



**Mid-Atlantic Fishery Management Council**  
800 North State Street, Suite 201, Dover, DE 19901  
Phone: 302-674-2331 | FAX: 302-674-5399 | [www.mafmc.org](http://www.mafmc.org)  
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman  
Christopher M. Moore, Ph.D., Executive Director

## MEMORANDUM

**Date:** 11/30/16  
**To:** Chris Moore  
**From:** Jason Didden *JDD*  
**Subject:** Squid Amendment

Following this cover page, please find a summary of the Sept 13, 2016 Advisory Panel (AP) meeting and an updated preliminary re-qualification analysis (numbers of likely qualifiers).


There is a joint MSB Committee/Advisory Panel meeting on Dec 1, 2016, and a summary of that meeting will be forwarded to the Council and posted to the December 2016 Council meeting page (<http://www.mafmc.org/briefing/december-2016>) as soon as possible. Additional background materials, and several public comments have also been posted there.

The goals of this agenda item are to review the Committee and Advisory Panel input and adopt alternatives for additional analysis in the public hearing document.



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## MEMORANDUM

**Date:** 11/18/16  
**To:** MSB Committee  
**From:** Jason Didden   
**Subject:** 9/13/16 MSB Advisory Panel (AP) Meeting Summary

The Advisory Panel met in Warwick, RI on 9/13/16 to provide input on the ongoing squid Amendment.

Advisors in attendance included: Jim Lovgren; Vito Calamo; Katie Almeida; Joseph Gordon; Greg DiDomenico; Chris Roebuck, Hank Lackner; Robert Rhule; Pete Kaizer; Jeff Reichle; Mead Amory, and Stephen Weiner (12 of 16).

Others in attendance included: Jason Didden (MAFMC), Lisa Hendrickson (NEFSC), Raymond DeCosta, Brian Borgeson, Bob DeCosta, Capt. Buddy Vanderhoop, Lisa Vanderhoop, Tobia Glidden, Jeff Kaelin, Dan McKiernan, Eric Lundvall, Howard King, Chris Parkins, Teresa Tanzi, George Egan, David White, Ryan Clark, Patrick Knapp, Doug Christel, John Haran, Dick Grachek, Don Fox, Bob Ballou, Glenn Goodwin, Tim Barrett, Meghan Lapp, Nadia Simmons, Tom Williams, Albert Antonio, Tom Williams, Andrew Williams, Pat Glade, Aaron Williams, Eric Reid, and Jason Mleczko.

The following notes capture the points raised by advisors, but may not represent the views of all advisors unless specifically noted. The input from the advisors is designed to inform the December 1 Joint AP/Committee meeting in Baltimore, MD (<http://www.mafmc.org/council-events/dec-1-msb-committee-ap-meeting>). The background documents for the AP meeting have been added to this website and should be consulted for details on issues in this summary memo.

### Squid Requalification

The first topic discussed was the squid requalification, and J Didden first provided an overview of recent squid fishery performance. Advisors asked when and what the original squid qualification criteria were as well as the mackerel qualification criteria. For mackerel, the qualifications were 1997-2005 at 400,000 pounds for Tier 1, 3/1/1994-2005 at 100,000 pounds for Tier 2, and 3/1/1994-2005 at 1,000 pounds for Tier 3. All poundage thresholds are any one/best year. Also, all vessels had to be in possession of a mackerel permit on March 21, 2007. For longfin squid, the qualification was 20,000 pounds of longfin or butterfish (including joint venture) in any consecutive 30-day period

between Aug 13, 1981 and August 13, 1993. For *lllex* squid, the qualification was five landings of at least 5,000 pounds (including joint venture) of *lllex* squid between Aug 13, 1981 and August 13, 1993.

