

**Effects of IFQ Management on Fishing Safety:
Survey Responses of Alaska Halibut Fishermen**

by

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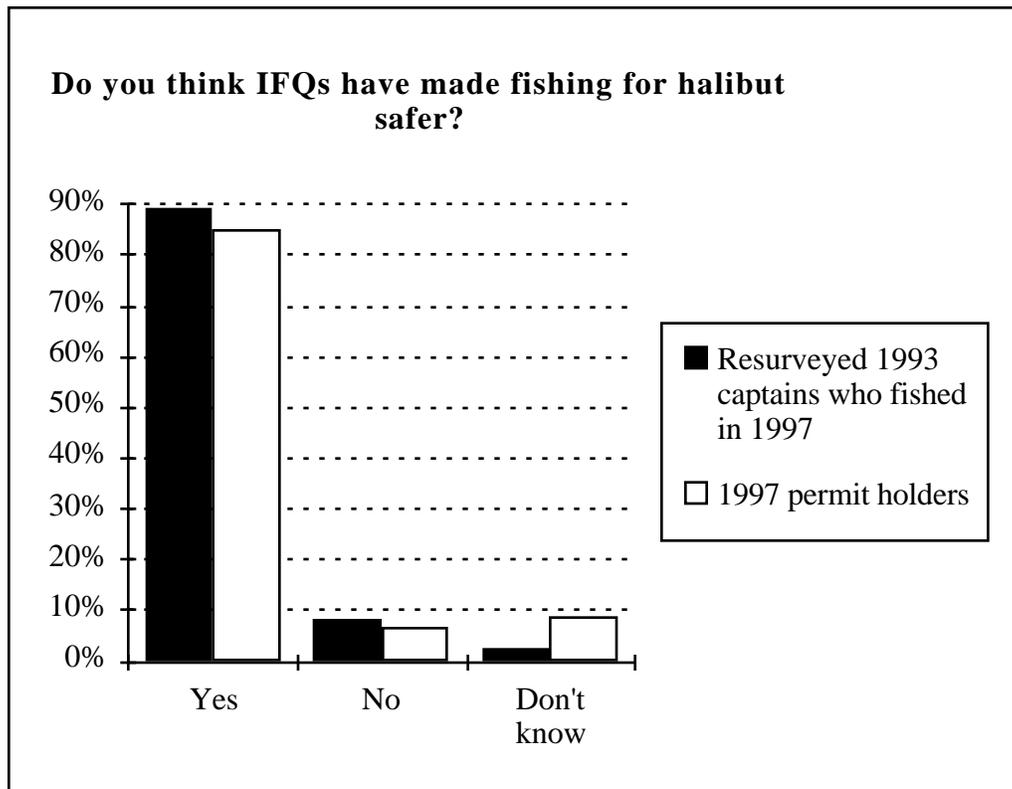
ISER Working Paper Series:
Surveys of Alaska Halibut Fishermen
About Effects of IFQ Management

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Summary

In 1998, the University of Alaska Institute of Social and Economic Research (ISER) conducted two telephone surveys of Alaska halibut fishermen about the effects of Individual Fishing Quota (IFQ) management of the Alaska halibut fishery. Funding for the surveys was provided by the Alaska Sea Grant College Program. This paper, one of a series reporting results of the surveys, discusses fishermen's responses about the effects of IFQ management on the safety of the halibut fishery.

The great majority of halibut fishermen believe IFQs have made fishing for halibut safer. More than 85% of the respondents to both surveys answered "yes" to the question "Do you think IFQs have made fishing for halibut safer?" Responses were similar across vessel classes and 1997 harvest levels.



Introduction

In 1998, the University of Alaska Institute of Social and Economic Research (ISER) conducted two telephone surveys of Alaska halibut fishermen about the effects of Individual Fishing Quota (IFQ) management of the Alaska halibut fishery. Funding for the surveys was provided by the Alaska Sea Grant College Program. This paper, one of a series of working papers reporting results of the surveys, discusses fishermen's responses about the effects of IFQ management on the safety of the halibut fishery.^{1, 2}

The *Captains Resurvey* was a resurvey of halibut captains ISER surveyed in 1994, just before the IFQ program went into effect.³ The purpose of the Captains Resurvey was to gather information about how the introduction of IFQ management in the Alaska halibut fishery in 1995 had affected the halibut fishery and those who fished for halibut before the program was introduced.

