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Description and Impacts of Northeast Groundfish Fishery Buyout Programs

by

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Introduction

Since the passage of the Magnuson Act and establishment of the Exclusive Economic Zone (EEZ) in 1977, the fishery for groundfish in the northeastern U.S. has been managed under three fishery management plans (FMPs) developed by the New England Fishery Management Council (Council) and NOAA's National Marine Fisheries Service (NMFS). From 1977 to 1982, the fishery was managed primarily by quotas for cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), and yellowtail flounder (*Pleuronectes ferrugineus*). During this period, the stocks began rebuilding following historic overfishing by foreign fleets. Even as the foreign fleets were being excluded from the EEZ, the U.S. domestic fleet was experiencing an unprecedented increase in new vessel construction. This increase was due, in varying degrees, to the economic opportunity presented by both the displacement of the foreign fleets and increases in stock abundance, to incentive programs such as the Fishing Vessel Obligation Guarantee Program and the Fishing Vessel Capital Construction Fund Program which encouraged replacement and new construction of fishing vessels, and, later, to the Tax Reform Act of 1981. The increase in fleet size was not limited by the Groundfish FMP.

Trends in vessel construction and vessel entry into the northeast groundfish fishery are difficult to discern due to changing data collection protocols and inconsistent reporting over time. Additions to the U.S. domestic fishing fleet were routinely reported in the *Fisheries of the United States (FUS)* from 1964 to 1972. However, no distinction was made between newly constructed vessels and vessels converted to fishing from some other use. By contrast, data on newly constructed vessels from 1973 to 1980 were reported in *FUS* but numbers of vessels converted from other uses were not reported. Throughout this time series, whether any of the added or newly constructed vessels were ever used for fishing purposes was not reported. Data on vessel activity are available from the NMFS "weighout" data base from 1964 to 1997. These data can be used to determine in what year vessels entered the groundfish fleet but cannot be directly linked to the vessel construction data reported in the *FUS*. Nevertheless, the two data sources can be used to draw some inferences about the buildup in the northeast groundfish fleet that occurred between 1974 and 1984.

Figure 1 illustrates patterns of vessel construction (data from *FUS* are denoted by a line with triangle markers) and vessel entry into the northeast groundfish fishery over time. Due to database changes, a consistent time series could only be constructed for three New England states (Maine, Massachusetts, and Rhode Island). These three states were the only states represented in the Northeast weighout data base from 1964 to 1977. For the remaining years, they represent the majority of vessels and landings of groundfish in the Northeast (over 90% in 1997 based on weighout data) and are likely to be representative of the region as a whole. The total number of identified, unique vessels (i.e. fishing craft > 5 gross registered tons (GRT)) landing in the New England region (solid line) as well as the additional number of vessels > 5 GRT which were captured by the landings data base in each year (line with circle markers) are reported in Figure 1. Each series shows a consistent trend of relative stability in terms of total vessels and added vessels from 1965 until 1973. During this time, an annual average of 581 vessels participated in

the New England groundfish fishery. Approximately 50 vessels which had not previously been identified in any prior year were added annually to the weighout landings data. However, as new vessels were being added other vessels were leaving, leading to a net annual average increase of 9 vessels.

From 1974 to 1980 the northeast fishing fleet increased dramatically. New vessel construction peaked in 1979 at 176 vessels; an average annual increase of 22.3%. Similarly, the number of vessels that were added to the landings data base increased at an annual rate of 31.1% to 278 vessels in 1980. The total number of vessels recorded as having landed groundfish in New England was 1,185 in 1980; an average annual increase of 8.7%. Since 1980, the number of New England vessels landing groundfish has gradually declined (at a rate of 1.4% per year); however, the fleet size in 1997 was still about 60% larger than during 1965 - 1973.

The buildup in capacity resulted in an increasing number of vessels fishing on the annual quotas. Without some basis for controlling at least the number of participants, for example through limited entry or controlling effective effort through properly specified property rights, fishing effort increased as expected and quotas were rapidly filled, leading to boom and bust market conditions and numerous management and enforcement problems. At the same time, impacts on the resource were becoming evident. Growing dissatisfaction with catch quotas led to their removal and replacement with indirect controls on fishing effort in 1982. These indirect controls (gear restrictions and minimum fish sizes) were implemented under the "Interim Plan". This plan was designed to provide adequate resource protection while a more comprehensive and effective approach could be developed. With the near doubling of vessels in the New England groundfish fleet, however, such measures were not sufficient to control exploitation and groundfish stocks declined.

