

**UNITED STATES NATIONAL PLAN OF ACTION
FOR
THE MANAGEMENT OF FISHING CAPACITY**

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EXECUTIVE SUMMARY

The management of fishing capacity is a high priority for U.S. fisheries. The National Marine Fisheries Service (NOAA Fisheries) is working to bring about effective and lasting resolution to this challenge. The United States played a significant role during the 1990s in addressing the problem of overcapacity in marine fisheries, and was a key participant in the Food and Agriculture Organization's (FAO) technical and policy-level consultations of 1997-1999 that led to the International Plan of Action for the Management of Fishing Capacity (IPOA/capacity).

It is widely agreed that overcapacity is a common problem in many domestic and international fisheries that fosters destructive derby operations (the race to fish), aggravates overfishing and bycatch, creates chronic management problems, and undermines the economic performance of the harvesting sector. NOAA Fisheries believes that the United States should eliminate or significantly reduce overcapacity in 25 percent of federally managed fisheries by the end of 2009 and in a substantial majority of fisheries in the following decade. These long-term targets will depend on progress made in reducing and eliminating overfishing in federally managed fisheries, a closely related mandate in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Given the structure of the U.S. fisheries management system, specific remedial measures are being developed by the eight Regional Fishery Management Councils (Councils) on a fishery-by-fishery basis. NOAA Fisheries will work cooperatively with the Councils to identify fisheries in need of capacity reduction and to develop measures to achieve those reductions. Programs to manage capacity will typically include (1) limited entry and permit management programs, (2) exclusive quota programs, and (3) publicly and privately funded buybacks of permits and/or vessels. The United States pledges to play an active role in achieving progress on this important issue. In this regard, NOAA Fisheries will:

- establish and, when necessary and appropriate, revise the medium and long-term national capacity reduction targets,
- prepare regular assessments of overcapacity in federally managed fisheries,
- work with the Councils to reduce overcapacity in fisheries under their jurisdiction,
- convene a national meeting in 2005 that addresses, among other things, the capacity issue, where NOAA Fisheries and its constituents can review progress and focus on future priorities, and
- help the Councils develop/ prioritize goals for capacity reduction in specific fisheries.

Throughout this plan of action, the key terms are defined in terms of outputs. As a result, "capacity" should be understood as the ability to harvest fish; "excess capacity" compares a vessel/fleet's harvesting capacity and its actual catches; and "overcapacity" exists when a vessel/fleet's harvesting capacity exceeds a management target.

I. INTRODUCTION

This U.S. plan of action for the management of fishing capacity serves two purposes. The first and most obvious is to fulfill a commitment undertaken by the United States and all other FAO Members set forth in the 1999 FAO IPOA/capacity. Specifically, the FAO IPOA for the management of fishing capacity provided in Section II (Preparation and Implementation of National Plans) that States should:

“develop, adopt and make public, by the end of 2002, national plans for the management of fishing capacity and, if required, reduce fishing capacity in order to balance fishing capacity with available resources on a sustainable basis. These should be based on an assessment of fish stocks and giving particular attention to cases requiring urgent measures and taking immediate steps to address the management of fishing capacity for stocks recognized as significantly overfished.”

A second purpose of this plan is to map out a strategy to reduce overcapacity in U.S. fisheries. NOAA Fisheries has testified before Congress that overcapacity is a serious problem facing managers and policymakers. NOAA’s Marine Fisheries Advisory Committee has urged the Administration to develop a strategy to address this problem. Many Councils have given much attention to this issue. This plan will focus on the management of capacity in federally managed fisheries and the domestic components of international fisheries, and not in fisheries under the States’ jurisdiction or in purely international fisheries. At the same time, given the frequent overlap between State and federal fisheries, capacity reductions in federal waters will be more effectively developed in collaboration with the States. Approximately 60 percent of all commercial harvests are taken in federal waters (from 3 to 200 miles), and only 3 percent are taken beyond the 200-mile zone.¹ Matters relating to activities on the high seas and in waters under the jurisdiction of other nations are addressed in other the FAO international plans of action, especially the plan that addresses illegal, unreported, and unregulated (IUU) fishing.

The legal framework and procedures that govern the federal management of marine fisheries are given in the Magnuson-Stevens Act. The most significant and unique feature of the U.S. fisheries management system is the originating role of the Councils, eight bodies with federal and State representatives and private sector members nominated by the State Governors and appointed by the Secretary of Commerce. Under this management system, the Councils develop fishery management plans (FMPs), plan amendments, and regulatory amendments, and submit them to the Secretary of Commerce for review and approval. The sole exceptions are two FMPs for Atlantic Highly Migratory Species, which are managed directly by the Secretary of Commerce. Therefore, in most managed U.S. fisheries, measures to manage capacity are developed primarily by the Councils, and then reviewed, approved, and implemented by government agencies, chiefly NOAA Fisheries.

¹ NMFS, NOAA, Commerce, Fisheries of the United States 2002 (September 2003). See the table on commercial landings by distance from U.S. shore on pp. 8-19.

II. A U.S. PLAN OF ACTION FOR THE MANAGEMENT OF FISHING CAPACITY

The management of fishing capacity involves the Federal Government, as well as the eight Councils, who have the lead for developing specific proposals. Therefore, this national plan of action will discuss the responsibilities of all the key players. The major responsibilities of NOAA Fisheries are to (1) establish a policy, (2) develop goals, (3) prepare capacity reports and assessments, (4) provide technical support to the Councils on specific capacity management plans and programs, and (5) generally to advocate capacity management with the Councils and industry.

The Councils play a critical role in deciding which of the fisheries under their jurisdiction require capacity management, especially reduction of overcapacity, and the specific measures that will be used to manage capacity in particular fisheries. The legal framework that addresses capacity management is contained in the Magnuson-Stevens Act, in particular its provisions in sections 303 and 304 relating to Individual Fishing Quotas (IFQs) and section 312(b)-(e) vessel buybacks.

A. Policy

It is the policy of NOAA Fisheries to use its authorities to help the Councils and industry manage capacity with the major objective of bringing about a reasonable balance between harvesting capacity and available resources.

Ultimately, levels of harvesting capacity should be sufficient to promote optimum use and resource sustainability. Conversely, overcapacity in the harvesting sector should be addressed through one or more means with the goal of achieving significant and sustainable reductions in overcapacity. A key element in this policy is the collaborative relationship between NOAA Fisheries and the Councils.

B. Goals

The United States should eliminate or significantly reduce overcapacity in 25 percent of federally managed fisheries by the end of 2009 and in a substantial majority of fisheries in the following decade. To meet this goal, NOAA Fisheries must determine and then periodically update the levels of overcapacity in managed fisheries, and that assessment requires the establishment of management targets, a responsibility of the Councils. Therefore, decisions on which specific federally managed fisheries will require a capacity reduction program will be made pursuant to developments in the following two areas:

- o completion of the national report on overcapacity, which NOAA Fisheries plans to finish in 2005/2006, and
- o a process of detailed consultations with the Councils, the fishing industry, and other constituencies.