The advisors requested that the following time periods be included for analysis: 1997-2015 (max), 2006-2015 (10 years up to 2015), 2011-2015 (5 years up to 2015), 1997-2013 (1997 to control date), 2004-2013 (10 years up to control date), and 2009-2013 (5 years up to control date). Ending in 2015 would consider the most recent data, but 2013 would utilize the republished squid control dates (May 16, 2013 for longfin squid and August 2, 2013 for *lllex* squid). The advisors thought these date ranges would allow consideration of historic and recent activity, and that consideration of historic activity was important given the variability of the squid fishery. An advisor also requested that a 500,000 pound threshold be included for *lllex* given the higher volumes involved in the *lllex* fishery. Updated tables with the numbers of vessels that would and would not qualify under these scenarios will be distributed closer to the December 1, 2016 Committee meeting.

There was substantial concern voiced about judging alternatives based on the sum of all vessels' best years in terms of predicting what a group of qualifying vessels might catch, especially for *lllex* given the short fishing season. Some viewed it as likely to mislead decision makers that a group of vessels would ever catch that much in any one year – staff noted that the intent had been to show that the vessels had the potential to land at least that much based on historical performance. Staff also noted that in 2016, the highest weekly longfin landings to date were in late June with approximately 3.5 million pounds landed in one week. While the fishing was exceptional and close to shore, at 3.5 million pounds per week, the entire annual longfin quota could potentially be caught by the currently active vessels in about 14 weeks, highlighting the potential harvesting capacity of just the currently active longfin squid fleet.

The advisors requested analysis of how many current permits had zero landings and information on the performance of vessels with only incidental permits. Staff clarified that staff understood that only existing moratorium permits would be able to retain moratorium permits. Approximately 10% of catch in recent years has come from state-only or incidentally-permitted vessels. Incidental permits are allowed up to 2,500 pounds longfin and up to 10,000 pounds of *lllex* squid (incidental *lllex* landings are a trivial portion of total landings).

Public comment on requalification: Sector 13 vessels have been increasing their squid catch (and having more vessels participate) due to squid availability and restrictions in other fisheries.

An advisor recommended making the incidental longfin permit a limited access permit that could not be re-obtained if dropped. This would solve the issue of incidental permits being dropped during closures to allow fishing in state waters. Such a qualifier could start in 1997 and run through 2016 and use a 5,000 or 10,000 pound threshold (any best year). There could still be a 500 pound open access permit for incidental catch. The advisors requested that a chart of state squid rules be created. Staff believes that Massachusetts mirrors federal closures but other states may not, but staff will create a chart before public hearings.

Another issue was what to do with vessels that currently have limited access/moratorium permits but do not requalify for limited access (applies to both species). The simplest option would be to roll back to an incidental permit. Alternatively, they could be placed into a new permit tier with a trip limit that is higher than the incidental level (e.g. 5,000 or 10,000 pounds) or they could have access until 50% of any annual or Trimester quota is caught, at which point only the re-qualified vessels could continue directed fishing. Advisors thought that the need for such accommodations may vary depending on how inclusive or restrictive the requalification criteria are. The advisors also would like to see the distribution of landings by non-qualifiers (staff is currently analyzing this information and will have it for the December 1 meeting).

An advisor asked how squid permits that are associated with permits suites within state permit banks should be treated and whether they could be reactivated and/or regrouped to create an additional squid vessel. Staff will follow up with MA staff to clarify, but the current understanding is that a suite of permits within a permit bank cannot be split and the squid permits would be “locked up” unless a permit bank sold a package of permits in its entirety.

### Maine Permit Issue

The issue of Maine vessels getting new directed longfin squid permits was discussed. This issue arose out of higher abundance of longfin squid in northern areas in 2012. NMFS has indicated that allowing just vessels in one state to obtain new limited access permits would violate the Magnuson Act. It might be possible to set up general area-based allocations, but that would not address the issue of vessels not having permits. Advisors noted that individuals in Maine can currently obtain incidental permits, or buy existing squid permits if they want to enter the fishery. An advisor also stated that shifting distributions should not be used to dilute the value of historical permits and that existing vessels can move when squid move. It was also mentioned that the State of Maine could create a state-waters fishery if they want, and that giving out new permits to some when many might lose permits in the same action does not seem fair/equitable.

