result in a reasonable average rate of economic return to the fishermen participating in that fishery, considering time fished and necessary investments in vessels and gear;<sup>5</sup>
- (2) the number of entry permits necessary to harvest the allowable commercial take of the fishery resource during all years in an orderly, efficient manner, and consistent with sound fishery management techniques;<sup>6</sup>
- (3) the number of entry permits sufficient to avoid serious economic hardship to those currently engaged in the fishery, considering other economic opportunities reasonably available to them.<sup>7</sup>

The purpose of this report was to identify and apply objective indicators of economic health for Alaska's 79 limited entry permit types to better understand which permit types are more likely to be experiencing economic health and which economic hardship. Applying these indicators to limited entry permit types allowed us to identify the permit types for which a significant disruption has occurred, due to endogenous and exogenous variables that may impact each fishery. This analysis was meant to be a starting point for further exploration of which permit types are experiencing economic health versus hardship, with subsequent analyses encompassing information specific to each fishery.

In the methods section of this report, we describe three indicators of economic health that can be used to identify permit types whose holders may be experiencing economic health or hardship: 1) permit holder participation, 2) estimated permit value, and 3) estimated annual gross earnings.

In the results section of this report, we apply these indicators to Alaska's 79 limited-entry permit types. We calculate a combined score that incorporates all three indicators, and use this score to define a ranked index of economic health that facilitates comparisons among permit types. We also investigate which species groups, areas, and gear types are associated with economic health or hardship.

In the appendix, we provide visualizations for each permit type of the trends in the three indicators of economic health, as well as total annual pounds harvested, over the entire lifetime of the permit type. This puts the findings of the report into a historical context.

In the final section, we discuss conclusions and general patterns observed in this report.

---

<sup>1</sup>A.S. 16.43.010.(a)

<sup>2</sup>A.S. 16.43.010.(b)

<sup>3</sup>A.S. 16.43.100 (a)(9)

<sup>4</sup>A.S. 16.43.290

<sup>5</sup>A.S. 16.43.290 (1)

<sup>6</sup>A.S. 16.43.290 (2)

<sup>7</sup>A.S. 16.43.290 (3)

## 3 Methods

### 3.1 Data availability and confidentiality

Fishable permits are defined as permits for which a permit card was issued or renewed in the respective year. If fewer than four permits were fishable in a given year, participation rate, calculated average gross earnings, and total pounds harvested for the permit type in that year were all considered confidential information, and were neither used in calculations displayed in the main text nor displayed in Appendix B. Confidentiality requirements led to the exclusion of the following 12 permit types from the analyses presented in the main text: C4CE, C5AE, C91C, D10A, D10H, D11A, G31K, G34U, H7BK, H7CK, H7DK, P07A.

### 3.2 Permit holder participation

Permit holder participation is defined as the annual percentage of fishable permits in a permit type that have recorded landings. If a high percentage of fishable permits have recorded landings, this likely reflects optimism about the profitability of fishing, the availability of fish, or the ability to find a market for one’s catch. If a low percentage of fishable permits have recorded landings, this could reflect factors such as low stock abundance or restriction of fishing opportunities by regulation.

The indicator of permit holder participation is the percent difference between the mean percentage of fishable permits in a permit type that had reported landings over all years with available data (the permit type’s “lifetime mean”) and the mean percentage over the most recent five years (2016-2020). Positive percent differences indicate that participation over the past five years was higher than the historical average, while negative percent differences indicate that recent participation was lower than the historical average.

### 3.3 Estimated annual gross earnings

Average annual gross earnings is an indicator of economic health for permit holders, and can be influenced by factors including stock status, regulations governing harvest opportunities, and the availability of markets. Average annual gross earnings are calculated by multiplying pounds landed by CFEC’s estimated price for the relevant area, species, gear type, and delivery code, summing over all commercial landings for the permit type, then dividing by the number of permits with landings to obtain average earnings. We quantified this indicator as the percent difference between the mean estimated annual gross earnings for a permit type over all years with available data (the permit type’s “lifetime mean”) and the mean over the most recent five years (2016-2020).

### 3.4 Estimated permit value

Permit value in recent years is an indicator of economic health and, in theory, should reflect the present value of expected future harvests. We quantified this indicator as the percent difference between the mean estimated permit value for a permit type over all years with available data (the permit type’s “lifetime mean”) and the mean over the most recent five years (2016-2020).

### 3.5 Correlations among indicators

We conducted a correlation analysis to investigate the associations among the indicators for participation rate, estimated permit value, and estimated annual gross earnings, using R 4.0.5<sup>8</sup> software and the RcmdrMisc package<sup>9</sup>. The function we used, `rcorr.adjust()`, corrects  $p$ -values for multiple comparisons using Holm’s method<sup>10</sup>.

---

<sup>8</sup>R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

<sup>9</sup>John Fox (2020). RcmdrMisc: R Commander Miscellaneous Functions. R package version 2.7-1. <https://CRAN.R-project.org/package=RcmdrMisc>

<sup>10</sup>John Fox (2020). RcmdrMisc: R Commander Miscellaneous Functions. R package version 2.7-1. <https://CRAN.R-project.org/package=RcmdrMisc>

## 3.6 Combined score and index of economic health

We summed the three indicators described above into single combined score. We then calculated an index of economic health by ranking the permit types according to this combined score, with permit types having larger positive scores ranked higher. The resulting rank is the index of economic health.

## 3.7 Relationships between economic status and species group, area, or gear type

We divided the 79 limited entry permit types in species, area, and gear type groups. The 79 permit types fall into 6 species groups, 17 areas, and 15 gear type groups. Please see Appendix A for details of which permit types fall into each group.

To investigate the relationships between these factors and economic status, we fitted a Generalized Linear Model (GLM) with the sum of the percent differences as the response variable and species group, area, and gear type as the predictor variables, using the `glm()` function in R<sup>11</sup>. We assessed which predictor variables to include in the final model using the `anova()` function in R<sup>12</sup>.

# 4 Results

## 4.1 Permit holder participation

Of the 79 permit types, 60 had sufficient data to calculate the percent difference in participation between the lifetime mean and 2016-2020 mean. Of these permit types, 18 had positive percent differences (indicating higher mean participation in the past 5 years compared to the lifetime mean), 42 had negative percent differences (indicating lower mean participation in the past 5 years compared to the lifetime mean), and 0 had a percent difference of 0 (indicating that mean participation over the past 5 years was equal to the lifetime mean) (Table 1, Figure 1). For the 60 permit types with available data, the mean percent difference was -27.1% and the median percent difference was -11.0%.

## 4.2 Estimated annual gross earnings

Of the 79 permit types, 60 had sufficient data to calculate the percent difference in estimated annual gross earnings between the lifetime mean and 2016-2020 mean. Of these permit types, 19 had positive percent differences (indicating higher mean gross earnings in the past 5 years compared to the lifetime mean), 41 had negative percent differences (indicating lower mean gross earnings in the past 5 years compared to the lifetime mean), and 0 had a percent difference of 0 (indicating that mean gross earnings over the past 5 years was equal to the lifetime mean) (Table 1, Figure 2). For the 60 permit types with available data, the mean percent difference was -24.4% and the median percent difference was -19.3%.

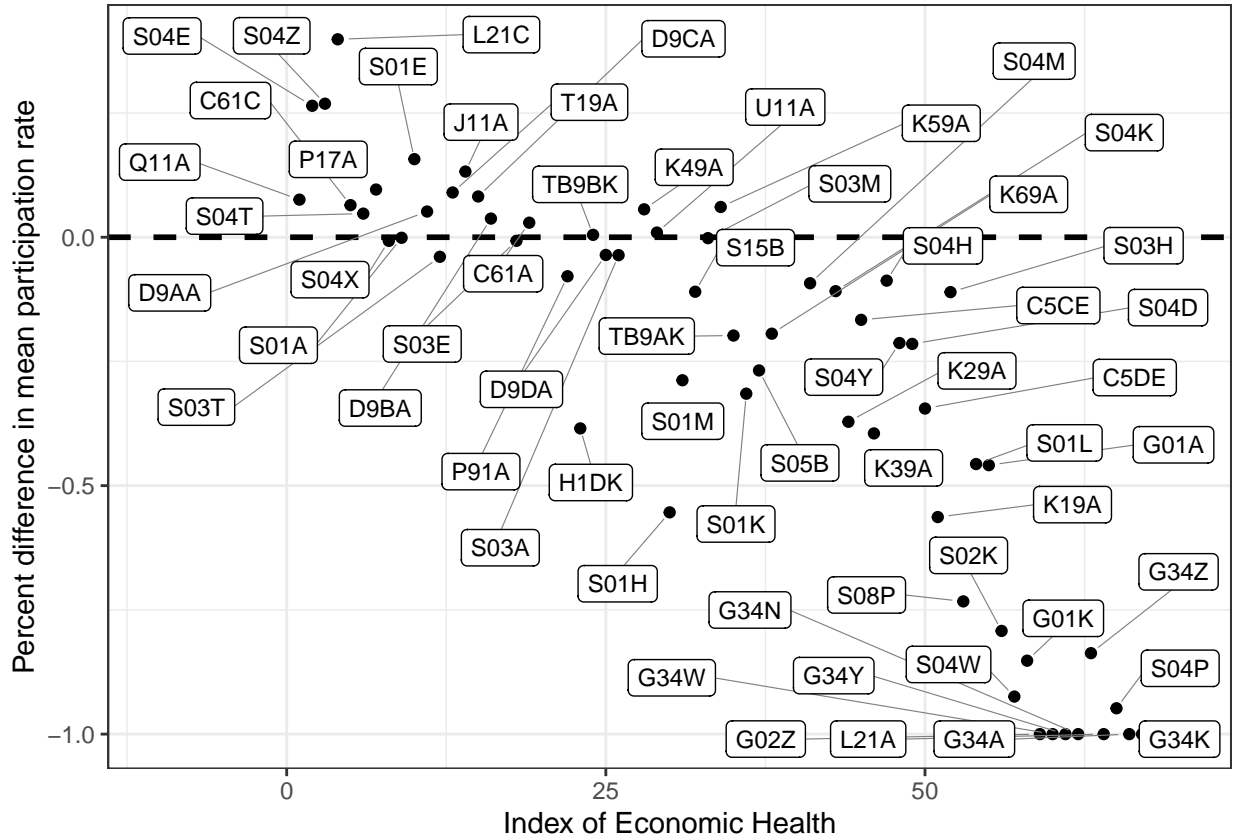
## 4.3 Estimated permit value

Of the 79 permit types, 64 had sufficient data to calculate the percent difference in estimated permit value between the lifetime mean and 2016-2020 mean. Of these permit types, 12 had positive percent differences (indicating higher mean permit value in the past 5 years compared to the lifetime mean), 52 had negative percent differences (indicating lower mean permit value in the past 5 years compared to the lifetime mean), and 0 had a percent difference of 0 (indicating that mean permit value over the past 5 years was equal to the lifetime mean) (Table 1, Figure 3). For the 64 permit types with available data, the mean percent difference was -24.1% and the median percent difference was -22.5%.

---

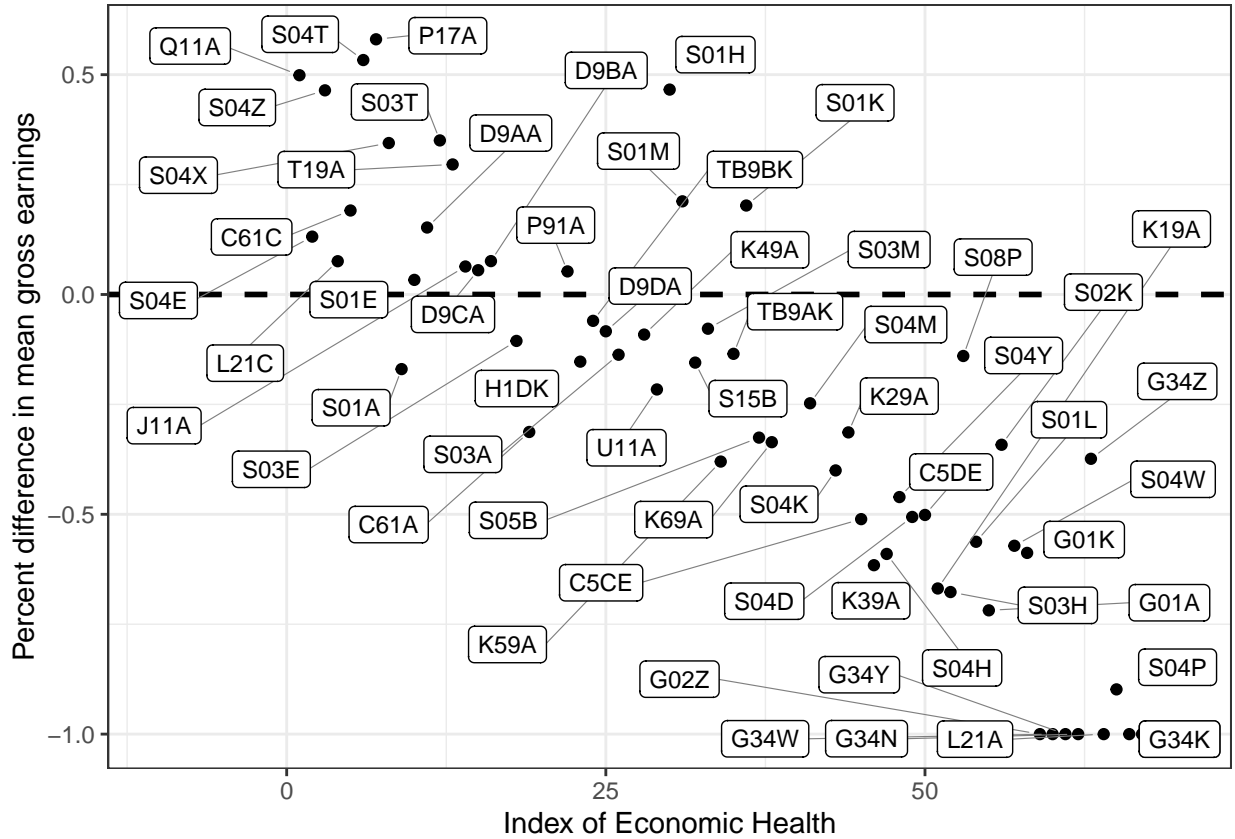
<sup>11</sup>R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

<sup>12</sup>R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

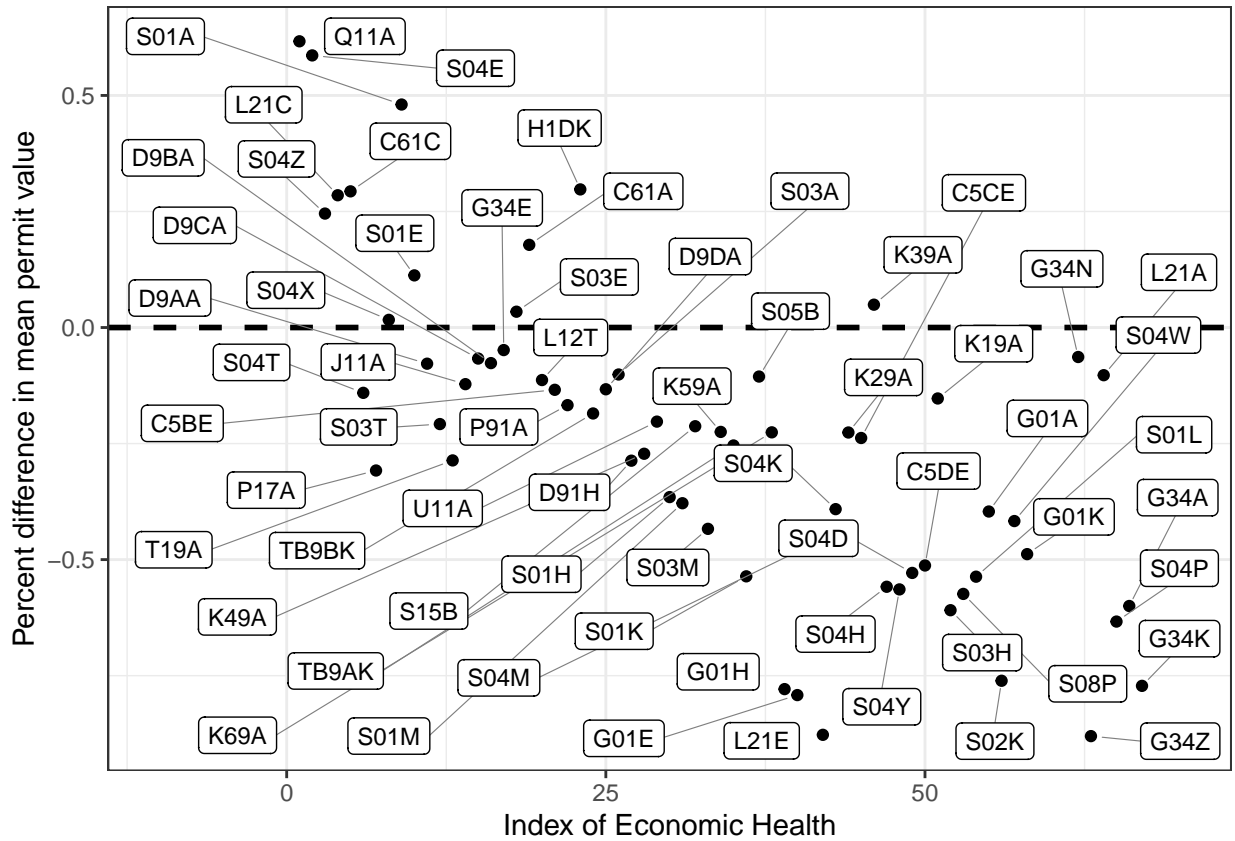


**Figure 1:** Percent difference between the lifetime and 2016-2020 mean participation for permit types with available information. Permit types falling above the dashed line have positive percent differences, indicating a recent increase in participation relative to historical values. Permit types falling below the dashed line have negative percent differences, indicating a recent decline in participation relative to historical values.





**Figure 2:** Percent difference between the lifetime and 2016-2020 mean gross earnings for permit types with available information. Permit types falling above the dashed line have positive percent differences, indicating a recent increase in average gross earnings relative to historical values. Permit types falling below the dashed line have negative percent differences, indicating a recent decline in average gross earnings relative to historical values.



**Figure 3:** Percent difference between the lifetime and 2016-2020 mean permit value for permit types with available information. Permit types falling above the dashed line have positive percent differences, indicating a recent increase in permit value relative to historical values. Permit types falling below the dashed line have negative percent differences, indicating a recent decline in permit value relative to historical values.

**Table 1:** Percent differences between lifetime mean and 2016-2020 mean in indicators of economic health, ranked by combined score.

Index	Permit Type	Description	Combined Score	% Difference between Lifetime Mean and 2016-2020 Mean in		
				Participation	Average Gross Earnings	Permit Value
1	Q11A	Southeast Sea Cucumber Diving Gear	1.19	7.6%	49.9%	61.7%
2	S04E	PWS Salmon Set Gillnet	0.98	26.5%	13.2%	58.6%
3	S04Z	Norton Sound Salmon Gillnet	0.98	26.9%	46.4%	24.6%
4	L21C	Southern Southeast Herring Spawn On Kelp Pound	0.76	39.8%	7.6%	28.5%
5	C61C	Southern Southeast Sablefish Longline	0.55	6.5%	19.1%	29.3%
6	S04T	Bristol Bay Salmon Set Gillnet	0.44	4.8%	53.3%	-14.1%
7	P17A	Southeast Shrimp Beam Trawl	0.37	9.6%	58.0%	-30.8%
8	S04X	Kotzebue Salmon Gillnet	0.35	-0.7%	34.4%	1.7%
9	S01A	Southeast Salmon Purse Seine	0.31	-0.1%	-17.0%	48.0%
10	S01E	PWS Salmon Purse Seine	0.30	15.7%	3.3%	11.2%
11	D9AA	Southeast Dungeness Crab 300 Pots/Or 100% Of Max	0.13	5.2%	15.2%	-7.8%
12	S03T	Bristol Bay Salmon Drift Gillnet	0.10	-3.9%	35.0%	-20.8%
13	T19A	Southeast Tanner Crab Pot Gear	0.10	9.0%	29.6%	-28.6%
14	J11A	Southeast Geoduck Clams Diving Gear	0.07	13.2%	6.4%	-12.2%
15	D9CA	Southeast Dungeness Crab 150 Pots/Or 50% Of Max	0.07	8.2%	5.5%	-6.7%
16	D9BA	Southeast Dungeness Crab 225 Pots/Or 75% Of Max	0.04	3.8%	7.6%	-7.7%
17	G34E	PWS Herring Roe Gillnet	-0.05	-	-	-4.9%
18	S03E	PWS Salmon Drift Gillnet	-0.08	-0.7%	-10.6%	3.4%
19	C61A	Northern Southeast Sablefish Longline	-0.11	2.9%	-31.3%	17.8%
20	L12T	Bristol Bay Herring Spawn On Kelp Hand Pick	-0.11	-	-	-11.3%
21	C5BE	PWS Sablefish Fixed Gear Max VL Length 60'	-0.13	-	-	-13.4%
22	P91A	Southeast Shrimp Pot Gear	-0.19	-7.8%	5.2%	-16.7%
23	H1DK	Kodiak Herring Food/Bait Purse Seine, Fixed VL Length To 60'	-0.24	-38.5%	-15.3%	29.8%
24	TB9BK	Kodiak Tanner Bairdi Crab Pot Gear VL Under 60'	-0.24	0.5%	-6.0%	-18.5%
25	D9DA	Southeast Dungeness Crab 75 Pots/Or 25% Of Max	-0.25	-3.6%	-8.4%	-13.3%
26	S03A	Southeast Salmon Drift Gillnet	-0.27	-3.6%	-13.7%	-10.1%
27	D91H	Cook Inlet Dungeness Crab Pot Gear	-0.29	-	-	-28.7%
28	K49A	Southeast Red/Blue King/Tanner Crab Pot Gear	-0.31	5.6%	-9.1%	-27.2%
29	U11A	Southeast Sea Urchin Diving Gear	-0.41	0.9%	-21.6%	-20.3%
30	S01H	Cook Inlet Salmon Purse Seine	-0.45	-55.4%	46.6%	-36.5%
31	S01M	AK Peninsula Salmon Purse Seine	-0.45	-28.8%	21.2%	-37.9%
32	S15B	Statewide Salmon Power Troll	-0.48	-11.0%	-15.5%	-21.3%
33	S03M	AK Peninsula Salmon Drift Gillnet	-0.51	-0.2%	-7.8%	-43.4%
34	K59A	Southeast Brown King/Tanner Crab Pot Gear	-0.54	6.1%	-38.0%	-22.5%
35	TB9AK	Kodiak Tanner Bairdi Crab Pot Gear VL To 120'	-0.59	-19.8%	-13.5%	-25.4%
36	S01K	Kodiak Salmon Purse Seine	-0.65	-31.5%	20.2%	-53.6%
37	S05B	Statewide Salmon Hand Troll	-0.70	-26.8%	-32.6%	-10.6%
38	K69A	Southeast Red/Blue/Brown King/Tanner Crab Pot Gear	-0.76	-19.4%	-33.6%	-22.6%
39	G01H	Cook Inlet Herring Roe & Food/Bait Purse Seine	-0.78	-	-	-77.9%
40	G01E	PWS Herring Roe Purse Seine	-0.79	-	-	-79.2%
41	S04M	AK Peninsula Salmon Set Gillnet	-0.81	-9.3%	-24.7%	-46.9%
42	L21E	PWS Herring Spawn On Kelp Pound	-0.88	-	-	-87.7%
43	S04K	Kodiak Salmon Set Gillnet	-0.90	-10.9%	-40.0%	-39.1%
44	K29A	Southeast Red/Blue/Brown King Crab Pot Gear	-0.91	-37.1%	-31.4%	-22.6%
45	C5CE	PWS Sablefish Fixed Gear Max VL Length 50'	-0.92	-16.6%	-51.1%	-23.8%
46	K39A	Southeast Brown King Crab Pot Gear	-0.96	-39.5%	-61.6%	4.9%
47	S04H	Cook Inlet Salmon Set Gillnet	-1.24	-8.7%	-59.0%	-55.8%
48	S04Y	Lower Yukon Salmon Gillnet	-1.24	-21.3%	-46.1%	-56.4%
49	S04D	Yakutat Salmon Set Gillnet	-1.25	-21.5%	-50.6%	-52.9%
50	C5DE	PWS Sablefish Fixed Gear Max VL Length 35'	-1.36	-34.5%	-50.1%	-51.3%

**Table 1:** Percent differences between lifetime mean and 2016-2020 mean in indicators of economic health, ranked by combined score. (*continued*)

Index	Permit Type	Description	Combined Score	Participation	Average Gross Earnings	Permit Value
51	K19A	Southeast Red/Blue King Crab Pot Gear	-1.38	-56.3%	-66.9%	-15.3%
52	S03H	Cook Inlet Salmon Drift Gillnet	-1.40	-11.0%	-67.7%	-60.9%
53	S08P	Upper Yukon Salmon Fish Wheel	-1.45	-73.3%	-14.0%	-57.4%
54	S01L	Chignik Salmon Purse Seine	-1.56	-45.6%	-56.2%	-53.7%
55	G01A	Southeast Herring Roe Purse Seine	-1.57	-45.9%	-71.8%	-39.6%
56	S02K	Kodiak Salmon Beach Seine	-1.90	-79.2%	-34.2%	-76.1%
57	S04W	Kuskokwim Salmon Gillnet	-1.91	-92.4%	-57.2%	-41.7%
58	G01K	Kodiak Herring Roe Purse Seine	-1.93	-85.2%	-58.8%	-48.8%
59	G02Z	Norton Sound Herring Roe Beach Seine	-2.00	-100.0%	-100.0%	-
60	G34W	Goodnews Bay Herring Roe & Food/Bait Gillnet	-2.00	-100.0%	-100.0%	-
61	G34Y	Cape Romanzof Herring Roe & Food/Bait Gillnet	-2.00	-100.0%	-100.0%	-
62	G34N	Nelson Island Herring Roe & Food/Bait Gillnet	-2.06	-100.0%	-100.0%	-6.4%
63	G34Z	Norton Sound Herring Roe & Food/Bait Gillnet	-2.09	-83.7%	-37.4%	-88.0%
64	L21A	Northern Southeast Herring Spawn On Kelp Pound	-2.10	-100.0%	-100.0%	-10.3%
65	S04P	Upper Yukon Salmon Gillnet	-2.48	-94.8%	-89.8%	-63.3%
66	G34A	Southeast Herring Roe & Fd/Bt Gillnet	-2.60	-100.0%	-100.0%	-60.0%
67	G34K	Kodiak Herring Roe Gillnet	-2.77	-100.0%	-100.0%	-77.2%

#### 4.4 Correlations among indicators

All pairwise comparisons of the three indicators showed evidence of statistically significant associations.

- 1) The percent difference between lifetime mean participation rate and 2016-2020 mean participation rate was significantly associated with the percent difference between lifetime mean gross earnings and 2016-2020 mean gross earnings (Spearman's  $\rho = 0.71$ ,  $p < 0.001$ ).
- 2) The percent difference between lifetime mean permit value and 2016-2020 mean permit value was significantly associated with the percent difference between lifetime mean participation rate and 2016-2020 mean participation rate (Spearman's  $\rho = 0.58$ ,  $p < 0.0001$ ).
- 3) The percent difference between lifetime mean permit value and 2016-2020 mean permit value was significantly associated with the percent difference between lifetime mean gross earnings and 2016-2020 mean gross earnings (Spearman's  $\rho = 0.45$ ,  $p < 0.001$ ).

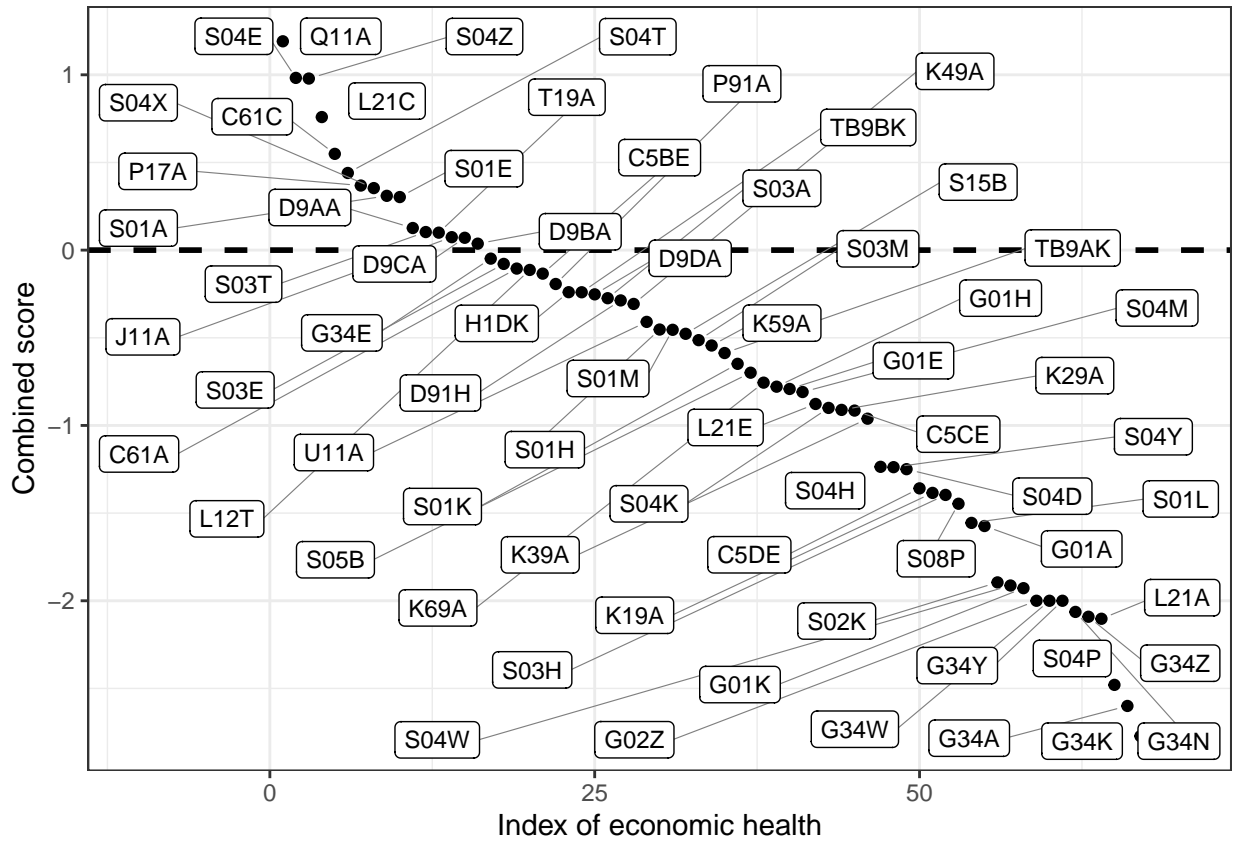
These associations are unsurprising. For example, it is to be expected that individuals are willing to pay more for permit types when those permit types typically yield higher average gross earnings. Thus, we would expect that a recent increase in average gross earnings compared to the lifetime mean would be associated with a recent increase in permit value compared to the lifetime mean.