The current Northeast Multispecies Fishery Management Plan or Multispecies Plan became effective in 1986. The Plan added seven more species to the management unit (three additional species were added through the amendment process in 1991) and made a number of regulatory changes. However, the basic format of indirect control of fishing mortality was retained. Currently, ten of the species managed under the Plan are defined as "regulated" or "large mesh" species: cod, haddock, pollock (*Pollachius virens*), yellowtail flounder, winter or blackback flounder (*Pleuronectes americanus*), witch flounder (*Glyptocephalus cynoglossus*), American plaice (*Hippoglossoides platessoids*), redfish (*Sebastes*), white hake (*Urophycis tenuis*), and windowpane flounder (*Scophthalmus aquosus*). The three remaining "small mesh" species are red hake (*Urophycis Chuss*), silver hake (*Merluccius bilinearis*), and ocean pout (*Macrozoarles americanus*).

Without limiting entry or directly controlling effort, groundfish stocks became severely overfished and several stocks declined to record low levels. In May, 1994, NMFS implemented a major revision to the Multispecies Plan (Amendment 5) proposed by the Council. Amendment 5 partially capped the number of vessels in the fishery through a limited access program, and controlled the amount of time many vessels in the fleet could spend at sea. Gillnet vessels were

restricted by protective measures for harbor porpoise while hook vessels were limited in the number of hooks allowed. These measures were designed to end overfishing (as defined prior to the 1997 Sustainable Fisheries Act). Subsequently, the Council began to develop further modifications to the Multispecies Plan to rebuild the depleted stocks. Amendment 7, proposed in early 1996 and implemented in July 1996, included the adoption of a more rigorous days-at-sea (DAS) reduction schedule, the removal of most exemptions from DAS controls, and a more flexible adjustment process to respond to specific resource conditions.

Implementation of Amendment 7 imposed economic hardships, and several financial assistance programs were subsequently erected to mitigate the economic impacts expected to affect the industry and marine dependent communities. Through the Emergency Supplemental Appropriations Act of 1994, \$30 million was provided to the U.S. Department of Commerce for the Northeast Fisheries Assistance Program (NFAP). The NFAP consisted of: (a) \$2 million for the Fishing Capacity Reduction Demonstration Program (hereafter referred to as the pilot buyout program); (b) the establishment of Fishing Family Assistance Centers; (c) loan guarantees to improve fishing infrastructure; and (d) research grants to develop opportunities for fishermen in aquaculture, underutilized species, and other businesses. Subsequently, an additional \$25 million was made available through the Interjurisdictional Fisheries Act for an expanded buyout program known as the Fishing Capacity Reduction Initiative. Ultimately, \$2 million was used to fund a health insurance program for Northeast fishermen. Results of these two buyout programs are described below.

The Fishing Capacity Reduction Programs

The buyout programs were developed and implemented in two phases by NOAA's Office of Sustainable Development (OSD), beginning with the pilot buyout program in June, 1995. The pilot program was designed to determine the level of interest in a buyout initiative and to test various implementation protocols such as bidding procedures, scrapping provisions and eligibility and selection criteria. The pilot buyout program was successfully concluded in February 1996 with the purchase and disposal of 11 vessels possessing permits in the Northeast multispecies fishery.

Based on the success of the pilot buyout program, OSD initiated the \$23 million expanded buyout program in September 1996. By May of 1998, 68 additional vessels had been bought out and removed from the multispecies fishery.

