

## **Executive Summary**

### Introduction

A formal review of the Individual Bluefin Quota (IBQ) Program was conducted to evaluate its effectiveness in meeting the original goals and objectives as specified in Amendment 7 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP). The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)(Section 303(c)(1)(G)) requires the regional fishery management Councils and Secretary of Commerce (Secretary) to periodically conduct “formal and detailed” reviews of all Limited Access Privilege Programs (LAPPs) established after January 12, 2007. The contents of the review are based on guidelines developed by NOAA Fisheries (NMFS Procedural Instruction 01-121-01). The review includes evaluation of whether or not the catch share program objectives were met, as well as evaluation of the various components of the catch share program.

The Atlantic bluefin tuna (bluefin) fishery is a quota managed fishery, and catch (landings and dead discards) must be accounted for within the available U.S. quota. The annual U.S. bluefin quota (established by International Commission for the Conservation of Atlantic Tunas; ICCAT) is allocated among seven quota categories, including the Longline category to account for bycatch in the directed fishery. The non-Longline quota categories include other commercial and recreational gear types and a Reserve category, used for research and inseason quota transfers as warranted. Because the pelagic longline (PLL) fishery primarily targets swordfish, yellowfin tuna, and bigeye tuna, and incidentally catches bluefin tuna as bycatch, the Longline quota category was established to account for that bycatch. The other quota categories established are primarily for the directed bluefin fisheries (commercial hand gear, purse seine, and recreational fisheries). The IBQ Program and electronic monitoring (EM) were implemented in the pelagic longline fishery in the Atlantic and Gulf of Mexico in 2015, through Amendment 7 to the 2006 Consolidated HMS FMP (Amendment 7). The EM Program was implemented to support the IBQ Program by providing a means of verifying vessel reported data on bluefin catch. Verification of vessel reported data is important because in the context of increased individual accountability, there may be increased incentives to misreport.

This document describes the relevant management history of the pelagic longline fishery, and key features and milestones of the IBQ Program. Specifically, this document compares data from the pelagic longline fishery prior to implementation of the IBQ Program (baseline period), to the fishery under the IBQ Program (IBQ period), in order to determine if the program appears to be achieving the objectives stated above, as well as, the objectives of the 2006 Consolidated HMS FMP and Magnuson-Stevens Act in this regard to determine if any modifications to the program are warranted. The baseline period is the 3-year period prior to implementation of the IBQ Program (2012 through 2014), consistent with the guidelines for the review of catch share programs (NMFS Procedural Instruction 01-121-01; Catch Share Policy; Guidance for Conducting Review of Catch Share Programs). Amendment 7 specified a review after the first 3 years of operation in order to evaluate the program after a duration of time that balanced the need for the program to operate and mature, with the goal of providing a formal opportunity to evaluate the program in the near future. The 3-year period being compared to the baseline period is 2015 through 2017 (IBQ period). In addition, some data from 2018 is included when available and important to a particular analysis.

The National Marine Fisheries Service (NMFS) presented information regarding its draft plans for the 3-year review to the HMS Advisory Panel at its May 2017 meeting. At that time, NMFS presented a draft timeline, elements of the 3-year review, and draft metrics for use in evaluating the objectives of the IBQ Program. At the September 2017 meeting of the Advisory Panel, NMFS presented a progress report, a draft outline of the document, and a timeline. At the March 2018 meeting of the Advisory Panel, NMFS presented draft data from 2015 through 2016 relevant to the IBQ Program, and made available more extensive data not presented verbally. At each of the three Advisory Panel meetings, NMFS solicited input from the panel regarding their suggested ideas for the review.

This Executive Summary of the Draft Three-Year Review will be presented to the HMS Advisory Panel at its September 2018 meeting.

Contents and Limitations of the Executive Summary:

This Executive Summary of the Draft Three-Year Review of the IBQ Program does not include a summary of all of the subjects contained within the full draft document. The focus of the Executive Summary is limited to the objectives of the IBQ Program that were specified in Amendment 7, and the components of the IBQ Program. The conclusions and summary statements of this executive summary are fully explained in the body of this full version of the document, which contains supporting data and detailed interpretations and will be released during the fall of 2018. This executive summary is intended to facilitate understanding of the full document, but is not a substitute for the full document.

