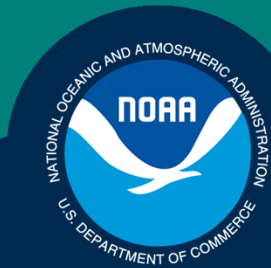


Science, Service, Stewardship



Adding Quota Trades to Net Revenue Estimates

Andrew Kitts and Chad Demarest,
NEFSC

June 13, 2013

**NOAA
FISHERIES
SERVICE**



BACKGROUND

- Net revenue estimates in 2011 report on groundfish performance did not account for ACE/PSC (“quota”) trading
- Only information about between sector trades was provided
- Sectors provided additional details on both between and within sector trades in their 2011 annual reports
- These new data are described in this new report
- New data did not have sufficient detail to adjust net revenue – instead, used simulation of quota market



GROSS VALUE OF TRADES VS. FINAL NET POSITION OF SECTOR MEMBERS

Reported - gross

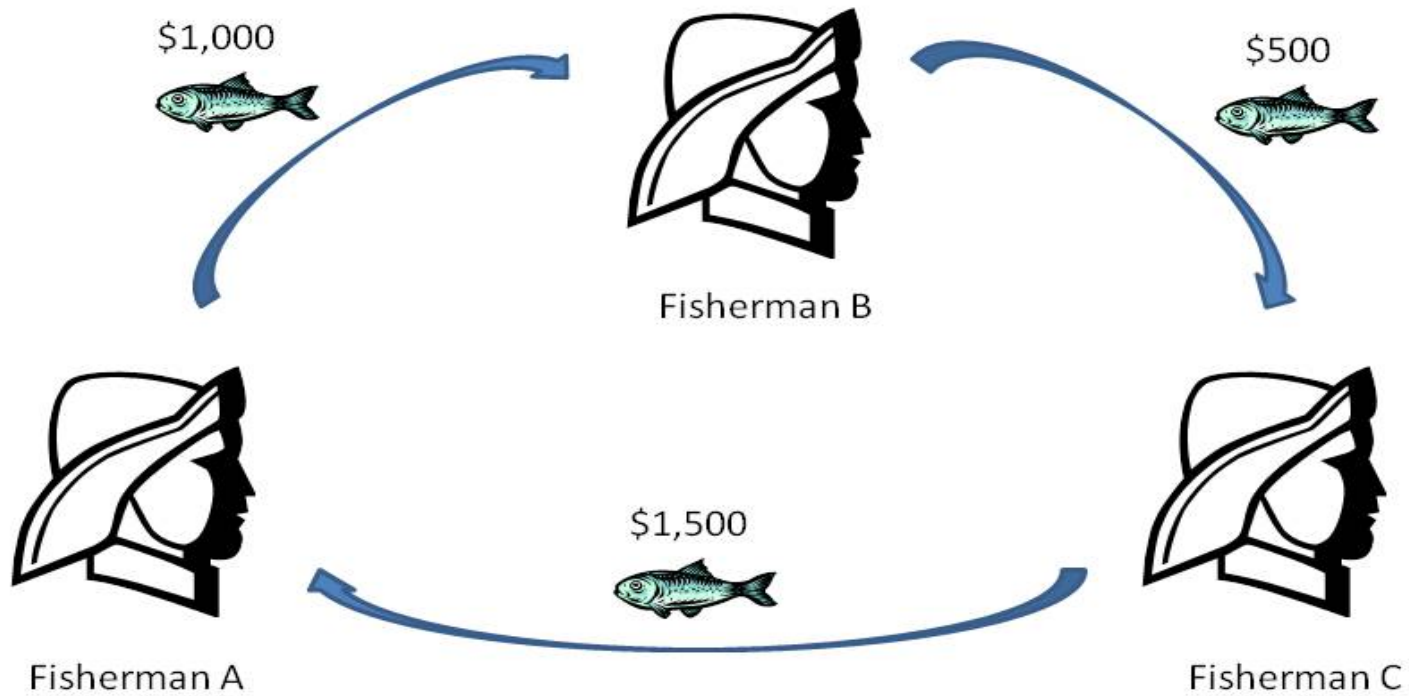
Between sectors = \$7.8m
Within sectors = \$8.5m
Total = \$16.3m

Reported - net

Between and within sectors
combined = \$10.9m



Why different?