Buyout objectives

As stated in the Federal Register¹ the goal of the pilot buyout was "...to demonstrate that a

¹ June 22, 1995 (Vol. 60, No. 120 pg. 32504)

vessel removal program can be successfully designed and implemented and that such a program can be an effective tool in the conservation and management of U.S. fisheries.” Although this goal mentions conservation, the same Federal Register announcement also states that the purpose of the program was “...to address the needs of those directly affected by the decline of traditional fisheries in the Northeast.” Thus, providing a means for distressed groundfishermen to exit the fishery, and conserving the resource by permanently removing groundfish vessels and their related permits were both part of the initial design and implementation of the two buyout programs. The Federal Register notice for the expanded buyout program reiterates these dual purposes by stating that the “...objectives are to provide grants to eligible fishermen adversely impacted by the groundfish fishery disaster, and to aid the long-term viability of the groundfish fishery resource through the reduction of active harvesting capacity at the lowest cost.”²

Design of buyouts

An extensive series of public hearings was held in Northeast ports prior to both buyout programs to elicit support and ideas designing these programs. The resulting design reflected many of the features and ideas generated by industry. The primary features for both programs are summarized in Table 1.

To be eligible for the buyout program, a vessel owner had to first possess a limited access multispecies permit. In the pilot buyout program, eligibility was limited to a subset of vessel owners holding limited access permits. In the expanded buyout program, eligibility was opened to all limited access multispecies permit holders. Secondly, vessel owners had to demonstrate that at least 65% of the fishing revenues from their vessels were derived from landings of regulated groundfish species in three of four years from 1991 to 1994. Further, the owner's vessel had to be capable of fishing under its own power in Federal waters.

Buyout bids were submitted using a “reverse auction,” in which each vessel owner was required to prepare a bid or price at which he/she would be willing to render the vessel in an un-fishable condition and surrender all Federal fishing permits. Selection of vessels was based on a hierarchical ranking of the ratio of the bid price to the vessel's groundfish revenue. This criterion was used to provide a means for comparing bids across dissimilar vessels. Numerous alternative ranking methods were discussed based on various combinations of vessel characteristics and groundfish landings or revenues. In the end, average yearly groundfish revenue was used as it was believed to be a reasonable proxy for fishing power. It was also easy for applicants to compute their scores using this metric. Each vessel was ranked from lowest to highest according to this ratio and selections were made in this order until all budgeted monies were consumed. Owners of selected vessels were then notified and given an opportunity to reconsider. Mutually accepted bids continued on to closure proceedings; otherwise, the vessel was dropped from consideration and the next highest ranked vessel was selected.

²August 28, 1996 (Vol. 61, No. 168 pg. 44300)

Prior to closure, the vessel owner was required to show that the vessel was being scrapped or sunk or, in the case of the expanded buyout program, committed to some non-fishing use. Vessel owners were required to surrender all Federal fishing permits and pay any costs associated with scrapping or transferring the vessel, including legal or accounting costs and, liens, debts, or taxes. The owner had to consider these costs, together with possible income from the sale of vessel equipment (gear, electronics, etc.) in developing the bid amount. Vessel owners were not required to surrender their right to reenter the multispecies fishery (or enter any other fishery) provided they could purchase a vessel with the appropriate permits.

Descriptive Statistics

Vessels removed

Of the original \$27 million allocated for the two vessel buyouts, \$2 million was set aside to fund a health insurance program for Northeast fishermen and \$0.6 million was used for administrative expenses of the expanded buyout program. Therefore, a total of \$24.4 million was available for the actual purchase of groundfish vessels. A total of 79 vessels were removed using the funds: 11 in the pilot buyout and 68 in the expanded buyout program. The average bid for the vessels purchased was \$308,734 and ranged from a low of \$50,000 to a high of \$1 million. The average score of the vessels bought out was 0.922 which means that, on average, vessel owners thought the value of their vessel was approximately equal to one year of groundfish revenue (using 1991 to 1994 revenue).

Most of the vessels purchased were either scrapped (62) or sunk (7). Scrapping required permanent disassembly, while sinking had to be done in an ecologically safe manner. In the expanded buyout program, transfer of a purchased vessel to a non-fishing purpose was also allowed. A vessel could be transferred to "...a U.S. public entity, a U.S. nonprofit organization, or a foreign national government for research (including fisheries research), education, training, humanitarian, safety, or law enforcement purposes."³ Such transfers required (1) a provision in the title that the vessel be scrapped once the purpose for which it was transferred had been completed, and (2) that the vessel was permanently prohibited from holding a fishing permit. Ten vessels were transferred in accordance with these requirements.