**Objective: Limit the amount of bluefin landings and dead discards in the pelagic longline fishery.**

Based on the landings and dead discards during the IBQ period, the IBQ Program was successful in limiting bluefin landings and dead discards in the pelagic longline fishery. Total bluefin catch (landings and dead discards) during the IBQ period was reduced compared to the baseline period, representing 35 percent, 51 percent, and 46 percent of the adjusted Longline category quota in 2015, 2016, and 2017, respectively. In contrast, during the baseline period, the total bluefin catch represented 365 percent, 972 percent, and 210 percent of the adjusted quota (in 2012, 2013, and 2014, respectively). Total dead discards declined substantially during 2015 through 2017 compared to the baseline period (e.g., 89 percent, 81 percent, and 92 percent less than 2014 during 2015, 2016, and 2017). The table below contains data on bluefin catch and quotas during the baseline period and during the IBQ Program.

**Executive Summary Table 1.** PLL Bluefin Landings and Dead Discards, Quota and Adjusted Quota (mt, not including NED), 2012-2017.

Year	Landings	Dead Discards	Total Catch	Base Quota	% of Base Quota	Adjusted Quota	% of Adjusted Quota
2012	81.2	205.2	286.4	74.8	382 %	78.4	365 %
2013	57.9	146.2	204.1	74.8	273 %	21.0	972 %
2014	78.7	130.0	208.7	74.8	279 %	99.2	210 %
2015	46.4	17.1	63.5	137.3	46 %	182.3	35 %
2016	68.4	24.3	92.7	148.3	63 %	182.3	51 %
2017	78.8	10.2	89.0	148.3	60%	193.3	46%

Adjustments due to carry forward of unused quota from previous year and revised ICCAT base quota (2017). Source: Dealer data; Dead Discards: estimate based on observer and logbook data.

Landings and VMS reported dead discards were fully accounted for. The overall catch per unit effort of estimated dead discards declined (based on observer data and logbook data), and the percentage of active vessels reporting dead discards via logbook decreased. Interactions with bluefin were relatively rare, with the percentage of sets in which bluefin interactions occurred ranging from 4 percent to 14 percent. The percentage of active vessels landing bluefin declined, and the proportion of total landings from the Gulf of Mexico (GOM) declined. In addition to the IBQ Program, the GOM Gear Restricted Area and the Oceanic Fish Restoration Program were factors in the change in GOM catch of bluefin.

During the baseline period bluefin landings were predominantly during January through June, whereas during the IBQ Program, landings were more evenly distributed throughout the year, with a large peak from June to July and a smaller peak during the fall. Landings from the NED increased substantially under the IBQ Program, even though fishing effort in the NED did not increase.

**Objective: Provide strong incentives for the vessel owner and operator to avoid bluefin tuna interactions, and thus reduce bluefin dead discards.**

The substantial reduction in total catch of bluefin tuna within the PLL bycatch category described above is evidence of the effectiveness of the regulatory incentives to avoid bluefin inherent in the IBQ Program. The decline in the percentage of active vessels landing bluefin suggests that there were incentives to avoid bluefin, despite the flexibility to retain bluefin under the IBQ Program regulations and the availability of quota for most active vessels (via allocations and/or leasing). The individual allocations of a limited amount of IBQ in conjunction with the accountability and reporting and monitoring elements of the IBQ Program, resulted in avoidance behavior, more data, and retention of bluefin that prior to the IBQ Program were regulatory discards. Gear restricted areas implemented through Am. 7 may have contributed to the

reduction in the amount of bluefin catch, but the data for both the Gulf of Mexico GRA and the Cape Hatteras GRA indicate reductions in catch directly attributed to the GRAs is limited.