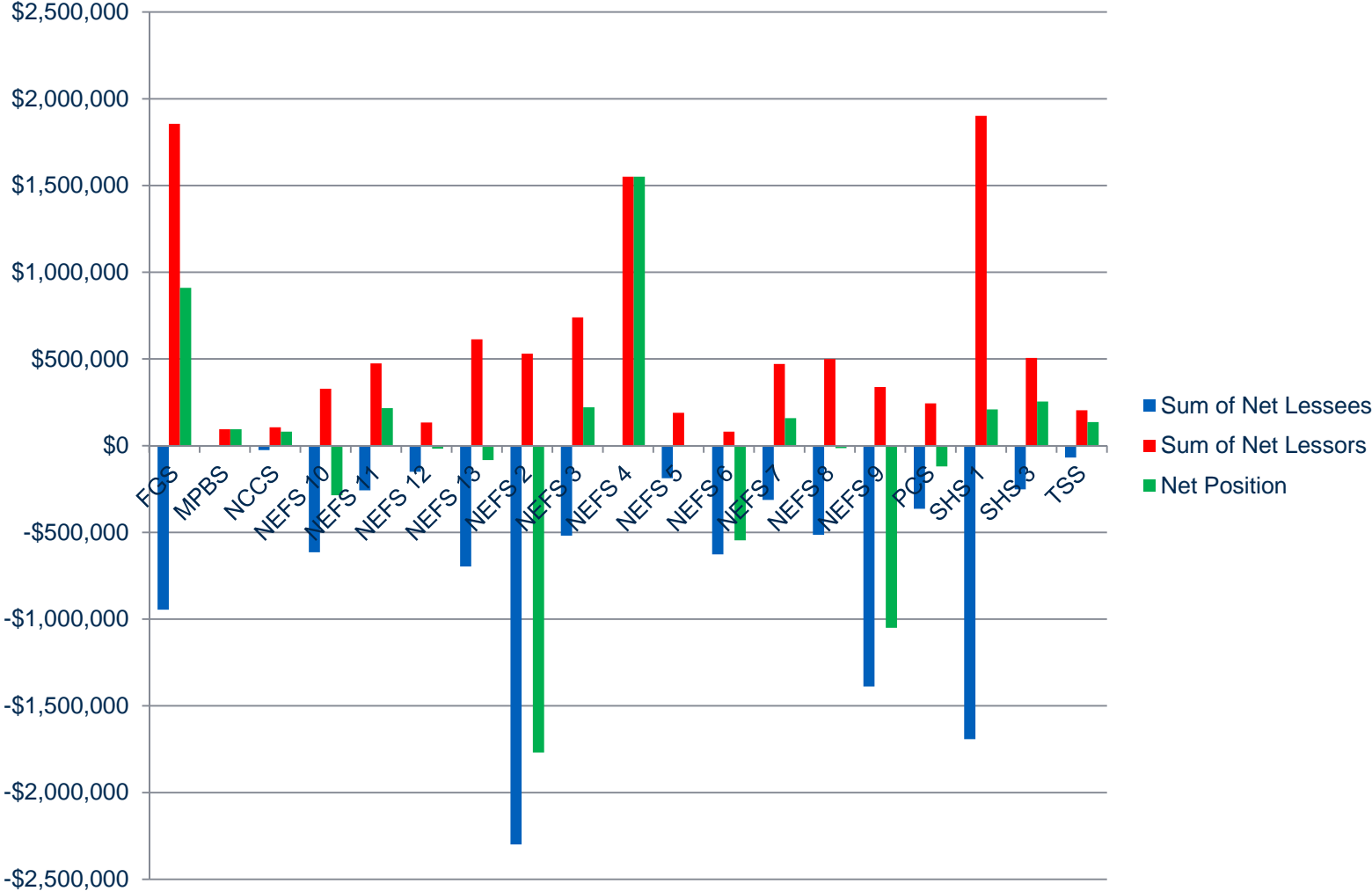
Gross value traded: $\$1,000 + \$500 + \$1,500 = \$3,000$

Net cost for A = \$500

Net cost for B = \$500

Net revenue for C = \$500

Figure 6. Final Net Quota Positions by Sector -- Within and Between Sectors Trades Combined





WHY SIMULATE THE MARKET?