The number of vessels purchased under the two buy-out programs are listed, by state and city, in Table 2. The state and city were based on the vessel owners' address as listed on the permit application. The majority of vessels were from Massachusetts (55) and Maine (19).

Table 3 provides descriptive statistics of the physical characteristics of the vessels

³Federal Register August 28, 1996, Vol. 61, No. 168 pg. 44300

removed in the buyout programs. Retired vessels averaged 100 GRT, with a range from 5 to 198 GRT. The age of the average vessel was 21.7 years. Newer vessels (6 years of age) as well as much older vessels (69 years) were retired. The main engine horsepower averaged 502 hp and ranged from 160 to 1,125 hp. Overall vessel length averaged 64.9 feet and ranged from 35 to 105 feet.

The majority (60) of the vessels bought out fished using otter trawls. Eighteen vessels used gillnet gear and one vessel used a combination of otter trawl and gillnet gear. Of the 79 vessels, 41 held individual days-at-sea allocation permits, 36 held fleet days-at-sea permits, and 2 held combination groundfish and scallop permits.

Impacts of Removal

Indicators

As described earlier, vessels removed in the buyout program had to surrender not only their multispecies permit but all other federal fishing permits as well. Thus, while the primary impact of the vessel buyout was in the groundfish fishery, some relief also accrued to other Northeast fisheries. The impact on the groundfish fishery of removing 79 vessels can be gauged using several different indicators including: annual average (1994 to 1996) landings and revenue of all species; average annual landings and revenue of the 10 regulated groundfish species; 1996 allocated and expended nominal fishing effort in the groundfish fishery, and 1996 allocated and used ton-days (i.e. days-at-sea multiplied by GRT). The value of these indicators, and their percentage relative to the entire groundfish fleet, are listed in Table 4. The vessels in the expanded program were removed in the latter part of 1997, so their landings, revenue, and effort are reflected in the total fleet figures for 1996. Since 11 vessels were removed during 1995, the estimated activity of these vessels was added to the fleet totals for 1995 and 1996.

Based on 1994 to 1996 data, the 79 buyout vessels accounted for \$23.9 million in annual gross revenues and 35.3 million pounds in annual landings of all species. Average annual total gross revenues and landings for all multispecies vessels were \$268.9 million and 434.2 million pounds, respectively. Thus, the impact of the buyout on all species was a reduction of 8.9% in ex-vessel revenues and 8.1% in landings.

Since the buyouts were designed to remove groundfish vessels, the impacts are greater on groundfish landings and revenues than on landings and revenues of all species combined. On average, the 79 buyout vessels accounted for \$17.4 million in gross revenues and 16.7 million pounds landed annually of the 10 regulated species managed under the Multispecies FMP. Average annual total gross revenues and landings by all multispecies vessels of the 10 regulated species were \$85.7 million and 82.9 million pounds, respectively. The buyout vessels therefore accounted for 20.3% of the revenue and 20.1% of the landings of the 10 regulated groundfish species.

Impact measures based on landings and revenues are indicators of the short-term impacts of the buyout program; the amount of actual effort removed provides an indication of the duration of these benefits. The vessel buyout removed the equivalent of 4.9% of all allocated groundfishing days and 16.8% of the total groundfishing days actually used during the 1996 multispecies fishing year (May 1, 1996 to April 30, 1997). An alternative measure that combines fishing time with a proxy for differential fishing power across vessels is a ton-day. Calculated as ton-days, the buyout program removed the equivalent of 10.2% of the allocated total and 22.3% of actual days used during the 1996 fishing year. The impact on fishing effort measured in terms of total allocated ton-days is proportionally larger than the same measure based on expended fishing time. This is because the retired vessels were, on average, larger than those in the overall

multispecies fleet.

The reduction in allocated days measures the potential permanent reduction in fishing effort while the reduction in used days represents an intermediate term impact. That is, while the total number of allocated days is expected to remain relatively constant (or decline) over time, changes in the use of allocated days can be expected to vary annually, especially in relation to stock status. For example, in 1996 only 21.1% of the total days-at-sea allocated to the groundfish fleet were actually used (38.7% if ton-days are used). A positive change in resource or market conditions might easily prompt an increase in the fleet's usage rate and re-apply the bought out effort. In the short-term, however, the scheduled decline in overall allocations under Amendment 7 should cap any increases in fishing effort.