The specific regulations that may be most closely linked to incentives to avoid bluefin interactions are the IBQ accounting requirements. The costs associated with the requirement to account for bluefin landings and dead discards with IBQ resulted from the limited allocations of bluefin and the need for many vessels to lease IBQ in order to account for bluefin and satisfy the minimum IBQ requirements. Some vessels were risk averse, and modified their fishing behavior, such as the number or location of trips in order to reduce the likelihood of catching bluefin, and therefore incurred reductions in target catch. Such costs are one of the drivers of the incentives to avoid bluefin. Although the costs and the strength of the incentive to avoid bluefin are variable among the vessels of pelagic longline fleet, and depend on the amount of bluefin quota allocated to a vessel, and the price and availability of quota for leasing, a strong incentive to reduce bluefin interactions across the fleet remained. The incentives of the IBQ Program work in the context of the rules of the IBQ Program and the other rules applicable to pelagic longline vessels. As a whole, the incentives and restrictions have worked to constrain bluefin catch, yet allow some flexibility in order to address the other objectives of the IBQ Program and the FMP. Despite NMFS's actions to provide flexibility (described below), some vessel owners have stated that additional flexibility in the IBQ Program (and the regulations as a whole) are needed.

**Objective: Provide flexibility in the quota system to enable pelagic longline vessels to obtain bluefin quota from other vessels with available IBQ in order to enable full accounting for bluefin landings and dead discards, and minimize constraints on fishing for target species.**

The objective to provide flexibility in the IBQ system (and minimize constraints on fishing for target species) was achieved through multiple means: IBQ leasing; inseason allocations of IBQ; and modifications to the regulations. A fairly large number of vessel owners leased IBQ and participated in the IBQ market. In general, it appears that quota debt did not present a persistent challenge for vessels. It was common for a particular shareholder to act as a Lessee (lease IBQ from another shareholder) multiple times. The maximum number of lease transactions involving a single Lessee in a year were 13, 10, and 12 transactions (during 2015, 2016, and 2017, respectively). The number of total lease transactions increased from 2015 to 2017, which corresponded with an overall increase in the percentage of active vessels leasing IBQ (42 percent, 74 percent, and 60 percent during 2015, 2016, and 2017, respectively). The weighted average price per pound of leased IBQ declined from 2015 through 2017 (\$3.46, \$2.52, and \$1.67, respectively). Although some vessels incurred quota debt, the average amount of time that owners/operators needed to resolve that quota debt reduced over the three years (196 days, 25 days, and 23 days during 2015, 2017, and 2017, respectively). Furthermore, vessels have not carried over quota debt from one year to the next. New entrants were able to participate in the fishery, as well as vessels with no quota share, which are indications that the IBQ Program was flexible enough to allow such participation.

During the IBQ Period, NMFS took additional actions to ensure flexibility in the IBQ Program in order to support the objective of balancing limiting bluefin landings and dead discards with

optimizing fishing opportunities and maintaining profitability (e.g., inseason IBQ allocations and regulatory changes).

In each year of the IBQ Period, NMFS transferred quota from the Reserve Category into the Longline category in order to achieve specific objectives including the following: Help vessel owners account for bluefin tuna landings and dead discards; foster conditions in which permit holders become more willing to lease IBQ; contribute toward full accounting of bluefin tuna catch by vessels that have quota debt (i.e., reduce quota debt), enhance the likelihood that vessel owners will make the decision to lease IBQ to other vessel owners, and reduce uncertainty in the fishery as a whole.