#### 4.5 Combined score and index of economic health

Of the 79 permit types, 67 had data available to calculate the combined score. Of these permit types, 16 had positive scores (indicating improved economic performance compared to historical averages), and 42 had negative scores (indicating reduced performance compared to historical averages) (Table 1, Figure 4). For the 67 permit types with available data, the mean score was -0.7 and the median score was -0.5.

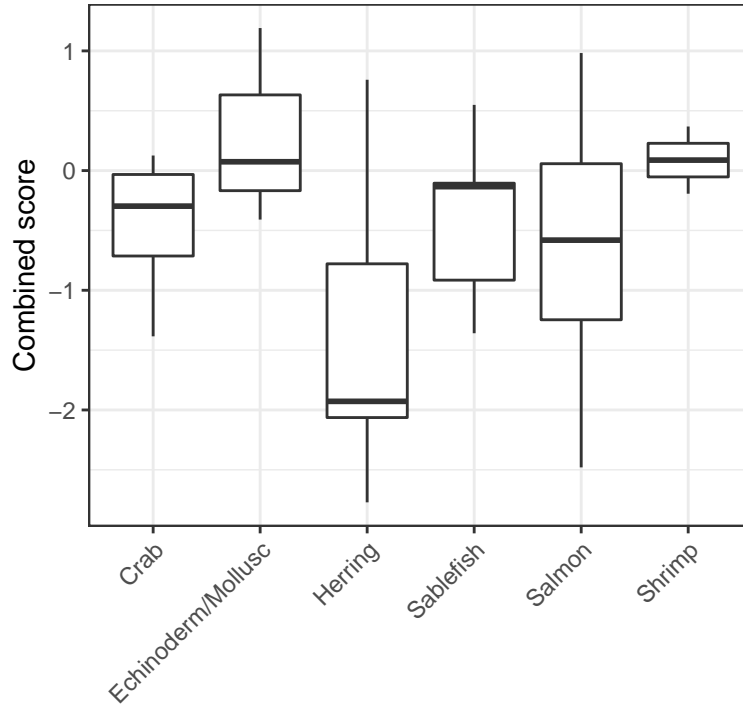
#### 4.6 Relationships between combined score and species group, area, or gear type

Including gear type as a predictor did not improve the model ( $F(9,37)=14.7$ ,  $p > 0.05$ ); therefore, the final model included only species group and area. Figures 5 and 6 show the distribution of indicator scores for each species group and area, respectively. Note that permit types with insufficient data were excluded from the results.

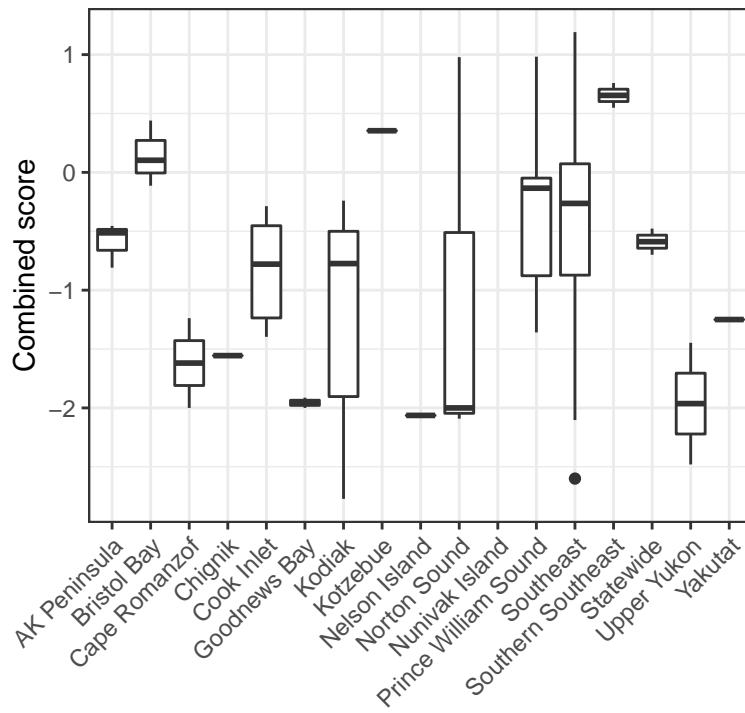


**Figure 4:** Combined scores for permit types with available information. Permit types falling above the dashed line have positive scores, indicating a recent increase in economic performance relative to historical values. Permit types falling below the dashed line have negative scores, indicating a recent decline in economic performance relative to historical values.

Three factors were significantly associated with a decrease in the combined score: species group herring ( $t = -3.9$ ,  $p < 0.001$ ), species group sablefish ( $t = -2.2$ ,  $p < 0.05$ ), and area Upper Yukon ( $t = -2.2$ ,  $p < 0.05$ ). Only one factor was significantly associated with an increase in the combined score, area Southern Southeast ( $t = 3.1$ ,  $p < 0.01$ ). These results suggest that permit holders of herring, sablefish, and Upper Yukon permit types were more likely to be experiencing economic hardship than permit holders of other permit types, while permit holders of Southern Southeast permit types were more likely to be experiencing economic health than permit holders of other permit types.



**Figure 5:** Combined score by species group. The permit types included in each species group are listed in Appendix A.



**Figure 6:** Combined score by area. The permit types included in each area are listed in Appendix A.

## 5 Conclusions

The analyses presented here showed that, although some limited entry permit types seemed to be experiencing economic health according to the indicators we studied, the majority of limited entry permit types were experiencing lower recent participation, gross earnings, and permit value than the historical average:

- 70.0% (42/60) of permit types had lower mean participation in 2016-2020 compared to the historical mean,
- 68.3% (41/60) of permit types had lower mean gross earnings in 2016-2020 compared to the historical mean, and
- 81.2% (52/64) of permit types had lower mean permit value in 2016-2020 compared to the historical mean.

Combining these three indicators of economic health into a single combined score, we found that 23.9% (16/67) of permit types had positive combined scores, indicating increased economic performance compared to the historical average.

We found evidence that the species groups herring and sablefish, and the area Upper Yukon, were associated with a reduction in the combined score, while the area Southern Southeast was associated with an increase in the combined score.

These analyses do not capture a definitive economic picture of each permit type. There are many factors beyond the three indicators of economic health analyzed in this paper that are required to evaluate the economic viability of fishing a permit, and a great deal of complexity is involved in assessing whether a permit type is economically healthy. By establishing a framework for quantifying economic status in a way that allows comparisons among permit types, this analysis serves as a reference and starting point for future analyses.



## 6 Appendix A: Species, area, and gear type groups

**Table 2:** Permit types in each species group.

Species Group	Permit Types
Crab	D9AA, T19A, D9CA, D9BA, TB9BK, D9DA, D91H, K49A, K59A, TB9AK, K69A, K29A, K39A, K19A, D10A, D10H, D11A
Echinoderm/Mollusc	Q11A, J11A, U11A
Herring	L21C, G34E, L12T, H1DK, G01H, G01E, L21E, G01A, G01K, G02Z, G34W, G34Y, G34N, G34Z, L21A, G34A, G34K, G31K, G34U, H7BK, H7CK, H7DK
Sablefish	C61C, C61A, C5BE, C5CE, C5DE, C4CE, C5AE, C91C
Salmon	S04E, S04Z, S04T, S04X, S01A, S01E, S03T, S03E, S03A, S01H, S01M, S15B, S03M, S01K, S05B, S04M, S04K, S04H, S04Y, S04D, S03H, S08P, S01L, S02K, S04W, S04P
Shrimp	P17A, P91A, P07A

**Table 3:** Permit types in each area.

Area	Permit Types
AK Peninsula	S01M, S03M, S04M
Bristol Bay	S04T, S03T, L12T
Cape Romanzof	S04Y, G34Y
Chignik	S01L
Cook Inlet	D91H, S01H, G01H, S04H, S03H, D10H
Goodnews Bay	S04W, G34W
Kodiak	H1DK, TB9BK, TB9AK, S01K, S04K, S02K, G01K, G34K, G31K, H7BK, H7CK, H7DK
Kotzebue	S04X
Nelson Island	G34N
Norton Sound	S04Z, G02Z, G34Z
Nunivak Island	G34U
Prince William Sound	S04E, S01E, G34E, S03E, C5BE, G01E, L21E, C5CE, C5DE, C4CE, C5AE
Southeast	Q11A, P17A, S01A, D9AA, T19A, J11A, D9CA, D9BA, C61A, P91A, D9DA, S03A, K49A, U11A, K59A, K69A, K29A, K39A, K19A, G01A, L21A, G34A, D10A, D11A, P07A
Southern Southeast	L21C, C61C, C91C
Statewide	S15B, S05B
Upper Yukon	S08P, S04P
Yakutat	S04D

**Table 4:** Permit types in each gear type group.

Gear	Permit Types
Beach Seine	S02K, G02Z
Diving Gear	Q11A, J11A, U11A, D11A
Drift Gillnet	S03T, S03E, S03A, S03M, S03H
Fish Wheel	S08P
Fixed Gear	C5BE, K59A, C5CE, C5DE, C5AE
Herring Gillnet and/or Purse Seine	G34E, G34W, G34Y, G34N, G34Z, G34A, G34K, G31K, G34U
Herring Spawn on Kelp	L21C, L12T, L21E, L21A
Longline	C61C, C61A
Net Gear	C4CE
Pot Gear	D9AA, T19A, D9CA, D9BA, P91A, TB9BK, D9DA, D91H, K49A, TB9AK, K69A, K29A, K39A, K19A, C91C

Purse Seine	S01A, S01E, H1DK, S01H, S01M, S01K, G01H, G01E, S01L, G01A, G01K
Ring Net	D10A, D10H
Set Gillnet	S04E, S04Z, S04T, S04X, S04M, S04K, S04H, S04Y, S04D, S04W, S04P
Trawl	P17A, H7BK, H7CK, H7DK, P07A
Troll	S15B, S05B

---

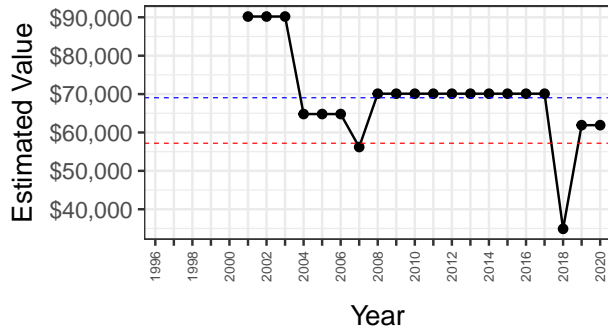
## 7 Appendix B: Permit type summaries

This appendix contains one-page summaries for each of the 79 limited-entry permit types that has sufficient data available after removing confidential information. For years in which there were fewer than four permit holders with fishable permits, participation rate, calculated average gross earnings, and total pounds harvested for the permit type in that year are all considered confidential information; data are removed accordingly in the figures displayed in this appendix. Each permit type summary page has four figures, showing permit value, total pounds harvested, participation, and gross earnings over the history of the permit type.

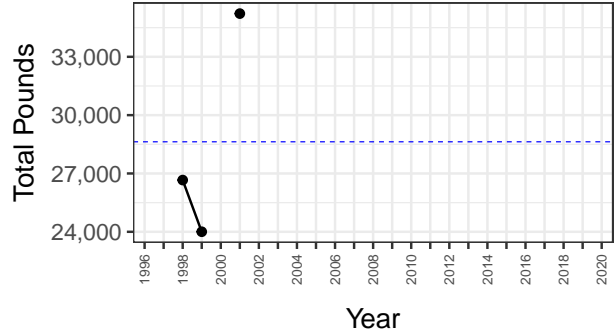
## Permit Type Summary: C 5BE

Index of economic health: 21 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

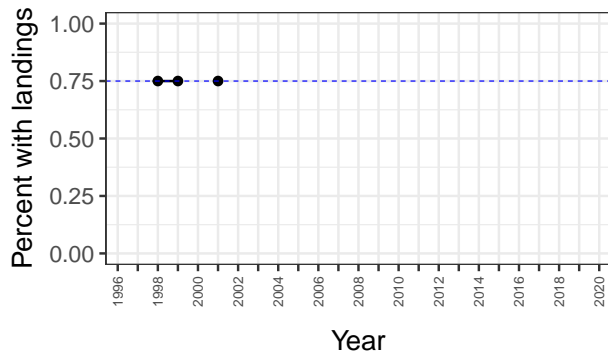
### Estimated Permit Value



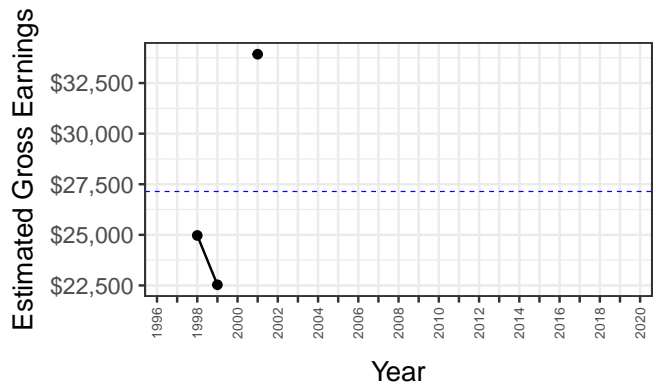
### Total Pounds Landed



### Participation



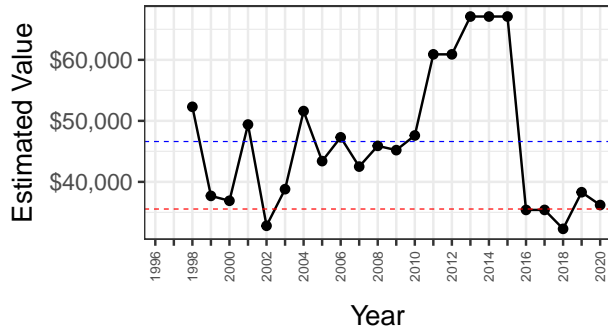
### Estimated Gross Earnings



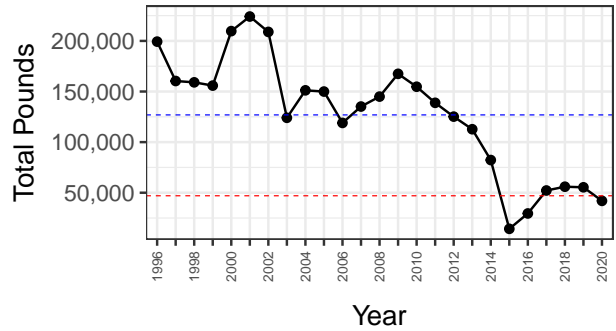
## Permit Type Summary: C 5CE

Index of economic health: 45 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

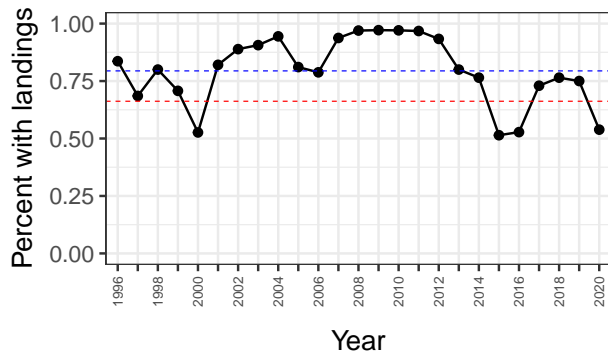
### Estimated Permit Value



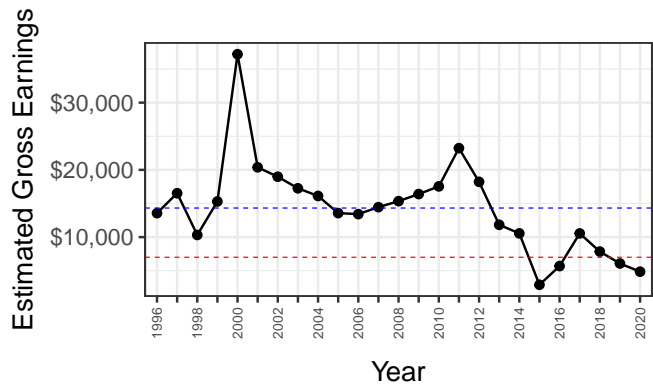
### Total Pounds Landed



### Participation



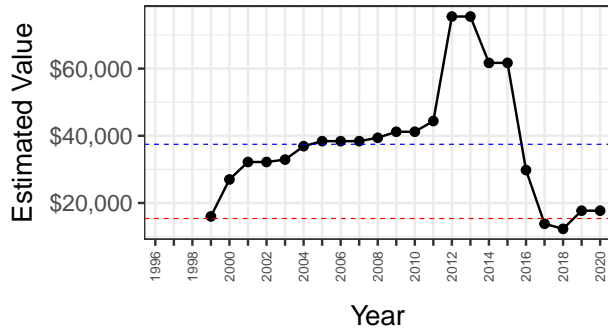
### Estimated Gross Earnings



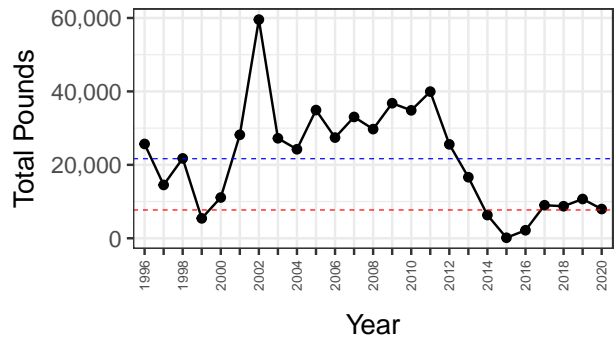
## Permit Type Summary: C 5DE

Index of economic health: 50 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

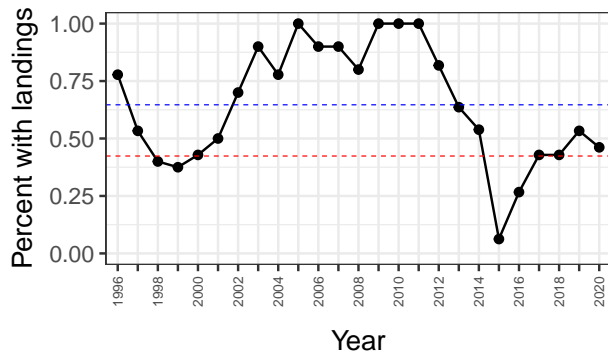
### Estimated Permit Value



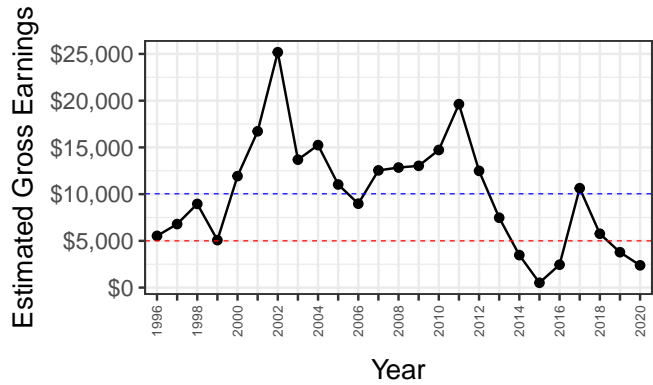
### Total Pounds Landed



### Participation



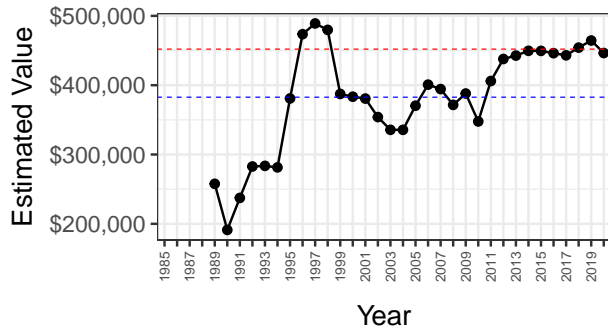
### Estimated Gross Earnings



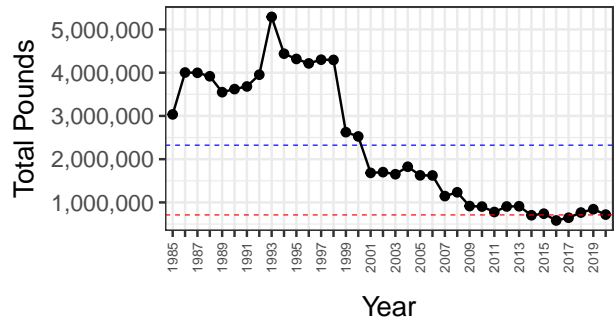
## Permit Type Summary: C 61A

Index of economic health: 19 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

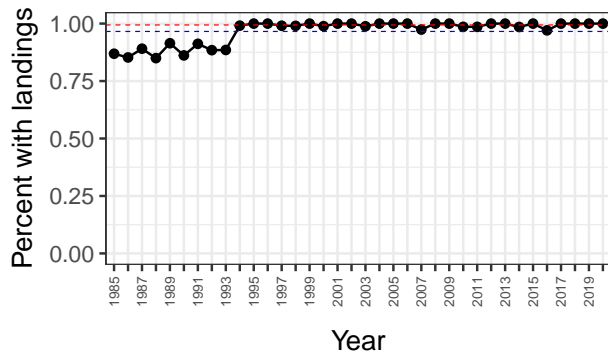
### Estimated Permit Value



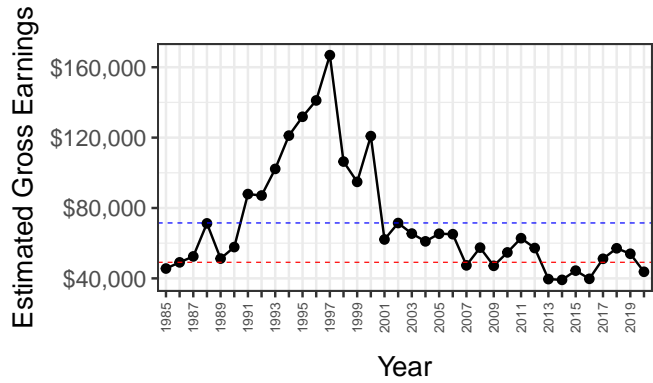
### Total Pounds Landed



### Participation



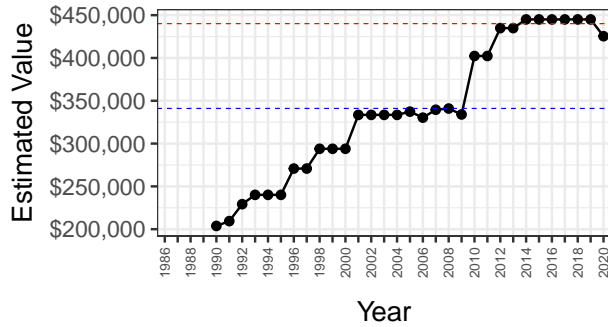
### Estimated Gross Earnings



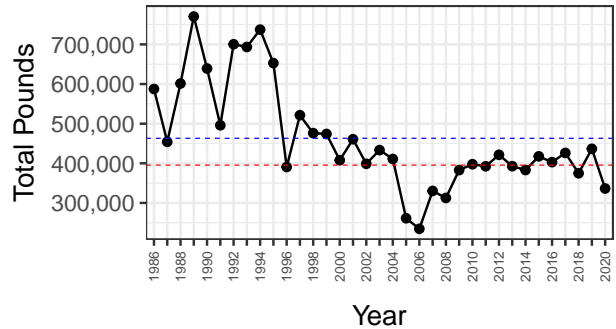
## Permit Type Summary: C 61C

Index of economic health: 5 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

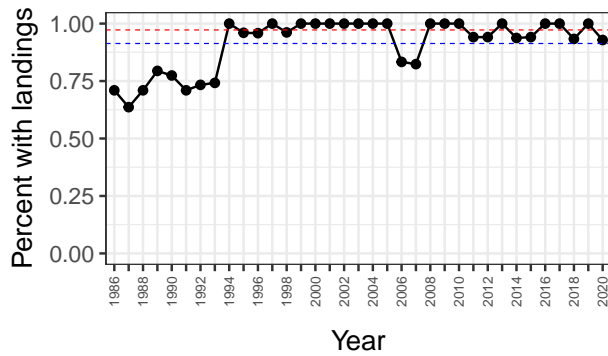
### Estimated Permit Value



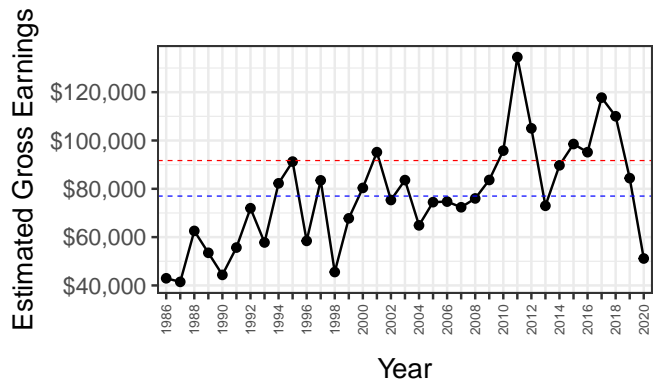
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

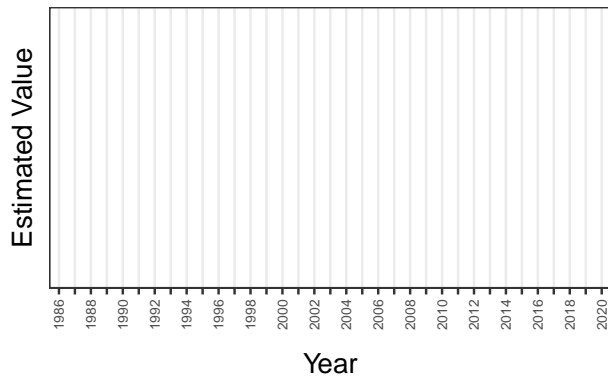




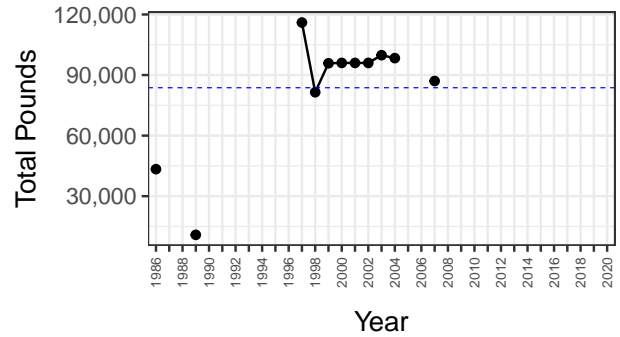
## Permit Type Summary: C 91C

Index of economic health: of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

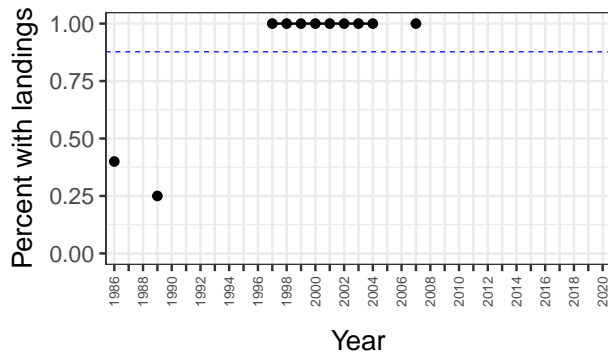
### Estimated Permit Value



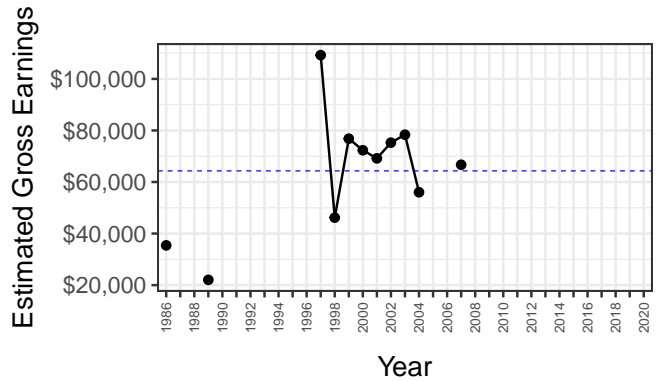
### Total Pounds Landed



### Participation



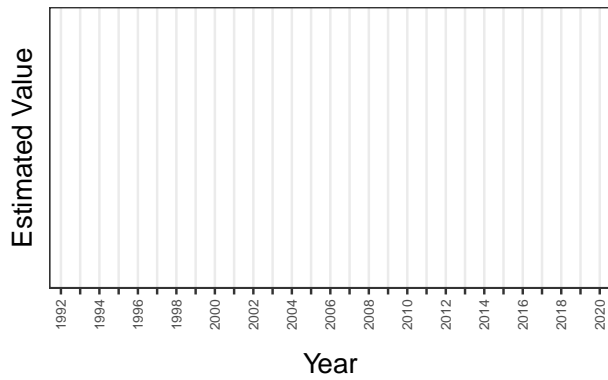
### Estimated Gross Earnings



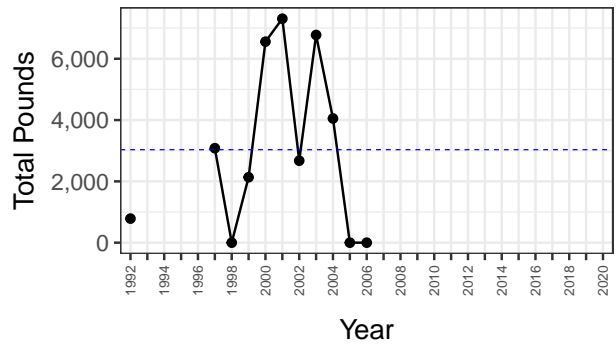
## Permit Type Summary: D 10A

Index of economic health: of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

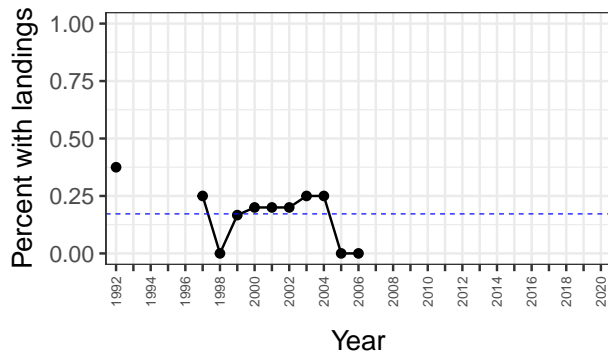
### Estimated Permit Value



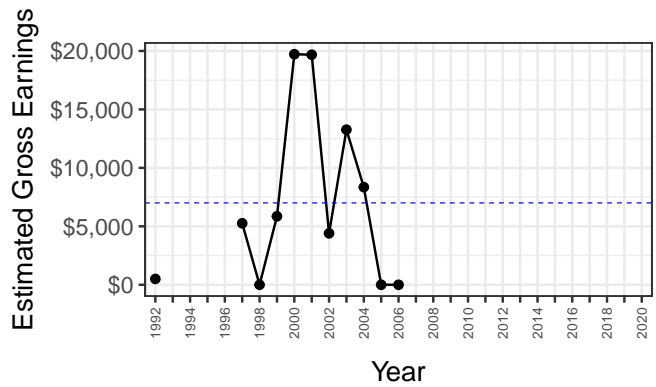
### Total Pounds Landed



### Participation

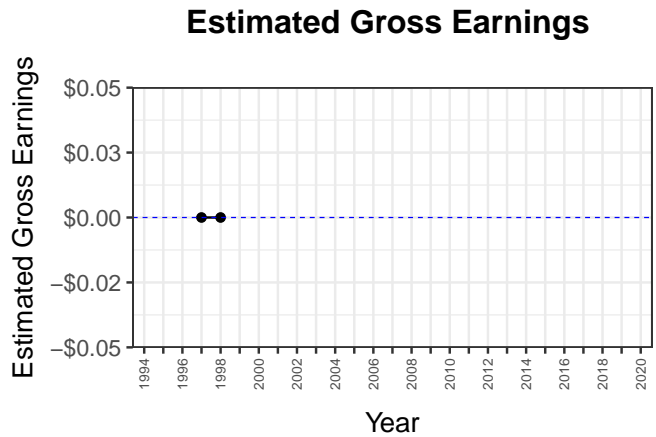
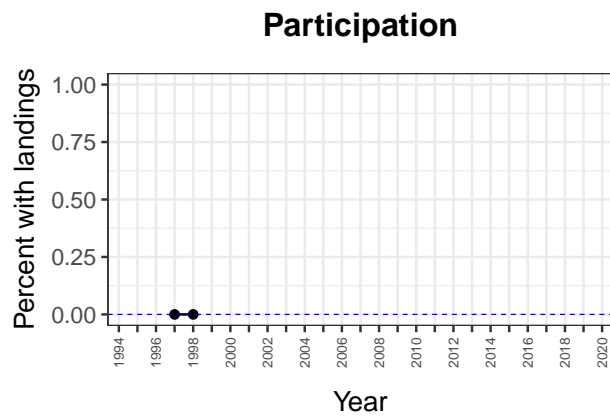
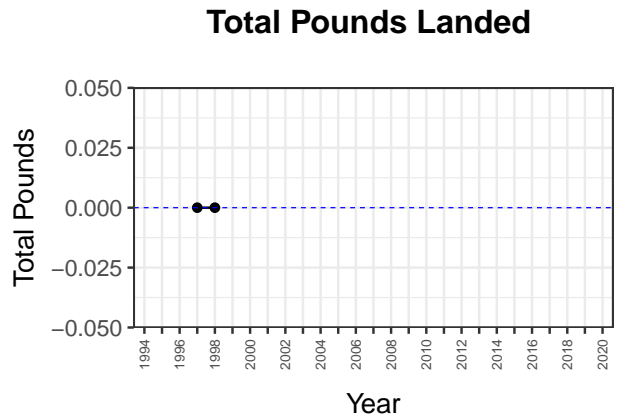
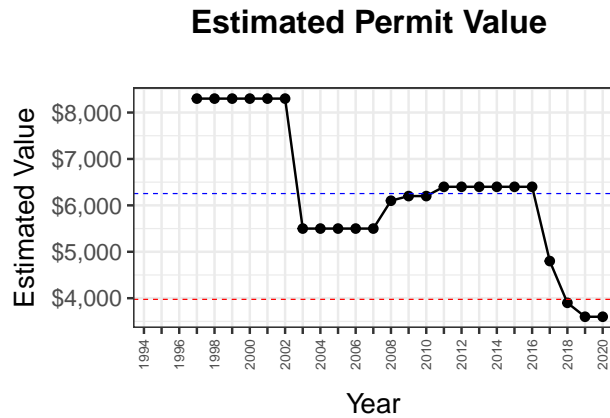


### Estimated Gross Earnings



## Permit Type Summary: D 91H

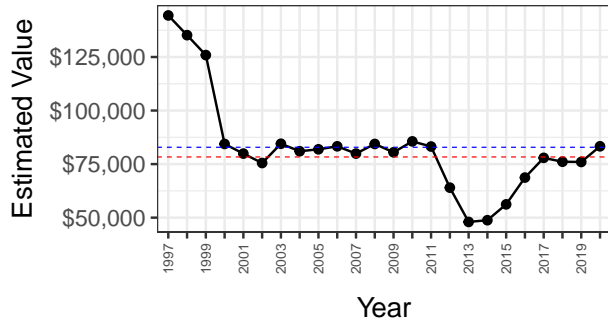
Index of economic health: 27 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.



