

Small-mesh multispecies fleet history analysis
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Analysis reviewed by the Whiting PDT

INTRODUCTION

The Small Mesh Multispecies Committee asked that fishery data be summarized with the following parameters:

- Group 1 - all permit/mris that landed over 7500 pounds of silver and offshore hake on any fishing trip.
- Group 2 - all permit/mris that landed between 3500 and 7499 pounds of silver and offshore hake on any fishing trip.
- Group 3 - all permit/mris that landed between 2000 and 3499 pounds of silver and offshore hake on any fishing trip.

These three groups also were to be analyzed for three time-periods; 2008-2012 (5 years), 2003-2012 (10 years), and 2000-2012 (13 years).

Fleet history for whiting and red hake landings were tabulated by permit number, unless it was enrolled in another Northeast Region limited access program. In the latter case, the landings history for a permit was associated with the MRI, obtained from GARFO sources, at the time of the trip landing. This procedure allowed us to track history properly in cases where vessel transfers occurred.

Using the group parameters to define the small-mesh fishery, a comparison of permit/mri performance is presented below. Although, the groups are defined by trips on which silver and offshore hakes (whiting) were landed, the landings and revenues include all three hake species; silver, offshore and red hake (hake).

First, each permit/mri is assigned to a group based on its trip landings of hakes during the time-period, from Vessel Trip Report data (VTR). ONE trip during a potential qualification period determines which group the permit/mri history belongs. This means that a group included vessels that made few trips over 7,500 lbs. (for Group 1) as well as permit/mris that were much more active in the

fishery. Conversely, a permit/mri history in Group 1, for example, also included many trips that landed fewer whiting. If it has any landings above 7500 pounds of hakes, it is assigned to Group 1, and so on. The three groups are exclusive; once a permit/mri is assigned to a group, it is not included in groups with a lower landing criterion. Data for permit/mris that landed hakes but do not qualify for a group are presented also.

Landings and revenues, however, were derived from three data sources, VTR, Dealer data, and DMIS (a database developed by GARFO that combines VTR and Dealer data, since 2007). For a permit/mri history, the “best” source (i.e. highest landings) for each period was used (not on an annual basis). All permit/mris landing any hakes from any of the three data sources are included in this analysis, and their best landings and revenues chosen from the source with the highest amount of hake landings during the time-period.

The “best” hake¹ landings, “best” total landings, and “best” hake revenues are shown in the tables below, for each period.

Five year time-period, 2008-2012

During 2008-2012, Group 1 permit/mris landed 102.1 million pounds of hakes, worth \$57.45 million, out of their total landings of all species of 324.5 million pounds.

Best Hake Landings & Revenues
Group total over the time period 2008-2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Sum	Sum	Sum
Group	1,216	6,654,117.00	383,316,253.00	3,132,921.96
1 - with 7500 pound trips	122	102,090,606.00	324,508,711.00	57,455,060.39
2 - 3500-7499 pound trips	75	9,436,893.00	78,708,071.00	4,943,474.06
3 - 2000-3499 pound trips	55	1,479,061.00	53,776,804.00	613,865.19
All	1,468	119,660,677.00	840,309,839.00	66,145,321.60

¹ Used in this context, “hake” refers to landings of red, silver, and offshore hakes. “Whiting” refers to landings of silver and offshore hakes only.

Likewise, Group 2 permit/mris landed 9.4 million pounds, worth \$4.94 million, out of total landings of 78.7 million pounds. Group 3 permit/mris landed 1.5 million pounds, worth \$613 thousand, out of total landings of 53.7 million pounds.

The average permit/mri in Group 1 landed 836.8 thousand pounds during the five-year period; Group 2, 125.8 thousand; and Group 3, 26.9 thousand.

Best Hake Landings & Revenues
Permit/mri average from 2008 to 2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Mean	Mean	Mean
Group	1,216	5,472.14	315,227.18	2,576.42
1 - with 7500 pound trips	122	836,808.25	2,659,907.47	470,943.12
2 - 3500-7499 pound trips	75	125,825.24	1,049,440.95	65,912.99
3 - 2000-3499 pound trips	55	26,892.02	977,760.07	11,161.19
All	1,468	81,512.72	572,418.15	45,058.12

Dividing the average permit/mri's hake landings from 2008 to 2012 by the number of years in the time-period (5), gives the average annual permit/mri's landings: Group 1, 167.3 thousand pounds; Group 2, 25.1 thousand; Group 3, 5.3 thousand. The average annual landings value makes it a little easier to make comparisons between different length periods of fleet history.