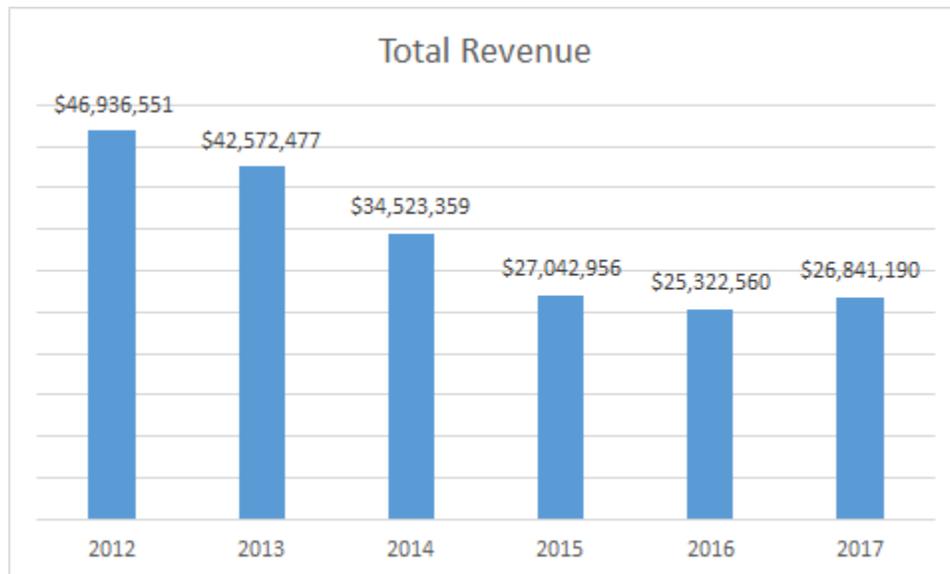
In 2015 and 2016, the inseason transfer was distributed in equal amounts of bluefin quota *to all IBQ share recipients* (consistent with regional share designations), provided their Atlantic longline permits were associated with a vessel. During 2016, NMFS proposed and then finalized a rule modifying the IBQ regulations regarding distribution of inseason quota to pelagic longline vessels. The proposed rule (81 FR 65988) was published on September 26, 2016. The final rule that became effective on February 10, 2017 (81 FR 95903; December 29, 2016), authorized NMFS to distribute bluefin tuna quota inseason to either *all IBQ share recipients* or *only to vessels active* in the fishery (whether IBQ share recipients or not) in order to provide flexibility with respect to which vessels receive IBQ inseason and to achieve the objectives of the IBQ program (such as accounting for bluefin tuna during longline operations and optimizing fishing opportunity for target species). The final rule also clarified that inseason allocations of IBQ to vessels will be made in equal amounts and not based upon the IBQ share recipient's quota tier (percentage). For example, there may be fewer active vessels than there are eligible vessels, and therefore allocation of inseason quota to active vessels may be warranted to allocate quota more efficiently. Active vessels (in this context) are defined as those with any fishing activity with pelagic longline gear over the course of the previous and subject year, based on logbook, vessel monitoring system, or electronic monitoring data.

In late 2017, in response to suggestions from the HMS Advisory Panel, NMFS published a final rule on December 28, 2017 (82 FR 61489) that modified the IBQ accountability rule as explained below. As of January 27, 2018, in order to provide additional flexibility to active vessels, NMFS implemented quarterly accountability (instead of trip-level accountability). Thus, vessels were allowed to fish with a low IBQ balance or with quota debt during a calendar quarter, provided they again hold the minimum amount of quota necessary to embark on a trip prior to the first trip of the next quarter. Vessels are still required to report bluefin tuna catch at the end of each trip (and account for it with IBQ), but this regulatory change provides the flexibility to fish within a quarter even if the vessel has quota debt or less than the minimum amount of IBQ needed to embark on a fishing trip, until the first fishing trip in the next calendar quarter. The change provides flexibility for two important operational business decisions made by vessel owners: decisions regarding quota balance and any level of quota debt to maintain (subject to full accounting quarterly), and decisions regarding the timing and price at which they lease additional quota.

**Objective: Balance the objective of limiting bluefin landings and dead discards with the objective of optimizing fishing opportunities and maintaining profitability.**