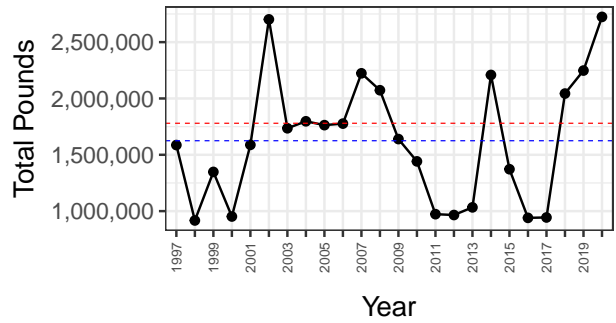
## Permit Type Summary: D 9AA

Index of economic health: 11 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

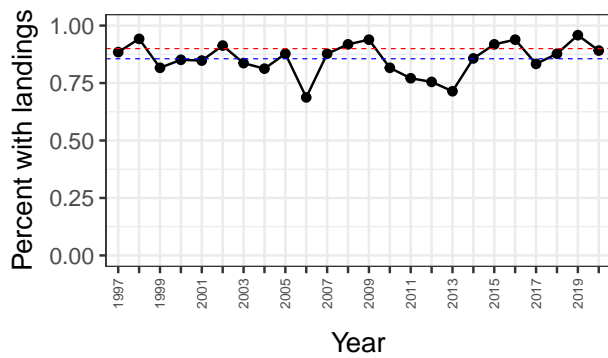
### Estimated Permit Value



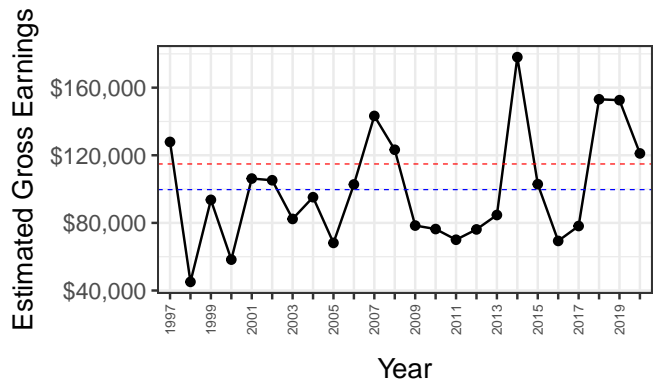
### Total Pounds Landed



### Participation



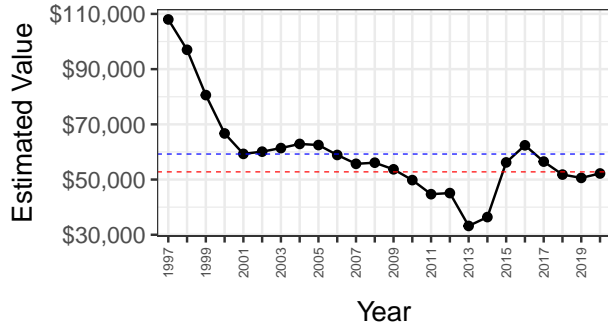
### Estimated Gross Earnings



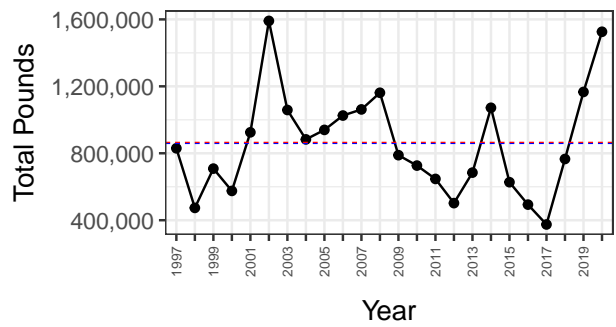
## Permit Type Summary: D 9BA

Index of economic health: 16 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

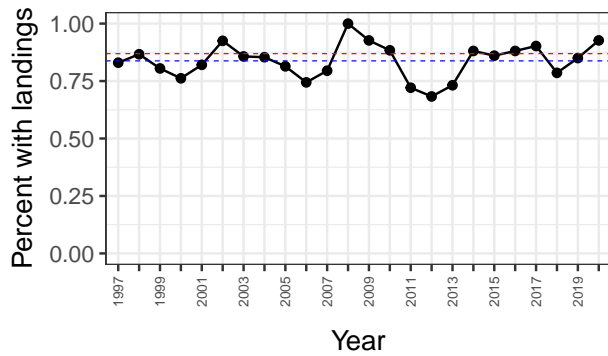
### Estimated Permit Value



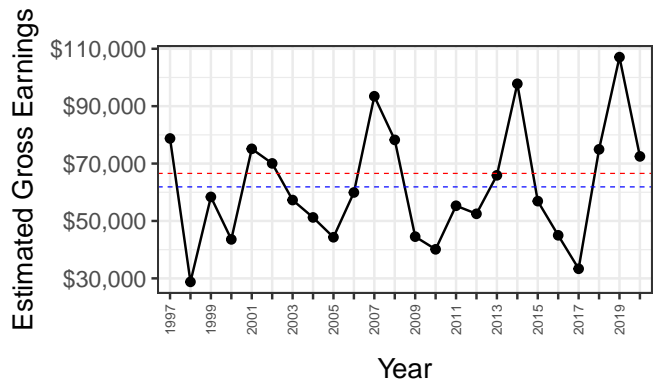
### Total Pounds Landed



### Participation



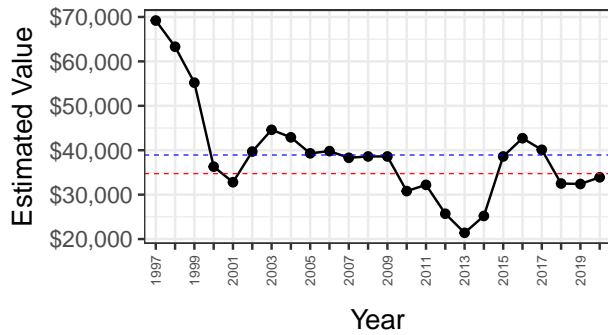
### Estimated Gross Earnings



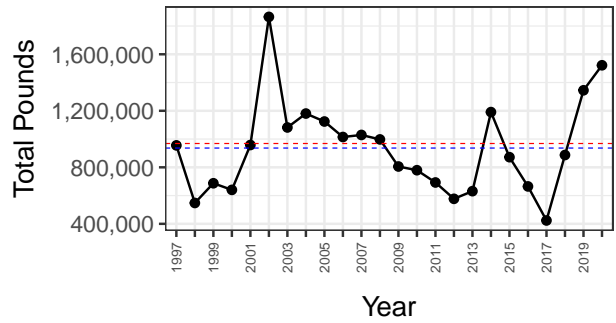
## Permit Type Summary: D 9CA

Index of economic health: 15 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

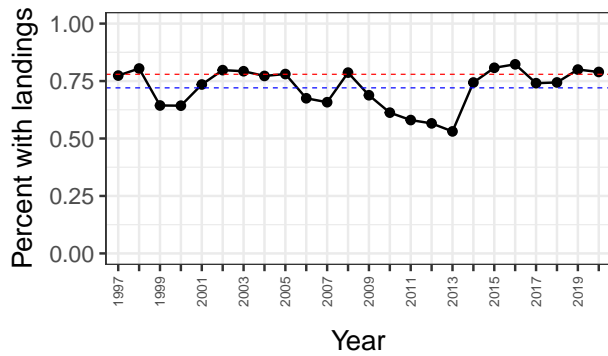
### Estimated Permit Value



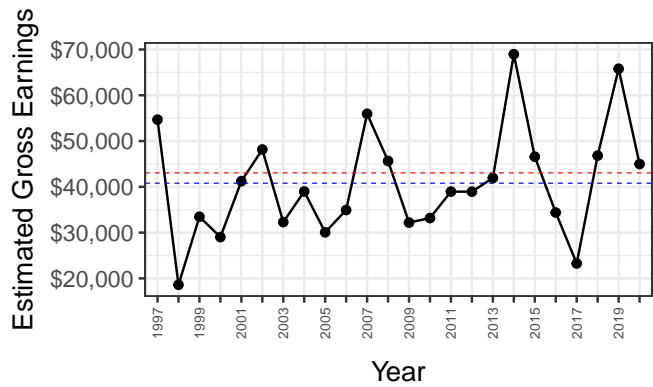
### Total Pounds Landed



### Participation



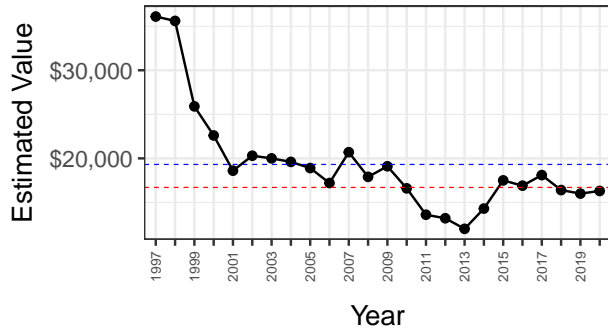
### Estimated Gross Earnings



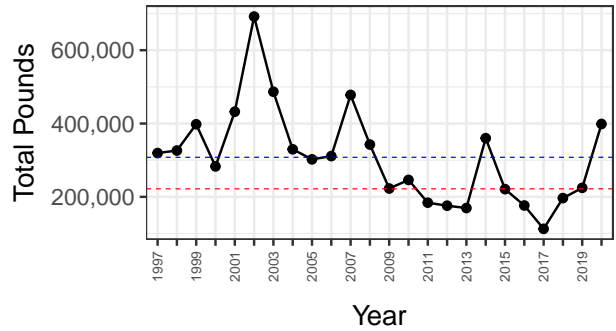
## Permit Type Summary: D 9DA

Index of economic health: 25 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

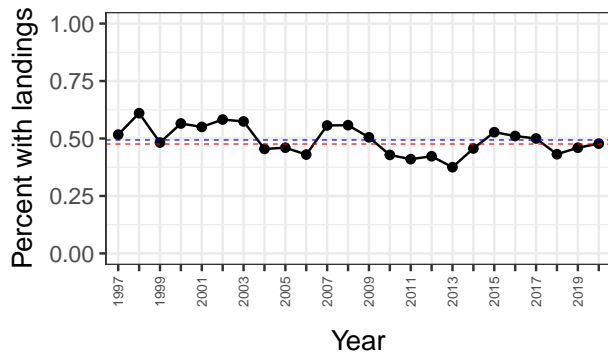
### Estimated Permit Value



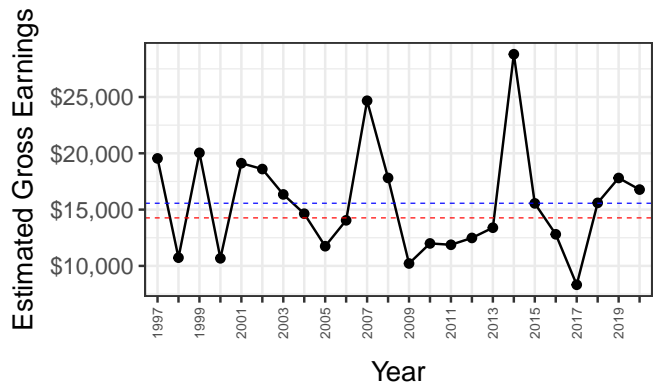
### Total Pounds Landed



### Participation



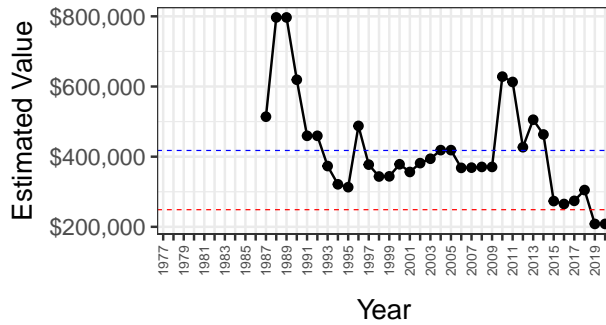
### Estimated Gross Earnings



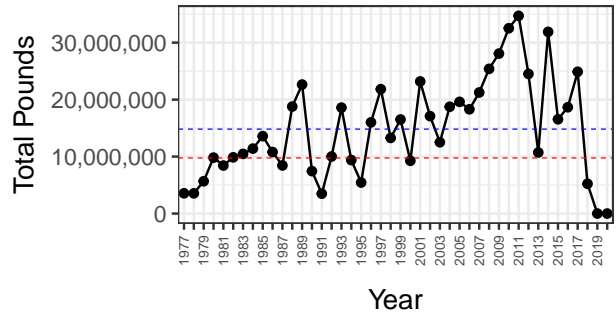
## Permit Type Summary: G 01A

Index of economic health: 55 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

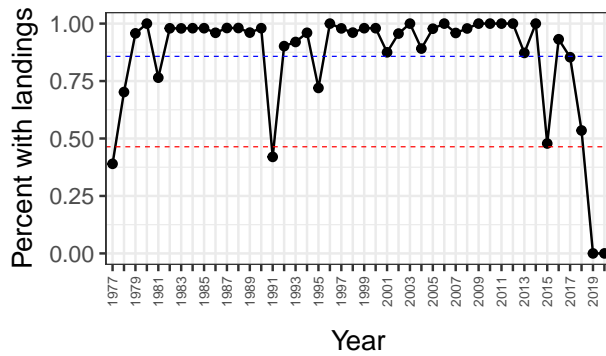
### Estimated Permit Value



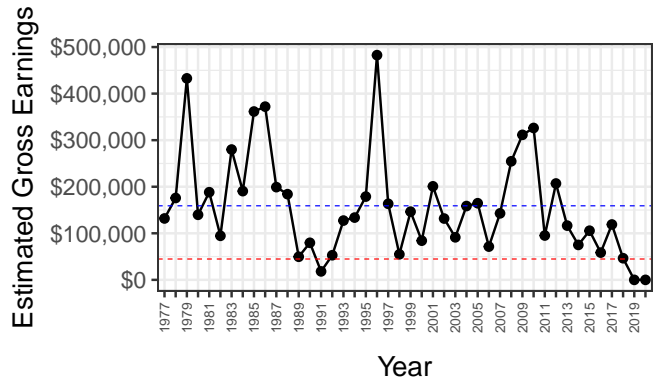
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

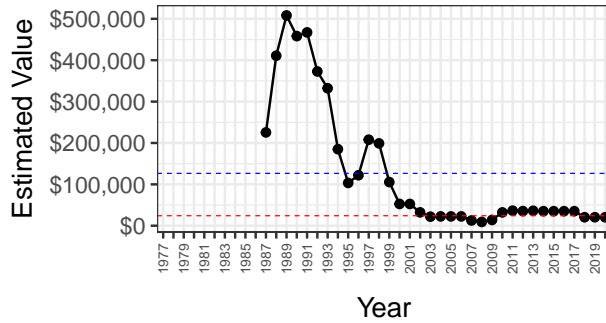




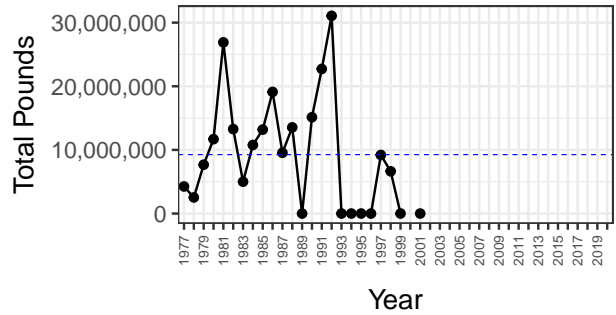
## Permit Type Summary: G 01E

Index of economic health: 40 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

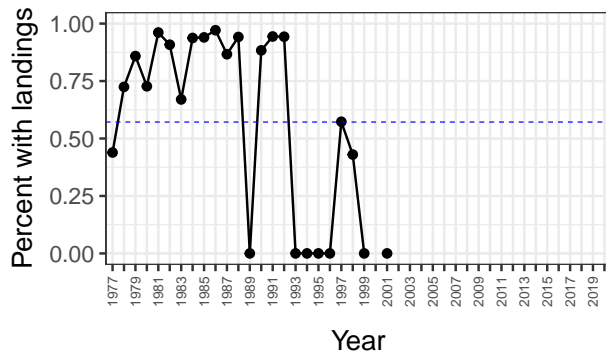
### Estimated Permit Value



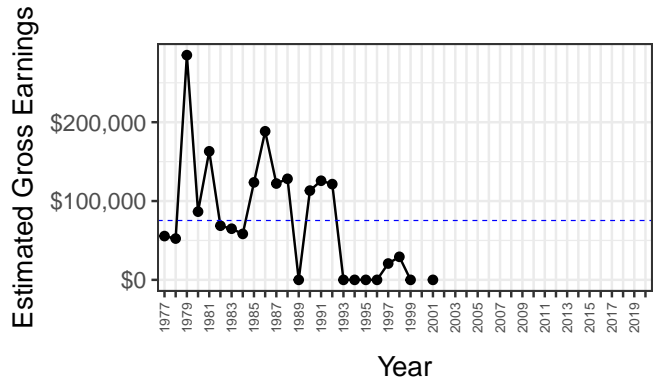
### Total Pounds Landed



### Participation



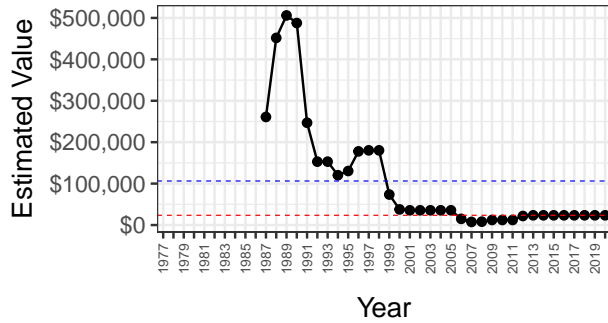
### Estimated Gross Earnings



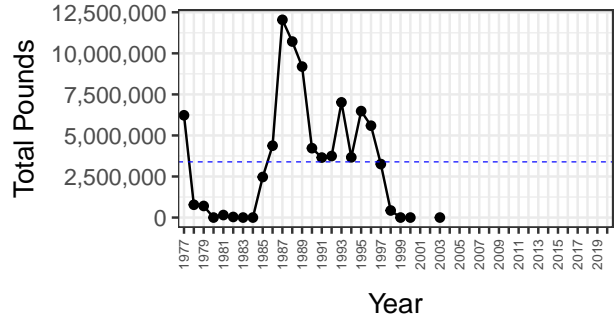
## Permit Type Summary: G 01H

Index of economic health: 39 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

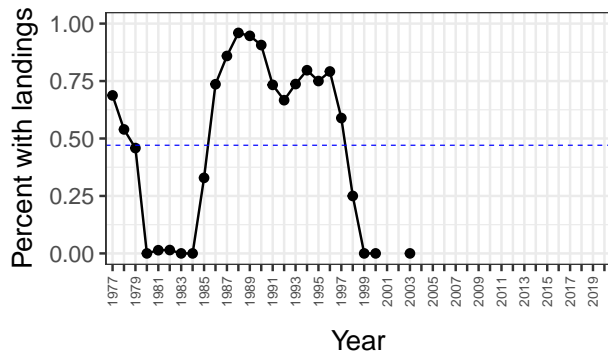
### Estimated Permit Value



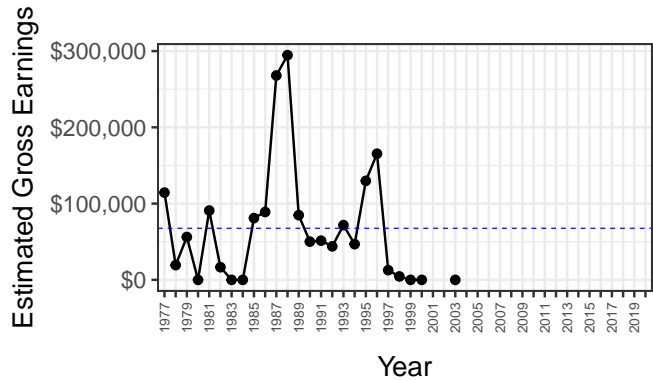
### Total Pounds Landed



### Participation



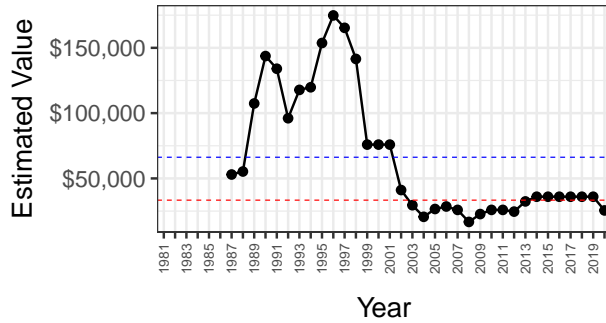
### Estimated Gross Earnings



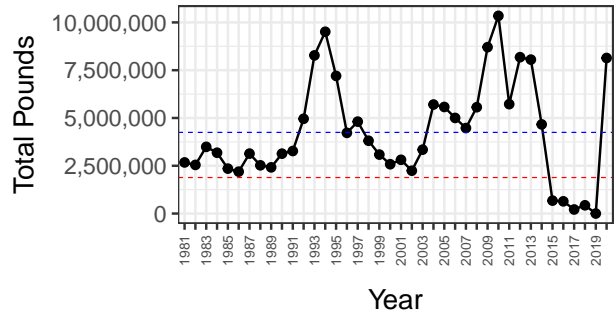
## Permit Type Summary: G 01K

Index of economic health: 58 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

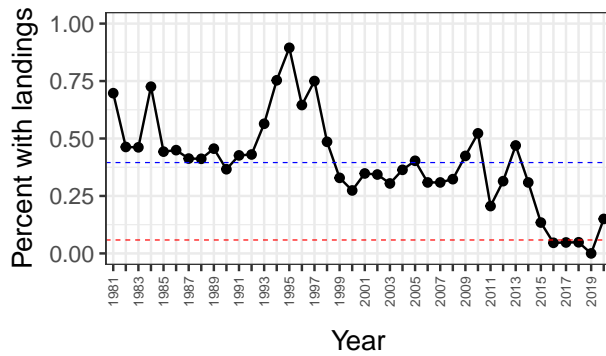
### Estimated Permit Value



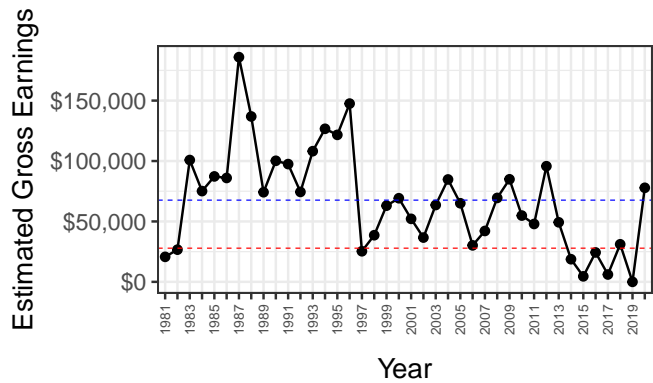
### Total Pounds Landed



### Participation



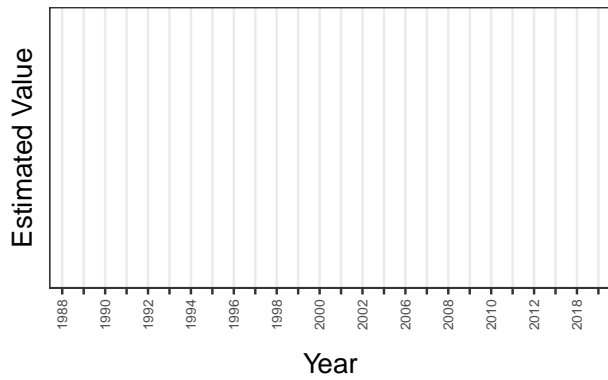
### Estimated Gross Earnings



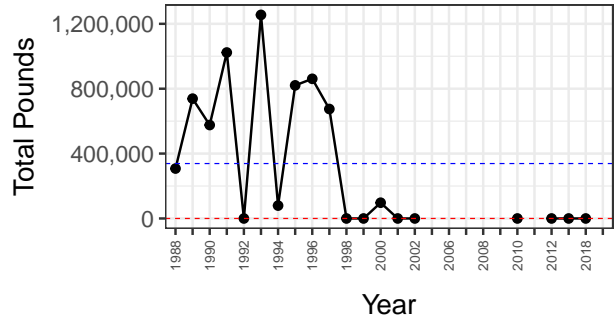
## Permit Type Summary: G 02Z

Index of economic health: 59 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

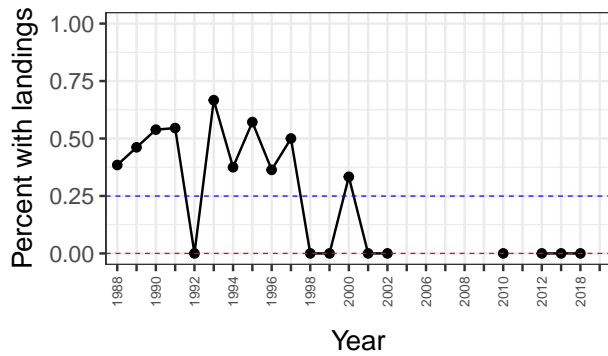
### Estimated Permit Value



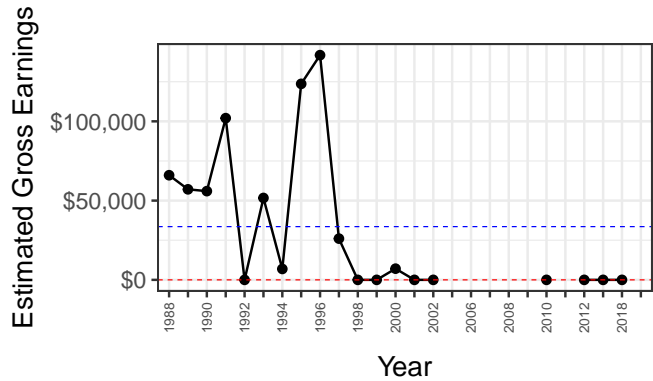
### Total Pounds Landed



### Participation



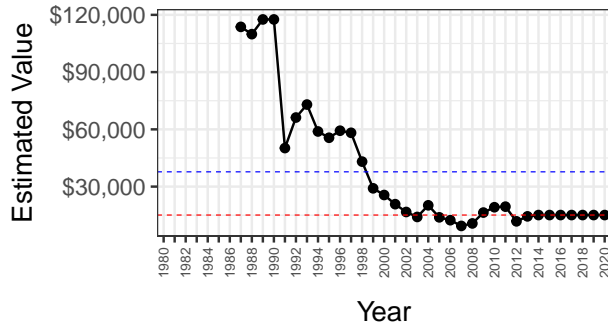
### Estimated Gross Earnings



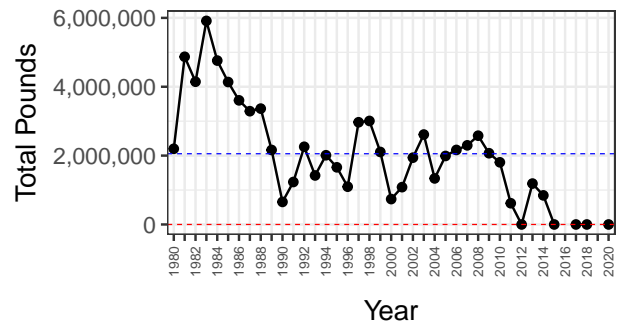
## Permit Type Summary: G 34A

Index of economic health: 66 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

