

Ownership concentration and potential caps

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Where we left off in June:

- Ownership of PSC is highly concentrated (Gini = 0.78)
 but widely distributed (1000+ firms)
- PSC ownership share varies across stocks
 - •GB winter flounder most concentrated (Gini = 0.93)
 - •GOM cod least concentrated (Gini = 0.77)
- Top five owner's shares increased from 8% of total in 2007 to 21% in 2010, remaining nearly constant thereafter
- Owner-level accumulation seemed to have occurred from '07 to '10, with little change thereafter



What we were missing last time:

CPH permits:

- CPH permits not in PERMIT data, ownership info not updated annually
- Two snapshots of full ownership: April 7, 2011 and September 13, 2013

Individual owners:

- Looked at OWNER GROUPS but not individual owners
- New analyses include concentration/accumulation at individual owner level



A note of caution:

THESE DATA ARE INCOMPLETE, POTENTIALLY INACCURATE, AND ARE PRESENTED FOR REFERENCE AND DISCUSSION ONLY

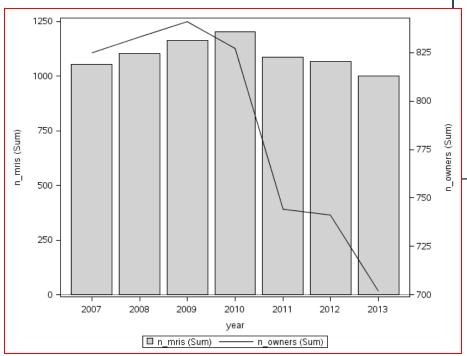
Drawing off several databases: PERMIT, OWNER, BUSINESS, MQRS, SECTOR

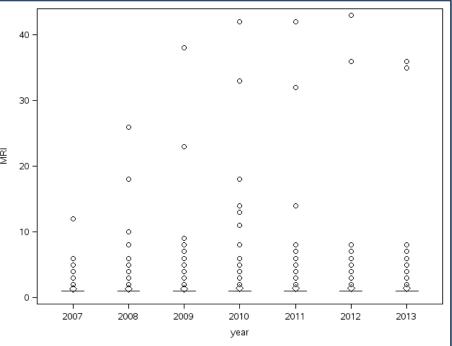
2013 Example:

- OWNER database = 1459 MRIs
- When filtered through PERSON and BUSINESS = 1440
- Merge with SECTOR for Sector affiliations = 1433
- Merge with MQRS for PSC allocations = 1396
- Eliminate duplicate MRIs = 1232

Permits and MRIs may not track – some MRIs are affiliated with multiple permits (or none), and vice versa.

The no. of MRIs is relatively stable while no. of ownership groups has declined substantially since 2009





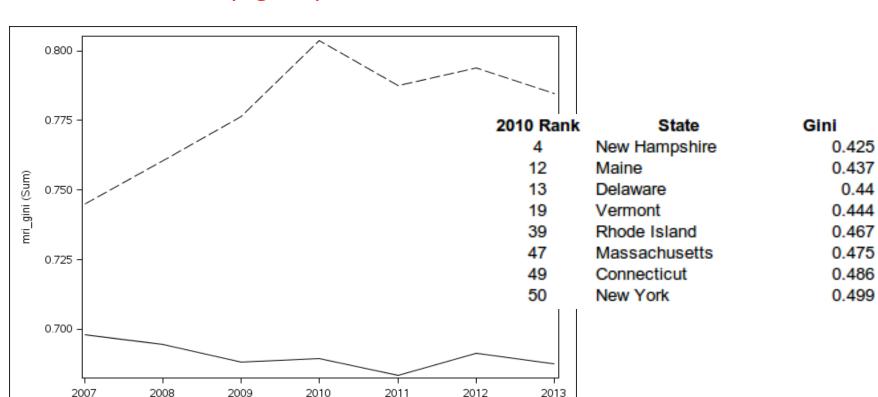
The no. of MRIs per ownership group increased from 2007-2010 and has remained (relatively) constant since