C. NOAA Actions and Programs

(1) Capacity Reports

NOAA Fisheries will assess quantitative levels of excess capacity and overcapacity in federally managed commercial fisheries. The Councils clearly have the lead in identifying which specific fisheries that require concerted efforts to manage capacity, and these NOAA Fisheries reports will help the Councils make informed choices. In this light, the major value of the NOAA Fisheries reports on capacity is that these assessments will help the Councils determine which fisheries exhibit the highest levels of overcapacity.

NOAA Fisheries will complete assessments of excess capacity in 2004 and overcapacity in 2005/2006. “Excess capacity” is the difference between harvest capacity and actual harvests, while “overcapacity” compares harvesting capacity and a management target. Examples of management targets are TACs (total allowable catch), MSY (maximum sustainable yield), and MEY (maximum economic yield). Because the United States manages fisheries to meet certain targets, NOAA Fisheries has determined that, ultimately, overcapacity, as defined above, is the more important measure of the underlying problem.

The quantitative reports on capacity that are currently being prepared by NOAA Fisheries will provide some of the information that will be needed to estimate net, or aggregate costs of fishing capacity reduction programs. Similarly, they will provide some of the information needed to determine which fisheries represent the highest short, medium, and long term priorities for capacity management and reduction.

Finally, since this is a dynamic issue, these reports must be periodically updated. NOAA Fisheries pledges to prepare an update every other year on progress in assessing and managing capacity. These reports could possibly be included as required elements in each fishery’s Stock Assessment and Fishery Evaluation report.

(2) Information Base

NOAA Fisheries will also need better information on the fishing fleets that operate in federally managed waters. At the present time, while the Coast Guard is responsible for documenting commercial fishing vessels at 5 net tons or greater (~25,000), NOAA Fisheries does not have a comprehensive and up-to-date list of state-numbered boats harvesting natural resources.

To correct this deficiency, Congress mandated that NOAA Fisheries “develop recommendations for implementation of a standardized fishing vessel registration and information management system.” NOAA Fisheries reported its recommendations to Congress in December 1998, concluding that such a system would cost almost \$52 million and could be implemented over a period of 5 to 7 years.

Appreciable progress has been made in the last several years. NOAA Fisheries has a comprehensive database of federally permitted vessels with information on permit types, vessel

characteristics and ownership information. A Professional Specialty Group (PSG) under the umbrella of the National Fisheries Information System is coordinating the types of information to be collected on future permits. The PSG, working with State partners, is moving forward with the development of regional registries. NOAA Fisheries anticipates that, when the registry is in place, NOAA Fisheries, the Councils, and the States will have much improved information on the number and type of active fishing vessels. This national database will help managers track the movement of vessels from one federally managed fishery to another. In other words, even though capacity will be managed primarily on a fishery-by-fishery basis, regional and national information is also useful.

(3) National Meeting on Capacity

To focus the attention of agency managers on this problem, NOAA Fisheries will convene a national meeting in 2005 that will address a wide range of fisheries issues, including the management of capacity. This conference will be followed by biennial technical-level workshops that focus on progress achieved, problems encountered, and targets/priorities in dealing with overcapacity in the harvesting sector.

(4) Monitoring and Revision

The national plan of action for the management of fishing capacity will continue to evolve and will require regular monitoring and revision. Regular program reviews will be necessary to ensure that capacity management is conducted in a way that respects evolving conditions and mandates. Program updates may be prompted by future events, including Congressional actions, future NOAA Fisheries capacity reports, and new issues brought to the forefront by the Councils and industry. At the same time, future trends in capacity/overcapacity levels and stock health will significantly influence this plan. For this reason, and in conformity with paragraph #24 of the FAO IPOA/capacity, NOAA Fisheries will conduct a formal review of this plan "at least every four years", i.e., by no later than 2008.

D. Capacity Management Plans

Capacity management objectives and plans for most federally managed fisheries will be addressed on a case-by-case basis through recommendations developed by the Councils. Note that, under current law, capacity management and reduction is authorized, but not required, in Section 312(b)-(e) of the Magnuson-Stevens Act. NOAA Fisheries will work with the Councils in a number of ways to help them achieve their capacity management goals. In particular, NOAA will:

- provide to the Councils the necessary data and technical tools, including capacity estimates of the federally managed fisheries under their jurisdiction, to help them determine specific overcapacity levels and develop appropriate quantitative capacity management objectives and plans,
- develop capacity management and capacity reduction targets, where appropriate, in

the two Secretarially managed fisheries (which already have limited entry regulations), working with the relevant advisory committees and affected industry groups,

- work closely with industry groups interested in developing capacity reduction programs, in particular on the business plan required in Section 312 (e) of the Act,
- participate in the Councils' deliberations concerning which capacity reducing management measures/approaches are most appropriate in a given fishery, and
- provide assistance to the Councils to ensure that their capacity management programs are effectively coordinated with the relevant State fishery agencies, regional State marine fisheries commissions, and international (regional) fisheries management organizations.

E. Estimates

In a recent internal assessment of requirements to meet its major programmatic missions, NOAA Fisheries concluded that the aggregate costs of buying out overcapacity in five major federally managed fisheries is almost \$1 billion.² This assessment also notes that overcapacity can be reduced in two ways: (1) buybacks and (2) a “transferable share based management system that allocates rights to harvest shares of the resource.” Therefore, the public and private costs of capacity reduction will depend on which approach is favored by the relevant Council and future appropriations by Congress.

Under current law, capacity reduction initiatives can be funded through a variety of public and private sources. Buybacks may be funded and targeted directly by Congress or developed according to the Magnuson-Stevens Act provisions in section 312(b)-(e). In the latter case, fishing capacity reduction programs may be funded by (1) direct appropriations (2) federal loans repaid by industry fees, or (3) State or other public sources or private or non-profit organizations.

In the case of IFQs, capacity is reduced through the rationalizing effect of the secondary market for IFQ shares. This market is driven by several factors, including the industry's capital resources, market and input prices, and stock conditions. In addition, IFQs and community development quotas (CDQs) are subject to the Magnuson-Stevens Act section 304(d) provisions requiring that participants pay (up to 3 percent of aggregate ex-vessel revenues) for the management and enforcement costs attributable to that program .

F. Statutory Authorities

Measures to address capacity may be placed in three broad categories: (1) limited entry and other

² Division of Fisheries Statistics and Economics, Office of Science and Technology, National Marine Fisheries Service, The Estimated Vessel Buyback Program Costs To Eliminate Overcapacity in Five Federally Managed Fisheries, June 2002.

permit programs, (2) exclusive quota programs, including IFQs, CDQs, and cooperatives, and (3) buybacks. The Councils and NOAA Fisheries have the Magnuson-Stevens Act authority to make use of all these measures, as provided in sections 303 and 304, which address the required and discretionary provisions of management plans and Secretarial actions, and section 312, which addresses buybacks.

Sections 303 and 304 include the authority for measures such as limited entry, IFQs, and actions such as effort quotas and permit stacking, all of which have obvious implications for capacity management. Buyback programs are addressed in Magnuson-Stevens Act section 312(b)-(e), and NOAA Fisheries has already prepared and published in October 2001 a final rule that implements this program.