Best Hake Landings & Revenues
Permit/mri average from 2008 to 2012

	N	All
		Annual_hake_landings
		Mean
Group	1,216	1,094.43
1 - with 7500 pound trips	122	167,361.65
2 - 3500-7499 pound trips	75	25,165.05
3 - 2000-3499 pound trips	55	5,378.40
All	1,468	16,302.54

Another important parameter to compare groups may be the percentage that hake landings represent, of their total landings of all species. Groups 1 and 2 have fairly high dependence on hakes, 28% and 24% respectively, but the 70 Group 3 permit/mris depend on hakes for 9% of their total landings.

Hakes as percent of total landings
by Group over the time period 2008-2012

	N	All		
		hake_percent_landings	best_hake_landings	best_total_landings
		Mean	Mean	Mean
Group	1,216	0.04	5,472.14	315,227.18
1 - with 7500 pound trips	122	0.28	836,808.25	2,659,907.47
2 - 3500-7499 pound trips	75	0.24	125,825.24	1,049,440.95
3 - 2000-3499 pound trips	55	0.09	26,892.02	977,760.07
All	1,468	0.07	81,512.72	572,418.15

The average and maximum number of VTR trips that qualify permit/mris for each group is shown below.

Silver/Offshore hake trips
Permit/mri average from 2008 to 2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Mean	Mean	Mean
Group	1,216	0.00	0.00	0.00
1 - with 7500 pound trips	122	22.32	13.18	12.98
2 - 3500-7499 pound trips	75	0.00	5.36	9.03
3 - 2000-3499 pound trips	55	0.00	0.00	2.36
All	1,468	2.46	1.82	2.16

Silver/Offshore hake trips
Maximum by any boat over the time period 2008-2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Max	Max	Max
Group	1,216	0.00	0.00	0.00
1 - with 7500 pound trips	122	199.00	157.00	108.00
2 - 3500-7499 pound trips	75	0.00	46.00	78.00
3 - 2000-3499 pound trips	55	0.00	0.00	14.00
All	1,468	199.00	157.00	108.00

And the number of red hake only trips from VTR data is also shown, below.

Red hake trips
Permit/mri average from 2008 to 2012

	N	All		
		RHK5000	RHK400	RHK1
		Mean	Mean	Mean
Group	1,216	0.00	1.02	15.61
1 - with 7500 pound trips	122	1.20	33.93	82.55
2 - 3500-7499 pound trips	75	0.03	8.89	28.88
3 - 2000-3499 pound trips	55	0.02	2.38	12.13
All	1,468	0.14	5.25	23.73

Ten year time-period, 2003-2012

During 2003-2012, Group 1 permit/mris landed 176.5 million pounds of hakes, worth \$97.87 million, out of their total landings of all species of 640.3 million pounds.

Best Hake Landings & Revenues
Group total over the time period 2003-2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Sum	Sum	Sum
Group	1,634	5,655,740.00	503,985,011.00	2,892,553.89
1 - with 7500 pound trips	199	176,500,214.00	640,320,525.00	97,867,134.08
2 - 3500-7499 pound trips	108	10,430,783.00	118,866,533.00	5,435,593.69
3 - 2000-3499 pound trips	70	2,130,798.00	67,087,647.00	891,028.38
All	2,011	194,717,535.00	1,330,259,716.00	107,086,310.03

Likewise, Group 2 permit/mris landed 10.4 million pounds, worth \$5.43 million, out of total landings of 118.8 million pounds. Group 3 permit/mris landed 2.1 million pounds, worth \$891 thousand, out of total landings of 67.0 million pounds.

The average permit/mri in Group 1 landed 886.9 thousand pounds; Group 2, 96.5 thousand; and Group 3, 30.4 thousand.

Best Hake Landings & Revenues
Permit/mri average from 2003 to 2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Mean	Mean	Mean
Group	1,634	3,539.26	315,384.86	1,810.11
1 - with 7500 pound trips	199	886,935.75	3,217,691.08	491,794.64
2 - 3500-7499 pound trips	108	96,581.32	1,100,616.05	50,329.57
3 - 2000-3499 pound trips	70	30,439.97	958,394.96	12,728.98
All	2,011	98,591.16	673,549.22	54,220.92

Dividing the average permit/mri's hake landings from 2003 to 2012 by the number of years in the time-period (10), we get the typical permit/mri's annual hake landings: Group 1, 88.6 thousand pounds; Group 2, 9.6 thousand; Group 3, 3.0 thousand.