### Trimester and Nantucket/Martha's Vineyard Issues

L. Hendrickson presented analyses that examined the relationship between squid fishing effort in April-September (“Inshore”) versus landings per unit effort in the following October-March season (“Offshore”). The opposite was also examined: the relationship between squid fishing effort in October-March season (“Offshore”) versus landings per unit effort in the following April-September season (“Inshore”). Trips with greater than 40% longfin squid landings were used in the analysis of fishing effort because that definition accounted for about 90% of landings. Some advisors were concerned about how the trip definition could impact the analyses. Correlation coefficients indicate highly significant negative correlations between inshore fishery effort (days fished) and offshore fishery LPUE (mt per day fished), and vice versa, during 1983-2015 (<http://www.mafmc.org/s/LHendricksonDocs.pdf>). The correlation was even stronger if only 1983-1999 was examined (before in-season quotas and trip

limits affected the timing/amount of effort). While correlation does not prove causation, there is a biological backstory that supports that there would be a linkage. Longfin squid live 6-8 months with likely near-continuous spawning peaking inshore in the summer/fall and elsewhere in the winter, with the summer/fall-spawned squid supplying the offshore fishery and the winter-spawned squid supplying the inshore fishery. "Direct age sampling of the inshore and offshore fisheries for [longfin squid] showed that these seasonal fisheries likely interact and that each harvests squid spawned in the previous season" (Macy and Brodziak 2001 - <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.529.5011&rep=rep1&type=pdf> ).

Some advisors thought that there were likely other unmeasured variables driving the observed trends (temperature, dogfish, forage, etc.). Other advisors thought that since the inshore fishing was taking place on concentrated spawning squid and squid mops (egg clusters) there was a very strong reason to think that inshore fishing could negatively impact productivity/recruitment.

Staff also reviewed catch distribution maps that illustrated the high proportion of Trimester 2 and/or April-September squid coming out of the areas just south of Nantucket/Martha's Vineyard (especially), Rhode Island, and Long Island in recent years (2007-2015). Effort followed a similar pattern.

Staff also reviewed bycatch ratios in the squid fishery 2007-2015. Overall discard ratios in the squid fishery were relatively similar among the Trimesters (about 1/3 of catch is discarded). Overall discard ratios appear to have declined from 2007-2015. Most discards consist of butterfish, dogfish, *IIIex*, hake, scup, and skates. The species mixes do change among the Trimesters – in Trimester 2, some higher-profile species have relatively higher bycatch ratios (compared to other Trimesters) such as scup, striped bass, summer flounder, winter flounder, and black sea bass. An advisor requested if relative size could differ amongst species and trimesters and if information on protected species is available. Staff will check on the size information. Protected resource interaction information is available in the specifications Environmental Assessments. An advisor requested if discards could be broken down by the Areas 1 and 2 (see map below). This could be done for public hearings.

As a strawman example for discussion, staff illustrated several areas that could have some limiting regulations around Nantucket/Martha's Vineyard (see map below). Area 1 effort and landings have increased substantially from 2007-2015 (<http://www.mafmc.org/s/LHendricksonDocs.pdf>).

Some advisors (and members of the public) thought that no changes should occur to the trimester allocations and/or roll-overs and that the current system has led to a robust fishery in the most recent years. There was some discussion of what could happen if the fishery returned to quarters, but it is difficult to construct "what if" scenarios given the variability of the longfin squid fishery. One advisor recommended an alternative that instead of capping the roll over increase at 50% for Trimester 2 (8 million pounds increasing to potentially 12 million pounds depending on the performance of Trimester 1), there should be an option for capping the increase at 75% for Trimester 2 (8 million pounds increasing to potentially 14 million pounds).

Other advisors (and members of the public) thought that changes were appropriate to limit Trimester 2 effort, especially around Nantucket/Martha's Vineyard. For those advisors (and public attendees) who were concerned about the relatively high levels of catch and effort around Nantucket/Martha's Vineyard in recent years, they generally concurred that one or more of the following alternatives could potentially address their concerns:

--Keep the Trimester percentages the same but return to where any Trimester 1 underages roll into Trimester 3 and none into Trimester 2.