In addition, the Administration approved in June 2003 a package of proposals to reauthorize the Magnuson-Stevens Act, including two provisions that are relevant to the overcapacity problem: (1) standards and requirements that apply to new IFQs and (2) streamlined procedures for buybacks under section 312(b)-(e). The Administration has often stated that it supports making IFQs available to the Councils as a valuable management tool that addresses overcapacity in the harvesting sector.

III. PROGRESS REPORT

A. CAPACITY MEASURES AND ASSESSMENTS

In 1997/1998, while the FAO consultations leading to the IPOA/capacity were in progress, a Congressionally mandated report on how U.S. subsidies influenced levels of capacity was being prepared by the Federal Fisheries Investment Task Force, a group of non-government interested parties. At about the same time, NOAA Fisheries set up an internal working group of economists and fishery scientists to address this issue. Over the last half dozen years, this working group has developed appropriate definitions and measures of capacity, prepared a “qualitative” national report on overcapacity, and has completed the regional assessments of excess capacity that will be used in the first “quantitative” report, to be issued in early 2005. The most important quantitative assessment will address overcapacity, which NOAA Fisheries defines as current harvest capacity measured against a management target. Taken together, the Congressionally mandated study and the NOAA Fisheries reports provide a sound basis in analysis and fact for understanding this problem. As a result, we now have a reasonably good idea how and why overcapacity developed, and how to identify and assess it for commercial fisheries.

(1) Report to Congress on Subsidies and Capacity (1999)

When the Sustainable Fisheries Act amendments to the Magnuson-Stevens Act were passed in October 1996, Congress mandated a study “of the role of the Federal Government in (1) subsidizing the expansion and contraction of [domestic] fishing capacity in fishing fleets ... and (2) otherwise influencing the aggregate capital investments in fisheries.” The Federal Fisheries Investment Report to Congress referred to above was completed by a Task Force of non-government interested parties in July 1999, and represented the first post-1996 organized attempt to study and assess the overcapacity problem. Understandably, the conclusions of a report that reviewed the roles of literally dozens of government programs were mixed and often tentative. However, this report found that, overall, certain government programs, such as tax credits and deferrals, and loan guarantees, encouraged over-investment and excessive levels of effort in some federally managed fisheries during certain periods, in particular the late 1970s and 1980s.

From a capacity assessment perspective, this report was significant mainly because, for the first time, an official study defined capacity as an output (“the maximum potential output or level of landings that could be realized if only the fixed factors limited production”). In this respect, the members of the Task Force were influenced by the consensus reached at an FAO technical consultation on defining and measuring capacity in La Jolla, California in April 1998. This output-based definition could be expressed in physical, technological terms or in economic terms, but the important point is that capacity/overcapacity would be measured in terms of potential outputs, or harvests, which may be more easily interpreted than input-based estimates measured in terms of excessive vessel numbers, size, or engine horsepower. In addition, the FAO and U.S. output-based definition may be more amenable to the unique features of different capture fisheries or sectors than traditional models based solely on the amount of vessel capital

or number of vessels. However, the more advanced metrics are also more data-demanding and more difficult to apply.

(2) Draft Task Force Report on Definitions and Measures (2001)

NOAA Fisheries created an internal working group in August 1998, comprised of economists and fishery scientists, to formally develop appropriate definitions and measures of capacity/overcapacity and prepare reports on capacity levels in U.S. fisheries.³ The technical report's recommendations were endorsed by the NOAA Fisheries Science Board in August 1999, and the report was completed in draft in early 2001.⁴

This report was significant for a variety of reasons. First, it identified “regulated open access management of a public resource” as the principal cause of the overcapacity problem. Second, it restated and further developed output-based definitions. Specifically, four output-based definitions were proposed, including an umbrella definition, a technical definition, an economic definition, and a modified economic definition. Third, this report carefully reviewed various methods for estimating technical capacity, selecting the following three as the most appropriate and useful: (1) peak-to-peak, (2) data envelopment analysis, and (3) stochastic production frontier.

The peak-to-peak approach is the most basic and easily comprehended approach, requires the least amount of data, but uses several simplifying and often questionable assumptions. Data envelopment analysis (DEA) and stochastic production frontier (SPF) models are less restrictive and more advanced approaches, but both require more detailed data than peak-to-peak. DEA and SPF can accommodate multiple outputs and multiple inputs, while SPF is the more appropriate tool when there are significant levels of “noise” or measurement error in the data.

The Task Force proposed three different categories for characterizing capacity (none or no appreciable overcapacity; moderate overcapacity; and substantial overcapacity) and recommended use of economic definitions of capacity. That is, capacity should, if possible, be estimated based on cost minimizing behavior by the individual participants in the fishery. For a variety of reasons, the preferred assessment methodologies should be peak-to-peak (for data-poor fisheries) and data envelopment analysis or stochastic production frontier analysis (for fisheries with more abundant data). The Task Force also recommended investigations of methodologies that would incorporate the recreational sector in capacity estimates.

³ Memorandum from Penelope D. Dalton, the Assistant Administrator for Fisheries, “FY 2000 Workplan for Assessing Domestic Fishing Capacity in Federally Managed Fisheries,” December 28, 1999.

⁴ National Excess Capacity Task Force, NOAA Fisheries, Report of the National Task Force for Defining and Measuring Fishing Capacity, February 2001. The first draft version of this report was completed in June 1999.

(3) Qualitative Report on Capacity Levels in U.S. Fisheries (2001)⁵

Although the NOAA Fisheries internal working group clearly preferred quantitative estimates based on economic rather than purely physical/engineering definitions, the task of completing these assessments proved to be difficult given the broad deficiencies in cost data required for such an approach. To maintain the capacity initiative's momentum, the working group decided to issue a "transitional" report based on qualitative indicators. Qualitative indicators of overcapacity include the following:

- (1) the biological status of the fishery (Is it overfished?),
- (2) management category (Is the fishery open access, limited access, or rights-based?),
- (3) harvest-TAC relationship (Do catches exceed the quotas?),
- (4) TAC-season length (Is the fishing season increasing or decreasing?),
- (5) total catch levels and their allocations (How contentious is the quota-setting process?),
- (6) latent permits (What is the ratio of active to total permits?), and
- (7) catch-per-unit-of-effort in commercial fisheries (Are catch rates increasing or declining?).

The qualitative report concluded that the fisheries listed on the following page exhibit overcapacity in the harvesting sector. It should be stressed that, using the above qualitative indicators, some of the results are not what many would expect. Certain fisheries that have benefitted from rights-based management, such as Alaska halibut and sablefish, continue to exhibit some overcapacity because of restrictions on the transferability of quota shares. In other fisheries, the State-managed inshore component may suffer from overcapacity while the federally managed component does not. Alaska salmon is an example of this latter situation. In other words, the qualitative report presented a rough and initial overall picture, and NOAA Fisheries recognizes that more precise estimates are needed.

⁵ Identifying Harvest Capacity and Over-Capacity in Federally Managed Fisheries: A Preliminary Qualitative Report, Office of Science and Technology, and Office of Sustainable Fisheries, NMFS, NOAA, Commerce, March 2001.