Table 5 provides the number and type of other federal fishery permits surrendered by the retired vessels. In all, 463 federal fishery permits were surrendered in addition to the 79 multispecies permits. Most of the retired vessels held commercial lobster permit and general category scallop permits. Other permits held by at least 65% of the vessels included general category bluefin tuna and squid/mackerel/butterfish permits. The average annual landings and revenues associated with these other permits is reported in Table 6.

Given the relatively low cost of acquiring and keeping permits, many vessels held several different permits over extended periods without using them. For example, even though 71 of the retired vessels held a lobster permit, only 45 reported having landed lobsters between 1994 and 1996 (Table 6). Where the number of vessels reporting landings is greater than the number of vessels holding a particular permit (e.g., summer flounder, scup, etc), the landings by non-permitted vessels probably represents allowable bycatch. Landings of monkfish and small mesh groundfish (red hake, silver hake, and ocean pout) are also reported in Table 6 even though they are landed under a multispecies permit. Monkfish was the most important alternative species landed by the retired vessels.

Latent Effort

Landings and permit data for the 1997 fishing year (May 1, 1997 to April 30, 1998) were used to further explore the latent effort remaining in the groundfish fishery after the buyouts. Table 7 describes the post-buyout groundfish fleet (vessels with multispecies permit) by latent effort type and multispecies permit category. The latent effort types were defined as vessels having:

Type 1	No recorded landings
Type 2	No recorded regulated groundfish landings but recorded landings of other species

- Type 3 Recorded regulated groundfish landings but less than 50% of allocated days used.
- Type 4 Recorded regulated groundfish landings with greater than 50% of allocated days used (Includes vessels which used all allocated days as well)

The mutually exclusive multispecies permit categories used in Table 7 are described below where categories A through G are limited access categories:

- A Individual DAS - based on the vessel's history.
- B Fleet DAS - an "average" number applied to all vessels in the category.
- C DAS Exemption - no limit on DAS for vessels 0-30 feet in length, but with a 300-lb per trip combined cod, haddock, yellowtail possession limit.
- D Hook-only - a limit of 4,500 hooks and fleet DAS. Vessels in this permit category may not change to another limited access category.
- E Combination - vessels with individual allocations in both the groundfish and scallop fisheries: a vessel's total DAS never exceeds 365.
- F Large-Mesh Individual DAS - an augmented allocation of days because of the lower mortality rate exerted by the specified larger mesh.
- G Large-Mesh Fleet DAS - a slightly larger allocation than the standard fleet DAS, due to the lower mortality rate with the specified larger mesh.
- History Category Permits are retained by vessel owners for possible use in the future. The vessel characteristics reported are for the vessel that generated the history of activity. These permits can be applied to larger or smaller vessels within the vessel upgrade provisions of the Multispecies Plan.
- Open Access Category No limit on vessel entry and no allocation of days-at-sea but trip limits on possession of certain groundfish species. Open access categories include hand gear only, party/charter boats, vessels with limited access scallop permits, and small-mesh species.

The latency type with the largest number of vessels, is Type 1 with 1,592. More than 29,158 days-at-sea were allocated to this group. However, these were, on average, the smallest vessels of the pools of vessels in the four types. Vessels fall into Type 1 if 1) the vessel is in disrepair and not able to fish, 2) the vessel no longer exists, 3) the vessel has not submitted a

logbook, or 4) the vessel is under a permit sanction. Permits maintained for vessels no longer in existence can be re-applied to other vessels as long as the new vessel meets the upgrade provisions.

The latency type representing the most allocated days-at-sea is Type 3 with 936 vessels and more than 54,901 allocated days-at-sea. Most of these vessels (510) held limited access fleet days-at-sea permits which meant each vessel was allocated 88 days yet used 50% or fewer days.