--Eliminate/reduce Trimester 2 directed fishing once the Trimester 2 quota is reached (whatever it happens to be) to reduce pressure on spawning squid/mops.

-Possible closure options could be 250 pounds, 500 pounds, and 1,500 pounds versus the current 2,500 pound post-closure limit that allows substantial directed fishing. (In 2016 there were approximately 7 million pounds of longfin squid landed *after* the 12 million pound Trimester 2 quota was reached).

-Alternatively, a 5.5 inch post-closure mesh limit could be required to retain more than 250 pounds of longfin squid to ensure that post-closure landings are truly incidental.

--Create a 50 nm buffer zone south of Nantucket/Martha's Vineyard, for purposes of addressing possible concerns about localized depletion, bycatch, spawning concerns, and gear conflicts. A 50 nm buffer would approximately extend the Areas 1 and 2 south to the edge of the map below.

--Maintain rollover from Trimester 1 to Trimester 2, but any roll over would have to be caught outside of Area 1 or outside of Areas 1 and 2 (or a portion of Area 2 corresponding to a 12-mile limit).

--Maintain rollover from Trimester 1 to Trimester 2, but once the total quota (including roll over) was reached, then squid catch would be prohibited inside Area 1 or inside Areas 1 and 2 (or a portion of Area 2 corresponding to a 12-mile limit).

--Close Area 1 for all of Trimester 2.

--Close Areas 1 and 2 for all of Trimester 2.

Some advisors felt that they needed to digest the information that was presented before they could recommend alternatives. An advisor asked if a catch per unit effort map could be created. Council staff will consult with science center staff on the feasibility of such an analysis to be included in a public hearing document.

## Public Comments

Public comments focused on the Nantucket/Martha's Vineyard Trimester 2 issue. Most public comments (including 9 individuals who traveled from the islands) wanted some (but not necessarily total) reduction/limitation of effort in the Areas 1 and 2 during Trimester 2 (see map below), especially because effort has increased in those areas recently. They stated that the supply of bait/forage in their area is important for the tourist industries and that bait/forage has been negatively impacted by excessive squid fishing. Some public comments did not think there was a problem with bycatch or forage depletion and that no-action was most appropriate. Comments noted that there is insufficient science to indicate whether there is, or is not, a problem from the squid fishing around Nantucket/Martha's Vineyard.

One public comment and an advisor suggested that strengtheners should be eliminated to reduce bycatch, at least in New England waters. Another public comment suggested an April-September total closure of Areas 1 and 2. Another public comment urged that ecosystem impacts be considered in terms of local squid catch and that a closed area following the 40m contour be considered.