Fisheries with Qualitative Indications of Overcapacity

Northeast

1. Tilefish
2. Spiny dogfish
3. Northeast groundfish
4. Large-mesh mixed trawl fisheries
5. Small-mesh mixed trawl fisheries
6. Atlantic sea scallop

Southeast

1. Caribbean queen conch
2. South Atlantic snapper-grouper (excluding Nassau grouper and jewfish)
3. Gulf group king mackerel
4. Gulf stone crab
5. South Atlantic rock shrimp
6. Gulf shrimp (excluding royal red shrimp)
7. Gulf shallow-water groupers
8. Gulf red snapper

Alaska

1. Gulf of Alaska groundfish
2. Bering Sea/Aleutian Islands crab
3. Bering Sea/Aleutian Islands groundfish
4. IFQ halibut and sablefish
5. Alaska scallop
6. Alaska salmon

Northwest

1. Limited entry fixed gear sablefish
2. Limited entry fixed gear non-sablefish groundfish
3. Limited entry trawl non-whiting groundfish
4. Open access groundfish
5. Pacific Coast salmon

Western Pacific

1. Northwest Hawaiian Islands bottomfish
2. Northwest Hawaiian Islands lobster
3. Hawaiian pelagic charter
4. American Samoa bottomfish
5. Guam bottomfish

Atlantic Highly Migratory Species

1. Large coastal sharks
2. Pelagic sharks
3. Small coastal sharks
4. North Atlantic swordfish
5. Bluefin tuna
6. Bigeye tuna
7. Albacore tuna
8. White marlin
9. Blue marlin
10. Sailfish
11. Yellowfin tuna

Applying these qualitative indicators to 75 discrete species/fisheries, the working group

discovered that 41 of these fisheries (55 percent of the total), exhibit signs of overcapacity.⁶ The majority of fisheries studied in this report that showed qualitative indications of overcapacity were highly valued and traditional commercial fisheries. Further, the qualitative report suggested that overcapacity appears to be more severe in the Northeast, Atlantic Highly Migratory Species and Southeast than in West Coast fisheries. Obviously, the report was less precise than one would desire, as it did not address the magnitude of the problem in fisheries where overcapacity was identified. Nevertheless, the qualitative report was the first official assessment of capacity that addressed nearly all federally managed fisheries.

(4) Expert Group Report on Capacity Measures (2001)

The NOAA Fisheries working group discovered that a number of difficult technical issues were complicating efforts to move forward with quantitative estimates of capacity. To help resolve these issues, the agency convened a meeting of non-government, academic experts in fisheries management and economics, production efficiency, capacity and capacity utilization, and population dynamics. The meeting, which took place on April 23-25, 2001, generated a report that represents another significant step forward in the NOAA Fisheries initiative to develop estimates of capacity that are useful to managers, as technically appropriate and accurate as possible, and driven by economic definitions and concepts.⁷ The experts generally endorsed NOAA Fisheries' efforts, but further examined and refined some of the more complicated issues, laying the groundwork for completion of the quantitative estimates. Most notably, the academic experts developed a distinction between "excess capacity" and "overcapacity." Henceforth, "excess capacity" means that a vessel/fleet can produce more than it does. "Overcapacity," by contrast, is said to exist when a vessel/fleet's capacity exceeds the productivity of the resource or is above a management target (e.g., Total Allowable Catch, Maximum Sustainable Yield, or Maximum Economic Yield).

The experts also developed a suite of formulas to assess "excess capacity" and "overcapacity" and further divided each into short-term and long-term measures. Accordingly, NOAA Fisheries and Council managers can choose from among a number of measures, depending on the availability of data, the circumstances of the fishery in question, whether they want to assess excess capacity or overcapacity, and whether they are more interested in short-run remedies or long-run solutions. Each measure uses a formula based on the technology, capital stock, and variable input use of each vessel, as well as fishery biomass and other external constraints. In essence, these formulas measure capital utilization for each target species and can be computed

⁶ NOAA Fisheries, NOAA, Commerce, Identifying Harvest Capacity and Overcapacity in Federally Managed Fisheries: A Preliminary Qualitative Report, March 2001. The original qualitative report did not include Pacific Coast and Alaska salmon, since they were not considered federally managed fisheries. Both exhibit overcapacity and have therefore been added to this qualitative list.

⁷ Report of the Expert Group on Fish Harvesting Capacity, Final Report to the National Oceanic and Atmospheric Administration on Contract #40-AA-NF-109717, June 2001.

for various fleets or fisheries.

Equally important, the experts discussed how the measures can be used in different management environments, such as in open access, regulated open access and “rights-based” fisheries. In addition, when stocks fluctuate, especially if they fluctuate unpredictably, the measures of excess capacity and overcapacity have to be used with extreme care. Since the data may not be perfect and management targets can change, the experts urged managers to exercise caution in developing specific remedial programs.

(5) Estimate of Costs of Buying Out Overcapacity in 5 Selected Fisheries (2002)

As a first step in the quantitative assessment of capacity levels in U.S. fisheries, a report was issued in June 2002 that provided an estimate of the costs of buying out overcapacity in five selected federally managed fisheries: New England groundfish, Gulf of Mexico shrimp, Atlantic swordfish, Atlantic large coastal sharks, and West Coast groundfish.⁸ To calculate buyback costs, the report used average annual per-vessel revenues, the so-called “rule of thumb.”

It is noteworthy that, of the 5,182 vessels in these five fisheries, about 60 percent, or 3,105 vessels, would have to be removed to eliminate overcapacity, and the approximate aggregate costs of buying out these vessels would be almost \$1 billion. Interestingly, about 20 percent of this total estimate was attributable to the removal of latent permits in the New England groundfish fishery. In summary, the United States has made much progress in its studies of fishing capacity. A study of the governmental role was completed, definitions and measures were studied and approved; a qualitative national report based on indicators was prepared, and the first steps toward national quantitative estimates were taken. NOAA Fisheries has developed methods to assess the economics of harvesting capacity that are far more sophisticated than the less refined indices employed in agency publications just a decade ago.⁹

In addition to the above NOAA Fisheries national reports on capacity levels, some of the Councils, for example the Pacific Council, have commissioned or conducted on their own studies that address the fisheries for which they have jurisdiction. The Pacific groundfish capacity study found that it would take only about 30 percent of the groundfish vessels in this fishery to harvest all the groundfish quotas in 2000.¹⁰ The New England Council has focused on the Northeast

⁸ Division of Fisheries Statistics and Economics, Office of Science and Technology, National Marine Fisheries Service, The Estimated Vessel Buyback Program Costs to Eliminate Overcapacity in Five Federally Managed Fisheries, June 2002.

⁹ For example, in 1992, NMFS issued a seminal report on the economics of the harvesting sector that used a roughly determined “fleet size adjustment” factor to address what in fact was overcapacity. See: NMFS, Office of the Senior Scientist for Fisheries, Analysis of the Potential Economic Benefits from Rebuilding U.S. Fisheries, April 1992.

¹⁰ The major results of this study are summarized in: James Hastie, Evaluation of Excess Fleet Capacity in the West Coast Groundfish Fishery, (2000). The author has recently

multispecies fisheries, and the North Pacific Council has examined “rationalization” of the Alaska crab fisheries and lately turned its attention to Gulf of Alaska groundfish. In brief, the Executive Branch’s concerns about overcapacity are widely shared by the Councils that originate proposals to deal with this problem.