There are 826 Type 2 vessels which were allocated more than 27,835 days. Since these vessels were actively fishing during the 1997 fishing year, although not for groundfish, they represent a substantial amount of effort that could be directed at groundfish. Most of these vessels (263) held limited access fleet days-at-sea permits.

There are 421 Type 4 vessels which were allocated more than 41,371 days. This group of vessels were actively fishing for groundfish and so don't represent a huge source of "latent" effort. Their average days-at-sea utilization rate was 82% (Table 7).

Table 8 provides total values for all latent effort types. Allocated days-at-sea for the 1997 fishing year (greater than 153,265 days) is less than the days-at-sea allocated for the 1996 fishing year (248,988) because of the scheduled reduction under Amendment 7 and the buyout. The reduction in used days-at-sea from 52,508 in 1996 to greater than 43,458 in 1997 are possibly due to a number of factors: 1) Amendment 7 reduction schedule, 2) the buyout, and 3) lower utilization rates. The extent of each of these is not explored here but is addressed in the annual Northeast harvest capacity reports submitted to Congress by the Northeast Fisheries Science Center (see references in the "For further information" section).

Conclusion

Both the pilot and expanded buyouts achieved their goals of 1) providing a means for distressed groundfishermen to exit the fishery, and 2) conserving the resource by permanently removing groundfish vessels and their related permits. By design, the buyouts successfully removed vessels that were very active in the groundfish fishery. To the extent vessels were active in other fisheries, the buyouts also removed actual and potential effort in those fisheries. The bidding and ranking process also encouraged vessel owners to submit bids at their lowest acceptable level. The problem of latent effort is still unresolved. The potential exists for the remaining vessels to increase their groundfish activity and erode most of the longer term buyout benefits.

For further information

Fisheries of the United States, [issued annually; covering 1964-1982]. Issues prior to 1970 were prepared by U. S. Fish and Wildlife Service and are available via interlibrary loan. Issues since 1970 are available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

National Marine Fisheries Service. Report to Congress on Northeast Multispecies Harvest Capacity and Impact of New England Harvest Capacity Reduction. 1997 and 1998.