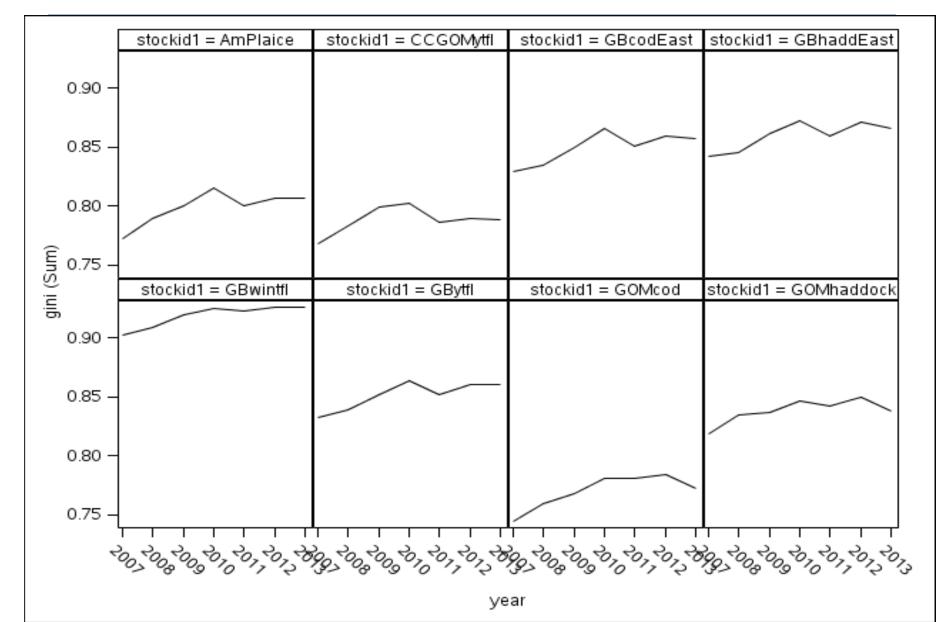
Gini coefficients demonstrate a concentrated fishery at both MRI and ownership group levels...

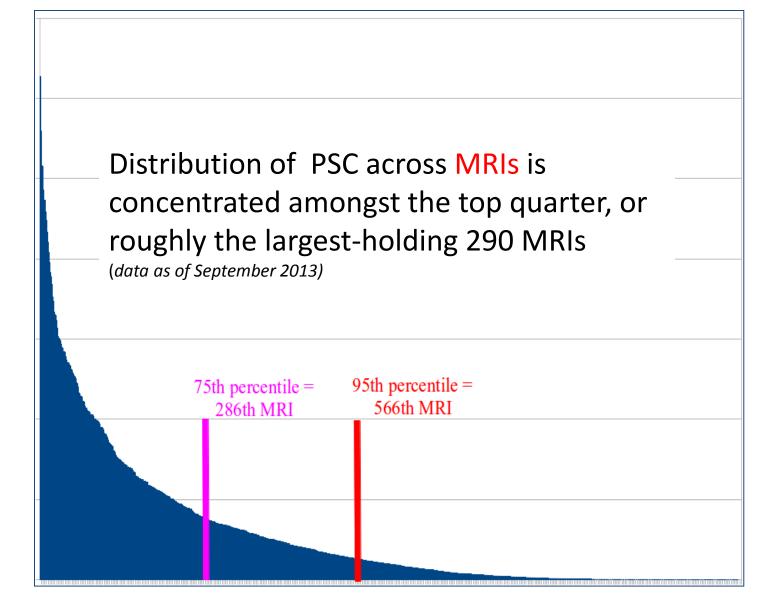
year

mri gini (Sum) ——— owner gini (Sum)