B. THE U.S. LEGAL REGIME

(1) Magnuson-Stevens Act and Other Relevant Statutes (ESA and MMPA)

Fishery Management Plans (FMPs) and plan amendments are not explicitly obligated to manage capacity, or, to be more precise, reduce overcapacity. Neither managing capacity nor reducing overcapacity is included among the “required” and “discretionary” provisions of fishery management plans in section 303(a) and (b) of the Magnuson-Stevens Act. At the same time, one major provision of the Magnuson-Stevens Act - - the requirement to avoid overfishing, and to rebuild overfished stocks - - does have implications for the management of capacity. Essentially, overfishing can not occur unless a fleet has too much capacity (can catch too many fish), but overfishing can be reduced without necessarily decreasing the fleet’s capacity.

Two key Magnuson-Stevens Act provisions with implications for capacity management are IFQs and buybacks. Under current law, IFQ programs must be developed and implemented in conformity with the Section 303(d) provisions of the 1996 Sustainable Fisheries Act amendments to the Magnuson-Stevens Act. The Sustainable Fisheries Act also enacted a moratorium on new IFQs, in effect from 1996 to 2002. Buyback programs are governed by Section 312(b)-(e) of the Magnuson-Stevens Act. Whether implemented as a single-standing prescription or in conjunction with an exclusive quota program, buybacks have thus far been one of the most important remedial measures. Fishing capacity is explicitly addressed only in section 312(b)-(e), which authorizes a “Fishing Capacity Reduction Program.” Under this provision, at the request of a Council for Council-managed fisheries or a State governor for State-managed fisheries, the Secretary “may” institute a program to reduce capacity through a buyback, with funding provided from several potential sources, including fees paid by fishermen who remain in the fishery following the buyout. This provision was enacted in 1996; however, not a single section 312(b)-(e) capacity reduction program has been implemented, although the American Fisheries Act buyback of Bering Sea pollock trawlers more or less adhered to this Magnuson-Stevens Act model.

Elsewhere in the Magnuson-Stevens Act, various provisions, while silent on capacity management, do have implications for discretionary measures that address this issue. To name the most obvious, the national standards, which apply to all management measures, mandate that the Councils and NOAA Fisheries “prevent overfishing”(NS1), conduct “fair and equitable allocations” and avoid excessive concentration of shares (NS4), “consider efficiency” (NS5),

noted that, given the continued declines in stock abundance of the last few years, the “minimum fleet sizes required to harvest available optimum yields are at least 20-30% smaller than the estimates reported (in the 2000 document).”

“minimize costs” (NS7), “minimize adverse economic impacts” on fishery dependent communities (NS8), “minimize bycatch” (NS9), and “promote the safety of human life at sea” (NS10). These standards will necessarily influence the development of buybacks and exclusive quota programs, the two major classes of capacity-reducing actions.

Fishing operations in the United States may also be subject to and therefore implicitly managed by other environmental laws, in particular the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). Measures implemented pursuant to the ESA and MMPA can constrain or even prohibit certain fishing operations, if those operations pose an unacceptable threat to the recovery of a protected marine species. Under those circumstances, some level of fishing capacity must be deployed elsewhere, reduced, or deactivated. Examples abound, but the fisheries for Alaska pollock and Pacific cod, for many Pacific Coast salmon stocks, and Hawaiian swordfish have been significantly constrained by measures designed to protect Stellar sea lions, wild salmon stocks, and turtles and seabirds respectively. In these situations, protected species laws may be said to have significant implications for overcapacity.

(2) The Legal Regime Relating to Fishing Vessels (American Fisheries Act)

Two elements in the U.S. legal regime for vessels qualifying to operate in federally managed fisheries have implications for harvesting capacity. First, qualifying vessels must be constructed in domestic shipyards.¹¹ The “domestic construction” requirement has been in place since the 1790s, and it continues to prohibit foreign-built and perhaps less expensive vessels. The second, much more recent requirement, which was legislated in 1998, restricts the size and power of eligible vessels, effectively eliminating extremely large hulls. The 1998 American Fisheries Act prohibited fishing vessels greater than 165 feet in registered length, more than 750 gross registered tons, or with engines capable of producing more than 3,000 shaft horsepower. These latter ceilings applied to new entrants, and not to existing participants.

¹¹ However, fishing vessels based in U.S. territories and the Commonwealth can obtain exemptions from the domestic construction requirement.

C. MANAGEMENT PROGRAMS

(1) Limited Entry

The simplest and most basic means of managing capacity is through limited entry. This term refers to a broad range of measures that restrict, currently or potentially, the participation of new entrants. The weakest form of limited entry is a simple permit requirement, which, depending on its cost, may or may not deter participation.¹² If, for example, there are no limits on the aggregate number of permits and the permit fee is low, a permit requirement will have no capacity-constraining effect. Last year, the Gulf of Mexico Council approved a mandatory permit program in the shrimp fishery, paving the way for limited entry in one of the largest of the remaining purely “open access” federally managed fisheries.

Another measure is a control date, which can have restrictive effects, although their intent is to put participants on notice of future possible restrictive actions. A more restrictive approach is a program that sharply limits or even prohibits participation unless the fisherman has an active and recent history in the fishery. Permit consolidation programs may effectively limit new entrants, thereby making a valuable initial contribution to capacity management. In the South Atlantic snapper/grouper fishery, for example, new entrants must acquire two valid permits and retire one to qualify as a participant.¹³

Limited entry is typically one of the easier management measures to adopt among those that have indirect implications for capacity. Limited entry is useful to the Councils and NOAA Fisheries in determining the universe of recent and current participants in a fishery and in restricting new entrants.

The most fundamental shortcoming of limited entry as a means of managing capacity is that this approach may restrict new entrants but does not constrain effort and investments by established participants. A 1997 study carried out by the Organization for Economic Cooperation and Development, a Paris-based organization of developed countries, on the economics of various fishery management systems concluded that limited entry is generally not a highly effective means of curbing overfishing and overcapacity.¹⁴

¹² In many cases, annual fees for permits are so low that they hardly act to deter participation. The Magnuson-Stevens Act, in §304(d)(1), limits such fees to “the administrative costs incurred in issuing the permits.”

¹³ This “two for one” limited entry program has reportedly reduced considerably the number of active permits in the SA snapper/grouper fishery. Phone conversation with Robert Mahood, Executive Director, South Atlantic Fishery Management Council, September 3, 2002.

¹⁴ OECD Fisheries Committee, Towards Sustainable Fisheries: The Economic Aspects of the Management of Living Marine Resources (Paris, France: OECD, 1997).

(2) Exclusive Quota Programs

Exclusive quota programs can be effective and economically efficient means of addressing capacity. The term “exclusive quota program” refers here to output-based measures in which a share of harvests is allocated exclusively to designated individuals or groups. Three well-known types of exclusive quota programs that exist in U.S. federally managed fisheries are: IFQs, Community Development Quotas (CDQ), and fishing cooperatives.