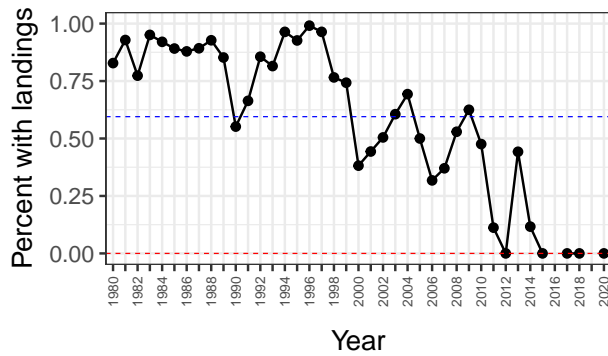
### Estimated Permit Value



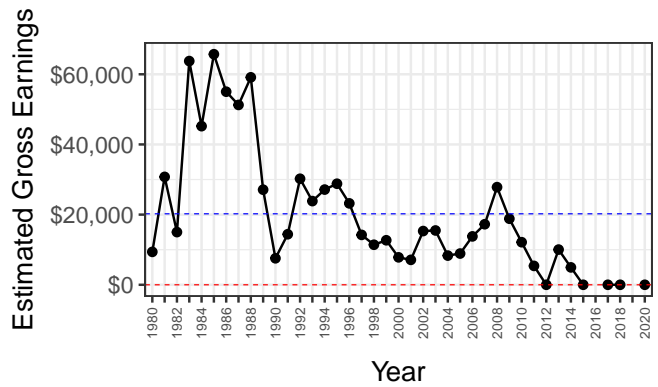
### Total Pounds Landed



### Participation



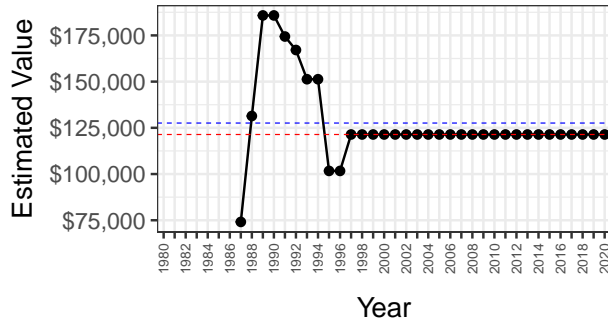
### Estimated Gross Earnings



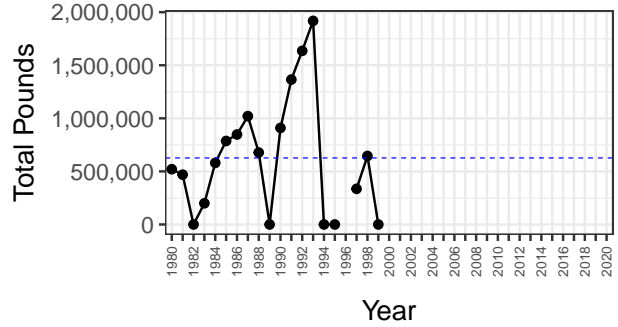
## Permit Type Summary: G 34E

Index of economic health: 17 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

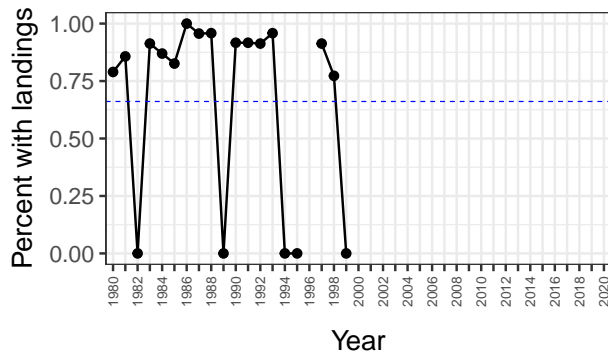
### Estimated Permit Value



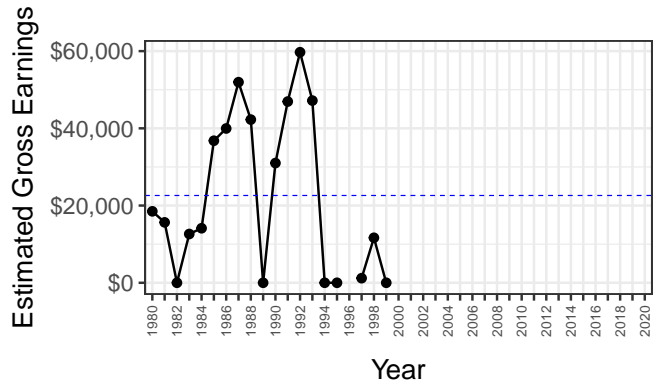
### Total Pounds Landed



### Participation



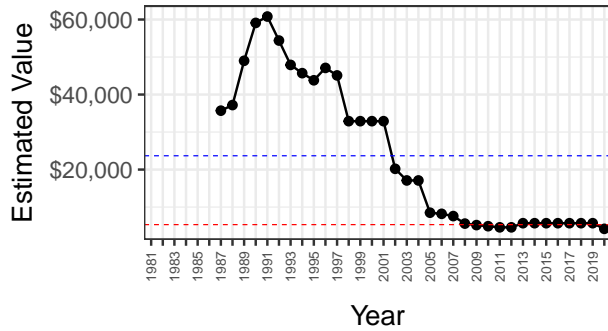
### Estimated Gross Earnings



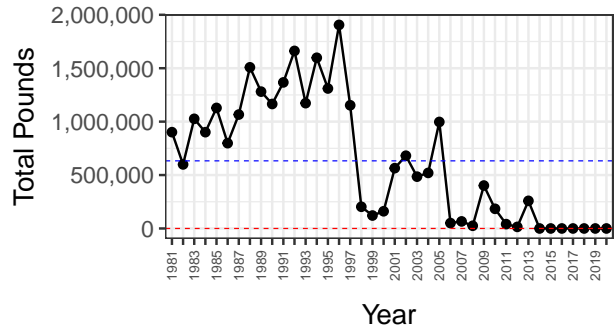
## Permit Type Summary: G 34K

Index of economic health: 67 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

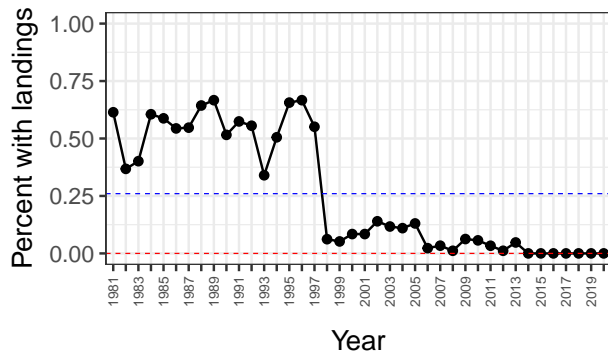
### Estimated Permit Value



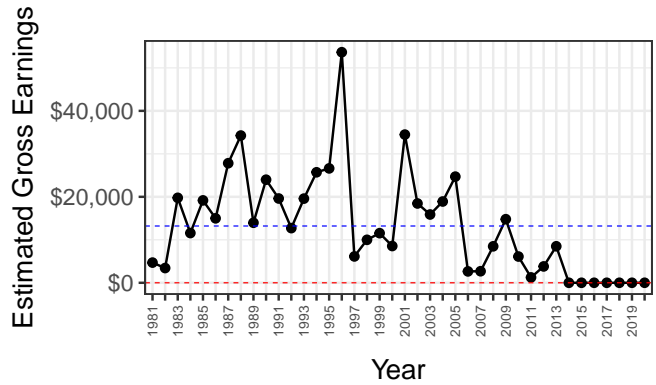
### Total Pounds Landed



### Participation



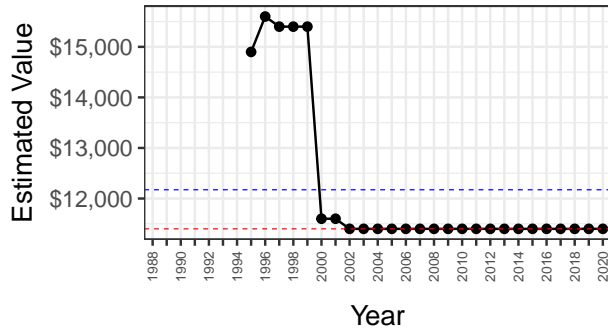
### Estimated Gross Earnings



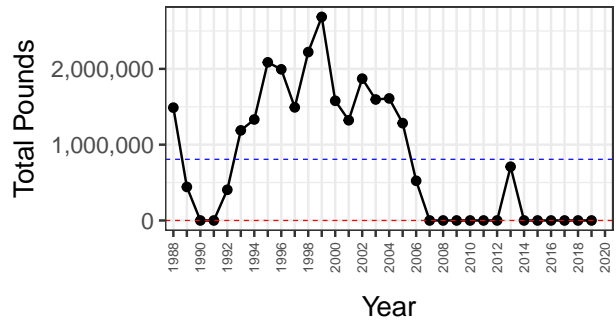
## Permit Type Summary: G 34N

Index of economic health: 62 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

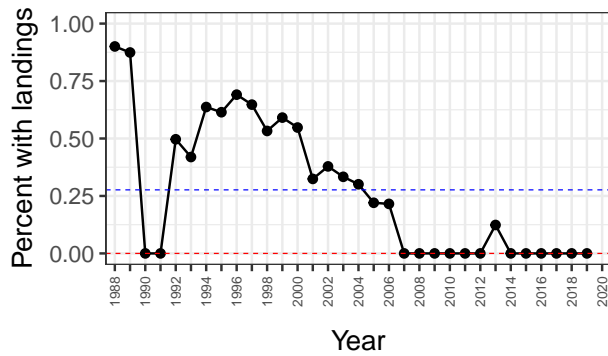
### Estimated Permit Value



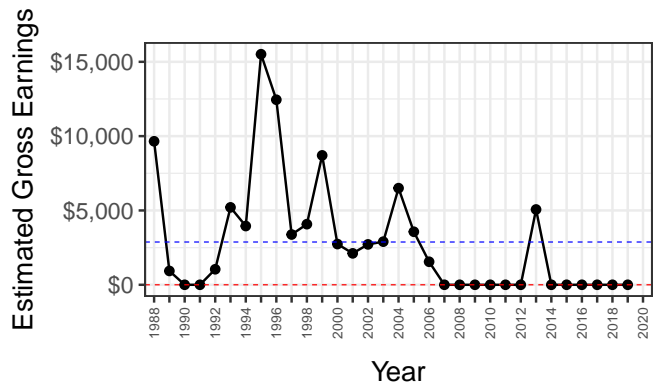
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

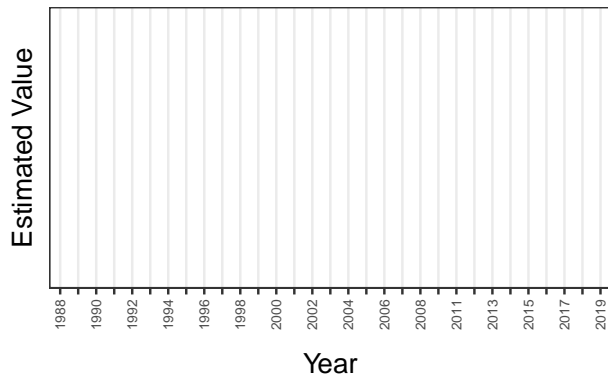




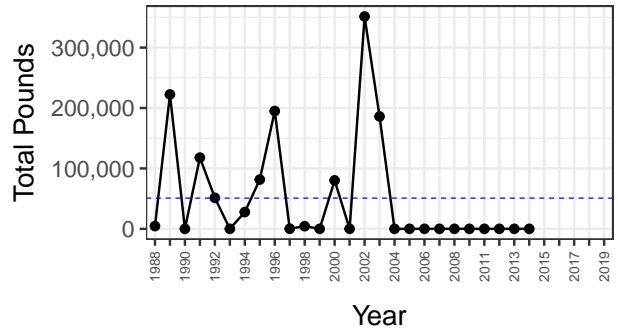
## Permit Type Summary: G 34U

Index of economic health: of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

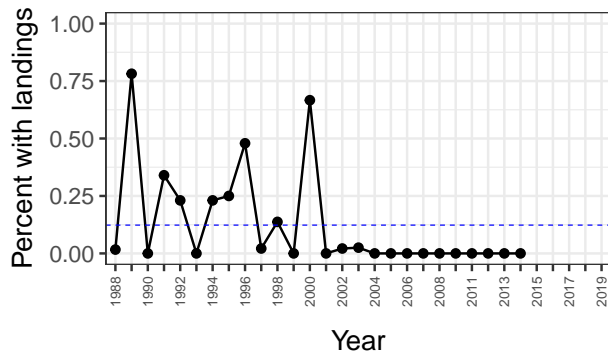
### Estimated Permit Value



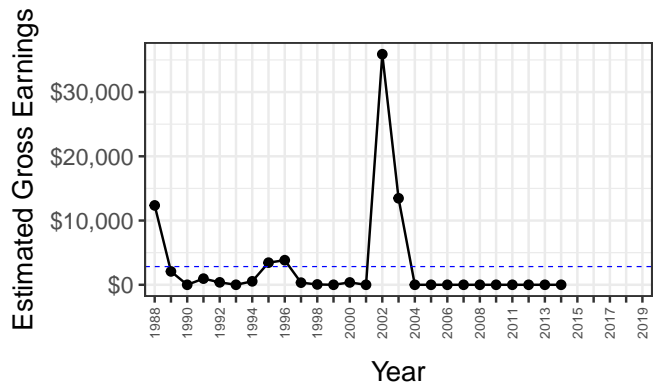
### Total Pounds Landed



### Participation



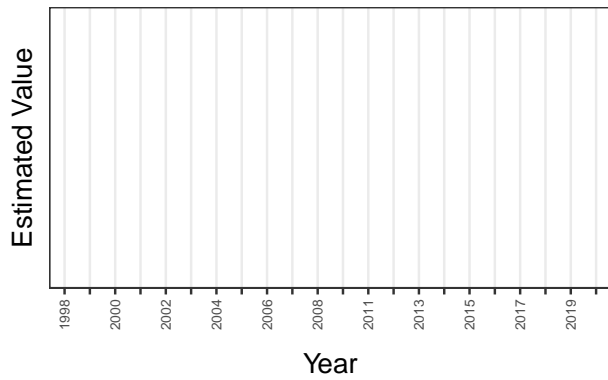
### Estimated Gross Earnings



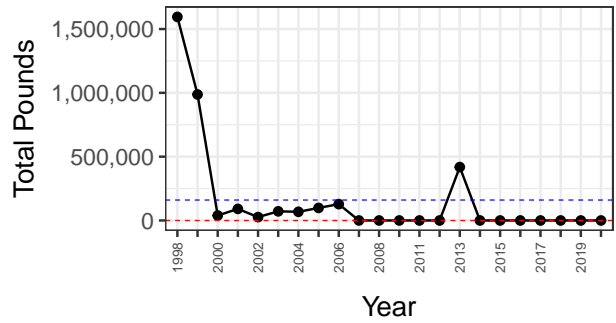
## Permit Type Summary: G 34W

Index of economic health: 60 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

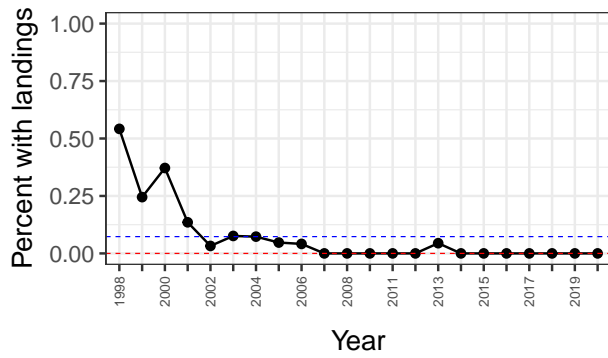
### Estimated Permit Value



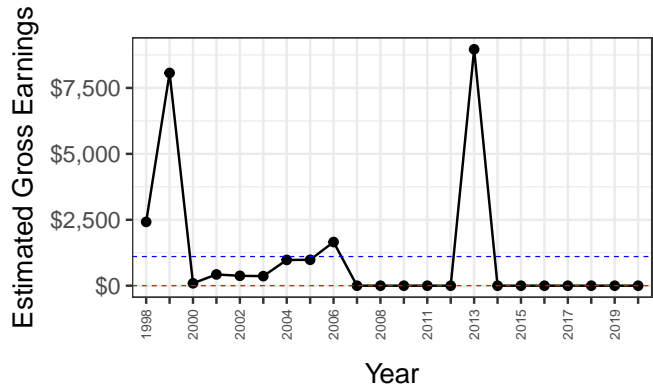
### Total Pounds Landed



### Participation



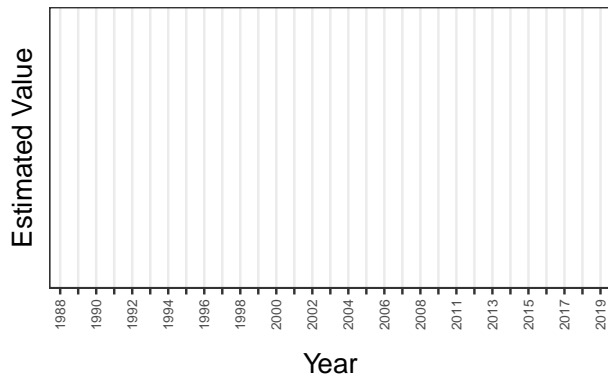
### Estimated Gross Earnings



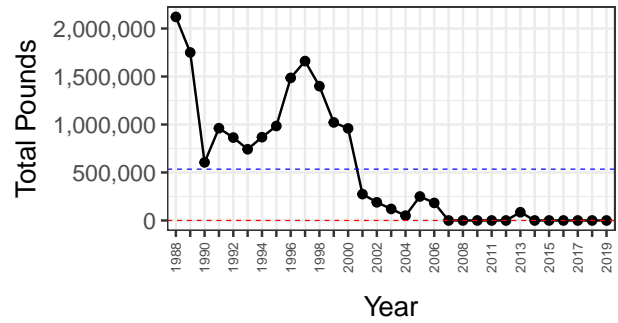
## Permit Type Summary: G 34Y

Index of economic health: 61 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

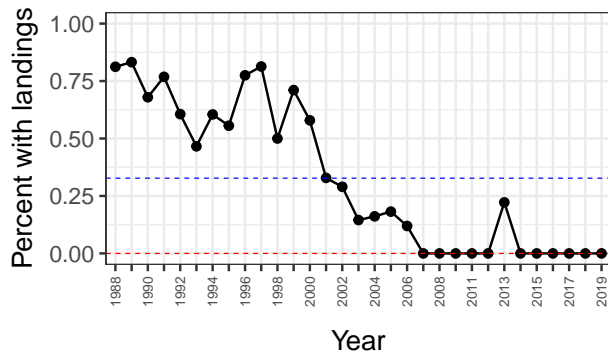
### Estimated Permit Value



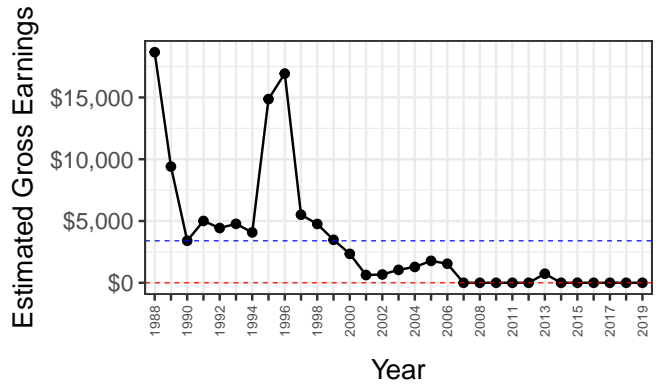
### Total Pounds Landed



### Participation



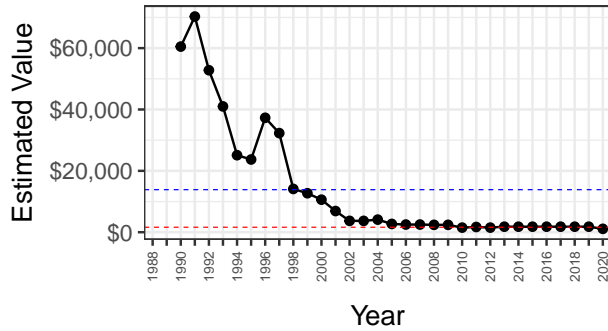
### Estimated Gross Earnings



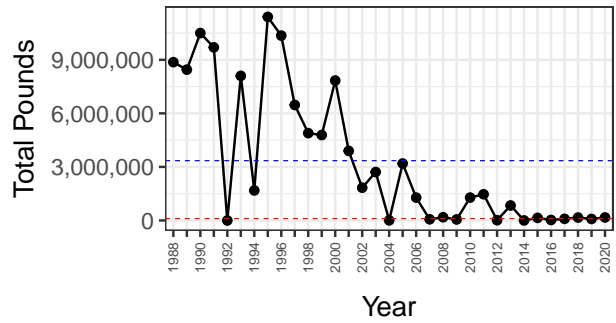
## Permit Type Summary: G 34Z

Index of economic health: 63 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

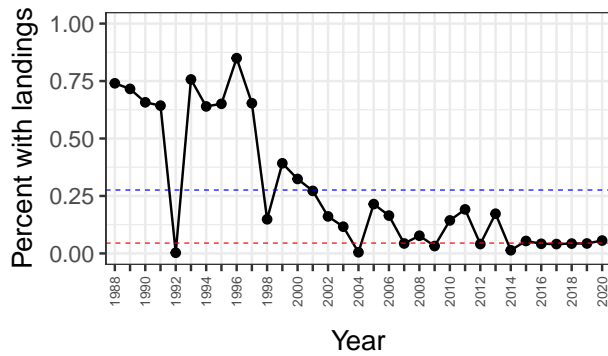
### Estimated Permit Value



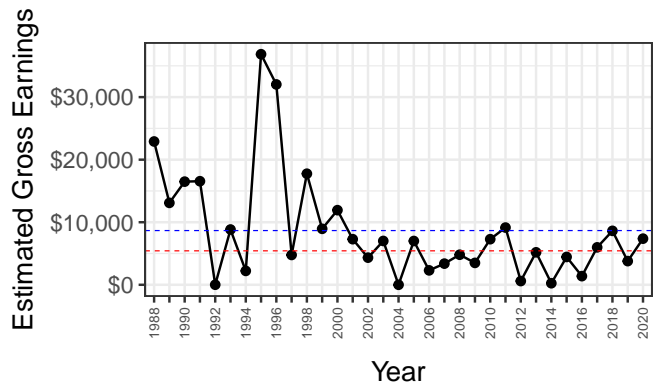
### Total Pounds Landed



### Participation



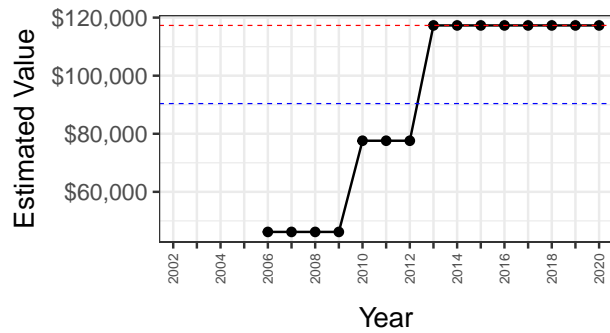
### Estimated Gross Earnings



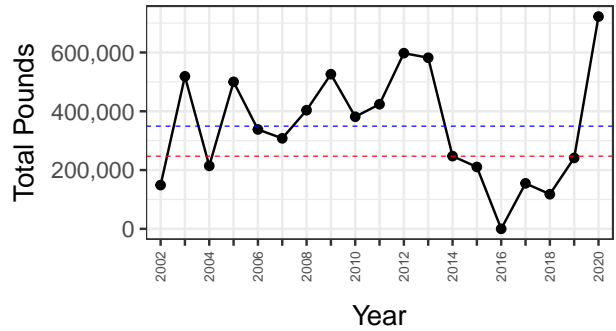
## Permit Type Summary: H 1DK

Index of economic health: 23 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

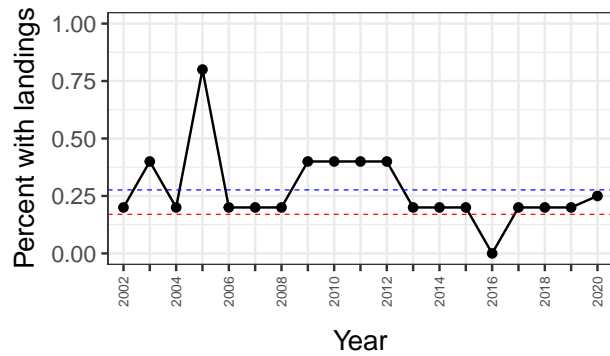
### Estimated Permit Value



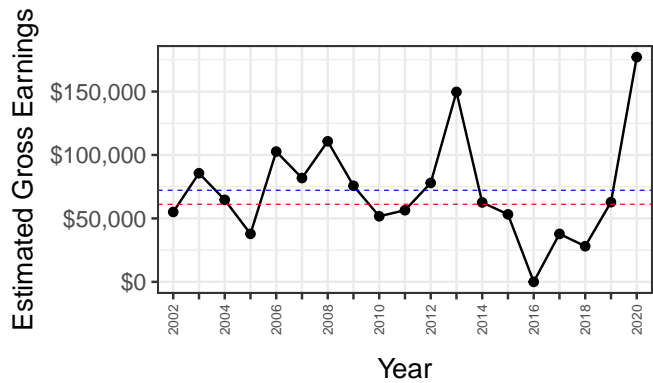
### Total Pounds Landed



### Participation



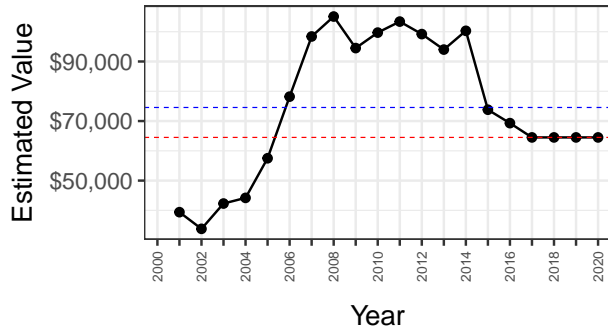
### Estimated Gross Earnings



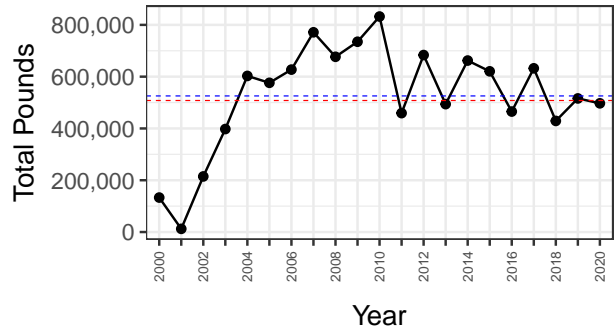
## Permit Type Summary: J 11A

Index of economic health: 14 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

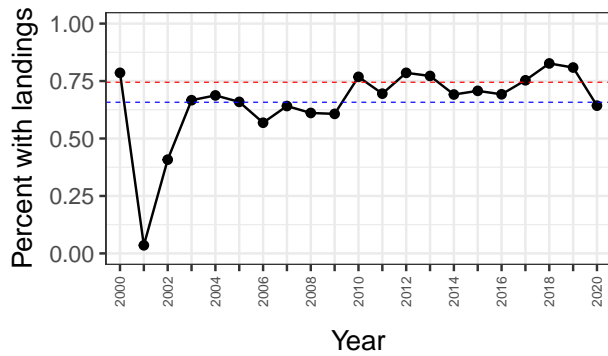
### Estimated Permit Value



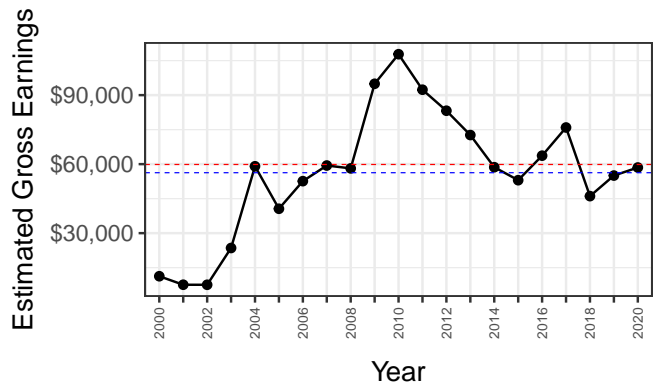
### Total Pounds Landed



### Participation



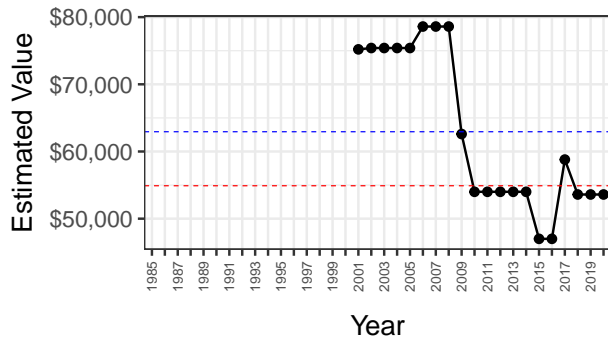
### Estimated Gross Earnings



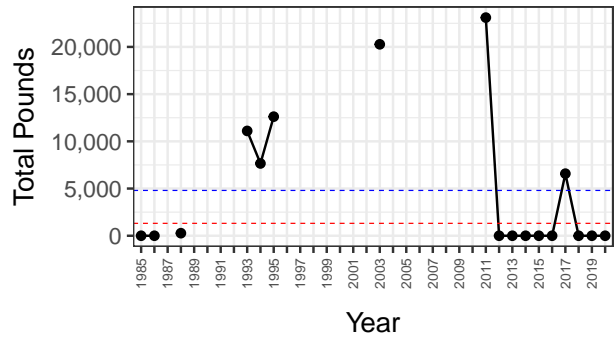
## Permit Type Summary: K 19A

Index of economic health: 51 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