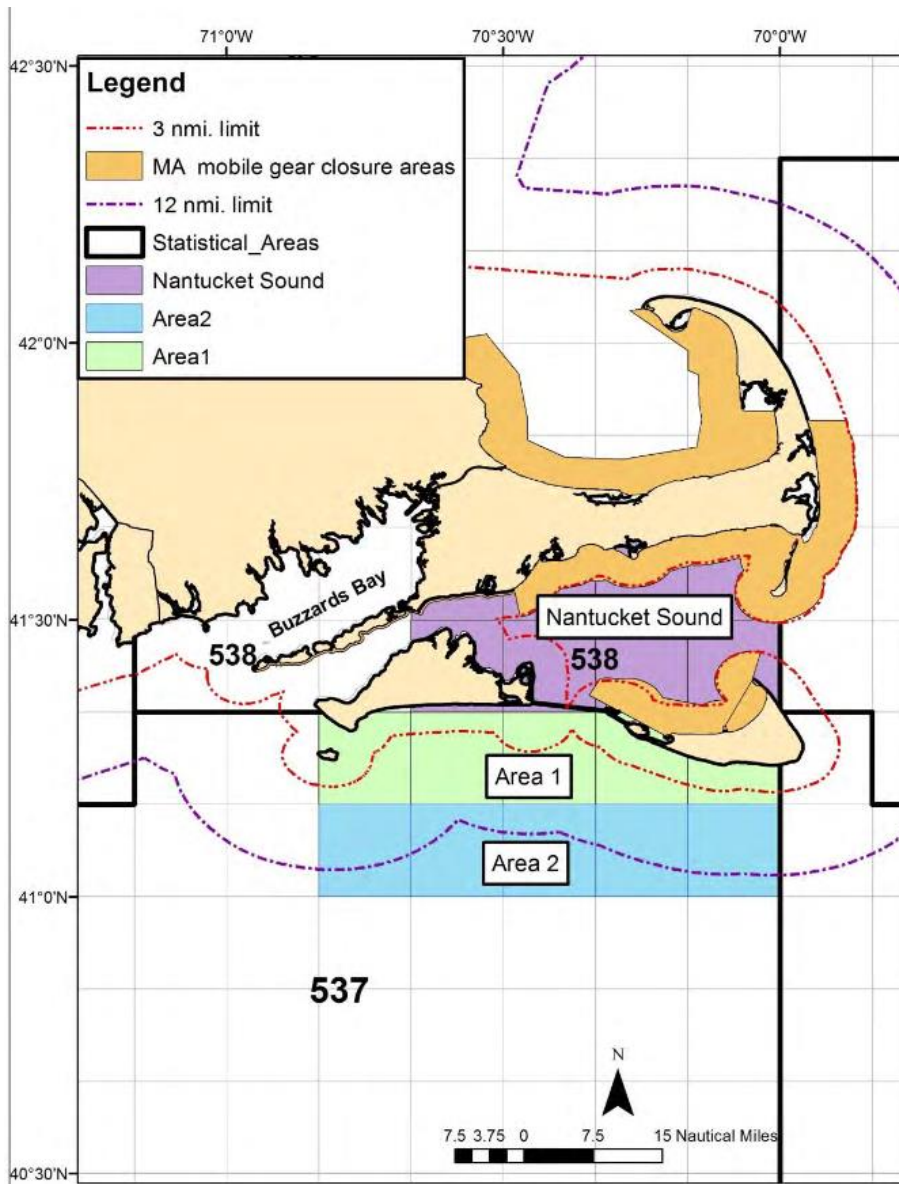
Staff from the State of Massachusetts indicated that a holistic evaluation of squid spawning habitat should occur, and that the effects of previous/existing regulations should be considered. The State of Massachusetts will likely submit comments to the Council.

An advisor requested that abundance indices be examined for cyclical trends in longfin squid abundance. Another advisor asked if real-time management was possible, either within this amendment or generally, and if creating a spawning closure could allow the overall quota to rise (if recruitment is improved). Staff explained that some preliminary exploration of real-time management has occurred but there is not sufficient science to implement real-time management now. Another advisor recommended beginning a pilot study to begin moving toward real-time assessment/management.

An advisor recommended increasing the Trimester 2 minimum mesh to 2 1/8 inches (which is the Trimester 1 and 3 minimum mesh size).

An advisor recommended a study on the survival of trawled squid eggs/mops in terms of understanding whether trawling on mops causes additional mortality.

There was one written comment submitted, which is included on the last page of this memo (after the map).



Map of possible area restrictions.



From: **Cam Gammill** cam@fishernantucket.com  
Subject: please print and bring with you for Tuesday...  
Date: September 11, 2016 at 9:33 PM  
To: Jason Mleczo mleczo@me.com, Thomas Mleczo capttom@me.com

My name is Capt Cam Gammill. I own Bill Fisher Tackle on Nantucket and run a charter boat for Bill Fisher Outfitters. I am submitting this statement based on the economic impact of squid fishing in our local waters.

When I bought Bill Fisher Tackle eleven years ago, there were four tackle shops servicing our summer community of 60,000 people. Now, we only have two shops and we have seen our bass fishery dwindle locally. In the past 5 years, we have seen all tackle directly related to Bass fishing decrease by 40%. This includes jigs, trolling gear and specific bass plugs. Specific to the Squid fishing, we have seen our sale of Squid Jigs drop dramatically. In 2011, we sold in excess of 1200 jigs. So far this season, we have sold less than 200. This is amazing! The numbers have dropped consistently every year as we have lost bait in shore.