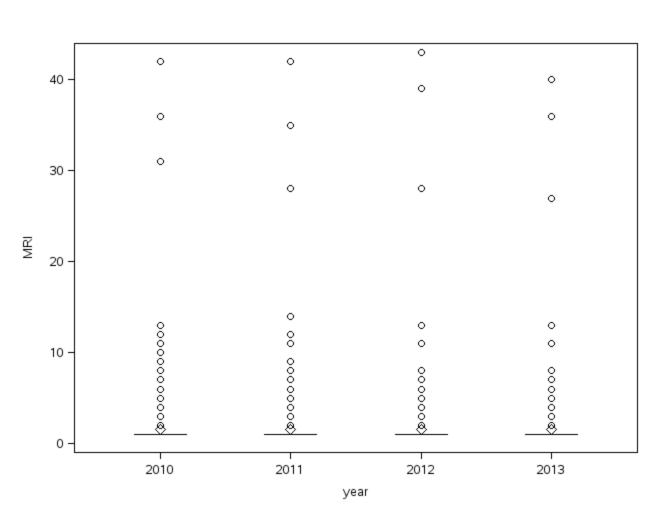


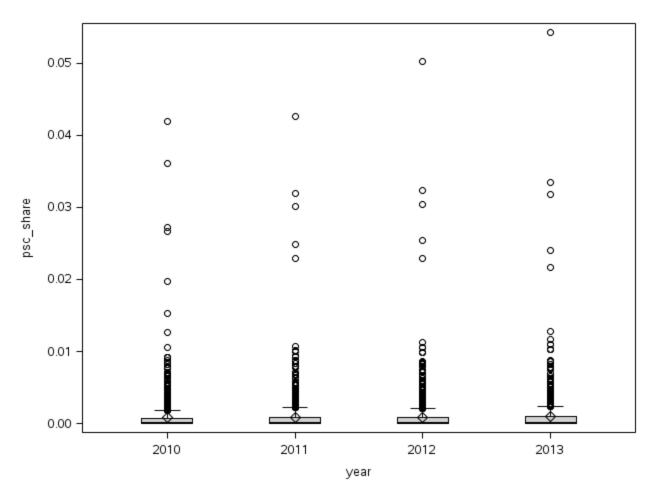




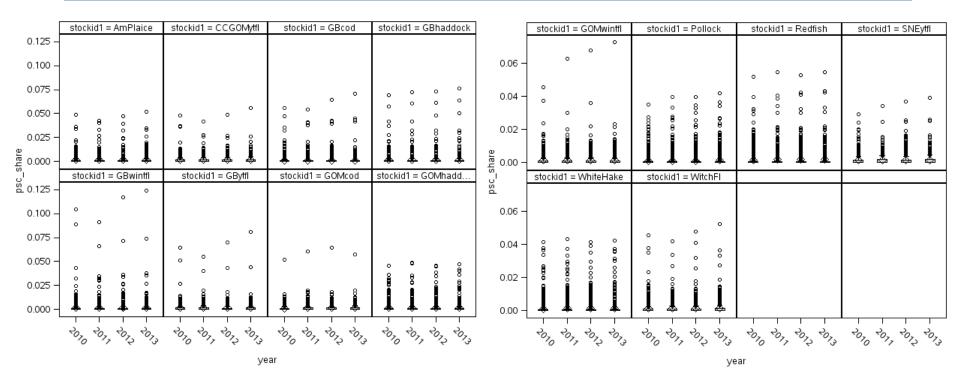


Looking at it from the perspective of individual listed owners does not change our perception of ownership stability post-2010...





Similarly, it appears that the largest individual owners hold between 2-6% of all PSC shares and this is relatively constant over the past four years...



For stock-level allocations, the highest individual ownership percentage appears to be between 10 and 12.5% (GB winter fl). All other stocks range between 4 and 7.5%.

CPH Vessels

CPH is a good way to maintain access rights while minimizing compliance costs...

2011:

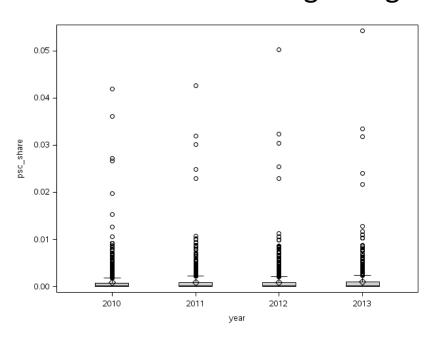
AUTH_TYPE ▼	
СРН	165
HISTORY RETENTION	1
PREQUALIFICATION	257
QUALIFICATION	344
REPLACEMENT	656
Total Result	1423

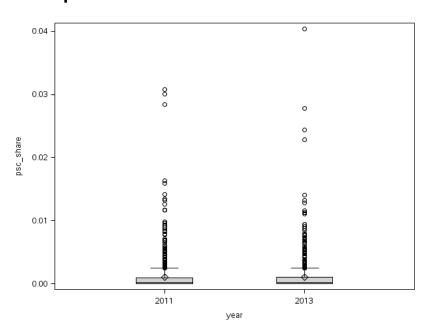
2013:

AUTH_TYPE ▼	
СРН	283
HISTORY RETENTION	2
PREQUALIFICATION	207
QUALIFICATION	275
REPLACEMENT	607
Total Result	1374



The inclusion of CPH vessels does not appear to change our broad conclusions regarding ownership concentration...





This may be masking some differences in BUSINESS_ID, PERSON_ID and OWNER_ID affiliations across years...

...implying a need for care when considering the appropriate level for potential ownership limits.