- Net revenue estimates were based on vessel characteristics
- Reported trade data was at sector member level
 - Links to vessel identifiers missing for some sectors
 - Multiple vessel owner issue – how allocate trade?



QUOTA COST SIMULATION

If Catch > PSC then:

1) $\text{Catch (lbs)} - \text{PSC (lbs)} = \text{Quota Required}$

2) $\text{Value of Quota Required} = \text{Quota Required} * \text{Quota Price}$

(Result: \$15.2m)



From Hedonic Model

If PSC > Catch then:

QUOTA REVENUE SIMULATION

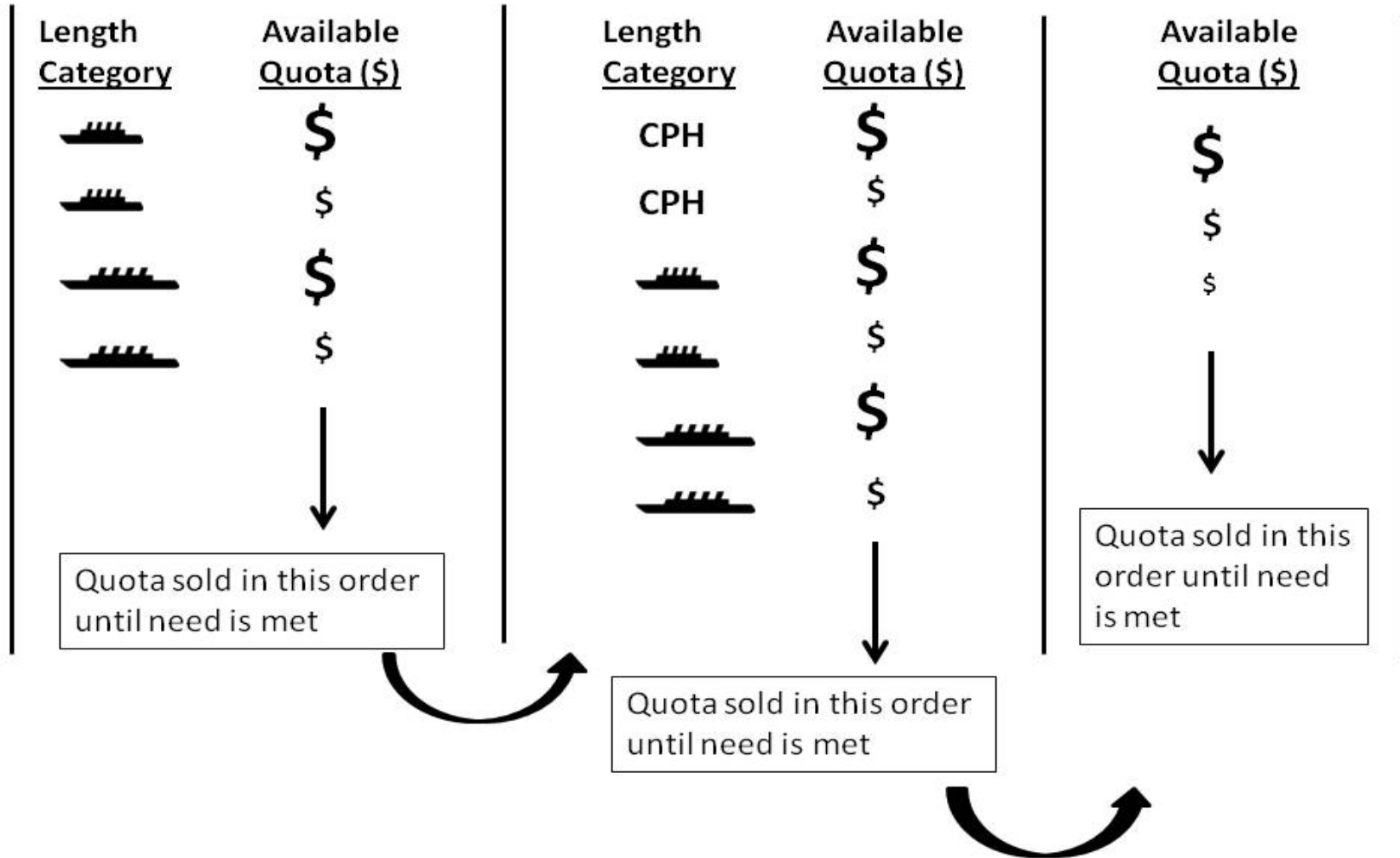
\$4.4m

← \$10.8m →

Step 1: Within Vessel Affiliation

Step 2: Within Sector