If the quota shares are transferable, i.e., they can be sold and leased, the market will automatically induce a rationalization process in which more economically efficient participants and/or those with lower labor and other input costs will over time acquire larger shares from other quota holders. In this way, exclusive quota programs with transferable shares can create incentives that will inevitably constrain effort and investments, and over time mitigate overcapacity.¹⁵ Although IFQs are the best known and most controversial form of exclusive quota program, all three types have key traits in common and can contribute, in varying ways and degrees, to a mitigation of overcapacity in the harvesting sector.

Finally, it should be noted that exclusive input-based programs, such as individual effort quotas, may offer similar capacity-constraining benefits. A management program that allocates days-at-sea to individual fishermen is an example of such an input-based approach. Recent changes in some effort quotas, such as the introduction of limited transferability in the days-at-sea program in the Northeast Multispecies FMP, seem to be moving effort quotas in the same general and ultimate direction as exclusive output (catch) quotas.

(a) Individual Fishing Quotas

The classic form of exclusive quota program is one in which shares are assigned to individuals. Originally called individual transferable quotas (ITQs), concerns emerged, especially in Alaska, about the long-term effects on participation and ownership concentration of transferable programs, and, in response, “transferable” was dropped and replaced with “fishing”, and ITQs became IFQs, first in Alaska and then in the 1996 Sustainable Fisheries Act amendments to the Magnuson-Stevens Act.

Between 1990 to 1996, three IFQ programs were established in federally managed fisheries: (1) the Surf Clam/Ocean Quahog IFQ (1990), (2) the South Atlantic wreckfish IFQ (1992), and (3) the Alaska halibut/sablefish IFQ (1995).¹⁶ In addition, a small IFQ had been created through

¹⁵ It should also be pointed out that FAO and some academic economists have suggested that another broad category of incentive-adjusting measures is resource taxes. In theory, a large enough user fee or royalty would constrain effort and investments, prompting more rational and efficient behavior by the resource users.

¹⁶ This brief discussion draws on numerous sources but the best known general treatment of U.S. IFQs is the study mandated by Congress in the Sustainable Fisheries Act amendments to the Magnuson-Stevens Act. National Academy of Sciences (National Research

Secretarial action pursuant to international agreement for five participants in the Atlantic purse seine fishery for bluefin tuna.

Major reductions in participation and capacity have occurred in the surf clam/ocean quahog and South Atlantic wreckfish IFQs,¹⁷ and in the Alaska halibut/sablefish IFQ. On the other hand, the IFQ program for the purse seine fishery for Atlantic bluefin tuna has exhibited stability because it was established to effectively freeze U.S. participation of 5 quota holders. In the Atlantic bluefin tuna program, quota shares are transferable only among purse seine operators. Hence, the brief U.S. experience with four IFQs suggests that this form of management can be an effective way to manage capacity, with impacts on effort, investments and participation varying sharply according to the objectives and structure of the IFQ program.

Domestic and international experience suggests that IFQs address overcapacity most effectively when quotas are freely transferable. Conversely, restrictions on the transferability of quota shares in IFQ programs tend to mitigate their capacity-constraining effects. It may be noted that IFQs in foreign nations have a generally impressive track record as a means of improving economic efficiency and mitigating overcapacity in the fish harvesting sector. Good examples of IFQs with liberal transferability and documented capacity reduction effects are the Mid-Atlantic surf clam and ocean quahog IFQ and the South Atlantic wreckfish IFQ. An example of an IFQ that permits but constrains transfers is the Alaska halibut and sablefish IFQ, which was established mainly to rationalize the operations of this fishery while preserving its small-scale and owner-operator structure and the dependent fishing communities. At the opposite end of the transferability spectrum, non-transferable quotas may be attached to individual vessels, an approach used in some Norwegian trawl and purse seine fisheries. Non-transferable vessel quotas will probably freeze rather than promote reductions in capacity.¹⁸

The recent debate on IFQs has also focused on the standards and guidelines that should apply to new IFQs. Most of these standards/guidelines address allocations and the nature of the privilege. Under current law, IFQs (1) must provide for fair and equitable initial allocations and avoid excessive concentrations of quota shares; (2) confer privileges, not rights, and the government will not reimburse or compensate quota holders if those privileges are reduced or removed, and (3) may assist purchases of IFQ quota shares by small-boat and entry-level fishermen, captains and crew.

Council), Sharing the Fish: Toward a National Policy on Individual Fishing Quotas (Washington, D.C.: National Academy Press, 1999).

¹⁷ During the most recent fishing season, only two quota holders even participated in the wreckfish fishery. In this IFQ fishery, harvests in recent years have been far below the quota.

¹⁸ A useful discussion of the implications for economic efficiency of a non-transferable vessel quota system may be found in: Kristin Arland and Trond Bjorndal, "Fisheries Management in Norway: An Overview", Marine Policy 26 (2002), pp. 307-313.

Finally, the debate on IFQs in the United States has been influenced by the emergence of a relatively new issue in the last few years: capacity levels in the processing sector. IFQs are, by definition, harvest quotas, but many U.S. fisheries exhibit overcapacity in both the harvesting and processing sectors. Processors in Alaska, have argued that rationalization of the harvesting sector could harm processors, many of whom were established to handle large, seasonal offloads in derby fisheries. To ensure more equitable outcomes, processors have urged a “two-pie” solution in which processors receive privileges to buy a portion of the available harvest (just as harvest quotas represent a privilege to catch a share of the TAC). As one example, the North Pacific Council’s proposal for crab rationalization advocates a “three-pie” approach that includes (1) harvest quotas, (2) processor shares and (3) allocations of landing privileges to designated regions. The crab rationalization proposal of the North Pacific Council indicates that processor shares will apply to 90 percent of the TAC in this IFQ program.¹⁹ In early 2004, Congress mandated that the crab rationalization program be approved by the Secretary and that implementation begin by January 2005.

As a broad generalization, we may observe that the debate on IFQs has tended to highlight issues that on balance probably detract somewhat from the capacity-reducing effects of post-moratorium IFQs. The insistence that allocations be fair and equitable, that excessive concentration of shares be avoided, that quotas be subject to 10-year sunset provisions, that quota holders be subject to a use-or lose provision,²⁰ that communities be favored, that subsidies be provided for small fishing operations, that quota shares confer privileges and not rights, and that, in some regions, IFQ programs may include processor shares as well as harvest quotas, all diminish somewhat the free market for harvest quotas that is the necessary precondition of a robust and fully effective capacity-reducing IFQ program. As result, post-moratorium IFQs may, depending on future actions by Congress, reduce overcapacity but in a measured way.

(b) Community Development Quotas

Another type of exclusive quota program is a community quota. Special allocations to communities first appeared in western Alaska and were prompted by ongoing disputes over pollock allocations between onshore and offshore interests. The North Pacific Fishery Management Council decided to allocate a share of eastern Bering Sea allocations to geographically and economically disadvantaged communities. These communities were physically adjacent to the resources, but in many cases their inhabitants fished salmon, herring and halibut rather than pollock. The Council’s decision to give pollock allocations to these communities was explicitly intended to promote their economic development.

This Community Development Quota (CDQ) program was established in 1992, including six “groups” formed from 56 communities, and they have the option of harvesting their share of the

¹⁹ North Pacific Fishery Management Council, Bering Sea and Aleutian Islands Crab Rationalization Program, August 5, 2002.