DUCINECC ID	Number MRIs at	Number MRIs in
BUSINESS_ID	CONTROL DATE	2013 (of which
rank (largest	(of which CPH)	CPH) September
to smallest)	*April 7, 2011*	13, 2013*
1	38 (3)	49 (19)
2	16 (11)	25 (25)
3	7 (0)	11 (11)
4	6 <i>(0)</i>	8 (2)
5	6 <i>(0)</i>	6 <i>(</i> 1 <i>)</i>
6	6 <i>(</i> 1)	6 <i>(6)</i>
7	6	6
8	6	5
9	5	5
10	5	5
11	5	5
12	5	5
13	5	5
14	5	5
15	4	4
16	4	4
17	4	4
18	4	4
19	4	4
20	4	4
21	4	4
22	4	4
23	4	4
24	4	4
25	4	4
26	3	4
27	3	4
28	3	4
29	3	3
30	3	3



What might ownership caps look like?

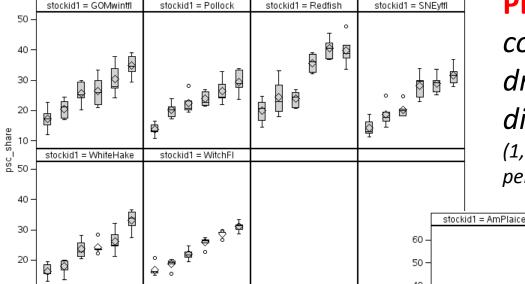
PERMIT CAP: Maximum PSC allocation acquirable to attain target permit cap threshold (2013 data with CPH)

	Total MRIS	1232	1232	1232	1232	1232	1232
	MRI cap	62	74	86	99	111	123
	THRESHOLD	5%	6%	7%	8%	9%	10%
	American Plaice	49%	55%	60%	63%	67%	70%
Max percent of PSC potentially acquirable	CCGOM yellowtail	46%	52%	58%	63%	67%	71%
	GB cod	49%	55%	60%	65%	69%	72%
	GB haddock	62%	67%	72%	76%	79%	82%
	GB winter flounder	83%	87%	90%	92%	94%	95%
	GB yellowtail	68%	74%	80%	84%	88%	91%
	GOM cod	37%	42%	47%	50%	54%	57%
	GOM haddock	61%	66%	70%	74%	77%	79%
	GOM winter fl	60%	65%	70%	74%	78%	81%
	Pollock	57%	63%	68%	72%	75%	78%
	Redfish	73%	78%	82%	85%	87%	89%
	SNE yellowtail	61%	67%	73%	77%	81%	84%
	White hake	62%	68%	73%	76%	80%	83%
	Witch flounder	45%	50%	55%	60%	64%	68%



PSC CAP: Minimum number of permits acquirable to attain target cap threshold (2013 data with CPH)

	THRESHOLD	30%	35%	40%	45%	50%	55%	60%
SIS able	American Plaice	29	37	44	53	62	74	87
	CCGOM yellowtail	33	40	49	58	68	78	90
	GB cod	30	37	45	53	62	72	85
	GB haddock	14	18	24	30	37	46	56
₩	GB winter flounder	9	11	14	17	20	24	28
E B	GB yellowtail	16	20	24	29	35	41	48
Min number of MRIs potentially acquirable	GOM cod	44	55	67	81	96	114	134
	GOM haddock	15	19	25	31	38	47	57
	GOM winter fl	16	21	27	34	41	50	60
	Pollock	22	27	33	40	48	56	66
	Redfish	12	15	19	23	27	32	38
	SNE yellowtail	21	26	32	37	44	51	59
	White hake	19	24	29	35	41	48	57
	Witch flounder	34	42	52	61	72	84	98

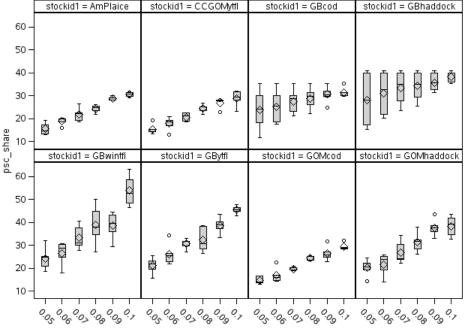


threshold

PERMIT CAP: Likely consolidation outcomes drawing from actual distribution of MRIs

(1,000 simulations drawn from the top 95-75th percentiles using 2013 data with CPH)

A cap at 5% of permits, if reached, would likely result in ownership of btwn 10-30% of PSC depending on stock



- Broad conclusions from June still hold:
 - Consolidation occurred between 2007-2010 and has been relatively stable since
 - CPH data unlikely to affect this
- Current max individual shares range from 5-12% of PSC, 40-50 permits
- Even low permit and/or PSC caps would be unlikely to induce divestiture
 - 5% permit cap = $^{\sim}60$ MRIs
 - -30% PSC cap = ~30-80 MRIs

Noting that these data are difficult to work with and final analysis may change results and/or conclusions