Quite simply, fish chase bait and as our biggest bait fishery slows down due to overfishing, we are losing our Striped Bass fishery. The impact of the lack of fish has had a dramatic effect on our local economy. We have lost two tackle shops in a big community. Our sales numbers for Striped Bass related products is down. Charters in historic prime bass weeks, June and October have fallen. The biggest change is that there were several key clients who used to come to the Island in the bass weeks, they would rent houses, stay in hotels, eat at our restaurants and populate our Island beaches while hunting for Striped Bass. Realistically, each of these individuals would add between \$1,000-\$1,500 daily into our Island community. I can name at least 4 groups, comprised of at least 20 individuals who no longer make this pilgrimage.

In short, beyond the environmental impact, we can see a clear economic impact on our Island Economy. My best guess is that the difference in a good Striped Bass year vs a bad Striped Bass year is \$200,000. Considering the amount of squid in our fishery directly impacts the quality of our striped bass fishing, I would be very comfortable in saying that the squid fishery in our local waters is having a considerable economic impact.

Thank you,  
Capt Cam Gammill  
508.332.9149  
[billfishers@gmail.com](mailto:billfishers@gmail.com)

**Cam Gammill**  
Principal Broker  
Fisher Real Estate  
21 Main Street, Nantucket MA  
508.332.9149 c - 508.228.4407 o  
[www.fishernantucket.com](http://www.fishernantucket.com)

Approximate Longfin Squid Re-qualifiers. 60 Options – 4 for more detailed analysis would be optimal.

For range purposes, the 10,000 pound 1997-2015 best year option should be one alternative (most re-qualifiers)

Longfin Squid

2015 Terminal Year

~422 Vessels Had a Moratorium Permit 2011-2015											
1997-2015 (best year qual)				2006-2015 (best year qual)				2011-2015 (best year qual)			
Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	247	175	66,717,680	10,000	204	218	47,074,062	10,000	173	249	39,037,772
25,000	231	191	66,435,522	25,000	181	241	46,654,278	25,000	154	268	38,711,283
50,000	197	225	65,157,854	50,000	151	271	45,544,245	50,000	133	289	37,972,420
100,000	167	255	62,985,262	100,000	126	296	43,651,302	100,000	105	317	35,916,180
200,000	109	313	54,688,542	200,000	79	343	37,311,672	200,000	65	357	30,515,897
1997-2015 (Average for qual)				2006-2015 (Average for qual)				2011-2015 (Average for qual)			
Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	187	235	64,149,056	10,000	158	264	45,732,054	10,000	143	279	38,319,916
25,000	142	280	59,206,591	25,000	125	297	43,297,765	25,000	120	302	37,094,731
50,000	104	318	53,021,508	50,000	88	334	38,298,177	50,000	100	322	35,091,669
100,000	68	354	41,993,220	100,000	66	356	33,714,235	100,000	68	354	30,607,657
200,000	35	387	28,248,184	200,000	36	386	24,642,456	200,000	40	382	23,399,108

Longfin Squid

2013 Terminal Year (New Control Date Year)

~422 Vessels Had a Moratorium Permit 2011-2015											
1997-2013 (best year qual)				2004-2013 (best year qual)				2009-2013 (best year qual)			
Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	237	185	64,248,527	10,000	198	224	49,313,120	10,000	168	254	35,294,667
25,000	222	200	63,981,542	25,000	177	245	48,931,300	25,000	149	273	34,938,238
50,000	191	231	62,808,985	50,000	151	271	47,931,057	50,000	125	297	34,029,611
100,000	162	260	60,735,763	100,000	124	298	45,944,666	100,000	99	323	32,104,624
200,000	108	314	52,985,944	200,000	83	339	40,381,671	200,000	66	356	27,675,260
1997-2013 (Average for qual)				2004-2013 (Average for qual)				2009-2013 (Average for qual)			
Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	186	236	62,222,370	10,000	154	268	47,962,127	10,000	137	285	34,473,843
25,000	140	282	57,442,450	25,000	122	300	45,504,960	25,000	114	308	33,266,591
50,000	101	321	50,691,795	50,000	88	334	41,014,856	50,000	91	331	30,863,188
100,000	68	354	40,907,124	100,000	65	357	35,218,614	100,000	66	356	27,435,308
200,000	34	388	26,452,466	200,000	35	387	24,970,365	200,000	31	391	17,814,818