Best Hake Landings & Revenues
Permit/mri average from 2003 to 2012

Group	N	All
		Annual_hake_landings
		Mean
	1,634	353.93
1 - with 7500 pound trips	199	88,693.57
2 - 3500-7499 pound trips	108	9,658.13
3 - 2000-3499 pound trips	70	3,044.00
All	2,011	9,859.12

Another important parameter to compare groups may be the percentage that hake landings represent, of their total landings of all species. Groups 1 and 2 have fairly high dependence on hakes, 25% and 17% respectively, but the 70 Group 3 permit/mris depend on hakes for 9% of their total landings.

Hakes as percent of total landings
by Group over the time period 2003-2012

Group	N	All		
		hake_percent_landings	best_hake_landings	best_total_landings
		Mean	Mean	Mean
	1,634	0.03	3,539.26	315,384.86
1 - with 7500 pound trips	199	0.25	886,935.75	3,217,691.08
2 - 3500-7499 pound trips	108	0.17	96,581.32	1,100,616.05
3 - 2000-3499 pound trips	70	0.09	30,439.97	958,394.96
All	2,011	0.06	98,591.16	673,549.22

The average and maximum number of VTR trips that qualify permit/mris for each group is shown below.

Silver/Offshore hake trips
Permit/mri average from 2003 to 2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Mean	Mean	Mean
Group	1,634	0.00	0.00	0.00
1 - with 7500 pound trips	199	28.41	14.97	15.38
2 - 3500-7499 pound trips	108	0.00	4.68	9.10
3 - 2000-3499 pound trips	70	0.00	0.00	2.54
All	2,011	3.45	2.13	2.58

Silver/Offshore hake trips
Maximum by any boat over the time period 2003-2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Max	Max	Max
Group	1,634	0.00	0.00	0.00
1 - with 7500 pound trips	199	444.00	246.00	178.00
2 - 3500-7499 pound trips	108	0.00	46.00	104.00
3 - 2000-3499 pound trips	70	0.00	0.00	14.00
All	2,011	444.00	246.00	178.00

And the number of red hake only trips from VTR data is also shown, below.

Red hake trips
Permit/mri average from 2003 to 2012

	N	All		
		RHK5000	RHK400	RHK1
		Mean	Mean	Mean
Group	1,634	0.03	1.18	16.81
1 - with 7500 pound trips	199	1.83	38.72	97.64
2 - 3500-7499 pound trips	108	0.05	10.86	33.78
3 - 2000-3499 pound trips	70	0.01	2.21	13.30
All	2,011	0.25	6.42	27.60

Thirteen year time-period, 2000-2012

During 2000-2012, Group 1 permit/mris landed 259.3 million pounds of hakes, worth \$132.7 million, out of their total landings of all species of 993.3 million pounds.

Best Hake Landings & Revenues
Group total over the time period 2000-2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Sum	Sum	Sum
Group	2,065	7,542,063.00	662,030,442.00	3,596,262.54
1 - with 7500 pound trips	269	259,351,413.00	993,311,235.00	132,717,424.04
2 - 3500-7499 pound trips	128	12,793,756.00	144,813,671.00	6,222,305.60
3 - 2000-3499 pound trips	96	2,516,666.00	104,555,465.00	1,096,386.90
All	2,558	282,203,898.00	1,904,710,813.00	143,632,379.08

Likewise, Group 2 permit/mris landed 12.7 million pounds, worth \$6.2 million, out of total landings of 144.8 million pounds. Group 3 permit/mris landed 2.5 million pounds, worth \$1.1 million, out of total landings of 104.5 million pounds.

The average permit/mri in Group 1 landed 964.1 thousand pounds; Group 2, 99.9 thousand; and Group 3, 26.2 thousand.