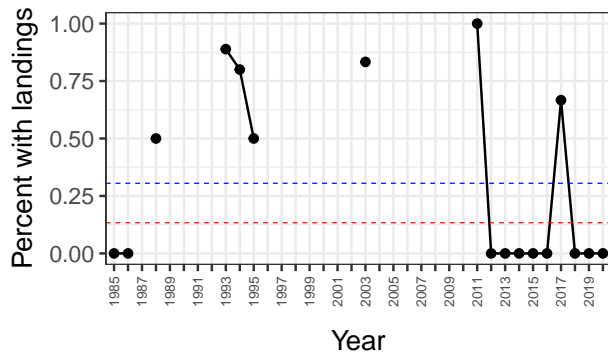
### Estimated Permit Value



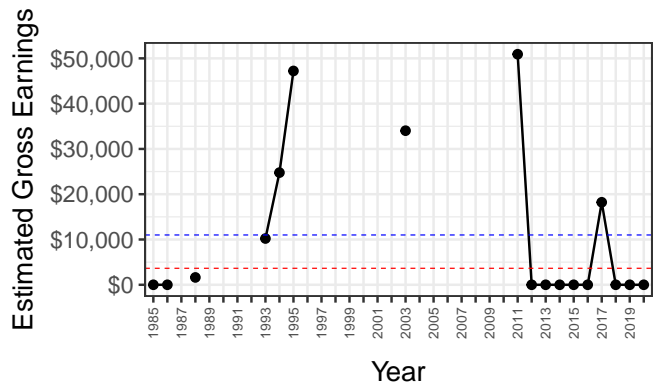
### Total Pounds Landed



### Participation



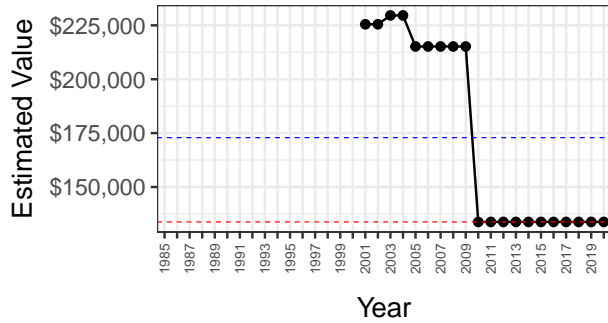
### Estimated Gross Earnings



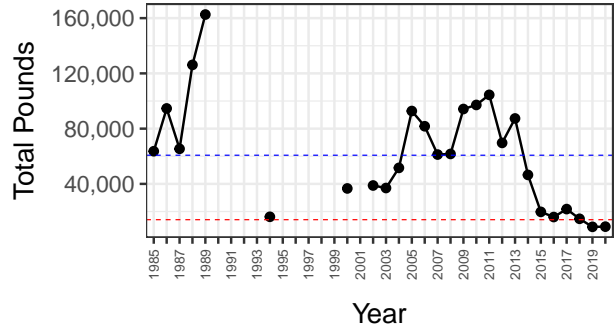
## Permit Type Summary: K 29A

Index of economic health: 44 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

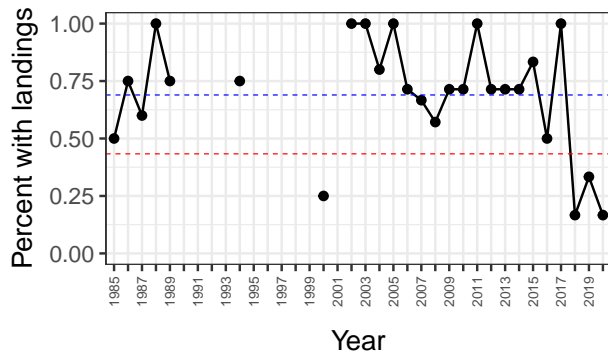
### Estimated Permit Value



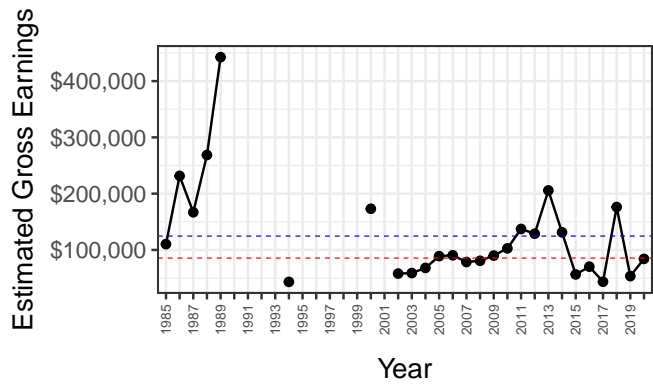
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

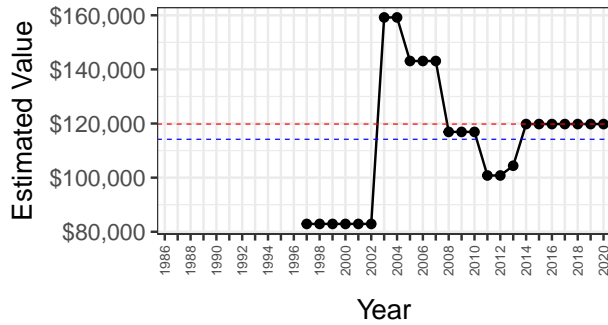




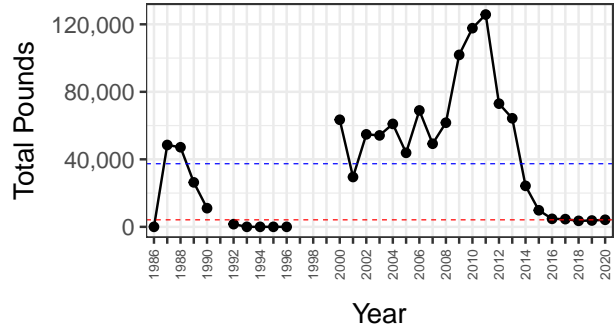
## Permit Type Summary: K 39A

Index of economic health: 46 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

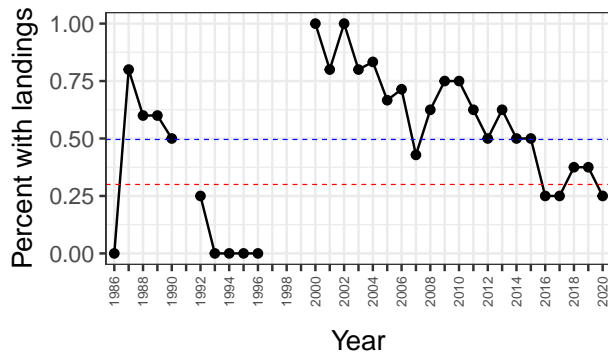
### Estimated Permit Value



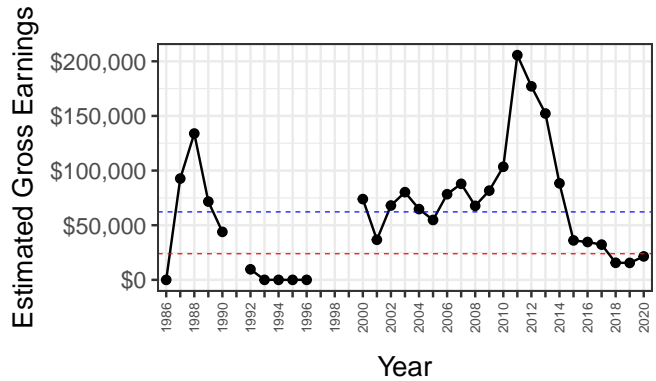
### Total Pounds Landed



### Participation



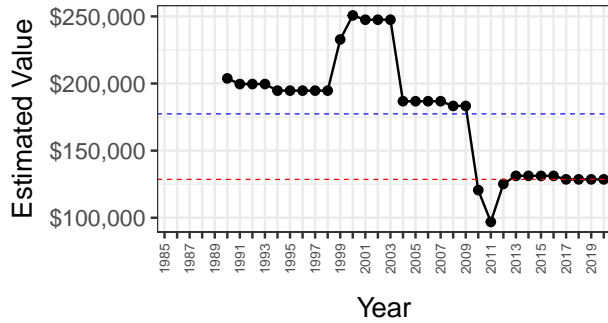
### Estimated Gross Earnings



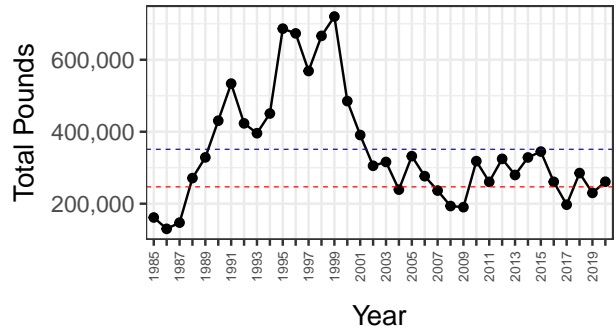
## Permit Type Summary: K 49A

Index of economic health: 28 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

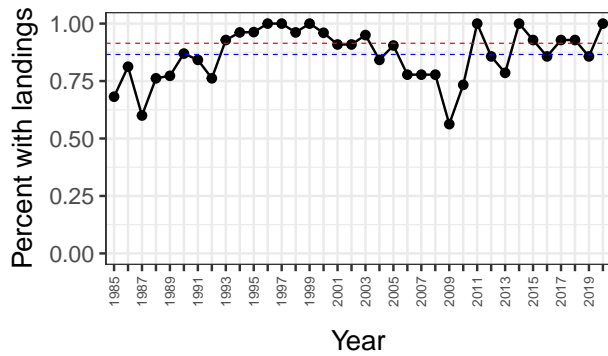
### Estimated Permit Value



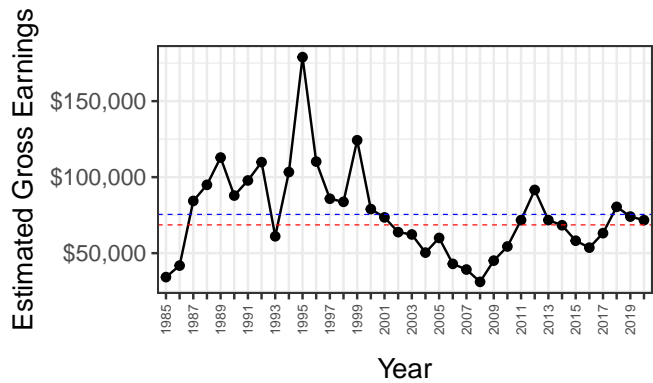
### Total Pounds Landed



### Participation



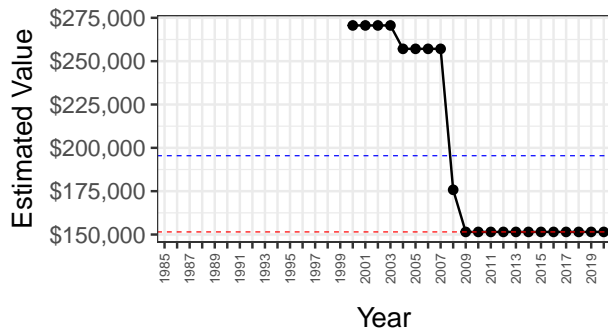
### Estimated Gross Earnings



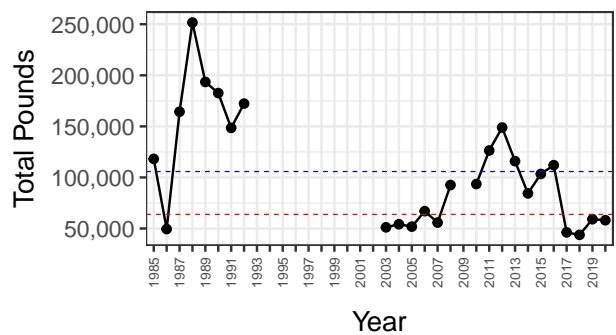
## Permit Type Summary: K 59A

Index of economic health: 34 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

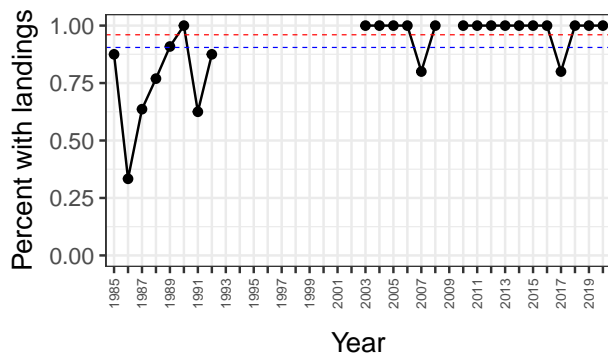
### Estimated Permit Value



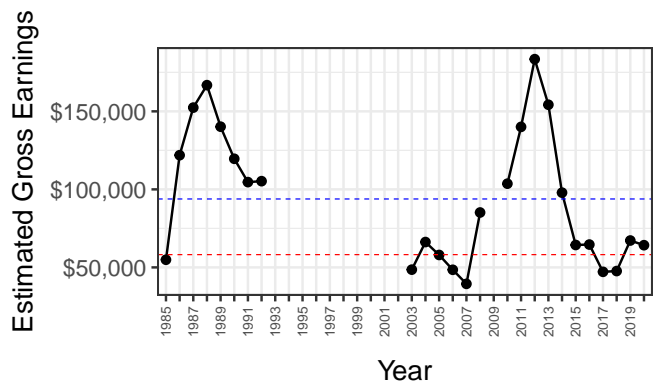
### Total Pounds Landed



### Participation



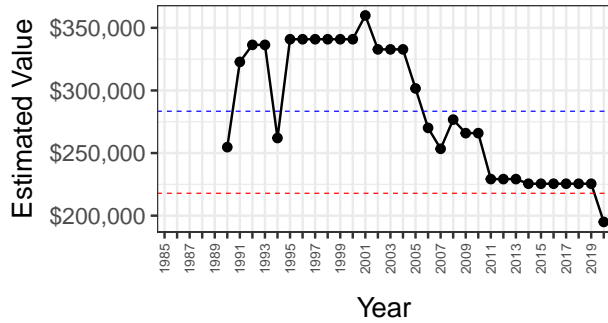
### Estimated Gross Earnings



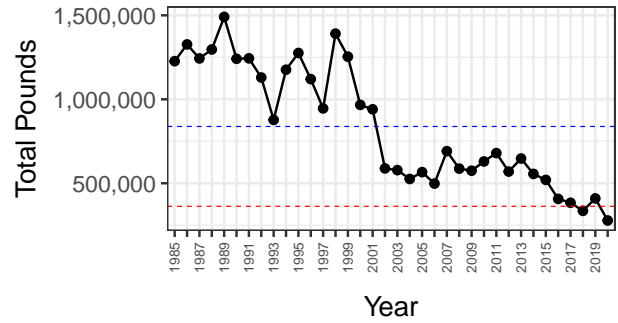
## Permit Type Summary: K 69A

Index of economic health: 38 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

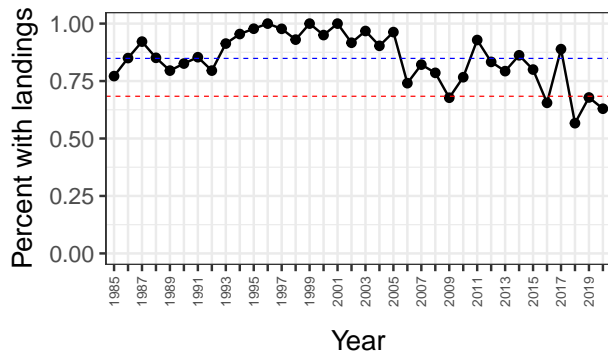
### Estimated Permit Value



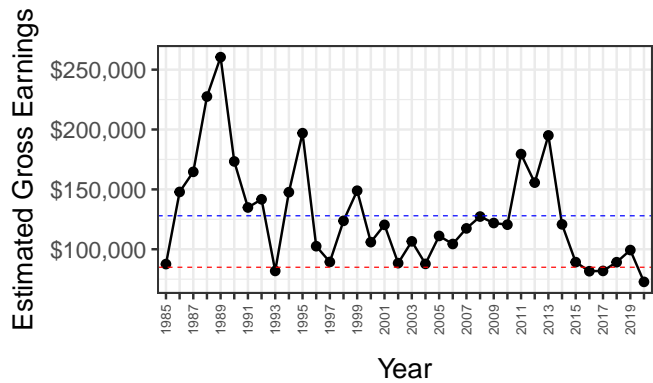
### Total Pounds Landed



### Participation



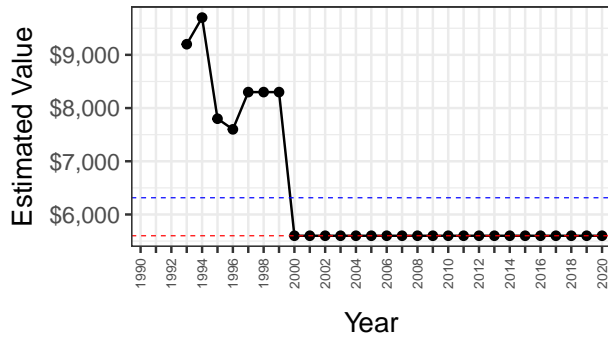
### Estimated Gross Earnings



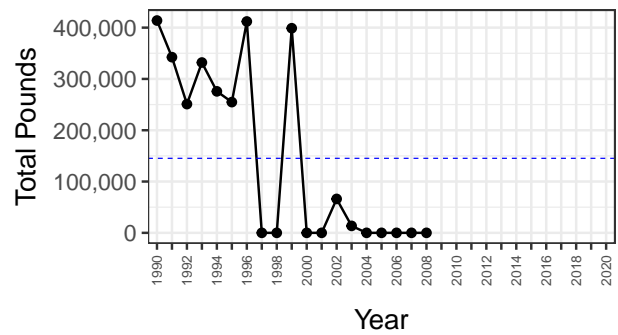
## Permit Type Summary: L 12T

Index of economic health: 20 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

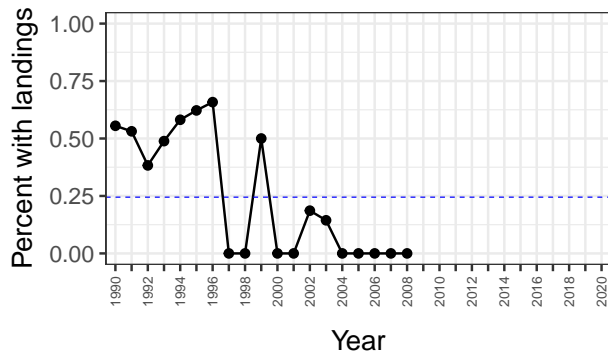
### Estimated Permit Value



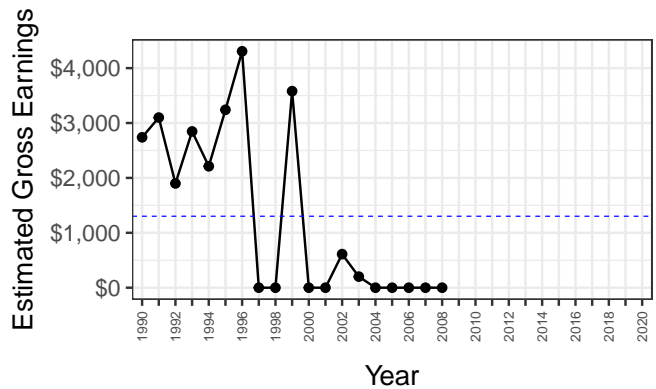
### Total Pounds Landed



### Participation



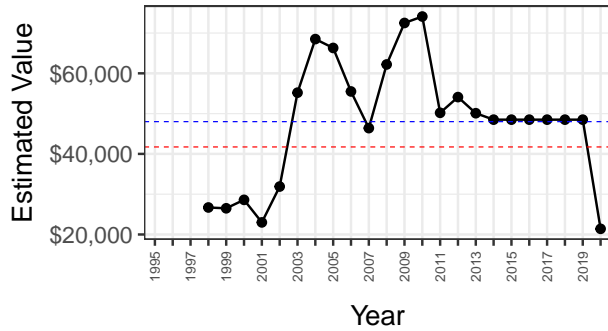
### Estimated Gross Earnings



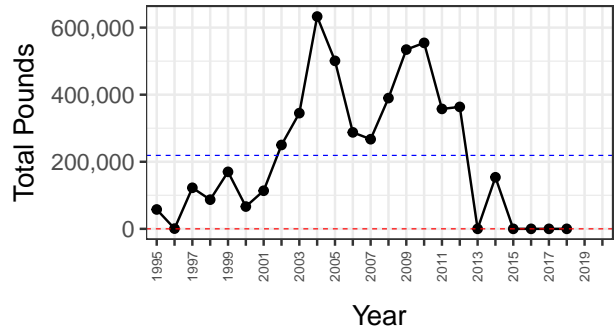
## Permit Type Summary: L 21A

Index of economic health: 64 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

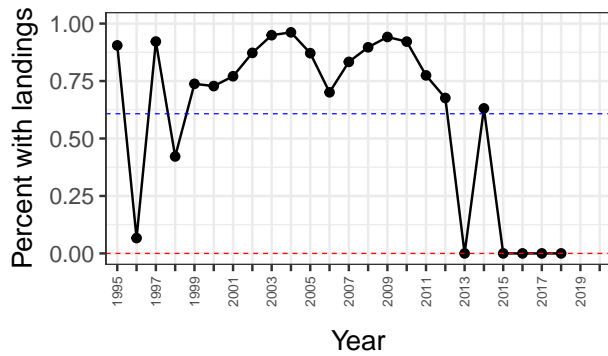
### Estimated Permit Value



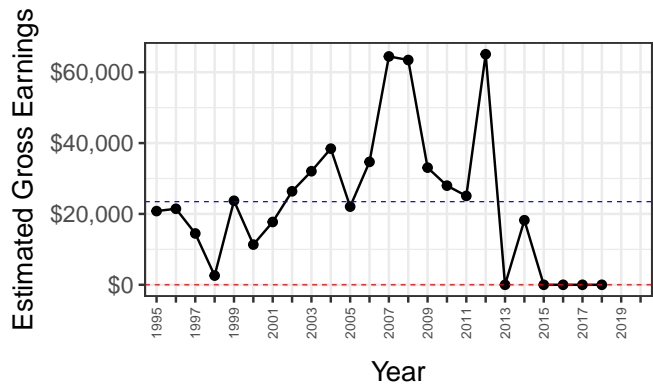
### Total Pounds Landed



### Participation



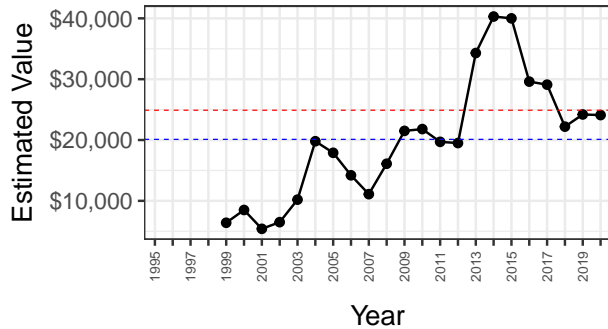
### Estimated Gross Earnings



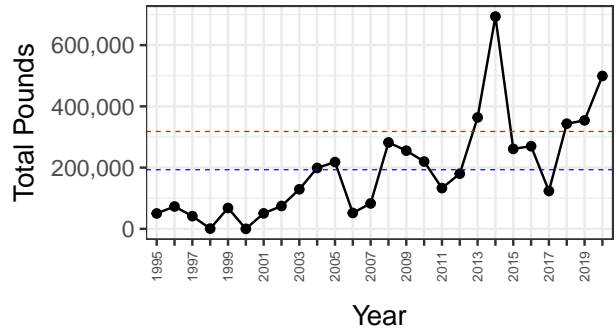
## Permit Type Summary: L 21C

Index of economic health: 4 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

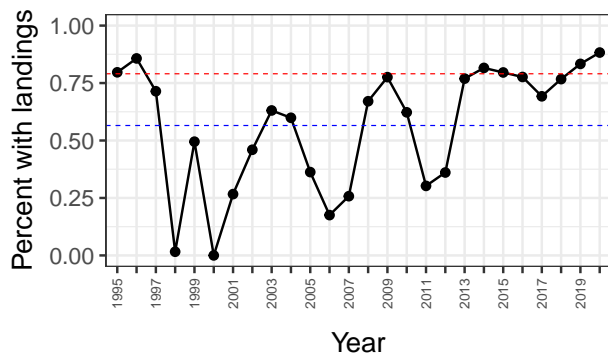
### Estimated Permit Value



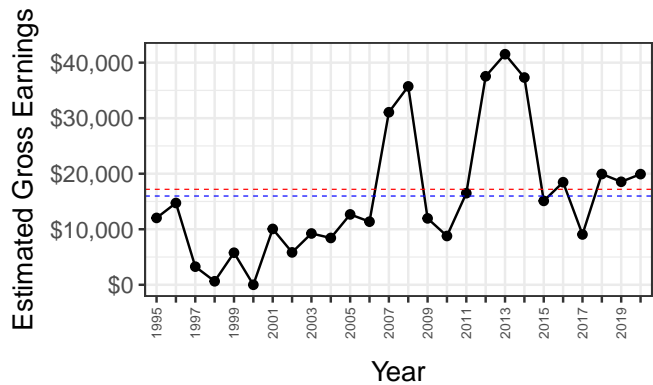
### Total Pounds Landed



### Participation



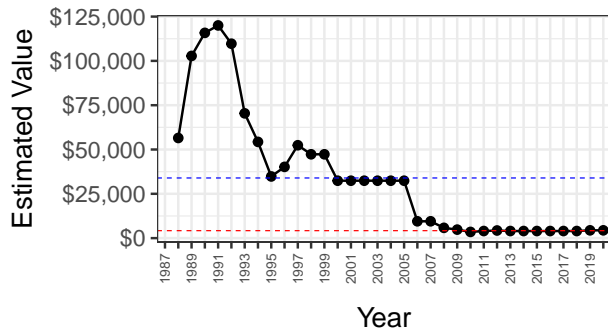
### Estimated Gross Earnings



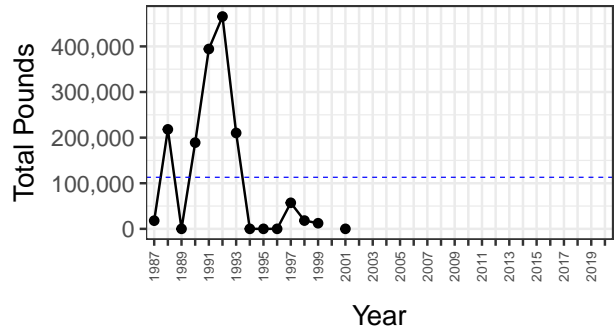
## Permit Type Summary: L 21E

Index of economic health: 42 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

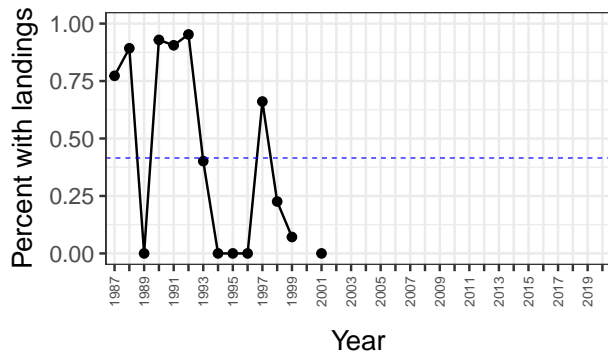
### Estimated Permit Value



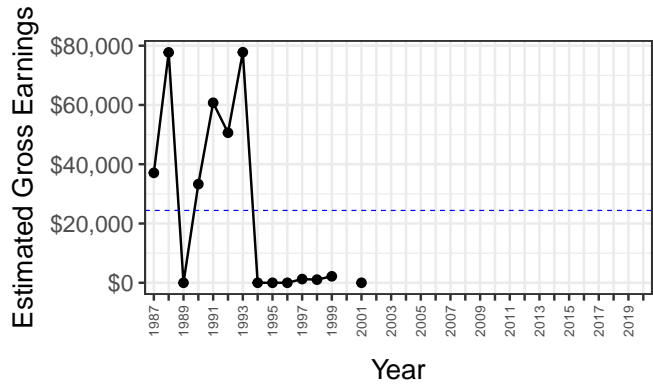
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

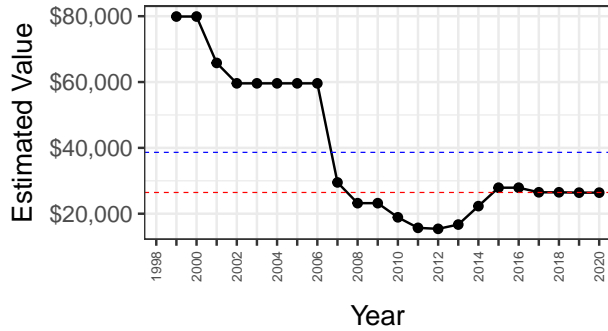




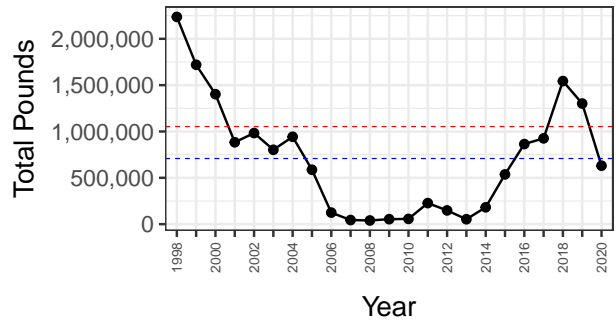
## Permit Type Summary: P 17A

Index of economic health: 7 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

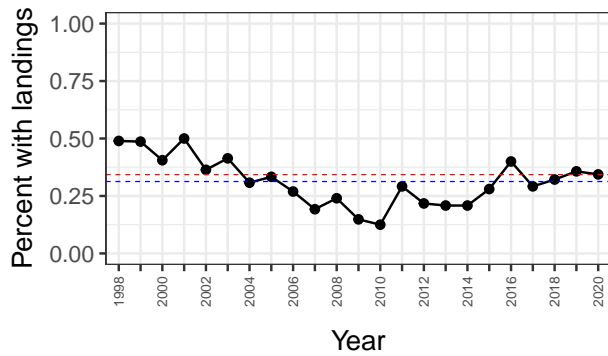
### Estimated Permit Value



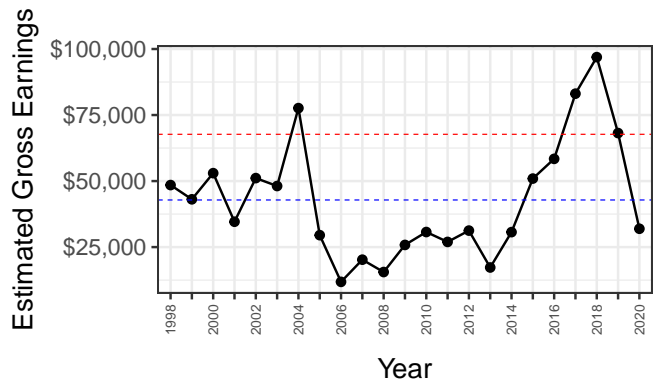
### Total Pounds Landed



### Participation



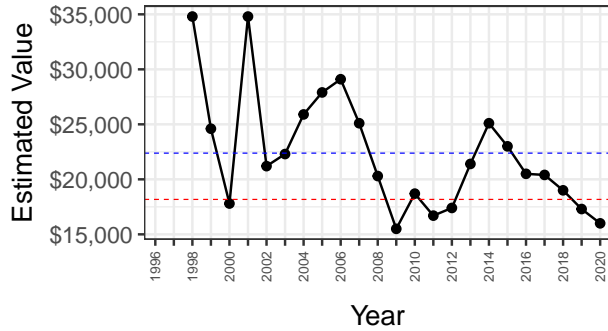
### Estimated Gross Earnings



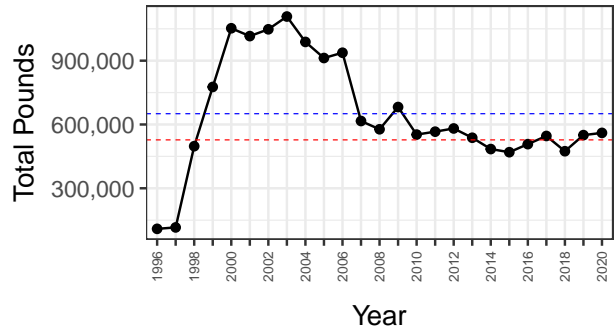
## Permit Type Summary: P 91A

Index of economic health: 22 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