The *Permit Holders Survey* was a survey of a random sample of 1997 State of Alaska halibut permit holders. The purpose of the Permit Holders Survey was to gather information about the 1997 halibut fishery from a random sample of participants, including persons who did not fish for halibut before IFQ management.⁴

Table 1 summarizes the sample sizes, response rates, and number of interviews for each survey. The survey results reported in this paper for the Captains Resurvey are based on only the 93 interviews conducted with captains who continued to fish for halibut in 1997. The samples for both surveys were stratified by vessel size. Except where noted otherwise, the survey results reported in this paper are weighted to adjust for this stratification.⁵

Table 1
Survey Sample Sizes, Response Rates, and Numbers of Interviews

	Captains Resurvey	Permit Holders Survey
Sample size	249	200
Respondents contacted	208	134
Response rate = (respondents contacted)/(sample size)	84%	67%
Number of interviews*		
Captains Resurvey, Total	208	
1993 captains who fished in 1997*	93	
1993 captains who did not fish in 1997	91	
1993 respondents were vessel owners but not captains	19	
1993 respondents who fished in 1997 under a CDQ allocation	5	
Permit Holders Survey, Total		134
1997 permit holders who fished vessels listed on their permits*		97
1997 permit holders who fished other vessels*		11
1997 permit holders who did not participate in IFQ fishery		26

*Only the responses of those groups marked with a * and with numbers shown in bold font, who fished for halibut in 1997 under IFQ management, are reported in this paper.
File: Survey summary.

Most of the questions asked in the two surveys were the same, except that the Captains Resurvey included questions about respondents' fishing in 1995 and 1996. In interpreting responses to the two surveys, keep in mind that the Captains Resurvey is representative only of 1993 halibut captains who continued to fish in 1997. In contrast, the Permit Holders Survey is representative of all 1997 permit holders.

An indication of how representative Permit Holder Survey respondents were of 1997 permit holders may be gained by comparing the actual 1997 harvest and the actual number of boats participating in the 1997 fishery (as reported by the International Pacific Halibut Commission) with estimates based on weighted survey responses. The estimated 1997 harvest based on survey responses was 90% of the actual harvest, while the estimated number of boats based on survey responses was 94% of the actual number of boats. This suggests that the survey respondents were reasonably, although not perfectly, representative of all 1997 permit holders.⁶

Responses About Effects of IFQ Management on Fishing Safety

The surveys included a series of questions about respondents' perceptions about the effects of IFQ management. One of these questions asked, "Do you think that IFQs have made fishing for halibut safer?" Table 2 summarizes responses to this question by survey, vessel size class, and 1997 harvest level.

More than 85% of the respondents to both surveys answered "yes" to this question, while less than 8% responded "no." Responses were similar across vessel classes and 1997 harvest levels.⁷ *Clearly, the great majority of halibut fishermen believe IFQs have made fishing for halibut safer.*

Table 2
Do you think that IFQs have made fishing for halibut safer?

	Yes	No	Don't know	Total	Number of responses
By Survey Group					
Resurveyed 1993 captains who fished in 1997	89%	8%	2%	100%	93
1997 permit holders	85%	7%	8%	100%	108
By vessel size class					
<i>Resurveyed 1993 captains who fished in 1997</i>					
Vessel class B (over 60')	83%	17%	0%	100%	18
Vessel class C (35'-60')	91%	7%	2%	100%	42
Vessel class D (under 35')	88%	9%	3%	100%	33
<i>1997 permit holders</i>					
Vessel class B (over 60')	80%	0%	20%	100%	10
Vessel class C (35'-60')	87%	6%	7%	100%	70
Vessel class D (under 35')	82%	11%	8%	100%	27
By 1997 harvest level					
<i>Resurveyed 1993 captains who fished in 1997</i>					
1-4,999 lbs	89%	11%	0%	100%	18
5,000-19,999 lbs	93%	7%	0%	100%	17
20,000 lbs or more	91%	9%	0%	100%	22
<i>1997 permit holders</i>					
1-4,999 lbs	82%	7%	11%	100%	29
5,000-19,999 lbs	86%	5%	8%	100%	37
20,000 lbs or more	87%	6%	7%	100%	38

Notes: All responses are weighted. "Don't know" includes "no answer" responses.

Source: 1997 Captains Resurvey and 1997 Permit Holder Survey, Question K2.

File: Question K2.

Relationship Between Responses About Effects on Fishing Safety and Responses to Other Questions

Table 3 compares responses about whether IFQs have made fishing for halibut safer with responses to selected other questions about effects of IFQ management. Respondents who gave negative responses about other effects of IFQ program were more likely to give a negative response about the effects of IFQ management on safety.⁸ For example, 96% of those who responded that IFQ management was "better" for conservation of the halibut resource responded that IFQs had made fishing for halibut safer, but only 53% of those who responded that IFQ management was "worse" for conservation of the halibut resource responded that IFQs had made fishing safer.

Since there is no obvious other reason why responses about effects of IFQ management on safety should be correlated with responses about resource effects, fairness of initial allocations, or financial effects, it appears likely that responses about safety (and other effects) were affected in part by respondents' overall attitudes towards IFQ management. Put differently, persons who like (or dislike) IFQs for other reasons are more (or less) likely to state that IFQs have made fishing for halibut safer.