Best Hake Landings & Revenues
Permit/mri average from 2000 to 2012

	N	All		
		best_hake_landings	best_total_landings	best_hake_revenues
		Mean	Mean	Mean
Group	2,065	3,715.30	326,123.37	1,771.56
1 - with 7500 pound trips	269	964,131.65	3,692,606.82	493,373.32
2 - 3500-7499 pound trips	128	99,951.22	1,131,356.80	48,611.76
3 - 2000-3499 pound trips	96	26,215.27	1,089,119.43	11,420.70
All	2,558	111,852.52	754,938.89	56,929.20

Dividing the average permit/mri's hake landings from 2000 to 2012 by the number of years in the time-period (13), we get the typical permit/mri's annual hake landings: Group 1, 74.1 thousand pounds; Group 2, 7.7 thousand; Group 3, 2.0 thousand.

Best Hake Landings & Revenues
Permit/mri average from 2000 to 2012

	N	All
		Annual_hake_landings
		Mean
Group	2,065	285.79
1 - with 7500 pound trips	269	74,163.97
2 - 3500-7499 pound trips	128	7,688.56
3 - 2000-3499 pound trips	96	2,016.56
All	2,558	8,604.04

Another important parameter to compare groups may be the percentage that hake landings represent, of their total landings of all species. Groups 1 and 2 have fairly high dependence on hakes, 25% and 17% respectively, but the 96 Group 3 permit/mris depend on hakes for 7% of their total landings.

Hakes as percent of total landings
by Group over the time period 2000-2012

	N	All		
		hake_percent_landings	best_hake_landings	best_total_landings
		Mean	Mean	Mean
Group	2,065	0.03	3,715.30	326,123.37
1 - with 7500 pound trips	269	0.25	964,131.65	3,692,606.82
2 - 3500-7499 pound trips	128	0.17	99,951.22	1,131,356.80
3 - 2000-3499 pound trips	96	0.07	26,215.27	1,089,119.43
All	2,558	0.06	111,852.52	754,938.89

The average and maximum number of VTR trips that qualify permit/mris for each group is shown below.

Silver/Offshore hake trips
Permit/mri average from 2000 to 2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Mean	Mean	Mean
Group	2,065	0.00	0.00	0.00
1 - with 7500 pound trips	269	30.94	17.23	16.98
2 - 3500-7499 pound trips	128	0.00	4.43	9.05
3 - 2000-3499 pound trips	96	0.00	0.00	2.24
All	2,558	3.94	2.46	2.81

Silver/Offshore hake trips
Maximum by any boat over the time period 2000-2012

	N	All		
		PLC7500_GROUP	PLC3500_GROUP	PLC2000_GROUP
		Max	Max	Max
Group	2,065	0.00	0.00	0.00
1 - with 7500 pound trips	269	655.00	259.00	192.00
2 - 3500-7499 pound trips	128	0.00	46.00	171.00
3 - 2000-3499 pound trips	96	0.00	0.00	14.00
All	2,558	655.00	259.00	192.00

And the number of red hake only trips from VTR data is also shown, below.