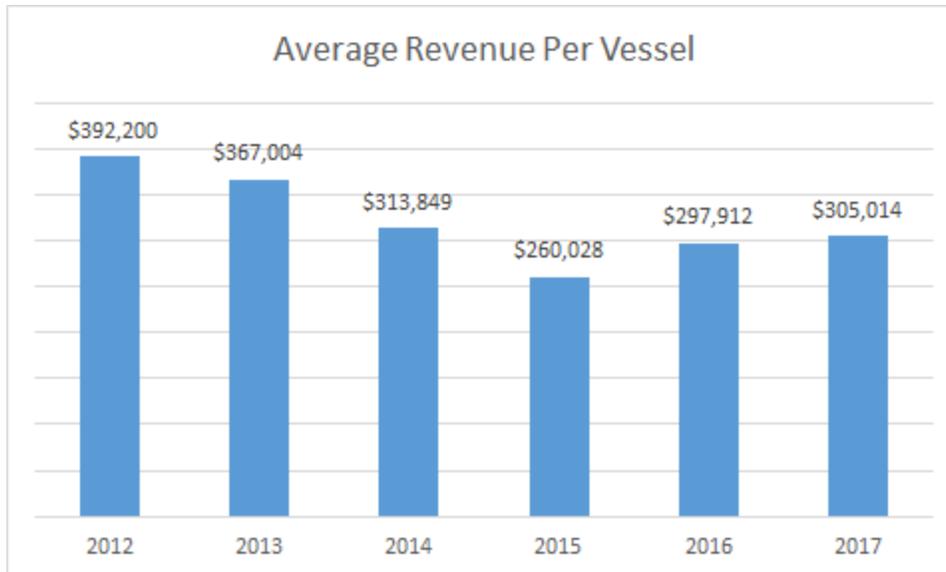
It is difficult to determine the scope and impact of the IBQ Program on the overall ‘health’ of the pelagic longline fishery, given the impacts other factors have had on the fishery, including swordfish imports, other regulations such as closed areas, target species availability, and captain and crew demographics. The implementation of the IBQ Program was likely an important factor in some of the changes in the fishery that occurred during 2015, such as the reduced number of vessels fishing with pelagic longline gear, reduced numbers of dealers purchasing bluefin tuna from pelagic longline vessels, as well as the increase in the relative amount of PLL-caught bluefin purchased by a few of the dealers (i.e., few dealers but those remaining are handling a larger volume of longline caught bluefin tuna. There were also increased landings of non-HMS species by permitted vessels (longline). With respect to fishing effort, there was a reduction in the number of PLL sets and trips, but there was a slight increase in the number of hooks per set as of 2015, and a reduction in the long-term rate of the decline in fishing effort. The reduction in fishing effort during 2015 compared to 2014 was in part due to uncertainty regarding the new IBQ Program.

The figure below shows a reduction in the annual total revenue during the IBQ period compared to the Baseline period, but the annual total revenue during the IBQ period was fairly stable (\$27.0 M, \$25.3 M, and \$26.8 M, during 2015, 2016, and 2017, respectively).



**Executive Summary Figure 1.** Total Revenue from HMS Species (all HMS landings: swordfish, bigeye, yellowfin, etc.) 2012-2017.

The average revenue per vessel during the IBQ period (shown in figure below) was less than during the Baseline period, but increased from 2015 to 2017, and during 2017 approached the level it was during 2014 (i.e., \$305,014 in 2017 and \$313,849 in 2014).



**Executive Summary Figure 2.** Average Revenue per Vessel from HMS Species (all HMS landings: swordfish, bigeye, yellowfin, etc.) 2012-2017.

The trip gross margin during the IBQ period (which approximates profit per trip) was higher than or equal to the trip gross margin during the Baseline period due to declining costs per trip, and increasing average revenue per trip from 2015 to 2017. It should be noted that the 2017 revenue data is preliminary and is likely to increase, as late reports are submitted.

The average revenue per vessel in 2017 (\$305,014) was only 3percent less than during 2014 (\$313,849). In other words, the decline in fishing effort continued after the implementation of the IBQ Program, but the revenue appeared to be more stable. The rate of decline in fishing effort slowed notably during the IBQ Program. It is likely that overall, balancing the objective of limiting bluefin landings and dead discards, with the objective of optimizing fishing opportunities and maintaining profitability, was more fully achieved during 2016 and 2017 than during 2015, the initial year of the IBQ Program, as indicated by the revenue data.

**Objective: Balance the above objectives with potential impacts on the directed permit categories that target bluefin tuna, and the broader objectives of the 2006 Consolidated HMS FMP and Magnuson-Stevens Act.**

NMFS was able to successfully balance achieving the IBQ program objectives with impacts on the permit categories that target bluefin and HMS dealers, as well as the broader objectives of the 2006 Consolidated HMS FMP and MSA. Prior to the implementation of Amendment 7, pelagic longline vessels were limited on a trip level-basis to a certain number of bluefin they could retain, depending on the amount of target species catch, and only landings counted toward the Longline quota. As a result, dead discards by the pelagic longline fishery were estimated and accounted for within the overall U.S. quota. Specifically, vessels were limited to retaining one, two, or three bluefin, according to specific amounts of target species retained (2,000 lb, 6,000 lb, or 30,000 lb, respectively). Large amounts of regulatory discards of bluefin occurred. From 2012 through 2014, the Longline category exceeded its quota by very large amounts (primarily

due to dead discards; Executive Summary Table 1). These exceedances were accounted for by using the under-harvests from the directed categories, which was unsustainable in the long run.