²⁰ In one Senate IFQ bill, fishing privileges will be revoked and reissued if “the owner of the quota ceases to substantially participate in the fishery”.

TAC or leasing it to other non-CDQ fishermen. The western Alaska CDQ program has by and large been successful in generating economic benefits for remotely located native Alaskan communities, and was not intended to reduce harvest capacity or participation in those fisheries. As a matter of fact, while many residents of western Alaska communities participated in the pre-CDQ fisheries as crew members, skippers, and even vessel owners, mainly in the salmon and herring fisheries, the overall level of harvesting capacity attributable to these communities was modest.

In addition, CDQ groups are required in the western Alaskan program to reinvest most of the royalty revenues earned from the leasing of their quota shares to fishery-related projects. As a result, the western Alaska CDQ groups have probably not reduced overcapacity in the harvesting sector to any appreciable degree. In fact, these CDQ groups have sought to increase the active participation of their members in all of the commercial groundfish fisheries.

(c) Fishing Cooperatives

Fishing cooperatives are another form of exclusive quota program because they include designated members and exclude all others. However, unlike IFQs and community quotas, fishing cooperatives are not regulated by the Magnuson-Stevens Act. In addition, it should be noted that the fishing cooperatives discussed here are “harvest” cooperatives, and not the traditional cooperatives that engage mainly in collective marketing and purchases of supplies and other services. Harvest cooperatives have been established in two Pacific Coast federally managed fisheries starting in the mid- and late-1990s: Pacific Coast whiting and Bering Sea pollock. In addition, a fishery that is not federally managed has successfully accepted a cooperative structure: the Alaska State Chignik sockeye salmon fishery.

In the Pacific whiting fishery, the Whiting Conservation Cooperative, an association of four companies, has rationalized harvesting operations and transferred some overcapacity to other fisheries.²¹

In the Bering Sea pollock fishery, the 1998 American Fisheries Act (AFA) allowed for the establishment of several distinct cooperatives for the shoreside, at-sea processor, and factory mothership fleet sectors. The same law also provided for a buyback of 9 Seattle-based at-sea processors. Harvest capacity in the Bering Sea pollock fishery has been substantially reduced by both the original AFA buyback and subsequent rationalization of operations. Based on late 2000 data, the Bering Sea pollock cooperatives included 129 eligible vessels, of which 31 (24 percent) sold their rights to participate in this fishery.²² Finally, in the Alaska State Chignik sockeye

²¹ Joseph M. Sullivan, “Harvesting Cooperatives and U.S. Anti-Trust Law: Recent Developments and Implications”, a paper presented at an International Institute of Fisheries and Trade symposium, at Corvallis, OR, July 10-14, 2000. See: www.osu.orst.edu.dept/IIFET/2000.

²² Wesley Loy, “Dividing the Fish,” *Pacific Fishing*, November 2000, pp. 1-5.

salmon fishery, capacity was quickly and significantly reduced when 19 of 77 participating vessels (out of about 100) were “hired” by the cooperative to harvest their combined quota.

(3) Other Management Measures

Other measures may have implications for capacity levels. One example is an effort quota, which applies to some index of fishing effort. The New England Council has used an effort quota system, days-at-sea, to manage groundfish and scallops for about a decade. While effort quota systems may have some capacity constraining effect, most experts, in particular economists, do not view measures such as days-at-sea as highly effective means for reducing capacity. The major problem with effort quota systems is that restrictions on certain “inputs” create incentives to increase other inputs, with the result that capacity is not meaningfully reduced.

Another example of a management measure with capacity implications is permit stacking, an approach used in the Pacific Coast sablefish fishery. Permit stacking may be defined as the registration of more than one limited entry permit for a single vessel where a vessel is allowed additional catch for each additional permit.²³ Permit stacking enables vessel owners to acquire multiple permits, “stack” the associated harvest privileges on a single, more efficient boat, and retire less efficient boats.

D. BUYBACKS

The most direct and explicit response to overcapacity is to remove it through a buyout program. Permit or vessel buyout programs may be publicly or privately funded, or supported with a mix of public and private financial resources. Privately funded programs to buy out permits and/or vessels function similarly to IFQs in the fundamental sense that fishermen who remain in the fishery “pay” for capacity reduction. However, the two approaches to capacity reduction also differ because buybacks can remove capacity in single and relatively quick action, while IFQs take more time to have a significant capacity-reducing effect.

A critical regulatory issue in buyouts that has been much debated in recent years is the disposition of vessels that are bought out. More precisely, concerns have been expressed that vessels removed from domestic fisheries through buyouts should not be redeployed in other domestic and foreign fisheries that already suffer from overcapacity. In this regard, it is noteworthy that all three completed and ongoing buybacks implemented under the provisions analogous to the Section 312 (b)-(e) Magnuson-Stevens Act capacity reduction program require that bought-out vessels be either scrapped (Bering Sea and Aleutian Islands pollock) or permanently withdrawn from domestic and foreign fishing (Pacific groundfish and Bering Sea and Aleutian Islands crab).

²³ Adapted from the definition given in: Pacific Fishery Management Council, Permit Stacking, Season Extension, and Other Modifications to the Limited Entry Fixed Gear Sablefish Fishery, March 2001.

From 1994 to 2003, NOAA Fisheries has implemented 9 permit and vessel buybacks with total costs of more than \$280 million, including federal governments costs of almost \$70 million and industry costs of \$211 million.²⁴ The largest of these programs addresses Pacific Northwest and North Pacific fisheries. Notably, the three most costly buybacks, implemented in Alaskan fisheries for Bering Sea pollock and crab and Pacific Coast groundfish, were all funded primarily but not entirely by the fishing industry. On a national basis, after about a decade of vessel and permit buybacks implemented under the Magnuson-Stevens Act and other laws, the aggregate public and private costs average about 25 percent and 75 percent of the total buyback amounts, respectively.

In less than a single decade, buybacks have evolved considerably. Until recently, most of these non-Magnuson-Stevens Act buybacks were components of larger fishery assistance programs such as for the New England multispecies and Washington State salmon fisheries in which vessels and/or permits were purchased. In these programs, capacity reduction was implemented as a component of disaster assistance and industry relief, rather than for its own sake.

By contrast, buybacks implemented consistent with provisions of the Magnuson-Stevens Act placed more emphasis on capacity reduction and allocation issues as ends in themselves. A good example is the buyback/cooperative program for the Bering Sea pollock fishery. At the present time, the major focus in buyback programs is to reduce capacity in overfished fisheries and ensure that bought-out capacity is not transferred to other fisheries. Consequently, the most recent buyback programs, such as those for the Pacific groundfish and Alaska crab fisheries, emphasize the purchase of vessels or their fishing rights under U.S. Coast Guard documentation laws and all associated federal and state permits.

(1) Publicly funded

All of the vessel/permit buybacks have involved some public funding, except the ongoing program in the Alaska crab fisheries, which is entirely industry financed. Aggregate public costs amount to almost \$70 million, or almost exactly one-fourth of total buyback costs. At this point, practically all of these public costs have been paid in four fisheries: (1) Northeast multispecies - \$34.5 million, (2) Bering Sea pollock - \$15 million, (3) Pacific Coast groundfish (\$10 million), and (4) Washington State salmon - \$8.7 million.