Approximate Illex Squid Re-qualifiers. 72 Options – 4 for more detailed analysis would be optimal.

For range purposes, the 10,000 pound 1997-2015 best year option should be one alternative (most re-qualifiers)

Illex Squid

2015 Terminal Year

~90 Vessels Had a Moratorium Permit 2011-2015											
1997-2015 (best year qual)				2006-2015 (best year qual)				2011-2015 (best year qual)			
Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	40	50	78,616,933	10,000	34	56	57,766,809	10,000	29	61	42,198,062
25,000	37	53	78,577,255	25,000	31	59	57,727,131	25,000	27	63	42,170,144
50,000	37	53	78,577,255	50,000	31	59	57,727,131	50,000	27	63	42,170,144
100,000	35	55	78,434,460	100,000	30	60	57,635,201	100,000	23	67	41,880,510
200,000	34	56	78,323,481	200,000	27	63	57,211,957	200,000	20	70	41,484,906
500,000	31	59	77,266,972	500,000	22	68	55,252,090	500,000	17	73	40,218,751
1997-2015 (Average for qual)				2006-2015 (Average for qual)				2011-2015 (Average for qual)			
Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	34	56	78,323,481	10,000	30	60	57,635,201	10,000	27	63	42,170,144
25,000	33	57	78,052,977	25,000	29	61	57,524,222	25,000	23	67	41,842,253
50,000	30	60	76,055,684	50,000	26	64	56,941,453	50,000	20	70	41,484,906
100,000	23	67	70,214,566	100,000	19	71	53,180,117	100,000	18	72	40,695,828
200,000	19	71	63,310,721	200,000	14	76	49,044,822	200,000	11	79	36,506,147
500,000	7	83	41,917,548	500,000	7	83	40,251,791	500,000	6	84	30,202,852

Illex Squid

2013 Terminal Year (New Control Date Year)

~90 Vessels Had a Moratorium Permit 2011-2015											
1997-2013 (best year qual)				2004-2013 (best year qual)				2009-2013 (best year qual)			
Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (best year)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	39	51	78,249,257	10,000	35	55	70,293,025	10,000	30	60	50,453,756
25,000	36	54	78,209,579	25,000	32	58	70,253,347	25,000	27	63	50,412,171
50,000	36	54	78,209,579	50,000	32	58	70,253,347	50,000	27	63	50,412,171
100,000	35	55	78,158,714	100,000	31	59	70,202,482	100,000	26	64	50,341,503
200,000	34	56	78,047,735	200,000	30	60	70,091,503	200,000	23	67	49,918,259
500,000	31	59	77,266,972	500,000	27	63	69,310,740	500,000	19	71	48,504,642
1997-2013 (Average for qual)				2004-2013 (Average for qual)				2009-2013 (Average for qual)			
Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period	Qualifying Threshold (average)	Qual	Not Qual	Sum of each vessel's best year over qual period
10,000	34	56	78,047,735	10,000	31	59	70,202,482	10,000	27	63	50,412,171
25,000	32	58	77,575,900	25,000	29	61	69,890,172	25,000	26	64	50,341,503
50,000	31	59	76,857,706	50,000	28	62	69,619,668	50,000	24	66	50,029,193
100,000	23	67	70,214,566	100,000	23	67	66,704,591	100,000	20	70	48,984,792
200,000	19	71	63,310,721	200,000	21	69	64,957,473	200,000	15	75	45,854,542
500,000	7	83	41,917,548	500,000	11	79	50,054,496	500,000	10	80	41,218,316