In contrast, during the IBQ period, the Longline category no longer overharvested its bluefin quota and therefore did not rely upon non-longline quota to account for dead discards. During the IBQ period, NMFS also transferred Reserve category quota to the directed categories as warranted, and the Longline category was not allocated a disproportionate amount of bluefin quota compared with the directed categories. During the IBQ period, the Longline category had a negligible impact on the directed categories.

### Evaluation of IBQ Program Components

#### **Allocations and Accountability Rules**

Amendment 7 Background: Through the IBQ program, quota "shares" were assigned to eligible vessels, at one of three possible quota share percentage levels (three 'tiers') based upon two elements: 1) historical bluefin tuna catch (landings and dead discards from vessel logbook data) expressed as a ratio of the number of bluefin tuna interactions to designated species landings; and 2) 'designated species' landings (from the NMFS dealer data (weigh-out slips) and logbook information). Designated target species were defined as swordfish, yellowfin, bigeye, albacore, and skipjack tunas; dolphin, wahoo; and porbeagle, shortfin mako, and thresher sharks.

The use of these two factors in the quota share formula was intended to reflect past success at bluefin tuna avoidance, ensure a fair initial allocation, and consider the diversity in vessel fishing patterns and harvest characteristics. Past fishing that resulted in fewer bluefin tuna interactions resulted in larger IBQ shares. Landings of designated target species were included as an indicator of both the level of fishing effort and activity as well as vessel success at targeting those species and minimizing bluefin bycatch interactions, recognizing that greater levels of fishing activity are likely to be correlated with a greater number of bluefin tuna interactions. The end results were three individual IBQ quota share tiers, the high tier allows the permitted vessels to receive 1.2 percent of the Longline quota, the middle tier allows the permitted vessels to receive 0.6 percent of the Longline quota, and the low tier allows permitted vessels to receive 0.37 percent of the Longline quota. While the share percentages are constant from one year to the next, quota allocated based on these IBQ share percentages will be determined by the amount of quota in the Longline category as a whole.

Evaluation of Allocations and Accountability Rules: Based on the data collected, vessel owners/operators successfully accounted for bluefin tuna catch using a combination of allocated and leased IBQ. The amount of allocation (resulting from the three defined quota share percentages, as well as the annual Longline category quota and leasing) was important to a PLL vessel's operation, as evidenced by the different metrics associated with the three tiers (e.g., amount of bluefin landed by each tier, numbers of vessels leasing, percent of total leased IBQ, percent of total quota debt, etc). During the IBQ period most shareholders met the criteria for being allocated IBQ: a valid Atlantic Longline permit associated with a vessel. A number of shareholders were not allocated IBQ due to an expired permit or a permit not associated with a vessel ('NOVESID'). Note, the IBQ for such vessels is held for such permits and would be disbursed if the permit were renewed or the permit became associated with a vessel. Still other shareholders met the criteria for being allocated IBQ (a valid Atlantic Longline permit associated

with a vessel) and were allocated IBQ but did not fish (27, 41, and 36 vessels in 2015, 2016, and 2017, respectively; or 21 percent, 33 percent, and 30 percent respectively).

The amount of allocation to the Longline category was sufficient to account for the total amount of bluefin landings and dead discards by pelagic longline vessels on an annual basis, during the IBQ period. The amount of IBQ distributed to vessels was greater than the amount of IBQ utilized to account for landings and dead discards. The total amount of IBQ facilitated a functional IBQ leasing market. Some vessel owners told NMFS that they were hesitant to lease IBQ to owners because of the need to retain IBQ to account for their own catch of bluefin. Therefore, relatively higher amounts of allocation to shareholders (and in total) facilitated the leasing market by reducing the risk to a shareholder of leasing to other shareholders.

The allocation design principle stated in Amendment 7 (that the quota be used by active vessels to account for bluefin), was only partially achieved, given the number of shareholders that did not fish.