Table 3
Do you think that IFQs have made fishing for halibut safer?
Comparison with Responses to Other Questions

	Yes	No	Don't know	Total	Number of responses
<i>Compared with the old system, do you think that IFQ management is better, worse or about the same for conservation of the halibut resource?</i>					
Better	96%	3%	1%	100%	136
About the same	85%	8%	7%	100%	87
Worse	53%	28%	19%	100%	36
<i>Do you think that the IFQ system allocated halibut fairly among the people who worked in the halibut fishery?</i>					
Yes	95%	4%	1%	100%	91
No	80%	11%	9%	100%	176
<i>Do you think that the IFQ program made you better off financially, worse off, or about the same?</i>					
Better	95%	4%	1%	100%	82
About the same	96%	4%	0%	100%	53
Worse	74%	14%	11%	100%	133
<i>Overall, how would you describe your attitude toward the IFQ Management System for halibut?</i>					
Positive	98%	1%	1%	100%	110
Mixed	90%	6%	5%	100%	105
Negative	54%	27%	19%	100%	63

Notes: Unweighted responses for 1997 Captains Resurvey and 1997 Permit Holders

Survey combined.

Source: 1997 Captains Resurvey and 1997 Permit Holder Survey, Questions K2, K3, K4, L5, L8.

File: Question K2.

Comparison of Responses Before and After IFQ Management Began

Table 4 compares Captains Resurvey responses about whether IFQs have made fishing for halibut safer with the same respondents' answers four years earlier, prior to the implementation of IFQs, to the question "Do you think that IFQs will make fishing for halibut safer?" Of those persons who had earlier answered "yes" to this question, 95% responded "yes" in the later survey. Of those who had earlier answered "no" or "don't know" to this question, more than half responded "yes" in the later survey. Thus actual experience with the program appears to have changed some fishermen's minds to a more positive attitude towards safety effects of IFQ management--although this result is based on only a small number of responses.

Table 4
Do you think that IFQs have made fishing for halibut safer?
Comparison with Responses to the 1993 Captains Survey

	Yes	No	Don't know	Total	Number of responses
<i>Responses to 1993 captains survey question: "Do you think that IFQs will make fishing for halibut safer?"</i>					
Yes	95%	3%	2%	100%	72
No	57%	33%	9%	100%	15
Don't know	77%	23%	0%	100%	6

Note: Responses are for resurveyed 1993 captains who fished in 1997.

Bold font indicates change in answer between 1993 and 1997 surveys.

Source: Question K2. File: Question K2.

Open-Ended Responses about Positive Effects of the IFQ Program

Near the end of the survey, respondents were asked open-ended questions about positive and negative effects of the IFQ program. One of these questions was "What have been the most positive effects of the IFQ program on your fishing operation?" As shown in Table 5, by far the most frequent response to this question was "safety." ⁹

Table 5
What have been the most positive effects of the IFQ program on your fishing operation?

	Percent of respondents who mentioned "safety"	Total number of respondents
Resurveyed 1993 captains who did not fish in 1997	42%	75
Resurveyed 1993 captains who fished in 1997	37%	89
1997 permit holders	50%	101

Source: Question L8. File: Question L8a.

Responses which were coded as "safety" are shown below, as summarized by survey interviewers on individual survey questionnaires. These responses provide more insight into how fishermen expressed their opinions about safety effects, and in some cases their rationale.

Able to run a safer and saner operation.

Best thing eliminated derby days of fishing, used to fish regardless of weather or anything else. Made it safer.

Better weather, picking your weather.

Can fish in good weather.

Don't have to go out in any weather.

Don't have to go out in bad weather

Fish safe.

Fish when you want to; if it's too strong you don't go, saves lives, Be in Anchorage at night safe and sound.

Fish whenever we want, not in bad weather.

Fisherman have safer trips, not as rushed and can fish in good weather.

Fishing is safer.

Fishing safer instead of mass jumble of confusion on derby day which seems was also worse time of the year for tides.

Good weather.

Greater safety.

Improved safety.

Increase in safety for vessels and crew

Increase in safety, fish in good weather

It is safer.

Less dangerous.

Made fishing less dangerous.

Main thing it eliminated the need to worry about weather.

Much safer.

Nice to fish in good weather if you have lbs.

No bad weather.

None-two kids are in it and don't have to fish the derby anymore. The only plus is to keep kids out of the derby and stinking weather. Protects his kids' lives.

Not as dangerous.

Not fishing in bad weather.

Only positive is safety that could have been handled under the old system by giving fishery management more latitude in the openings, closings for weather concerns.

Only positive is you can wait out bad weather.

Only safer fishing for the fisherman.

Option to go out when you had good weather.

Pick weather.

Picking weather.

Risk factor has gone away or down.