Latent capacity is a common fishery management problem that can pose a special challenge to buyback administrators. In fisheries with substantial latent capacity, buybacks that target vessels with large catch histories may have the effect of “activating” the latent boats. A General Accounting Office (GAO) report found that, in the Northeast multispecies fisheries, the number of latent permits only declined from 1,757 to 1,680 in 1994-1999, a period when there were several buyouts.²⁵ A recent \$10 million was used to buy out latent permits, but critics maintain

²⁴ See the table on vessel/permit buybacks on page 24. The table does not include several ongoing small permit buybacks implemented as components of disaster assistance.

²⁵ Ibid., p. 28.

that this action did not reduce active capacity and was ineffective in terms of decreasing capacity.

Concerns about the total and mounting costs of buybacks have been heightened by recent NMFS estimates. A recent NOAA Fisheries addressing this issue focused on five fisheries (New England groundfish, Gulf of Mexico shrimp, Atlantic swordfish, Atlantic large coastal sharks, and West Coast groundfish), concluding that the cost of buying out overcapacity in these fisheries may be roughly estimated at \$1 billion.²⁶ However, if buyouts ease management and enforcement, and generate more profitable operations, the net national economic benefits may be positive.

²⁶ NMFS Division of Fisheries Statistics and Economics, Office of Science and Technology, "The Estimated Vessel Buyback Program Costs to Eliminate Overcapacity in Five Federally Managed Fisheries: A Preliminary Report (June 28, 2002). The estimated total cost was \$976.4 million (2001 dollars), consisting of \$786 million to buy out active capacity, and \$190 million for latent permits in the New England groundfish fishery.

NMFS VESSEL/PERMIT BUYBACKS

BUYBACK NAME	YEAR	NUMBER VESSELS	NUMBER PERMITS	BUYBACK COST FUNDING (MILLIONS OF \$)			
				COST SHARE (STATES)	INDUSTRY COST (LOAN)	FEDERAL COST	TOTAL COST
NE Multispecies	1994	11	67	-	-	2.0	2.0
NE Multispecies	1995	68	475	-	-	22.5	22.5
Texas Inshore Shrimp	1995	-	310	-	-	1.4	1.4
Washington Salmon	1995	-	142	-	-	5.2	5.2
Washington Salmon	1997	-	391	1.2	-	3.5	4.7
Alaska (Bering Sea) Pollock	1999	9	17	-	75.0	15.0	90.0
Pacific Coast Groundfish	2003	91	240	-	35.7	10.0	45.7
NE Multispecies	2002	-	245	-	-	10.0	10.0
Alaska (Bering and Aleutian) Crab	2003	28	43	-	100.0	0	100.0
Total	-	207	1,930	1.2	210.7	69.6	281.5

(2) Privately funded

Starting in the mid-1990s, privately funded buybacks have often been promoted as a more effective approach to buybacks. In the 1996 Sustainable Fisheries Act amendments to the Magnuson-Stevens Act, Congress created a Fishing Capacity Reduction Program, section 312(b)-(e), in which buyback loans would be paid off by some combination of Federal grants and special appropriations; funds provided by States, or other public or private or non-for-profit organizations; or industry fees. This provision served as a model for the buyback of nine large Seattle-based factory trawlers, provided for in the American Fisheries Act. The Alaska crab buyback will require \$100 million, to be funded entirely by fees paid by post-buyback fishermen. The Alaska crab and Bering Sea pollock buybacks are the two completed and planned programs that include significant industry funding. Together, these two buybacks will total \$175 million of buyback loans that will be paid by post-buyback fishermen. Planned industry payments of \$175 million in these two Alaskan programs represent 62 percent of the \$284 million aggregate amount for all completed and planned buybacks. Therefore, the emphasis in U.S. fishing capacity buyback seems to be shifting from publicly to privately funded programs. In the American Fisheries Act buyback of Bering Sea pollock capacity, \$75 million of the total \$90 million cost, or 83 percent, was financed by industry fees. In the West Coast groundfish capacity reduction program, industry will pay almost 80 percent of the total costs. As previously noted, capacity reduction in the Alaska crab fisheries will be paid entirely by industry.

Under industry-funded capacity reduction programs, a key element is a satisfactory business plan that shows, among other things, whether anticipated post-buyback landings fees will be available to pay back the costs of the buyback loan. Specific rules on all required elements of a section 312(b)-(e) capacity reduction program were carefully developed by NOAA Fisheries and published in October 2001.²⁷ A major question in NOAA Fisheries' analysis of any proposed industry-funded buyout is whether the post-buyback fishermen will increase their revenues sufficiently to justify remaining in the fishery and paying back the loan.²⁸ To facilitate industry-funded vessel and permit buybacks, the Administration proposed certain changes to section 312(b)-(e) of the Magnuson-Stevens Act with the intent of streamlining the plan development and approval process.

Finally, it should be noted that recent experience suggests that a combination of measures often provides important advantages. As a practical matter, it appears that a post-buyback fishery is more likely to be sufficiently viable to support the repayment of buyback loan fees if that fishery has also adopted some form of exclusive quota program. In fact, some recently proposed programs relating to fishing capacity reduction combine exclusive quotas, buybacks, and other management measures.

The American Fisheries Act paved the way with its two-pronged approach to rationalization of the Bering Sea pollock fisheries, combining fishing cooperatives and a buyout of Seattle-based factory trawlers. More recently, in the Alaska crab rationalization program that the North Pacific Council approved in June 2002, "rationalization" will be achieved through a mix of individual fishing (harvester) quotas, processor quotas²⁹, allocations to designated communities and cooperatives.³⁰ In addition, the rationalization will be facilitated with a \$100 million buyback. The Gulf of Mexico Fishery Management Council recently announced its interest in implementing (1) a buyback in the bottom longline sector of the reef fish fishery and (2) an individual fishing quota system in the post-buyback fishery.³¹

²⁷ See §600.1000 to 600.1018, in Code of Federal Regulations (CFR), 50 Part 600 to End, revised as of October 1, 2001, pp. 110-130.

²⁸ Paraphrased from an August 2002 electronic message from the NMFS Financial Services Division on prospects for an industry-funded buyout in the Southeast Alaska salmon seine fishery.

²⁹ Note that, when this plan of action was drafted (January 2004), processor quotas, or "individual processor quotas", were not authorized under the Magnuson-Stevens Act and, for that reason, still require action by Congress.

³⁰ North Pacific Fishery Management Council, Bering Sea and Aleutian Islands Crab Rationalization Program, August 2, 2002.

³¹ Roy Williams, Chairman of the Gulf of Mexico Fishery Management Council, to William Hogarth, Assistant Administrator Fisheries, September 19, 2002.

In sum, to an increasing degree, industry groups and Councils studying capacity reduction options are not choosing between IFQs and buybacks, but are more inclined to select a package of measures that includes both. Two key elements in such packages are, first, an exclusive quota program (or programs) of one sort or another, and, second, a buyback program. As noted previously, a critical consideration is what happens to the retired permits and/or vessels.