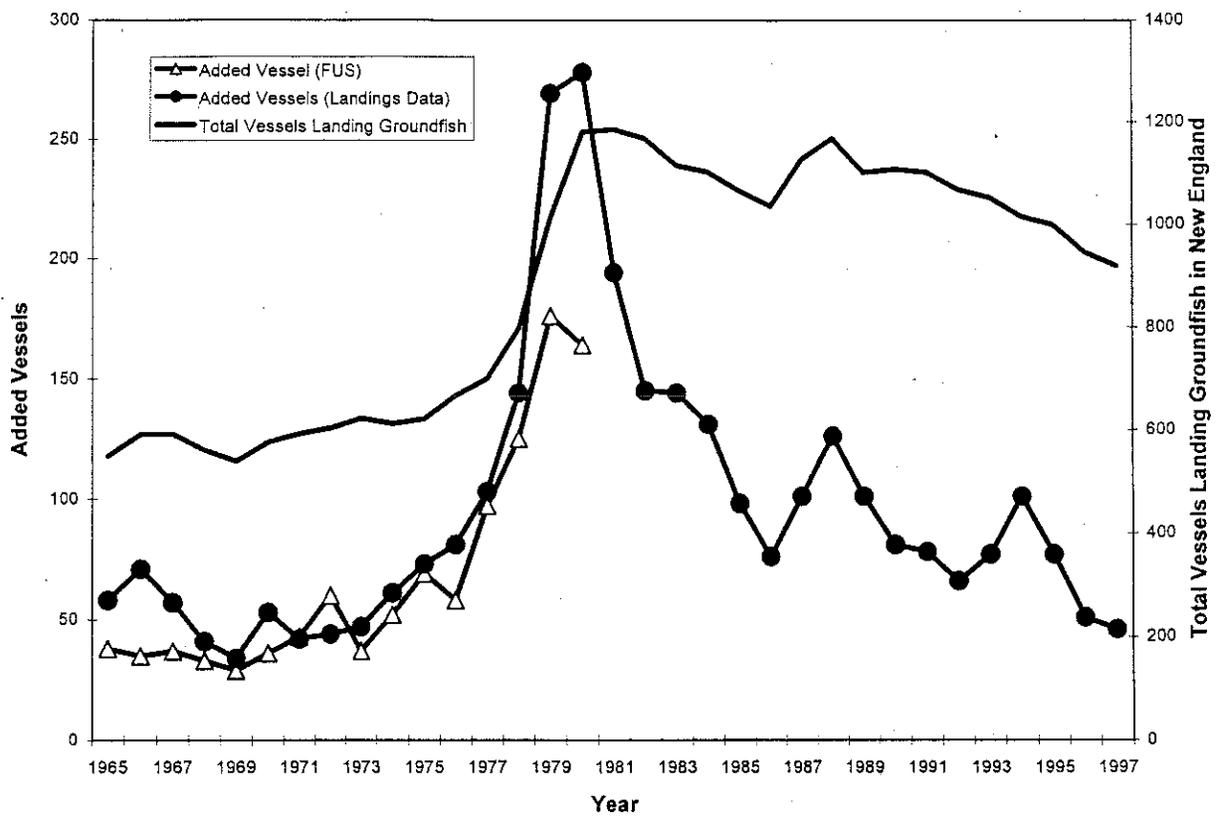


Figure 1. Additions to the New England fishing fleet and number of vessels landing groundfish in Maine, Massachusetts or Rhode Island (1965 to 1997).

Table 1. Principal features of fishing capacity reduction ("vessel buy-out") programs.

Feature	Pilot buyout program	Expanded buyout program
Eligibility: possession of multispecies limited access permit	Allowable Amendment 5 permit types (of the 6 possible types): 1) Individual days-at-sea allocation 2) Fleet days-at-sea allocation 3) Gillnet permit	Any of the 7 limited access permit types under Amendment 7
Eligibility: capable of fishing for groundfish in federal waters under own power prior to application	Required	Required
Eligibility: derived 65% or more of gross annual revenues from 10 regulated groundfish species	For 3 of the four years from 1991 to 1994	For 3 of the four years from 1991 to 1994
Score formula used to rank applicants (lower score = higher rank)	Bid divided by average annual groundfish revenue from 3 highest years (1991 - 1994)	Bid divided by average annual groundfish revenue from 3 highest years (1991 - 1994)
If accepted, surrender all federal fishing permits	Required	Required
If accepted, scrap vessel	Required	Transfers to eligible entities for non-fishing uses allowed

Table 2. Number of vessels retired by owners' state and city/region of residence.

State	Vessels	City/region	Vessels
Massachusetts	55	New Bedford	19
Maine	19	Gloucester	11
Rhode Island	1	Cape Cod	11
New Hampshire	3	Portland	8
New York	1	Other	30
Total	79		79

Table 3. Characteristics of retired vessels.

Vessel characteristic	Average	Minimum	Maximum
Gross registered tons	100	5	198
Age when retired (years)	21.7	6	69
Propulsion engine horse power	502	160	1,125
Vessel length (feet)	64.9	35	105

Table 4. Impacts of removing vessels through the pilot and expanded buyout programs measured by average annual revenue, average landings (based on data from 1994-1996), and effort (based on 1996).

	Revenue and pounds from all species landed		Revenue and pounds from 10 regulated groundfish species landed		Allocated and used days-at-sea for limited access vessels in 1996		Allocated and used ton-days for limited access vessels in 1996 ^a	
	Dollars (million)	Pounds (millions)	Dollars (million)	Pounds (millions)	Allocated days-at-sea	Used days-at-sea	Allocated ton-days	Used ton-days
Average per buyout vessel	\$0.303	0.447	\$0.220	0.211	152.9	111.8	15,911	13,539
Total for all retired vessels	\$23.9	35.3	\$17.4	16.7	12,083	8,831	1,256,963	1,069,564
Fleet totals	\$268.9	434.2	\$85.7	82.9	248,988	52,508	12,378,349	4,794,924
Percent Removed	8.9%	8.1%	20.3%	20.1%	4.9%	16.8%	10.2%	22.3%

^a Ton-days were calculated as the product of gross registered tons and days-at sea.

Table 5. Additional permits held by retired vessels.