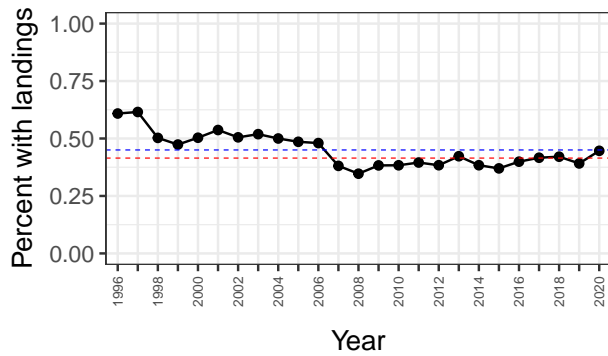
### Estimated Permit Value



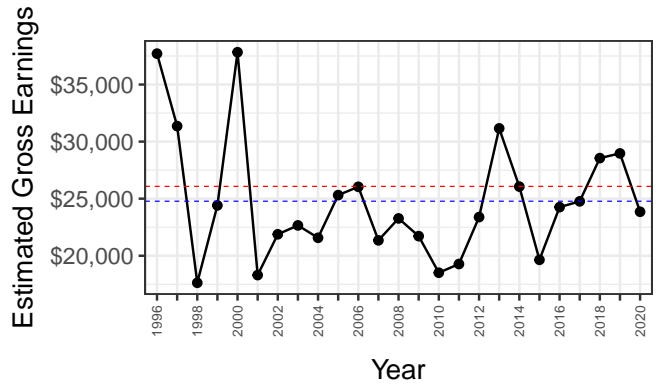
### Total Pounds Landed



### Participation



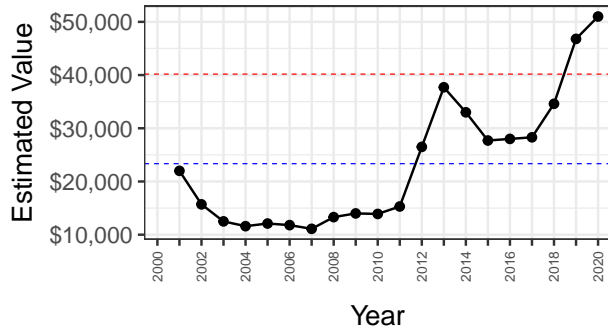
### Estimated Gross Earnings



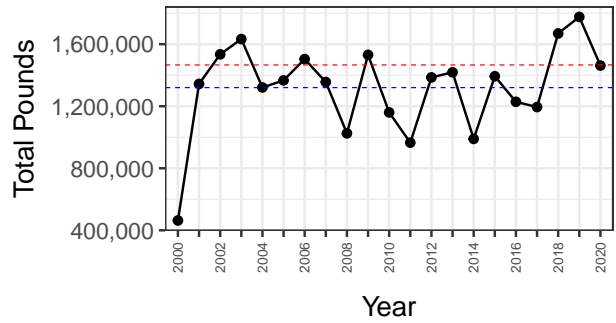
## Permit Type Summary: Q 11A

Index of economic health: 1 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

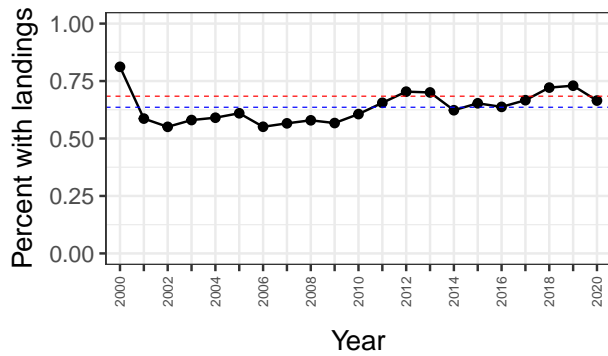
### Estimated Permit Value



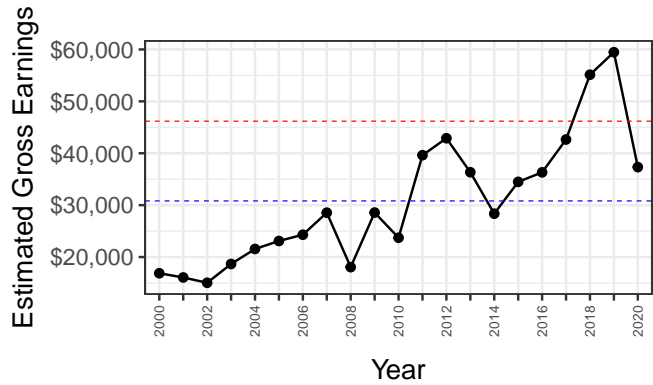
### Total Pounds Landed



### Participation



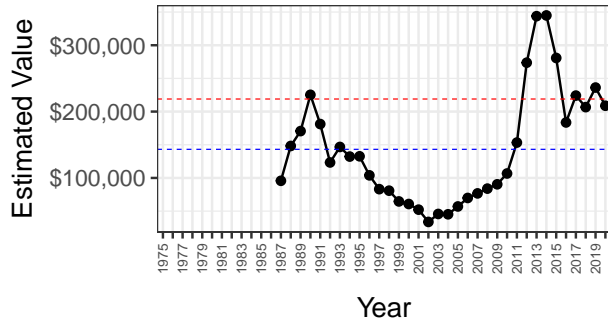
### Estimated Gross Earnings



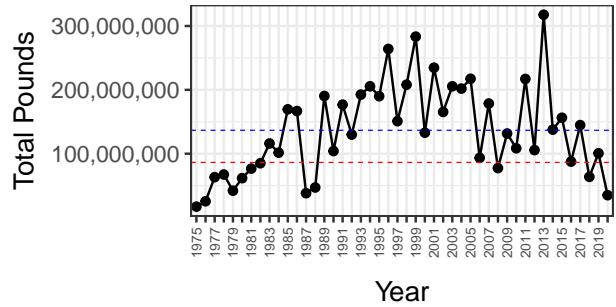
## Permit Type Summary: S 01A

Index of economic health: 9 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

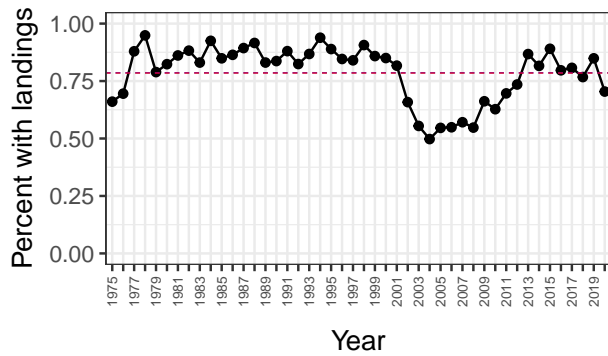
### Estimated Permit Value



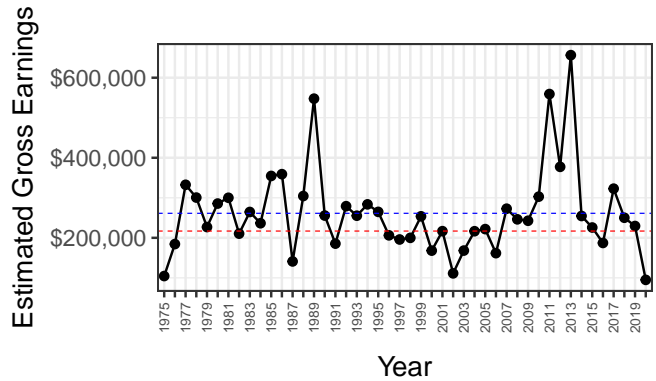
### Total Pounds Landed



### Participation



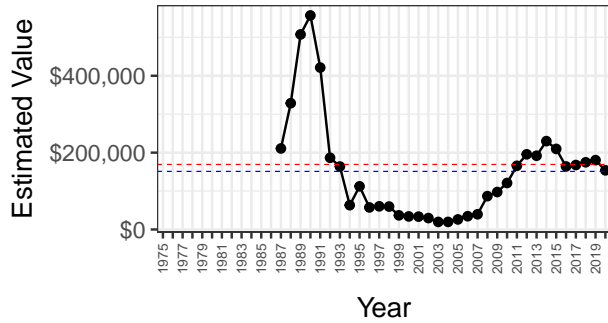
### Estimated Gross Earnings



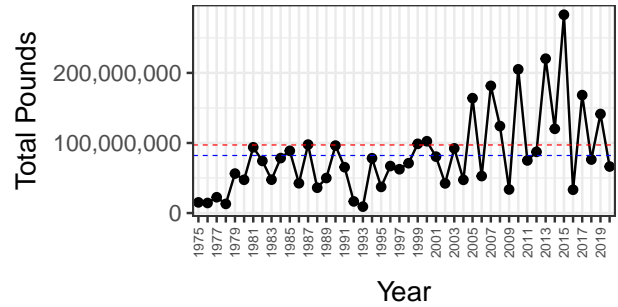
## Permit Type Summary: S 01E

Index of economic health: 10 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

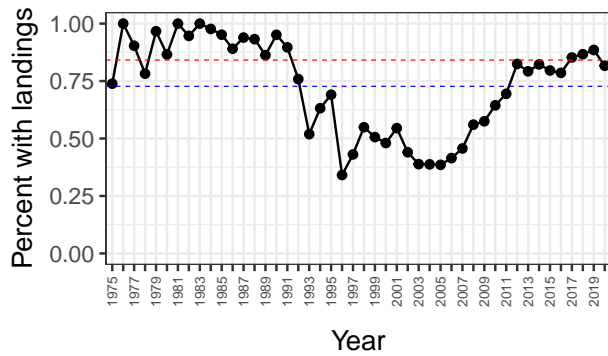
### Estimated Permit Value



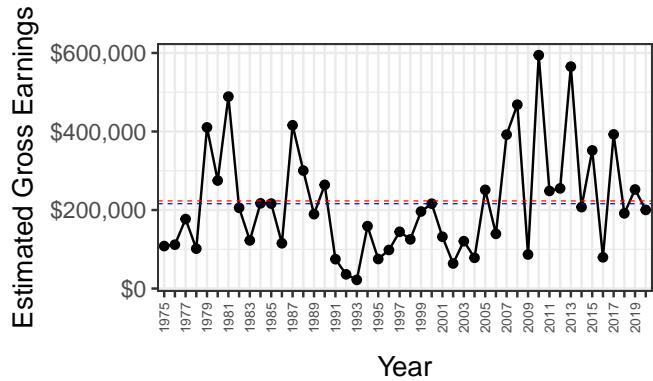
### Total Pounds Landed



### Participation



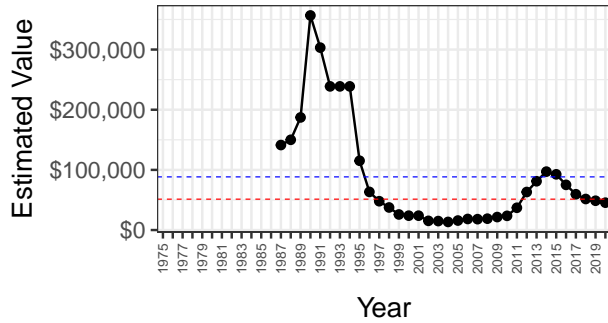
### Estimated Gross Earnings



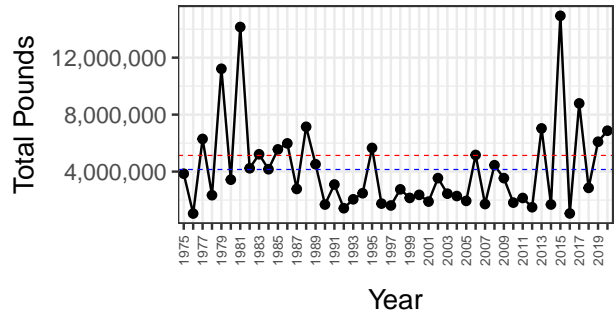
## Permit Type Summary: S 01H

Index of economic health: 30 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

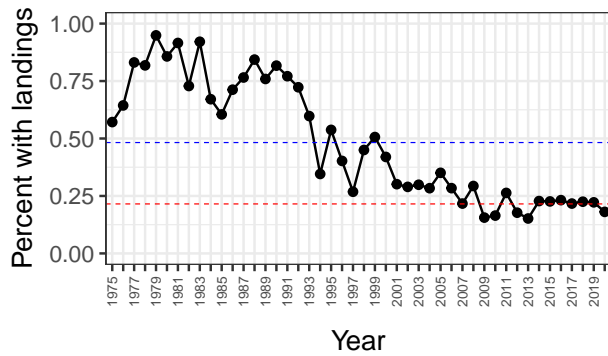
### Estimated Permit Value



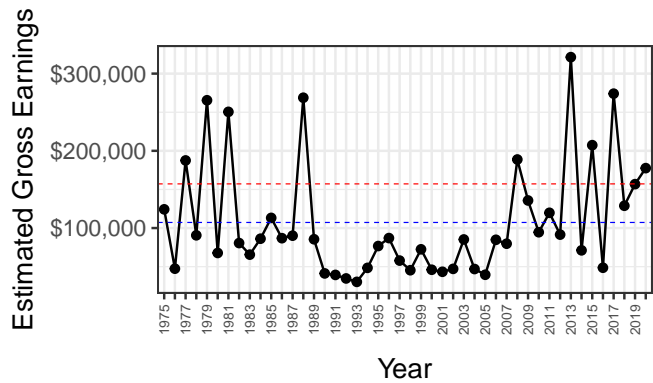
### Total Pounds Landed



### Participation



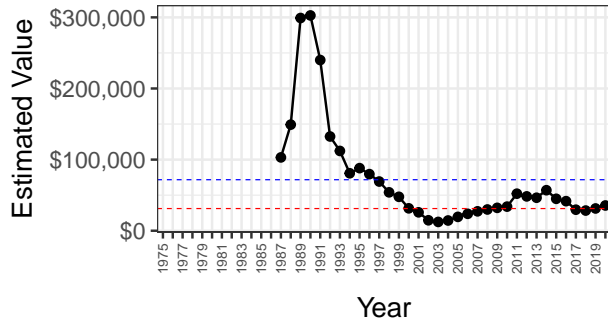
### Estimated Gross Earnings



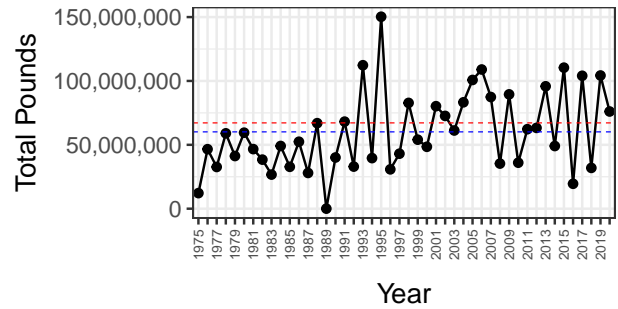
## Permit Type Summary: S 01K

Index of economic health: 36 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

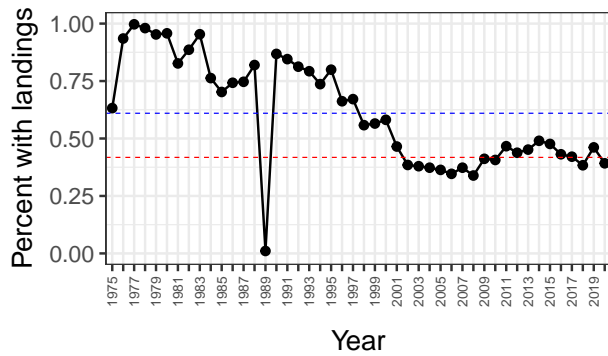
### Estimated Permit Value



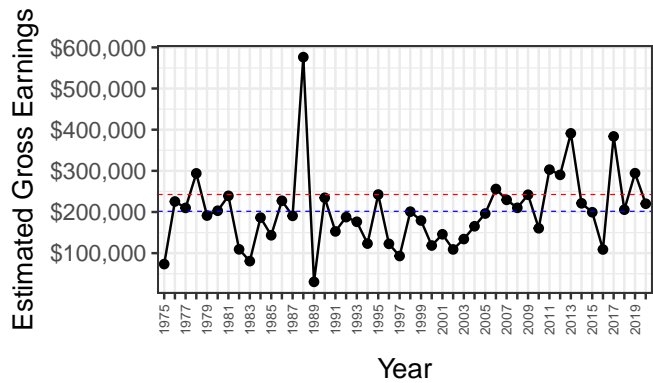
### Total Pounds Landed



### Participation



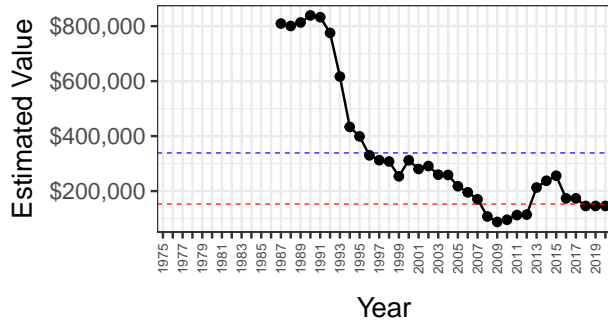
### Estimated Gross Earnings



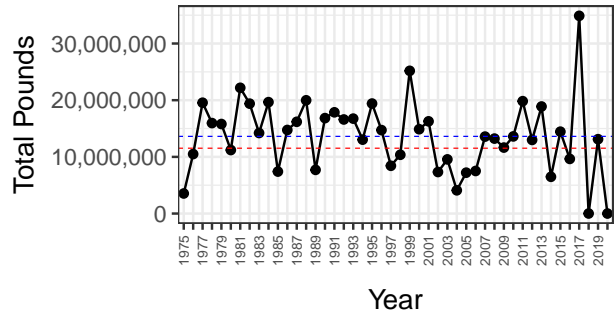
## Permit Type Summary: S 01L

Index of economic health: 54 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

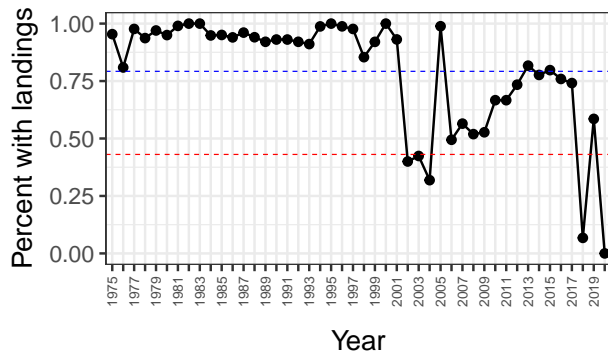
### Estimated Permit Value



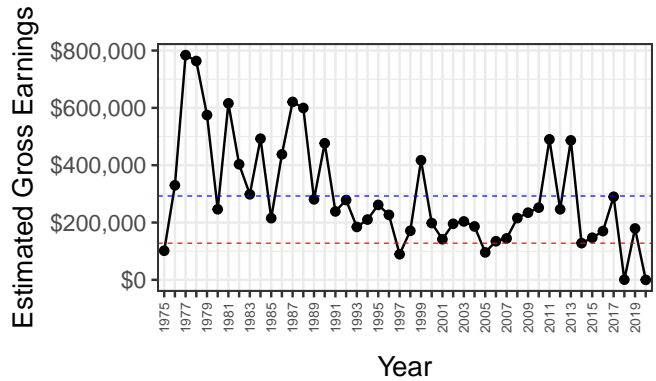
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

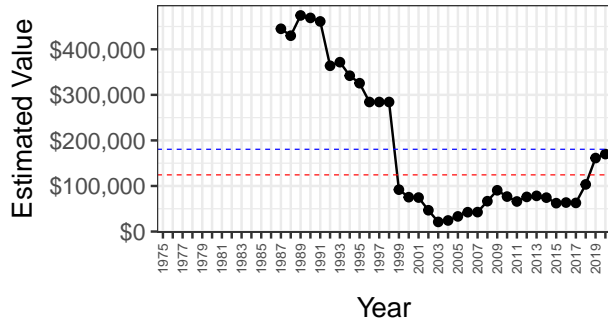




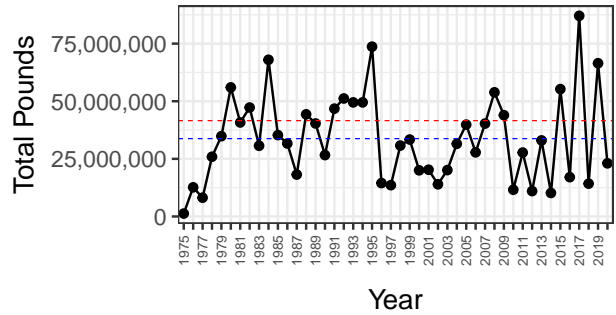
## Permit Type Summary: S 01M

Index of economic health: 31 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

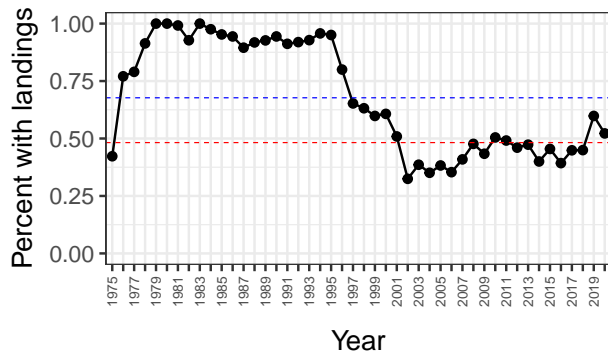
### Estimated Permit Value



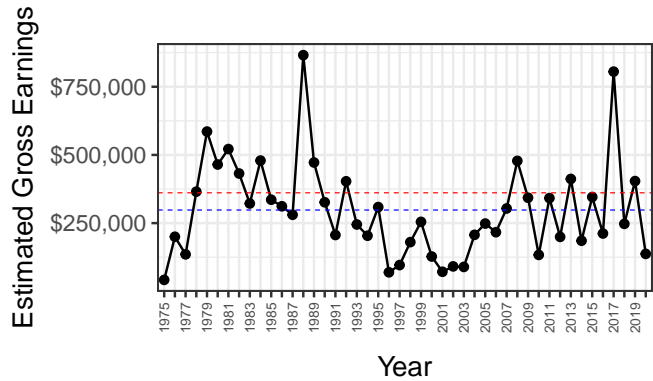
### Total Pounds Landed



### Participation



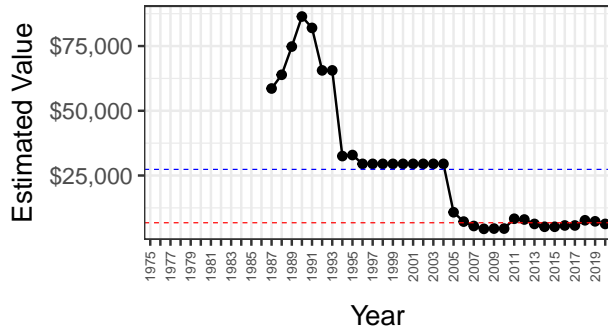
### Estimated Gross Earnings



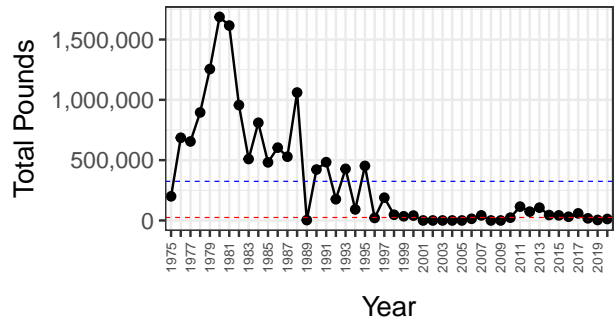
## Permit Type Summary: S 02K

Index of economic health: 56 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

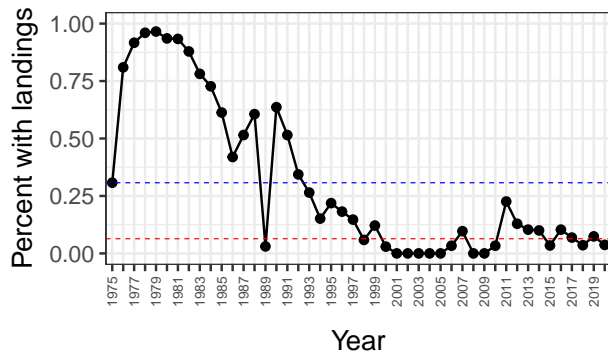
### Estimated Permit Value



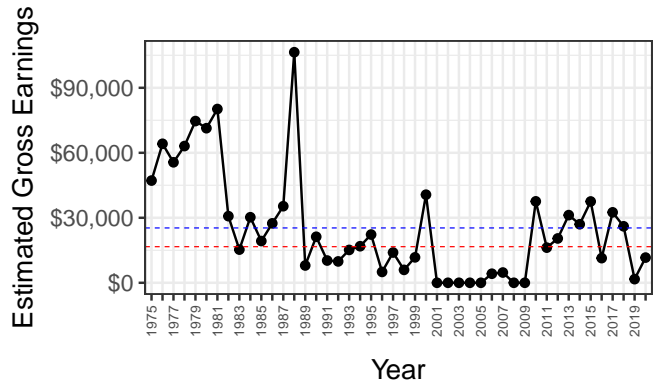
### Total Pounds Landed



### Participation



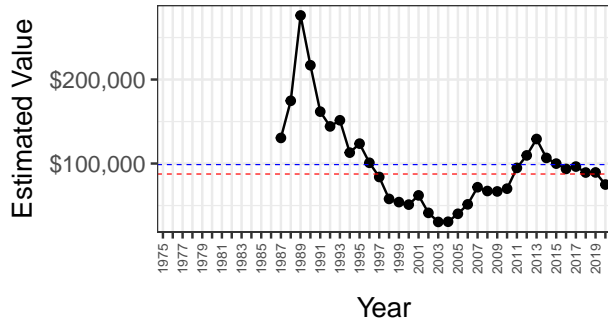
### Estimated Gross Earnings



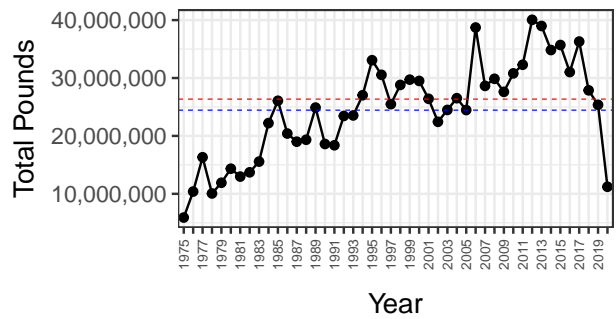
## Permit Type Summary: S 03A

Index of economic health: 26 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

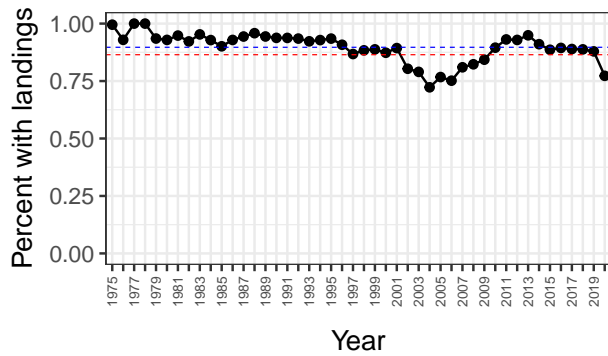
### Estimated Permit Value



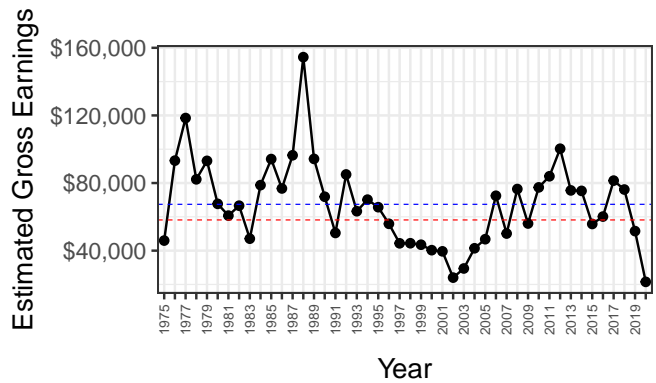
### Total Pounds Landed



### Participation



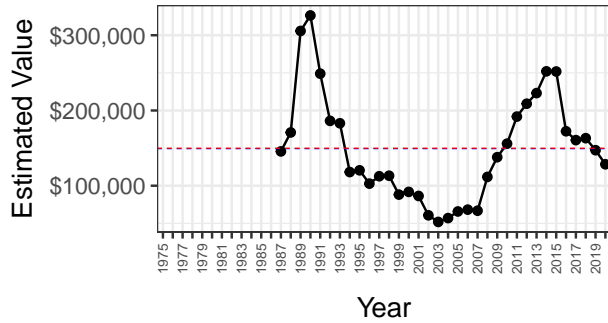
### Estimated Gross Earnings



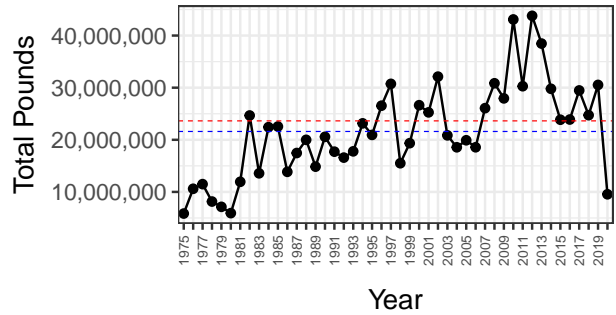
## Permit Type Summary: S 03E

Index of economic health: 18 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