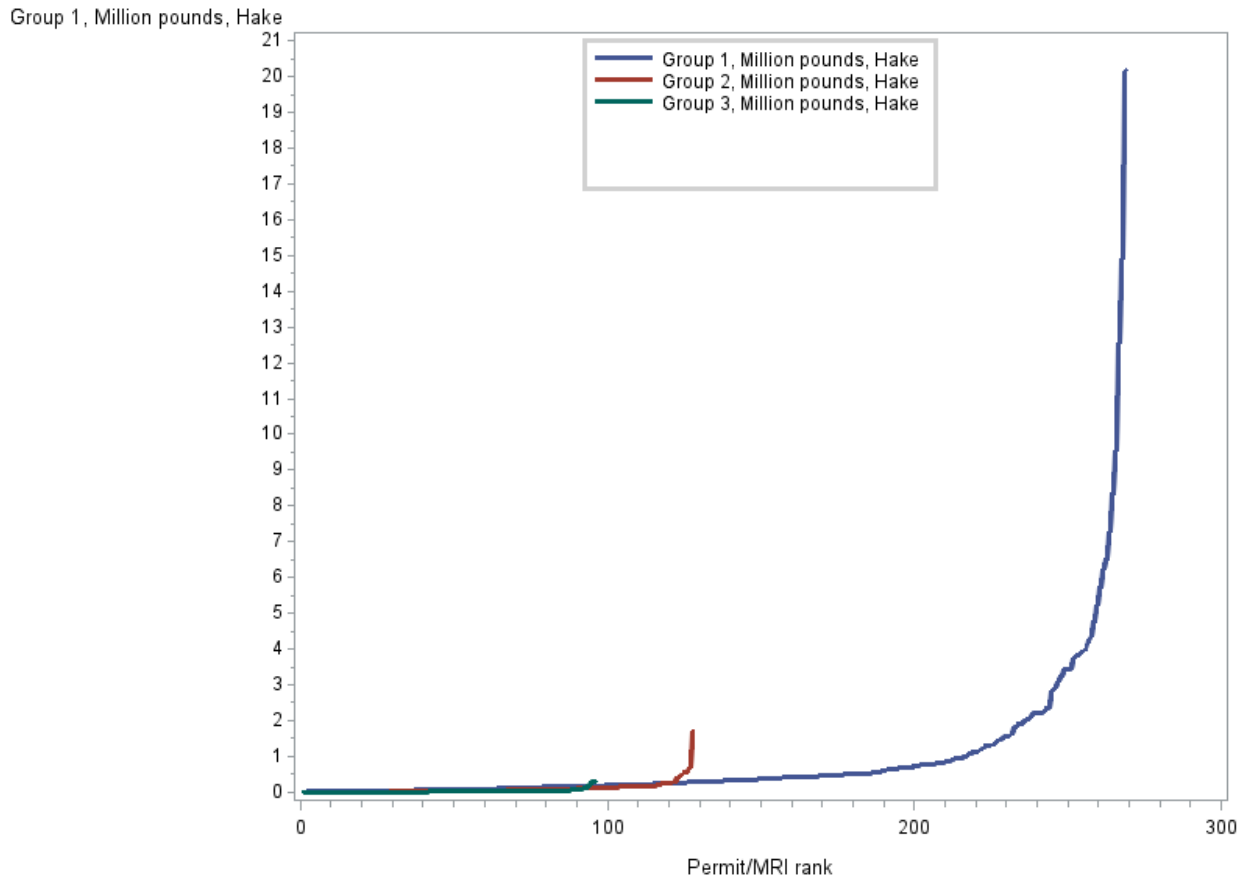
Red hake trips
Permit/mri average from 2000 to 2012

	N	All		
		RHK5000	RHK400	RHK1
		Mean	Mean	Mean
Group	2,065	0.05	1.22	17.92
1 - with 7500 pound trips	269	2.14	45.93	107.94
2 - 3500-7499 pound trips	128	0.10	12.47	38.15
3 - 2000-3499 pound trips	96	0.01	2.36	15.52
All	2,558	0.31	7.64	30.49