Permit category	Vessels	Permit category	Vessels
General category bluefin	56	Ocean quahog	36
Incidental category bluefin	1	Scup	10
Private category bluefin	19	Commercial lobster	71
General category scallop	69	Charter lobster	1
Limited access scallop	2	Summer flounder	42
Surf clam	43	Shark	3
Atl. mackerel/Illex squid	54	Black sea bass	2
Loligo Squid/Butterfish	53	Swordfish	1

Table 6. Average (1994-1996) yearly pounds landed and revenue earned by retired vessels from species other than groundfish (zero landings of listed species are not included in the averages).

Permit category	Number of vessels	Average pounds	Average revenue
Bluefin Tuna	11	444	\$3,998
Sea scallops	17	1,933	\$1,531
Mackerel	41	4,107	\$565
Squids	16	24,620	\$12,382
Butterfish	14	1,084	\$436
Scup	15	981	\$591
Lobster	45	2,470	\$9,991
Summer flounder	44	3,204	\$4,964
Shark	33	414	\$348
Black sea bass	13	409	\$355
Monkfish (under multispecies permit)	79	82,276	\$45,056
Small mesh	60	7,080	\$2,336
Other species	79	137,227	\$23,760

Table 7. Types of Post Buy-out Latent Effort by Multispecies Permit Category (1997 fishing year).

		Multispecies Permit Category									All
		A	B	C	D	E	F	G	History	Open Access	
Type 1	No. of vessels	10	253	8	64	4	1	2	58	1,192	1,592
	Average length	80	44	25	35	72	c ¹	c ¹	52	36	38
	Average GRT ²	118	31	4	15	107	c ¹	c ¹	58	23	26
	Total allocated days-at-sea	1,090	22,264	0	5,632	172	c ¹	c ¹	0	0	>29,158
Type 2	No. of vessels	6	263	3	46	7	0	2	0	499	826
	Average length	72	49	22	36	75	-	c ¹	-	46	47
	Average GRT ²	112	47	4	16	143	-	c ¹	-	42	43
	Total allocated days-at-sea	342	23,144	0	4,048	301	0	c ¹	-	0	>27,835
Type 3	No. of vessels	5	510	3 ³	90	23	1	7	0	297 ³	936
	Average length	64	46	24	30	81	c ¹	44	-	50	47
	Average GRT ²	89	35	3	10	157	c ¹	20	-	63	45
	Total allocated days-at-sea	640	44,880	-	7,920	621	c ¹	840	-	-	>54,901
	Total used days-at-sea	236	8,444	-	852	18	c ¹	185	-	-	>9,735
	Utilization rate	0.37	0.19	-	0.11	0.03	c ¹	0.22	-	-	0.18
Type 4	No. of vessels	118	287	0	9	7	0	0	0	0	421
	Average length	70	54	-	36	83	-	-	-	-	58
	Average GRT ²	119	57	-	25	176	-	-	-	-	76
	Total allocated days-at-sea	14,868	25,256	0	792	455	0	-	-	0	41,371
	Total used days-at-sea	13,924	18,942	0	486	371	0	-	-	-	33,723
	Utilization rate	0.94	0.75	-	0.61	0.82	-	-	-	-	0.82

¹ c = cannot report due to confidentiality restrictions

² GRT = gross registered tons

³ Since no days allocated to this permit type, could be classified as either latency Type 3 or Type 4

Table 8. Post Buy-out Latent Effort (all types) by Multispecies Permit Category (1997 fishing year).

		Multispecies Permit Category									All
		A	B	C	D	E	F	G	History	Open Access	
	No. of vessels	139	1,313	14	209	41	2	11	58	1,988	3,775
	Average length	71	48	24	33	80	c ¹	42	52	41	44
	Average GRT ²	118	42	4	14	153	c ¹	17	58	34	40
All types	Total allocated days-at-sea	16,940	115,544	-	18,392	1,549	c ¹	1,320	0	0	>153,265
	Total used days-at-sea	14,160	27,386	-	1,338	389	c ¹	185	0	-	>43,458
	Utilization rate	0.84	0.24	-	0.07	0.25	c ¹	0.14	-	-	0.28

¹ c = cannot report due to confidentiality restrictions

² GRT = gross registered tons