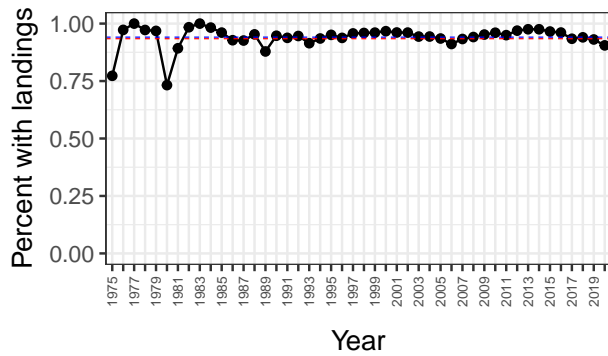
### Estimated Permit Value



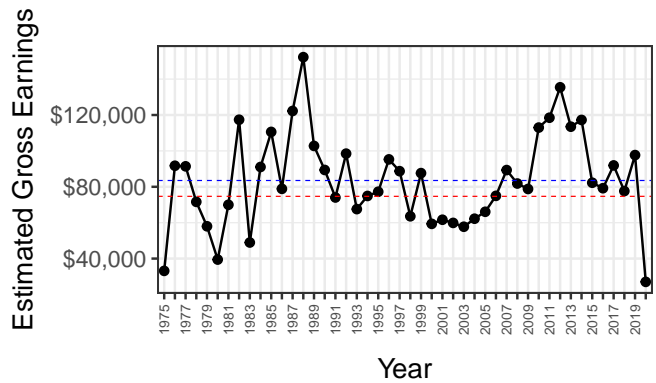
### Total Pounds Landed



### Participation



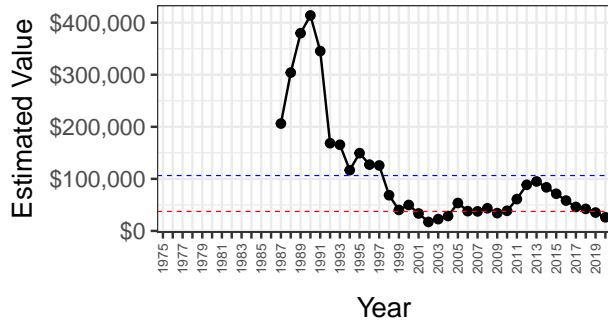
### Estimated Gross Earnings



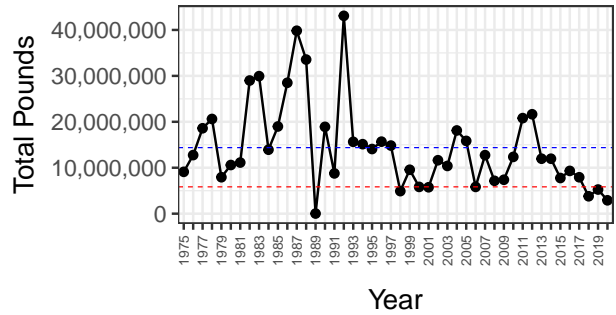
## Permit Type Summary: S 03H

Index of economic health: 52 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

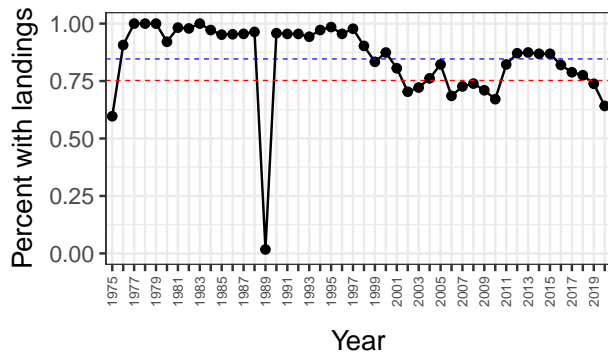
### Estimated Permit Value



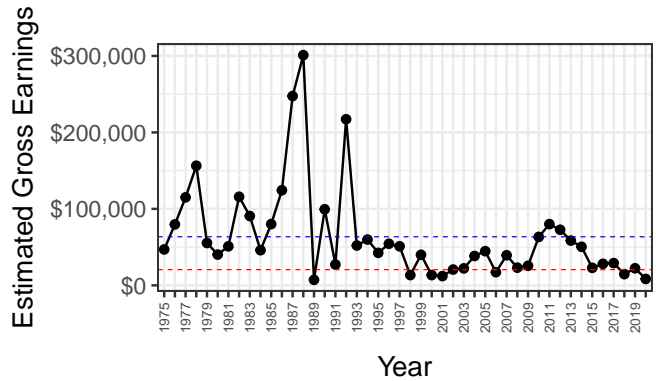
### Total Pounds Landed



### Participation



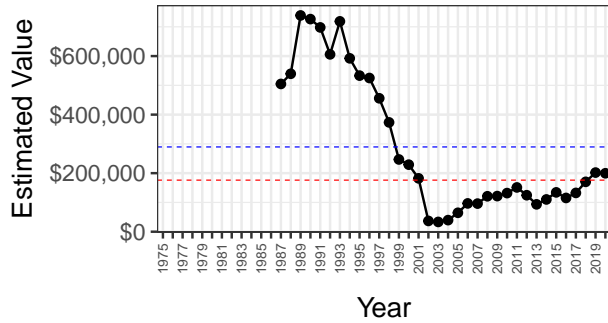
### Estimated Gross Earnings



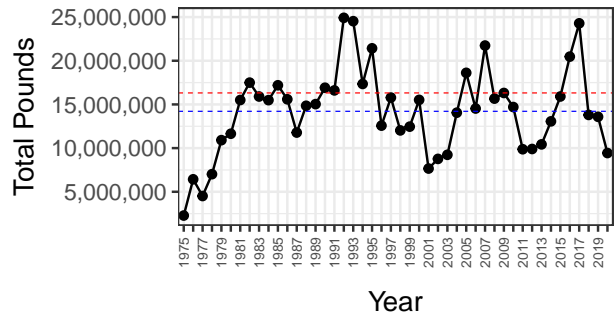
## Permit Type Summary: S 03M

Index of economic health: 33 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

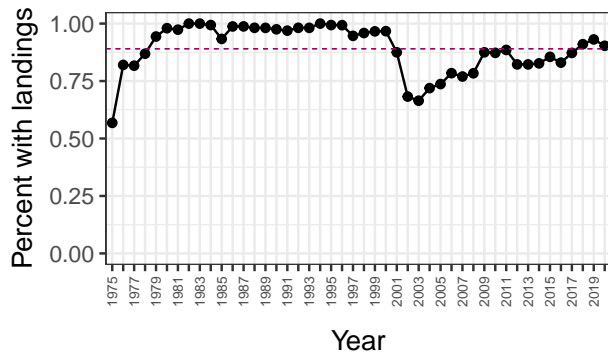
### Estimated Permit Value



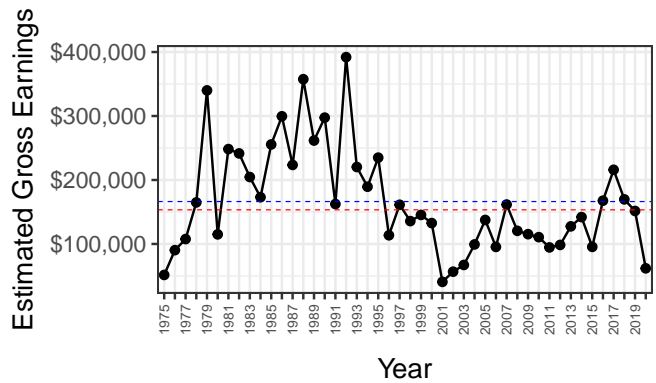
### Total Pounds Landed



### Participation



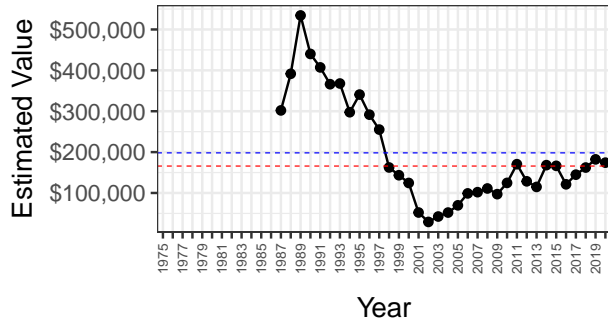
### Estimated Gross Earnings



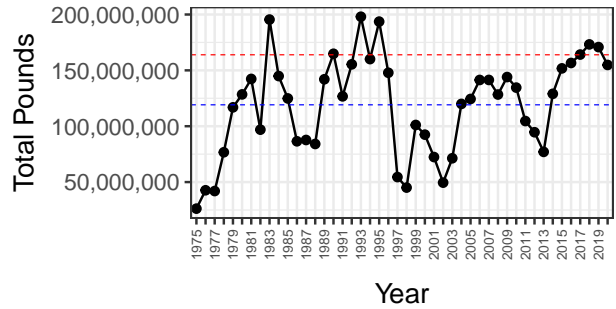
## Permit Type Summary: S 03T

Index of economic health: 12 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

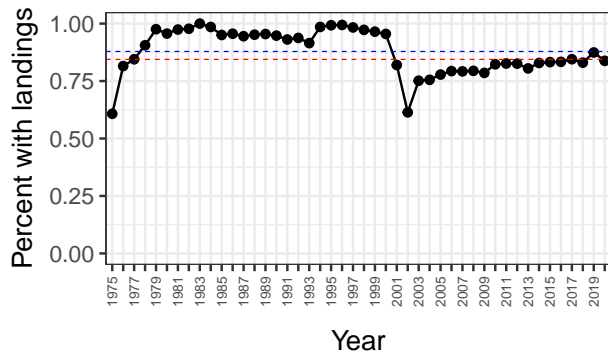
### Estimated Permit Value



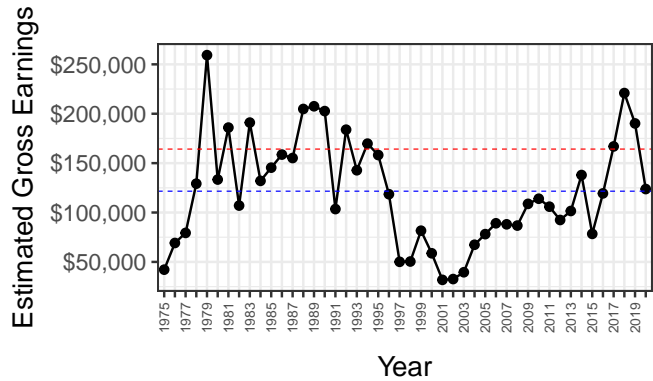
### Total Pounds Landed



### Participation



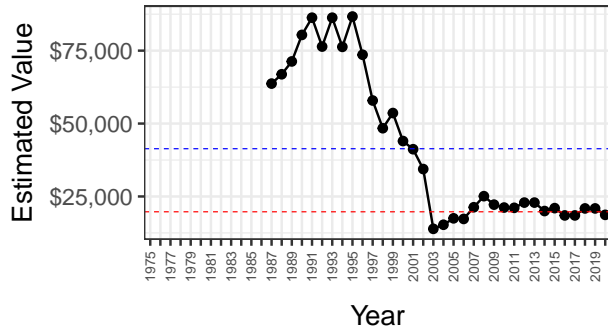
### Estimated Gross Earnings



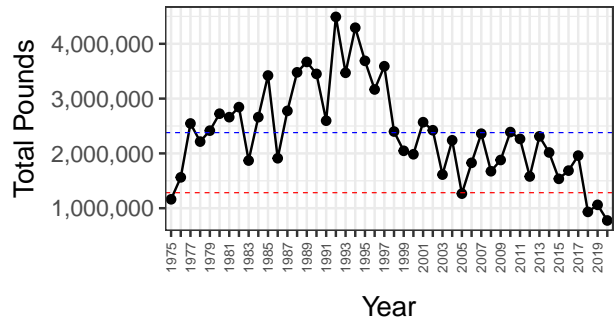
## Permit Type Summary: S 04D

Index of economic health: 49 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

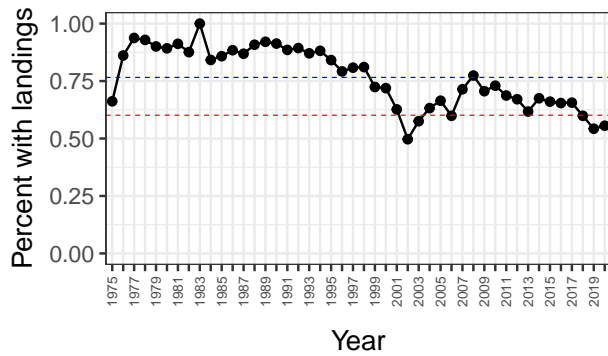
### Estimated Permit Value



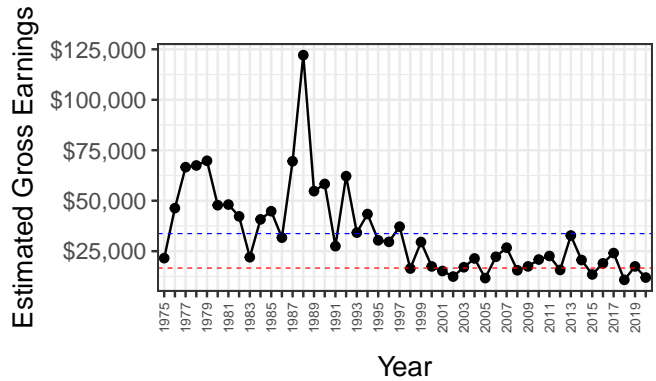
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

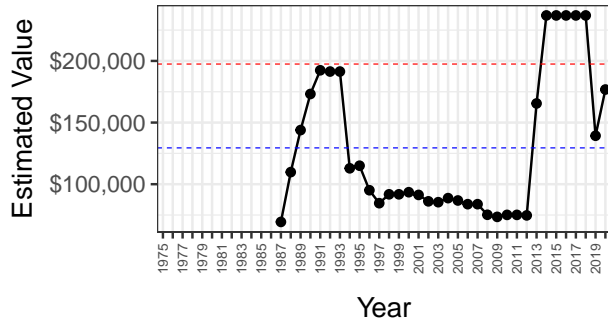




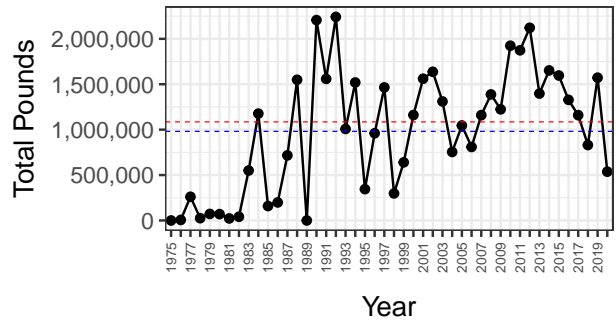
## Permit Type Summary: S 04E

Index of economic health: 2 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

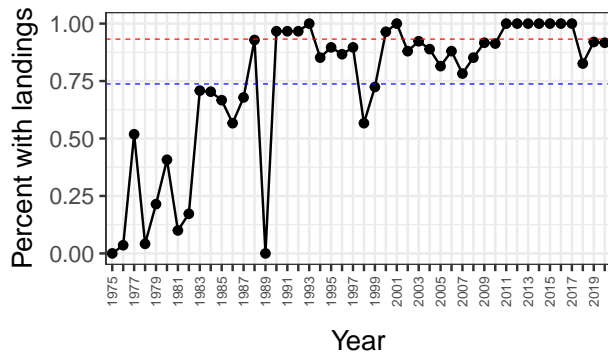
### Estimated Permit Value



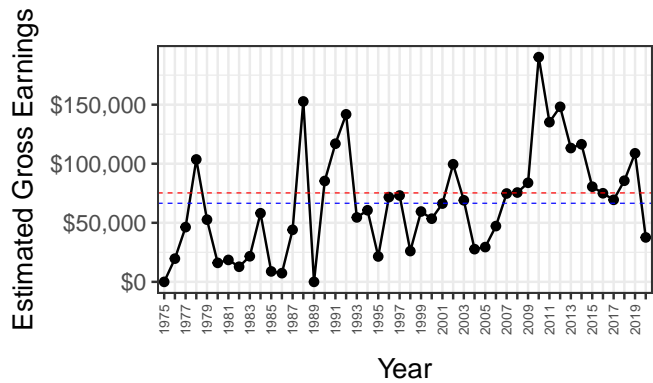
### Total Pounds Landed



### Participation



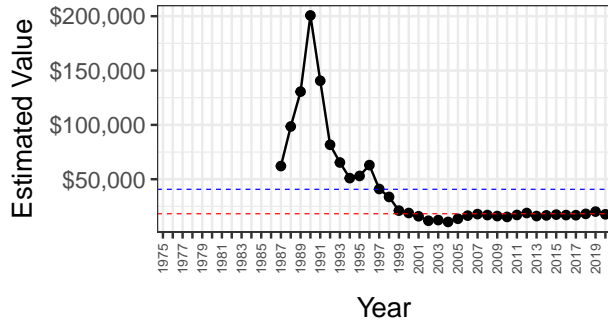
### Estimated Gross Earnings



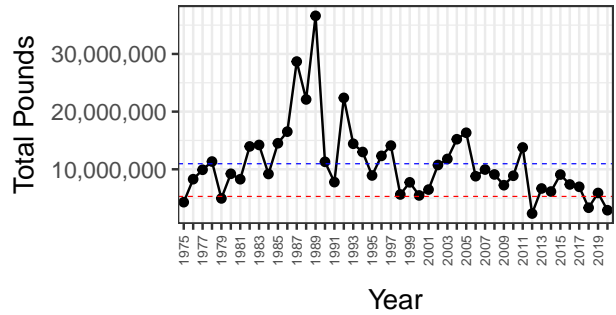
## Permit Type Summary: S 04H

Index of economic health: 47 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

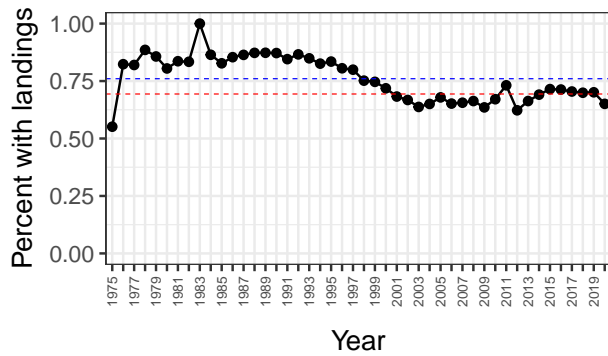
### Estimated Permit Value



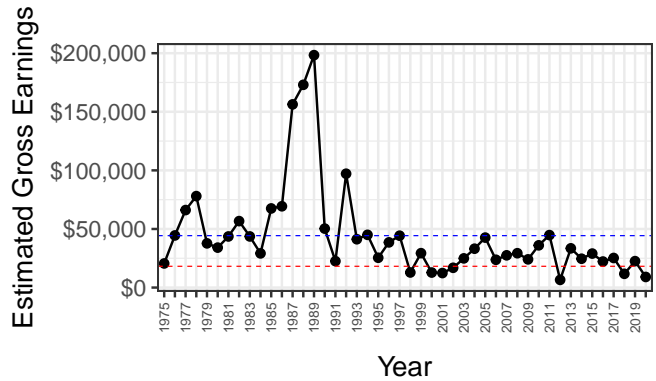
### Total Pounds Landed



### Participation



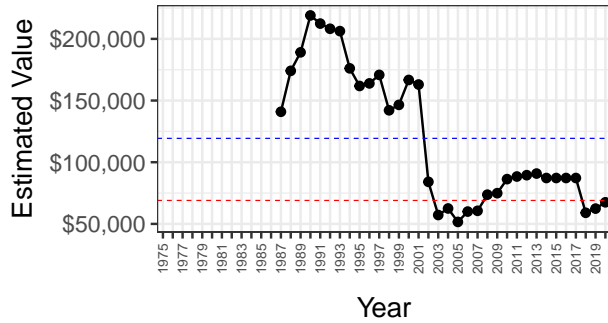
### Estimated Gross Earnings



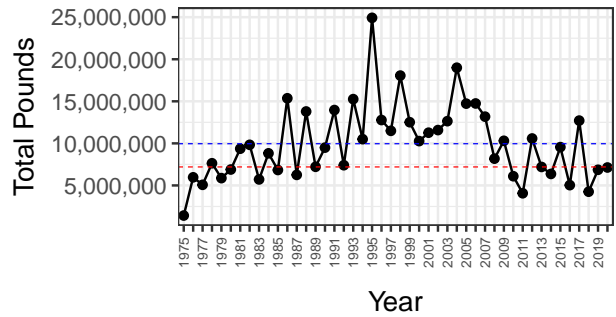
## Permit Type Summary: S 04K

Index of economic health: 43 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

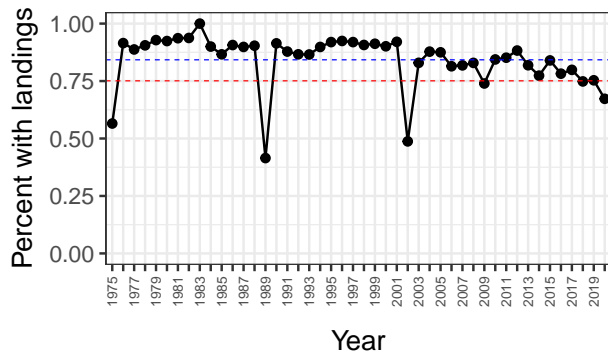
### Estimated Permit Value



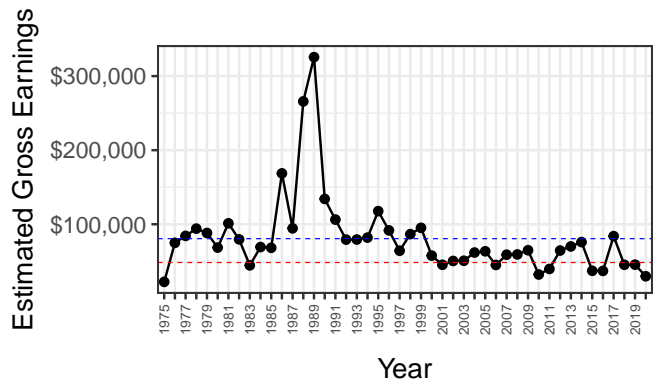
### Total Pounds Landed



### Participation



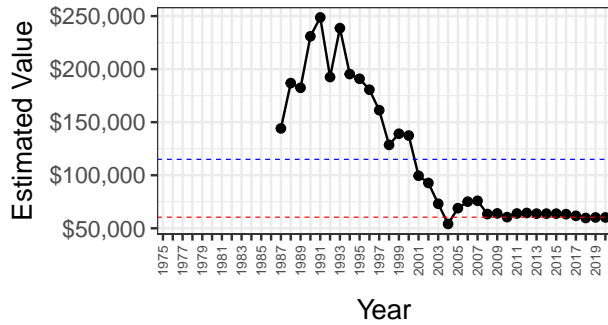
### Estimated Gross Earnings



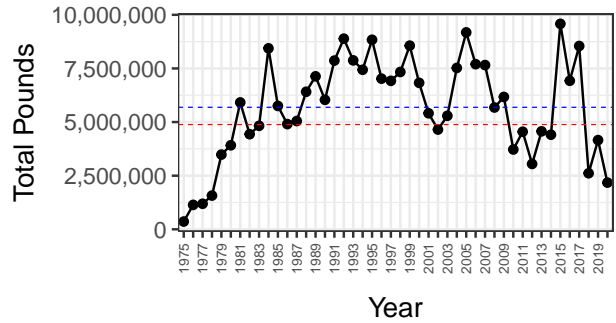
## Permit Type Summary: S 04M

Index of economic health: 41 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

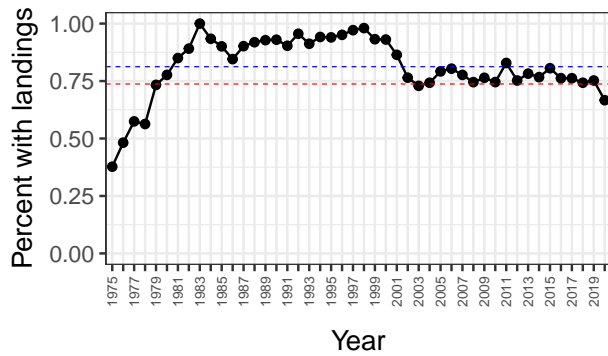
### Estimated Permit Value



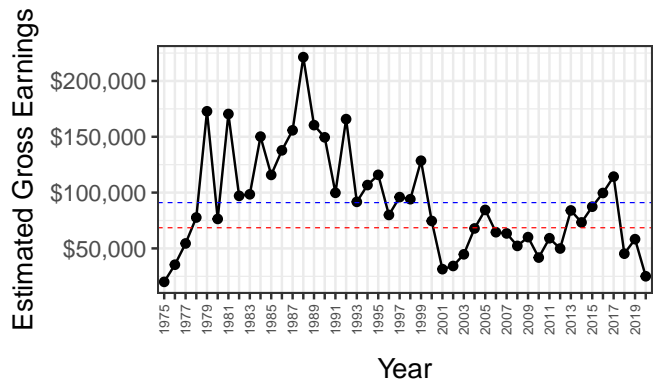
### Total Pounds Landed



### Participation



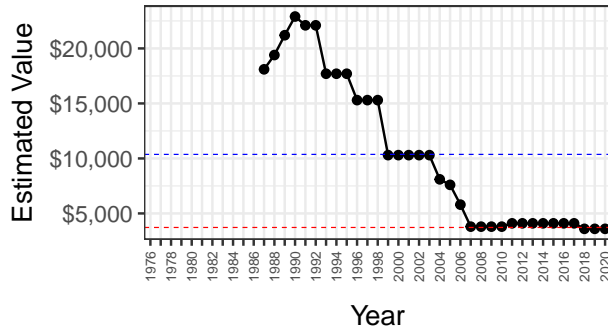
### Estimated Gross Earnings



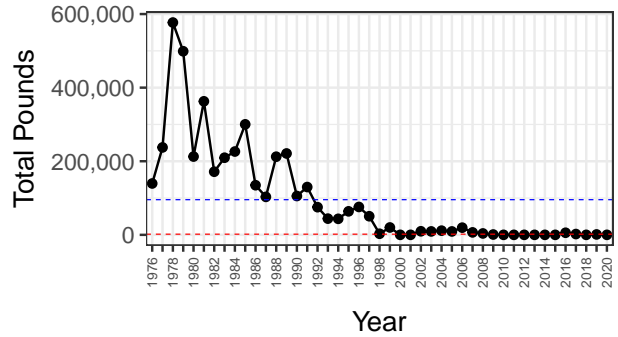
## Permit Type Summary: S 04P

Index of economic health: 65 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

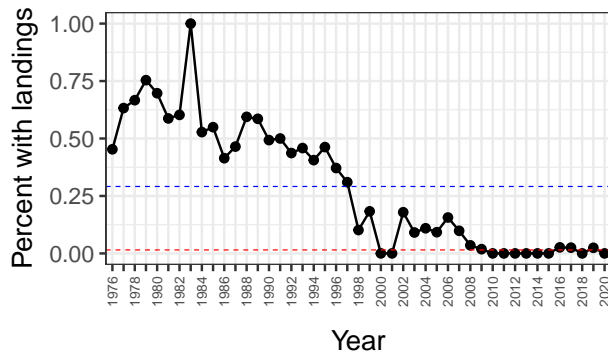
### Estimated Permit Value



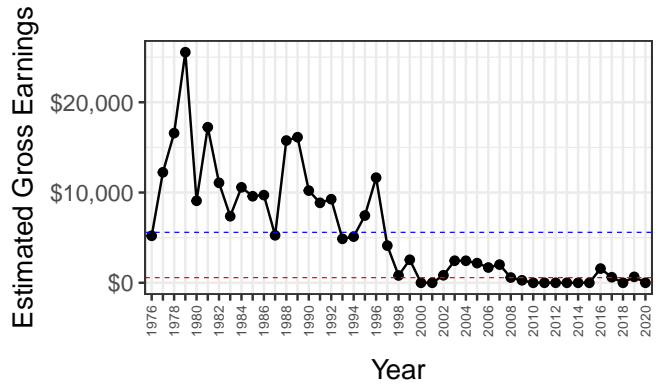
### Total Pounds Landed



### Participation



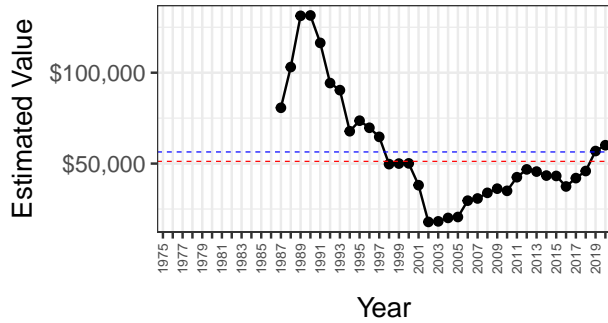
### Estimated Gross Earnings



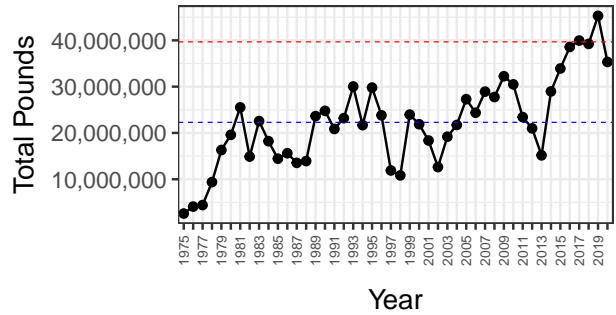
## Permit Type Summary: S 04T

Index of economic health: 6 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

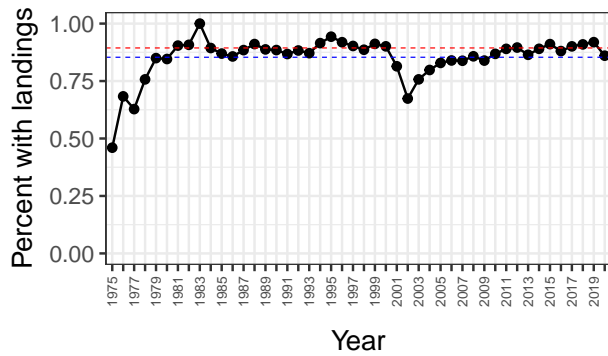
### Estimated Permit Value



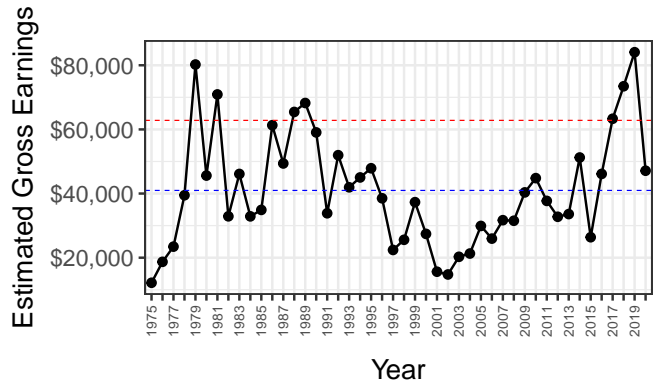
### Total Pounds Landed



### Participation



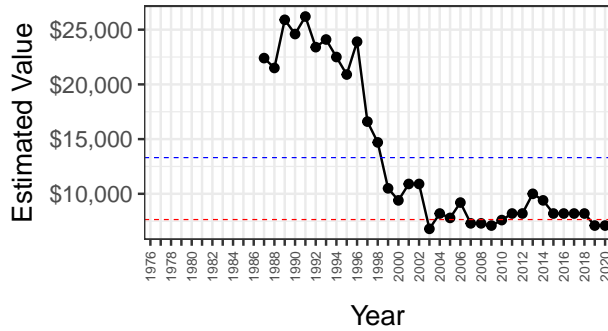
### Estimated Gross Earnings



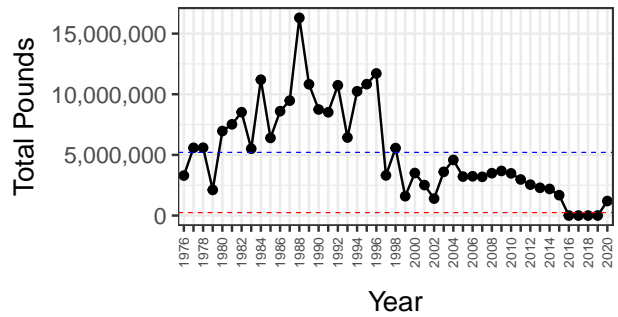
## Permit Type Summary: S 04W

Index of economic health: 57 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