Safe for fishermen since we can go when we want.
Safer (*twelve responses*)
Safer conditions and less stressful on us.
Safer conditions.
Safer fishery.
Safer fishing!
Safer for fisherman and fish.
Safer on fishermen.
Safer weather to fish in is the only thing I can think of.
Safer, more enjoyable.
Safer, shorter trips.
Safety (*thirty-four responses*)
Safety and ease in fishing. (*two responses*)
Safety factor
Safety factor, most important (felt for people who had to fish during derbys to make a living)
Safety for boats and people. (*two responses*)
Safety for fishermen.
Safety for us fishermen.
Safety for us.
Safety improved.
Safety is first, less stress and peace of mind.
Safety of fishermen.
Safety probably. Choice of when to go.
Safety standard, seems there are tighter controls.
Safety, choose not to go when windy.
Safety, guys are not having to fish in bad weather.
Safety, its a big deal we've all lost friends fishing and it is much better now.
Safety, not having a marathon fishing derby.
Safety, pick and choose weather.
Safety, weather, didn't have to fish in bad weather.
Safety-no derbies; quality of fish
Safety; not as much pressure.
Saved a lot of lives in last three years. Safety, life, and property.
Take my time and not be forced to fish because I can wait on the weather.
The fact I can choose the weather conditions and time for fishing. Safety, because no time limit.

Time spent fishing, pick own, safer.

We can choose our weather to go out and fish.

Weather situation better, safety.

Endnotes

¹A list of working papers in this series may be found at the ISER web site at <http://www.iser.uaa.alaska.edu>. Copies of these papers may be downloaded from this site in pdf format.

²A growing body of research discusses effects of IFQ management in Alaska and elsewhere. In these working papers, we do not attempt to describe this research, or to compare results of the ISER surveys with other sources of information about effects of IFQ management. Our purpose is simply to report the results of the ISER surveys. At the end of this paper, we have included a list of references about the Alaska IFQ program.

³The earlier survey, which we refer to as the "1993 survey", was a survey of a random sample of 1993 permit holders. Most but not all of these permit holders were vessel captains in 1993: responses for the Captains Resurvey reported in this paper are only those of 1993 vessel captains. Funding for the 1993 survey was provided under Saltonstall-Kennedy program grant #NA37FD0184. A description of the 1993 halibut fishery, based largely on that survey, is provided in a 20-page report by ISER researchers Matthew Berman and Linda Leask entitled "On the Eve of IFQs: Fishing for Alaska's Halibut and Sablefish (1994). Copies of the report by Berman and Leask are available upon request from the author of this paper.

⁴All vessels participating in Alaska halibut longline fisheries are required to have a State of Alaska halibut permit holder aboard. The permit holder is usually, although not always, the vessel captain. The State of Alaska requirement to have a permit holder on board is unrelated to (and predates by many years) the IFQ management system, which is a federal program. Under the IFQ management system, vessel halibut landings are limited by IFQ holdings of persons on board (or, in some cases, hired captains). IFQ holders are not necessarily permit holders, or vice versa.

⁵A separate working paper (*Methodology for ISER Surveys of Alaska Halibut Fishermen*) provides a detailed discussion of sample stratification, weighting, and other technical issues for both surveys.

⁶Slight underestimates were to be expected because the estimates are based only on responses of the 97 permit holders who fished vessels listed on their permits.

⁷In chi-squared tests of homogeneity, the null hypothesis of homogeneity among survey groups, vessel classes, or harvest level groups was not rejected at the 10% significance level for any of the groupings shown in Table 2. Pearson chi-squared statistics, degrees of freedom, and significance levels were as follows for the groupings shown above. By survey group: 3.41, 2, .341. By vessel size class, for resurveyed 1993 captains who fished in 1997: 1.82, 4, .768. By vessel size class, for 1997 permit holders: 3.22, 4, .522. By 1997 harvest level, for resurveyed 1993 captains who fished in 1997: .13, 2, .936. By 1997 harvest level, for 1997 permit holders: .39, 4, .984.

⁸In chi-squared tests of independence, the null hypothesis of independence among survey responses was rejected at the 1% significance level for three of the groupings shown in Table 3, and at the 5% level for the other grouping. Pearson chi-squared statistics, degrees of freedom, and significance levels were as follows for the groupings shown above. Conservation of the halibut resource: 46.9, 4, .000. Allocated halibut fairly: 10.33, 4, .035. Better off financially: 24.44, 4, .000. Attitude towards IFQ management: 63.98, 4, .000.

⁹Other frequent responses (as coded by the author) included "can choose when to fish," "less stress," "stability and easier planning," and "better markets and prices." These responses are discussed in another working paper in this series entitled "Attitudes of Alaska Fishermen Towards IFQ Management: Survey Responses of Alaska Halibut Fishermen."

The Alaska Halibut IFQ Program: Selected References

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