A tiered system of allocation of catch shares based on historical catch, which is typical of many catch share programs, may have limited relevance or disadvantages when implemented in the context of a bycatch quota catch share program. The distribution of allocation may not fully align with the need for that quota, given the fact that bluefin catch and the need for quota may be concentrated, and bluefin comprises only a small fraction of the total catch of the pelagic longline fishery. The success of the IBQ Program in reducing dead discards likely relates more to the other elements of the IBQ Program than the precise method of allocation and incentives associated with the distinct amounts of annual allocation. The fact that substantial costs were incurred by vessels to lease IBQ, yet the overall Longline category quota was under-harvested, may indicate that a different method of IBQ distribution should be considered. The cost of an average lease as a percentage of trip revenue (single trip) was 34 percent, 13 percent, and 10 percent during 2015, 2016, and 2017, respectively. Given the number of shareholders that did not fish, and the total number of vessels that fished, a simpler allocation system based on vessels that are fishing with pelagic longline gear could be considered, as was suggested by some HMS Advisory Panel members. Annual allocations based on recent pelagic longline activity, could result in more IBQ allocation per vessel due to reducing quota sinks where it may remain unavailable to those vessel actively fishing and in need.

Quarterly accountability may represent a more equitable balance between the amount of flexibility provided to vessel owners to locate and acquire IBQ and other considerations regarding an accountability system. Such considerations include an accountability system that maintains strong incentives to avoid interactions with bluefin, takes into account the dynamics of the IBQ leasing market, and reflects the diversity of the PLL fishery (especially the fact the some vessels fish only during certain time periods during the year). Although annual accountability provides the most flexibility with respect to the amount of time a shareholder has to resolve quota debt, annual accountability may negatively impact the leasing market and reduce incentives to avoid bluefin interactions. Trip level accountability is overly restrictive for some vessels.

## **Eligibility**

The Amendment 7 eligibility requirements resulted in an initial pool of 136 shareholders, only a subset of which fished during the IBQ Program. The percentage of shareholders that fished was 77 percent, 63 percent, and 63 percent during 2015, 2016, and 2017, respectively). The intent of the Amendment 7 eligibility requirements was to implement criteria that would result in a pool of qualified shareholders comprised of recent participants in the fishery. The eligibility criteria purposefully encompassed a number of years in the past (2006 to 2012) in order to avoid being overly restrictive and exclude a past participants that might still be interested in continuing their participation.

The eligibility criteria resulted in a larger pool of eligible vessels (shareholders) than the number of vessels that fished during the IBQ Program. The eligibility criteria was successful as indicated by the small number of vessels that fishing at some time during 2015 to 2017 without shares (i.e., vessels that did not meet the eligibility criteria; 6 vessels), and the fact that the number of eligible vessels exceeded the number of vessels that fished during 2015 to 2017. The eligibility criteria were not excessively restrictive. The eligibility criteria did however result in allocation of IBQ to vessels that did not fish.

## **Catch and Sustainability**

The IBQ Program resulted in bluefin catch that did not exceed the Longline category quota, and a reduction in dead discards compared to the baseline period. The sustainability of the IBQ Program is related to the sustainability of the pelagic longline fishery as a whole, which faces challenges to its viability due to factors in addition to the IBQ Program. The IBQ Program imposes additional constraints and costs on the fishery, but of a magnitude that, absent other factors would not affect the viability of the longline vessel's business.

## **Accumulation Caps**

Although the percentage of the total IBQ allocation that a single entity in the IBQ Program controlled, is less than 12 percent of the total allocation of IBQ, there are currently liberal regulatory limits on the amount of IBQ an entity may own (through accumulation of Atlantic tunas longline permits) or through leasing (the maximum amount set at the level of the quota category allocation, not including the NED). A shareholder may not permanently purchase IBQ from another shareholder, but may only lease IBQ from another shareholder, for the duration of a year (i.e., lease expires at the end of a calendar year). In addition, purse seine permit holders (five grandfathered purse seine participants), are also limited in the amount of quota they may lease from one another or from pelagic longline vessels, when participating in the IBQ Program, and may lease to pelagic longline vessels with a valid permit. These limits are also liberal, with the maximum amount set at the level of the quota category allocation.