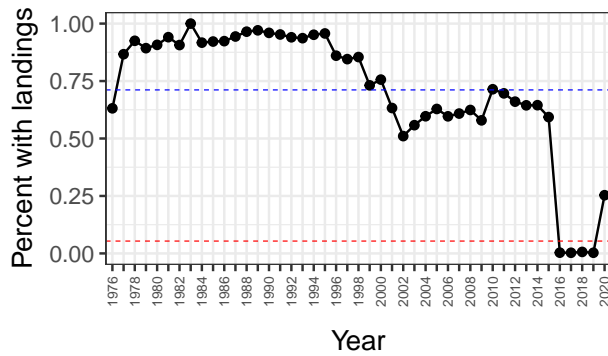
### Estimated Permit Value



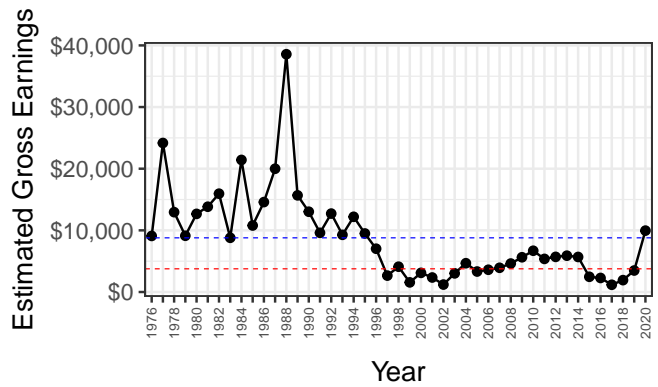
### Total Pounds Landed



### Participation



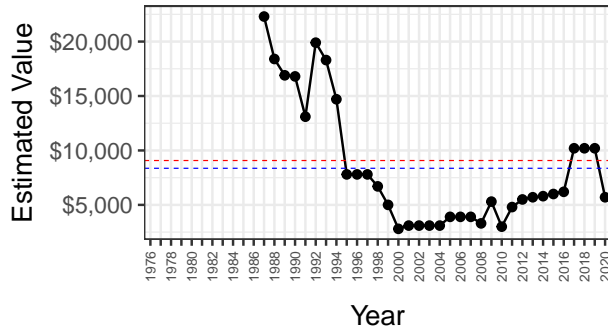
### Estimated Gross Earnings



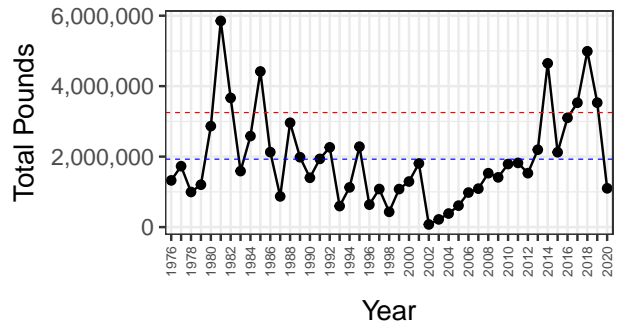
## Permit Type Summary: S 04X

Index of economic health: 8 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

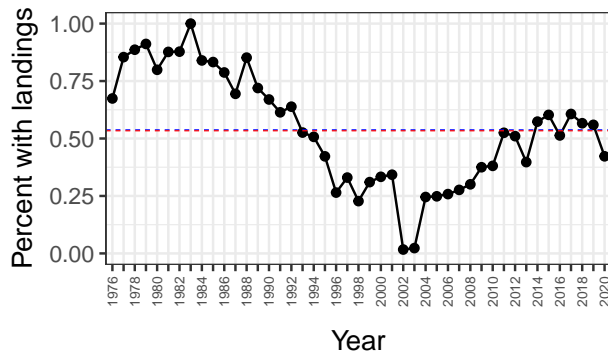
### Estimated Permit Value



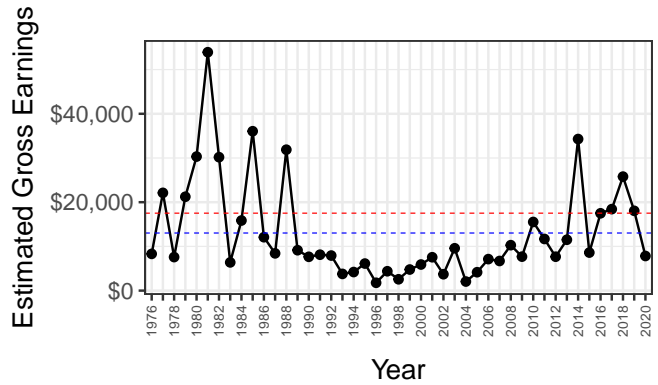
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

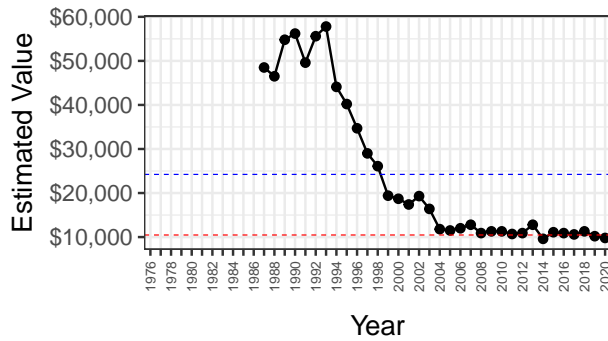




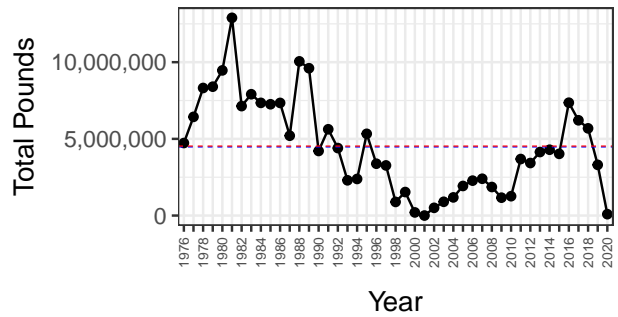
## Permit Type Summary: S 04Y

Index of economic health: 48 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

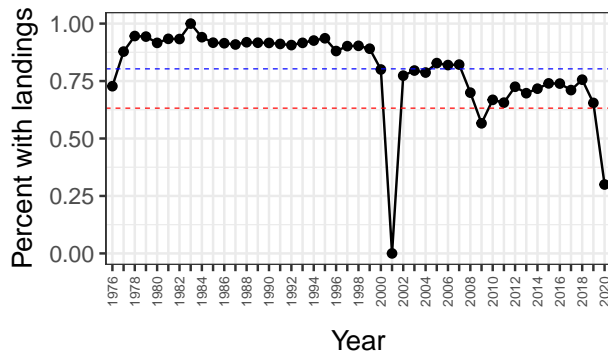
### Estimated Permit Value



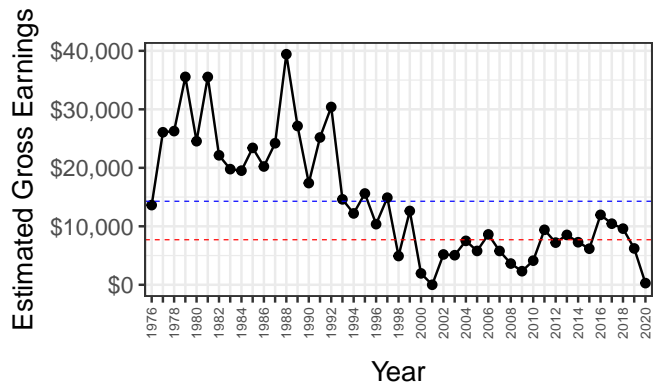
### Total Pounds Landed



### Participation



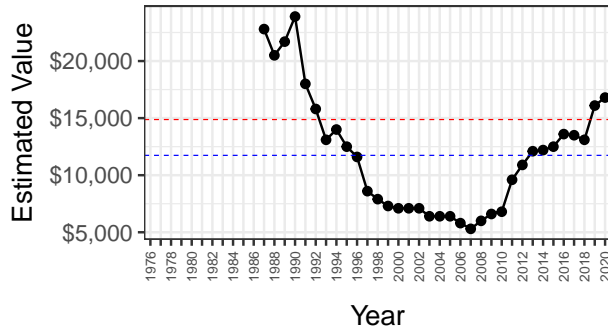
### Estimated Gross Earnings



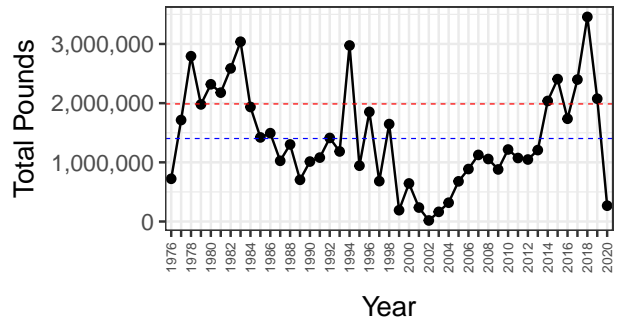
## Permit Type Summary: S 04Z

Index of economic health: 3 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

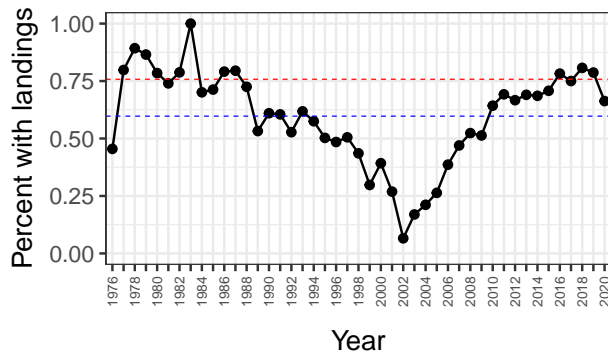
### Estimated Permit Value



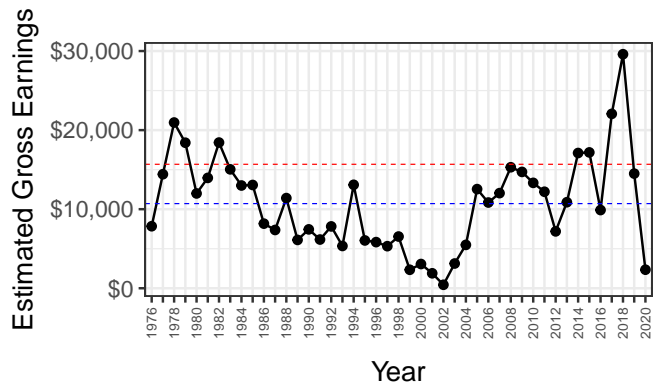
### Total Pounds Landed



### Participation



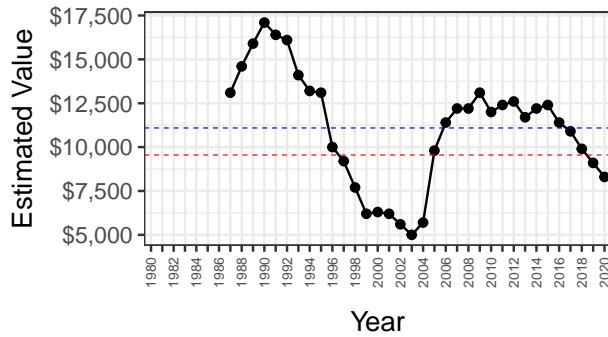
### Estimated Gross Earnings



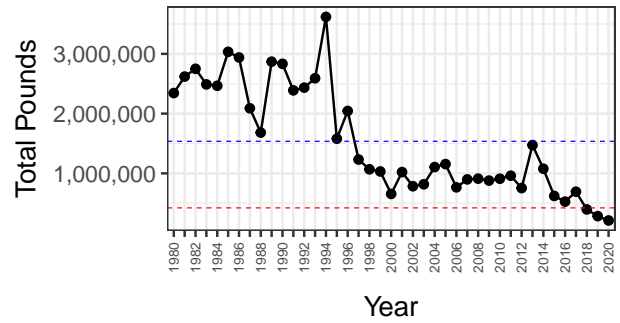
## Permit Type Summary: S 05B

Index of economic health: 37 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

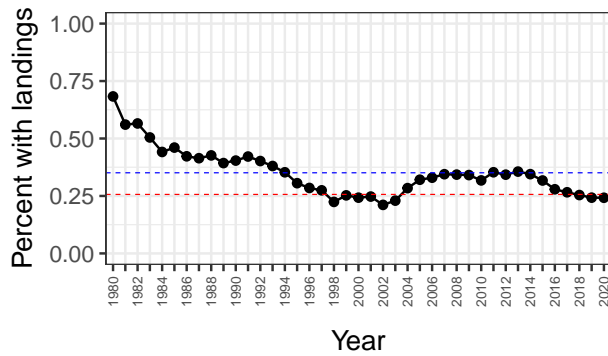
### Estimated Permit Value



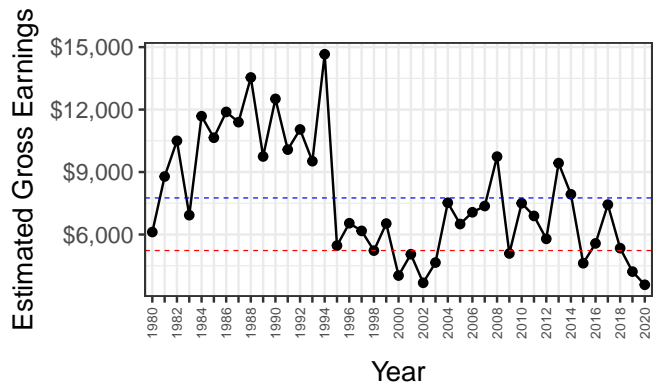
### Total Pounds Landed



### Participation



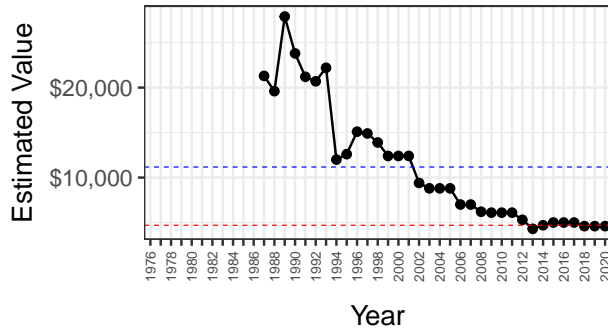
### Estimated Gross Earnings



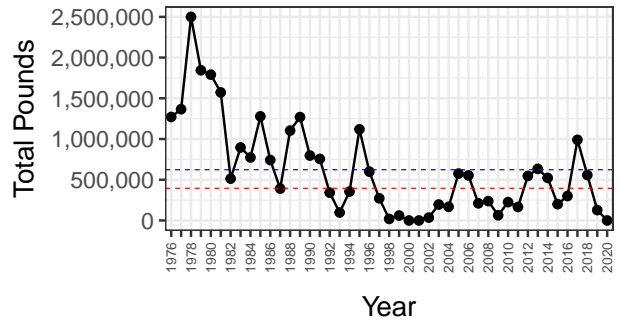
## Permit Type Summary: S 08P

Index of economic health: 53 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

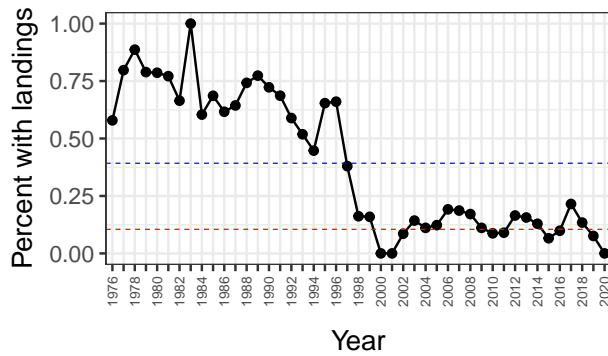
### Estimated Permit Value



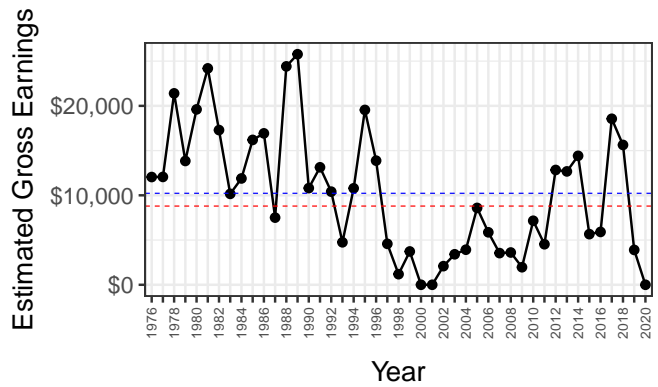
### Total Pounds Landed



### Participation



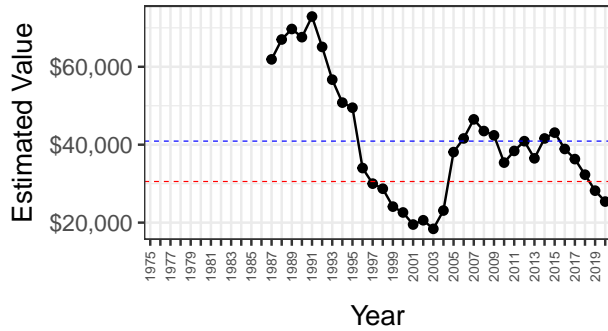
### Estimated Gross Earnings



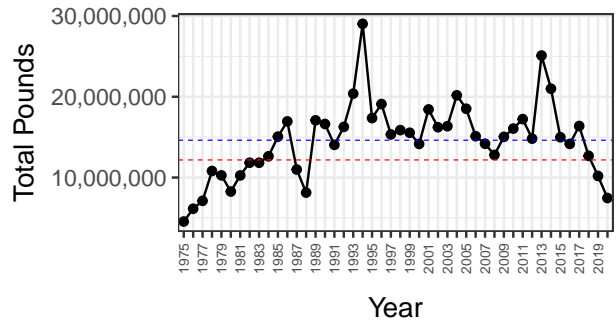
## Permit Type Summary: S 15B

Index of economic health: 32 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

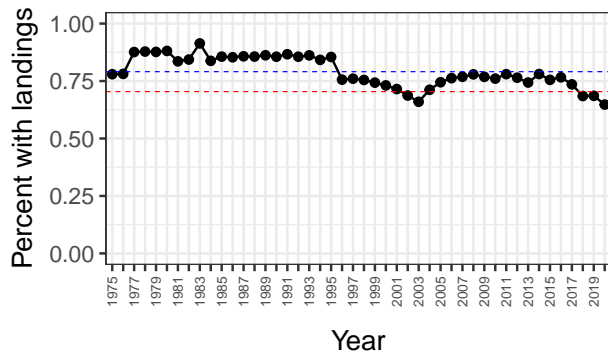
### Estimated Permit Value



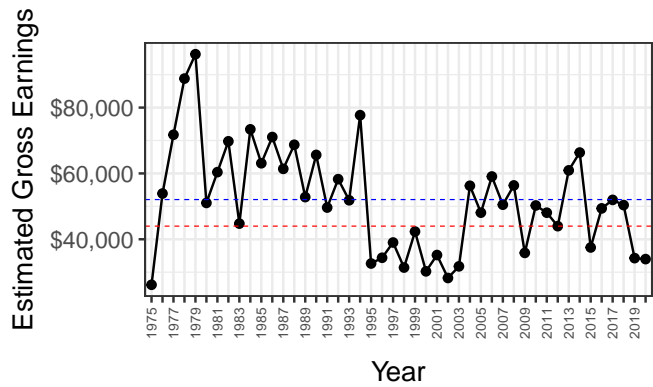
### Total Pounds Landed



### Participation



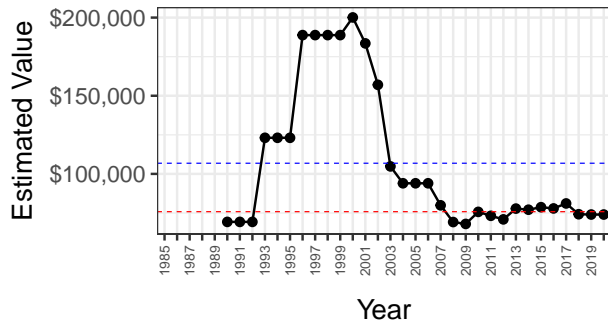
### Estimated Gross Earnings



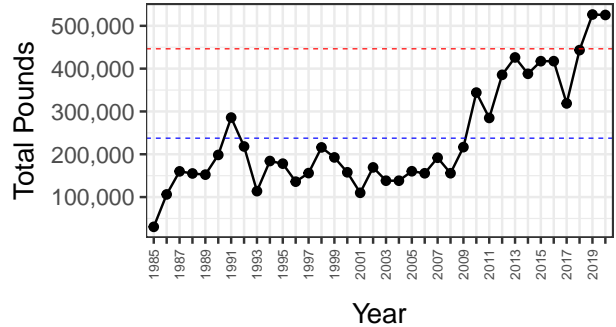
## Permit Type Summary: T 19A

Index of economic health: 13 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

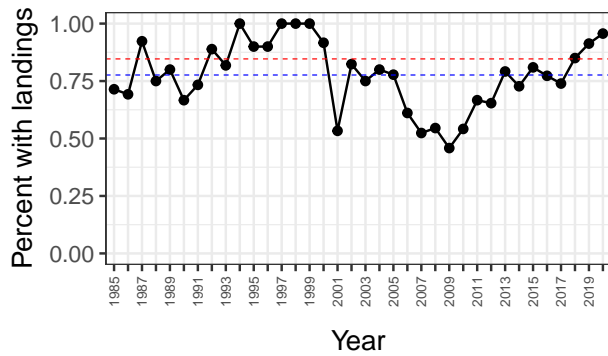
### Estimated Permit Value



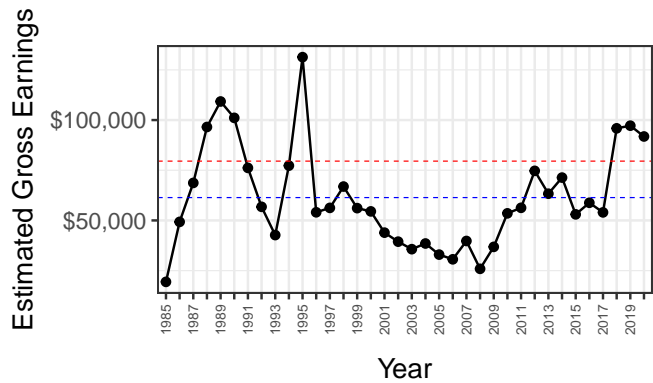
### Total Pounds Landed



### Participation



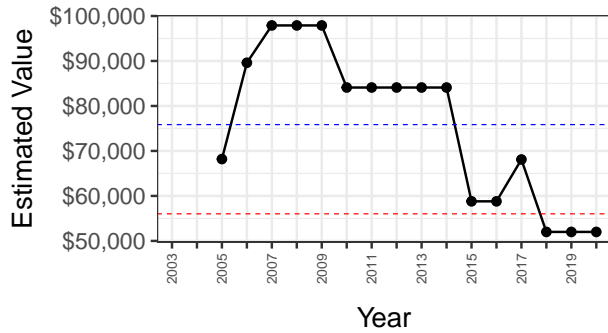
### Estimated Gross Earnings



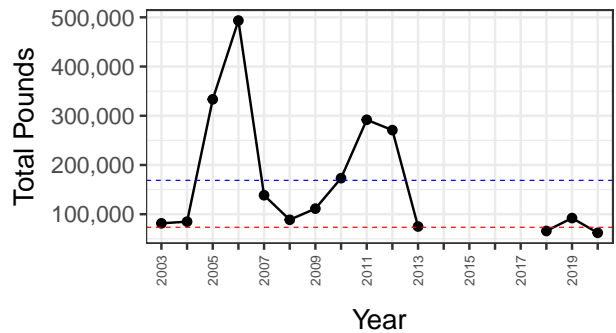
## Permit Type Summary: TB9AK

Index of economic health: 35 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

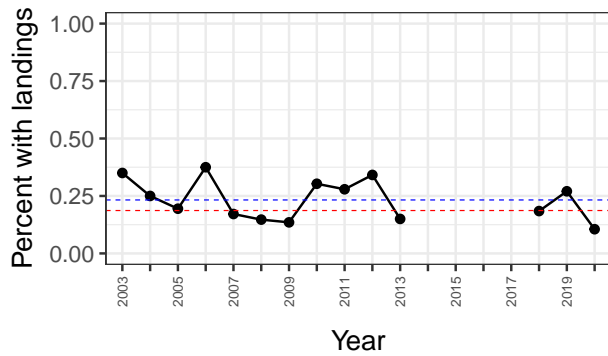
### Estimated Permit Value



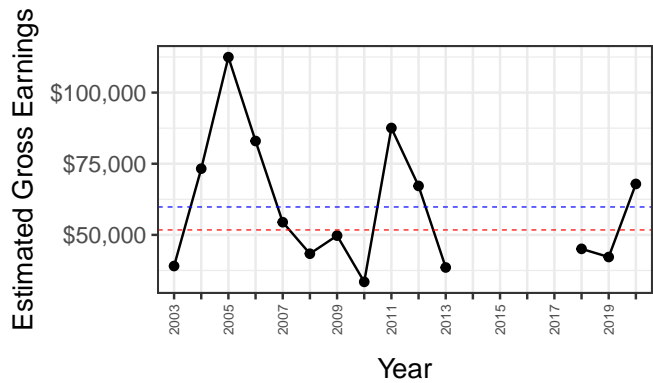
### Total Pounds Landed



### Participation



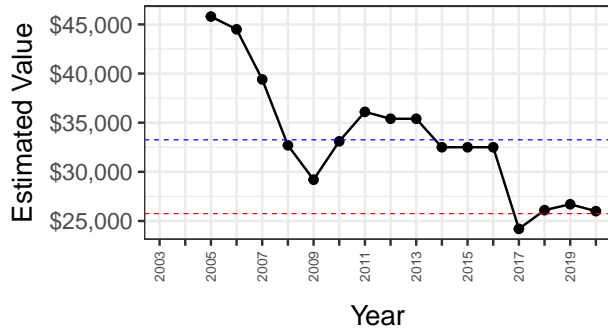
### Estimated Gross Earnings



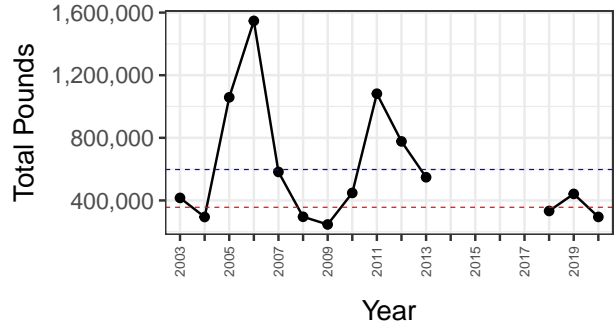
## Permit Type Summary: TB9BK

Index of economic health: 24 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

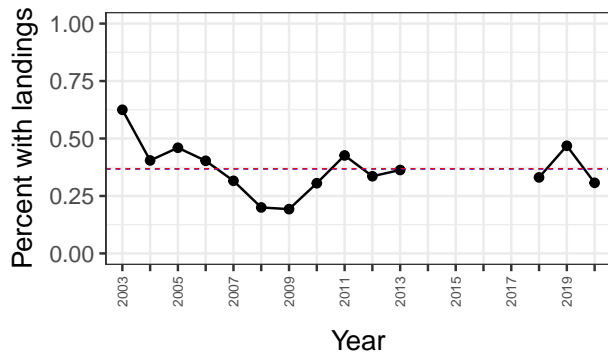
### Estimated Permit Value



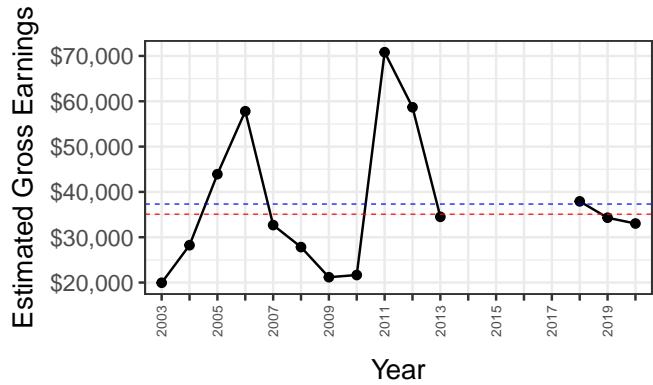
### Total Pounds Landed



### Participation



### Estimated Gross Earnings

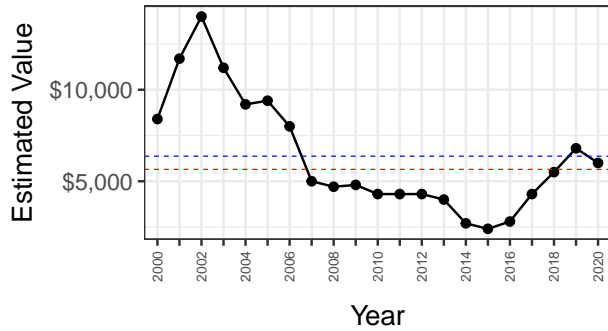




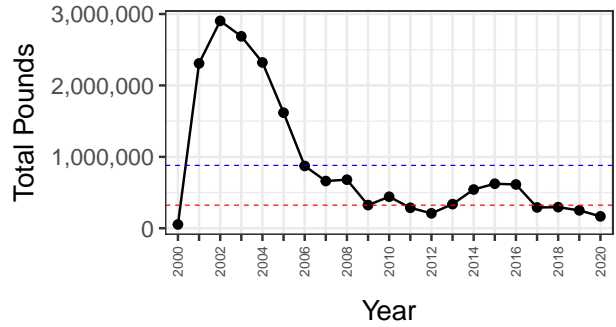
## Permit Type Summary: U 11A

Index of economic health: 29 of 67 permit types. Blue dashed lines are lifetime means; red dashed lines are means over the most recent 5 years.

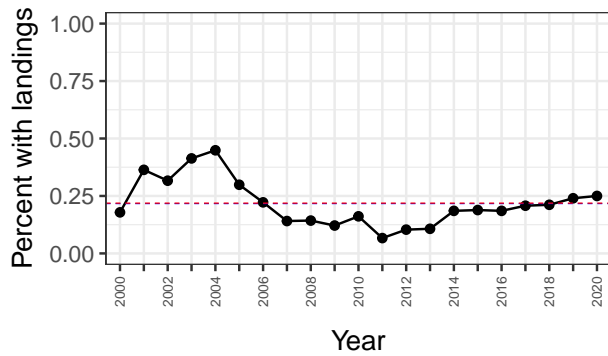
### Estimated Permit Value



### Total Pounds Landed



### Participation



### Estimated Gross Earnings