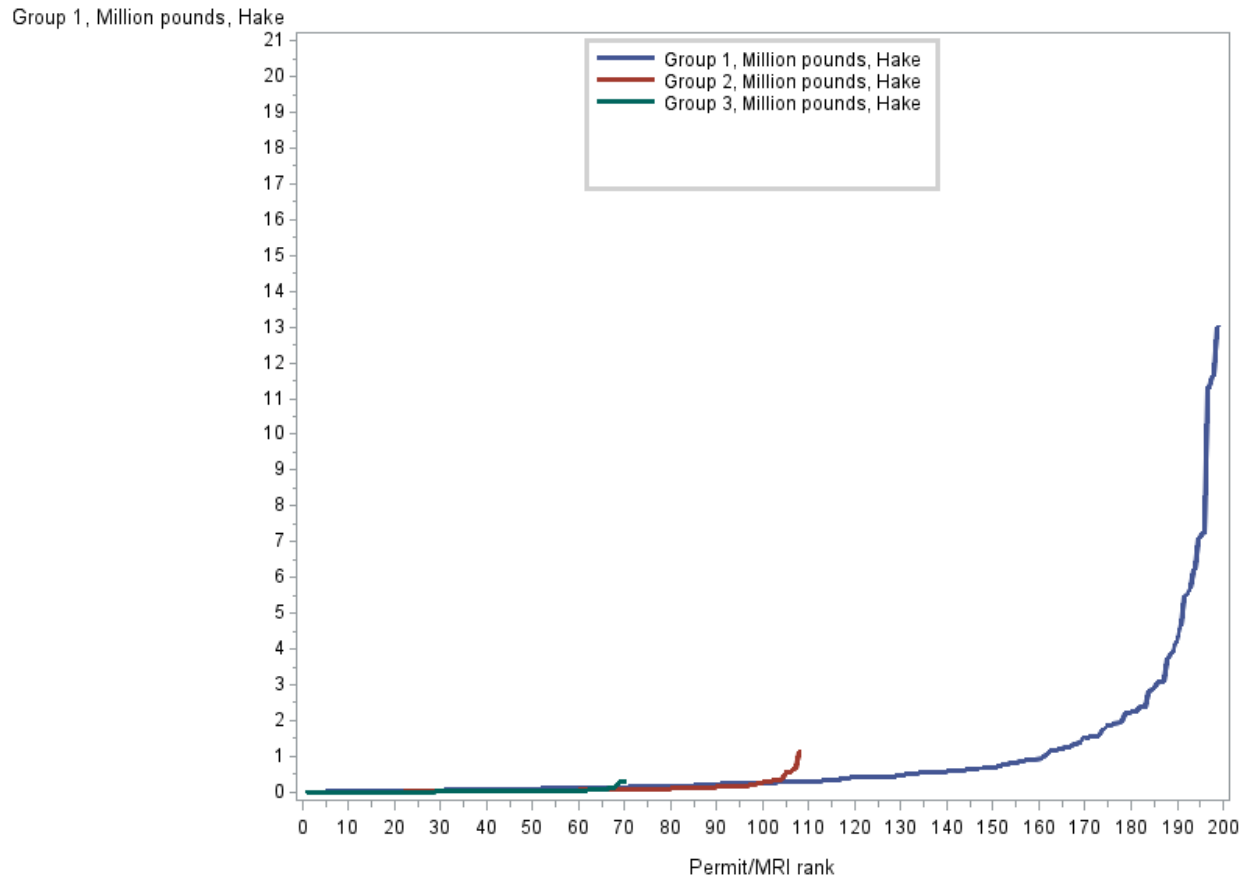
Appendix 1

Best hake landings, per permit/mri

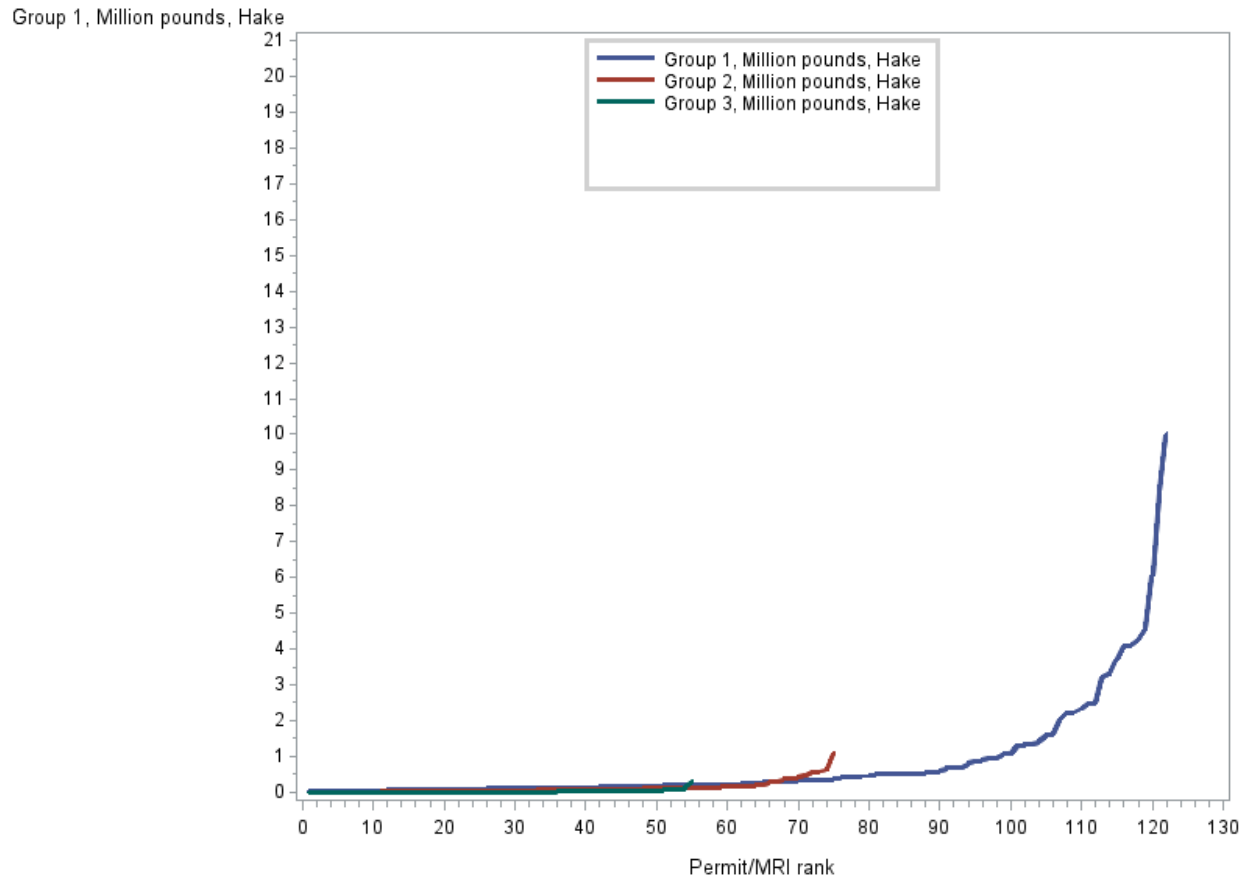
Best Hake Landings for 3 groups, 2000-2012, per vessel