The total annual allocation for the Purse Seine quota category is up to 18.1 percent of the U.S. bluefin quota, given to certain vessels depending upon the level of purse seine catch during the previous year. Specifically, Amendment 7 included an annual minimum distribution of 25 percent of the Purse Seine category bluefin quota to the five historically permitted fishery participants, even at the lowest levels of activity. Remaining quota is moved from the Purse Seine category to the Reserve category annually. During 2015 through 2017, the base quotas for

the Purse Seine category were 184.3 mt. During 2015, the Purse Seine category was allocated approximately 46 percent of the category's baseline quota, and during 2016 and 2017, the amount of quota that would have been available to participants was 25 percent of the baseline quotas. No Purse Seine fishing occurred during 2015 to 2017. A more conservative cap on the amount of IBQ used or owned could be considered for the pelagic longline and purse seine fishery.

## **Data Collection, Reporting, Monitoring and Enforcement**

The compliance with the VMS reporting requirement improved from 2015 to 2017, based on comparisons to dealer data (landings), and logbook data (number of sets). During 2016 and 2017, the number of vessels submitting VMS set reports was very close (+/-2 vessels) to the number of vessels reported as fishing with pelagic longline gear based on logbook data. The difference between the numbers of bluefin reported retained via VMS and the number of bluefin landings based on dealer data, declined from 2015 to 2017. VMS data tended to under-report the numbers of bluefin retained compared to the dealer data. The numbers of sets reported via VMS tended to be less than the number of sets reported via logbook. Despite the apparent lower accuracy, the data available via VMS enabled real-time management of the NED quota (25 mt of bluefin), and the utility of real time data regarding fishing effort, and bluefin interactions.

The electronic monitoring (EM) program was able to achieve the objective of verification of the counts and identification of bluefin tuna reported by the vessel operator. The overall frequency of bluefin tuna as determined by the EM program (percentage of sets with bluefin interactions) was very similar to the frequency of bluefin tuna determined by observer and VMS data. At the level of an particular longline set, detection of discarded bluefin by EM was less successful than detection of bluefin retained. The correspondence between EM data and VMS data at the level of an individual set improved from 2015 through 2017. The logistical and technical elements of the EM program were successfully implemented and operational as a result of the good cooperation between the pelagic longline vessel operators and the NMFS contractors. Vessel operators communicated consistently with the contractors and most complied well with the requirement to send the hard drives via mail in a timely manner.

## **Duration**

The IBQ Program did not set a specific duration for the duration of the IBQ shares. The Program is subject to the restrictions and limitations described in the Magnuson-Stevens Act.

## **New Entrants**

The IBQ Program neither precludes new entrants, nor presents unreasonable barriers to new entrants. Six active vessels were not shareholders, and five new entities that were also shareholders were active in the fishery. Given the relatively low rate of interaction of pelagic longlines with bluefin (zero to 14 percent of sets), as well as the average price of IBQ leases, accounting for bluefin did not represent an insurmountable barrier to new entrants. The cost of an Atlantic Longline permit (for non-permit holders) is a greater barrier to entry than any particular aspect of the IBQ Program. To date, NMFS has fully paid the cost of installation for all new electronic monitoring systems for new entrants, although future abilities depend on funding.

## **Cost Recovery**

Cost recovery was not implemented in conjunction with the start of the IBQ Program in 2015, because immediate implementation without information about the operation of the fishery under the IBQ Program would have increased costs and uncertainty. At this time, after consideration of the fishery during the IBQ Program, NMFS has determined that implementation of a cost recovery program for the IBQ fishery, based on the recent fishery (and incremental costs) would likely provide little or no net value.

Because of the limited amount of bluefin tuna quota for the pelagic longline fishery under the IBQ Program, as well as the lower ex-vessel price per pound paid for longline caught bluefin, the total ex-vessel value of bluefin landed by the pelagic longline fishery is relatively low. Therefore, the maximum recoverable amount from the fishery under a cost recovery program would also be relatively low. Given the low amount of recoverable costs (at a maximum of 3% of the ex-vessel value of bluefin), the costs associated with annual implementation of a cost recovery program would approach or equal the recoverable costs