Best Hake Landings for 3 groups, 2003-2012, per vessel



Best Hake Landings for 3 groups, 2008-2012, per vessel

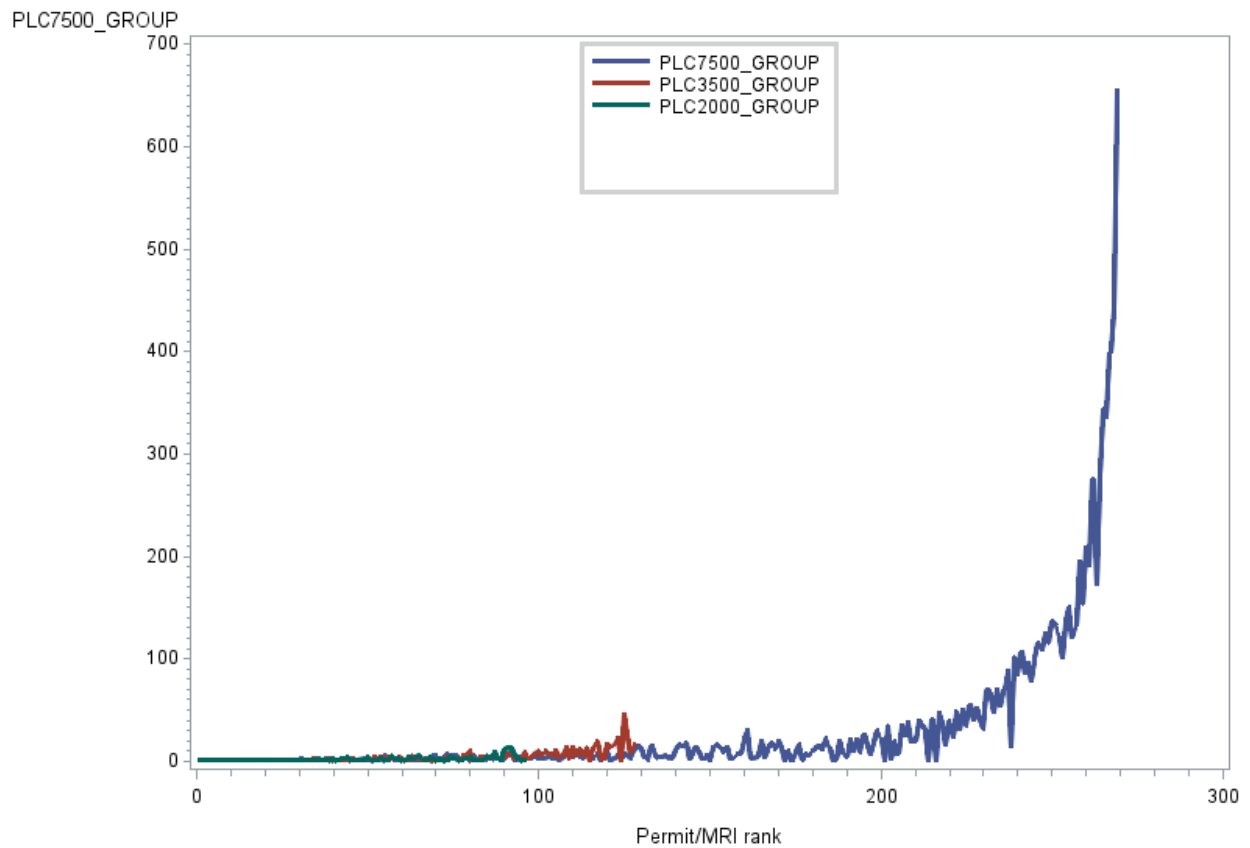


Appendix 2

Number of silver and offshore hake trips, for each permit/mri

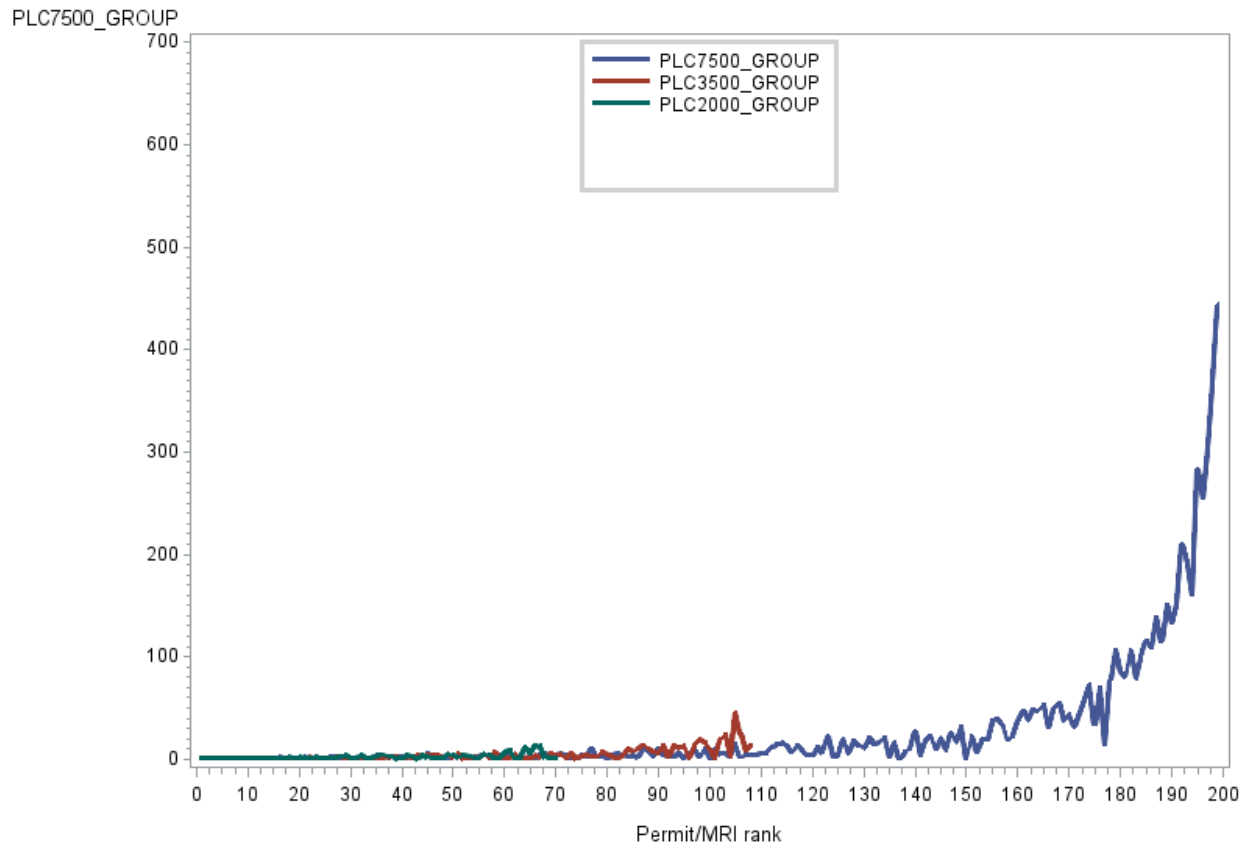
Silver/Offshore hake trips for 3 groups, 2000-2012, per vessel

groups are exclusive; e.g., PLC3500 is the number of trips by each vessel that were between 3500 and 7499pounds



Silver/Offshore hake trips for 3 groups, 2003-2012, per vessel

groups are exclusive; e.g., PLC3500 is the number of trips by each vessel that were between 3500 and 7499 pounds



Silver/Offshore hake trips for 3 groups, 2008-2012, per vessel

groups are exclusive; e.g., PLC3500 is the number of trips by each vessel that were between 3500 and 7499 pounds