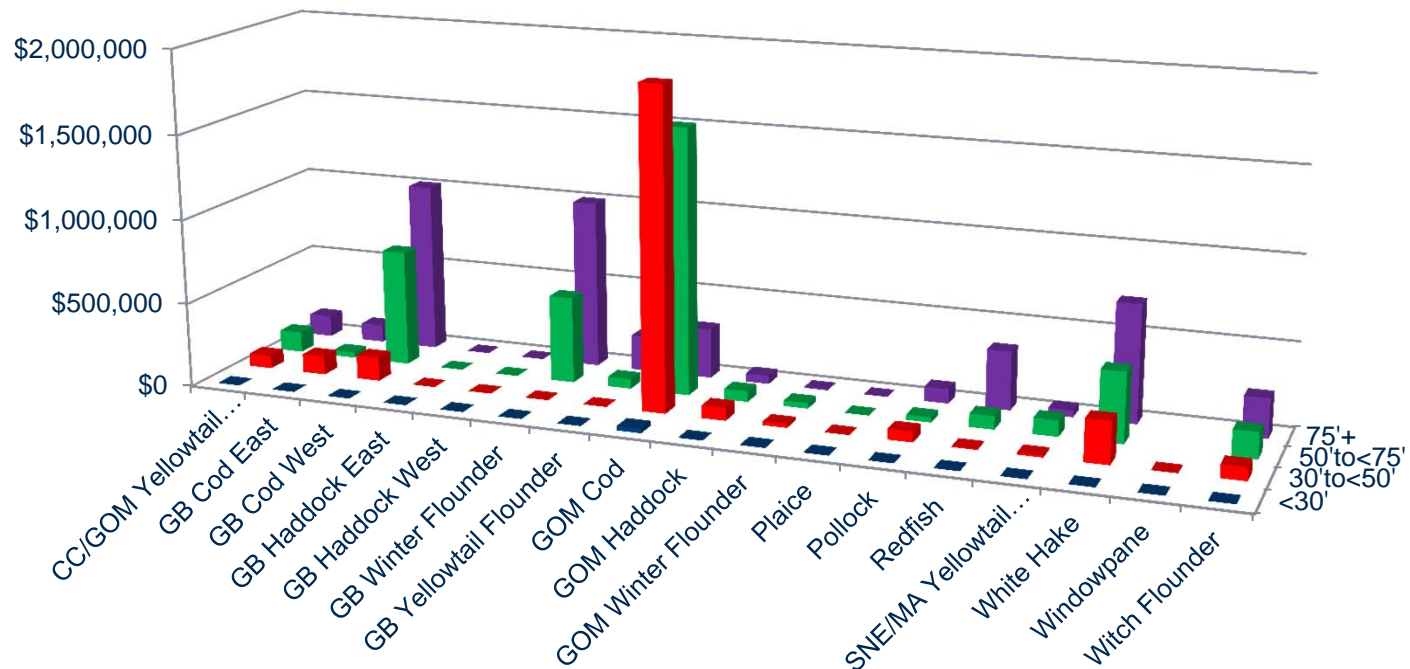
Step 3: Between Sectors

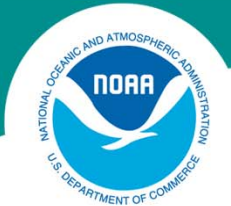




SIMULATION RESULTS – Quota Costs

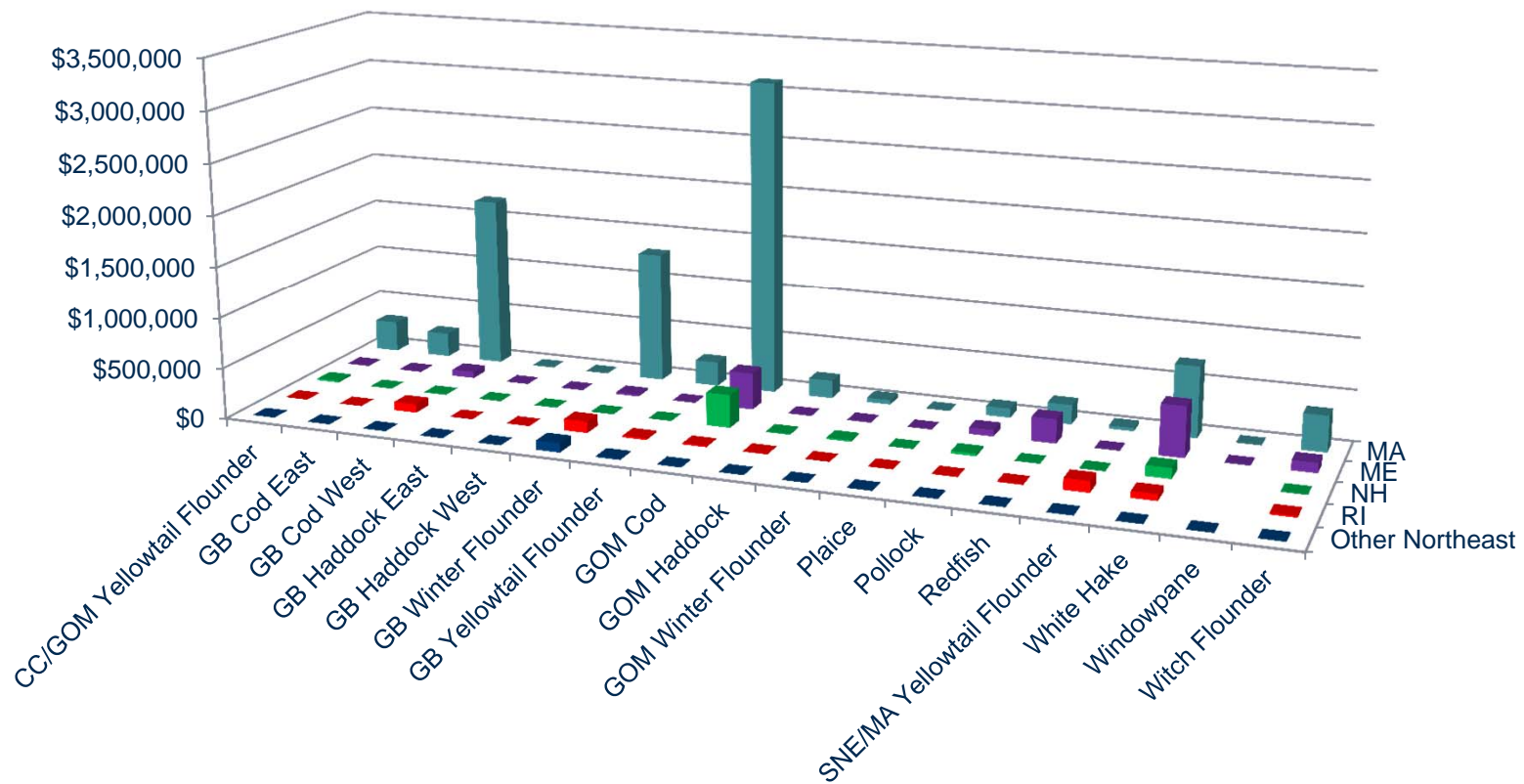
Figure 8. Simulated Quota Requirement Costs by Vessel Length and Stock (\$10.8m)





SIMULATION RESULTS – Quota Costs

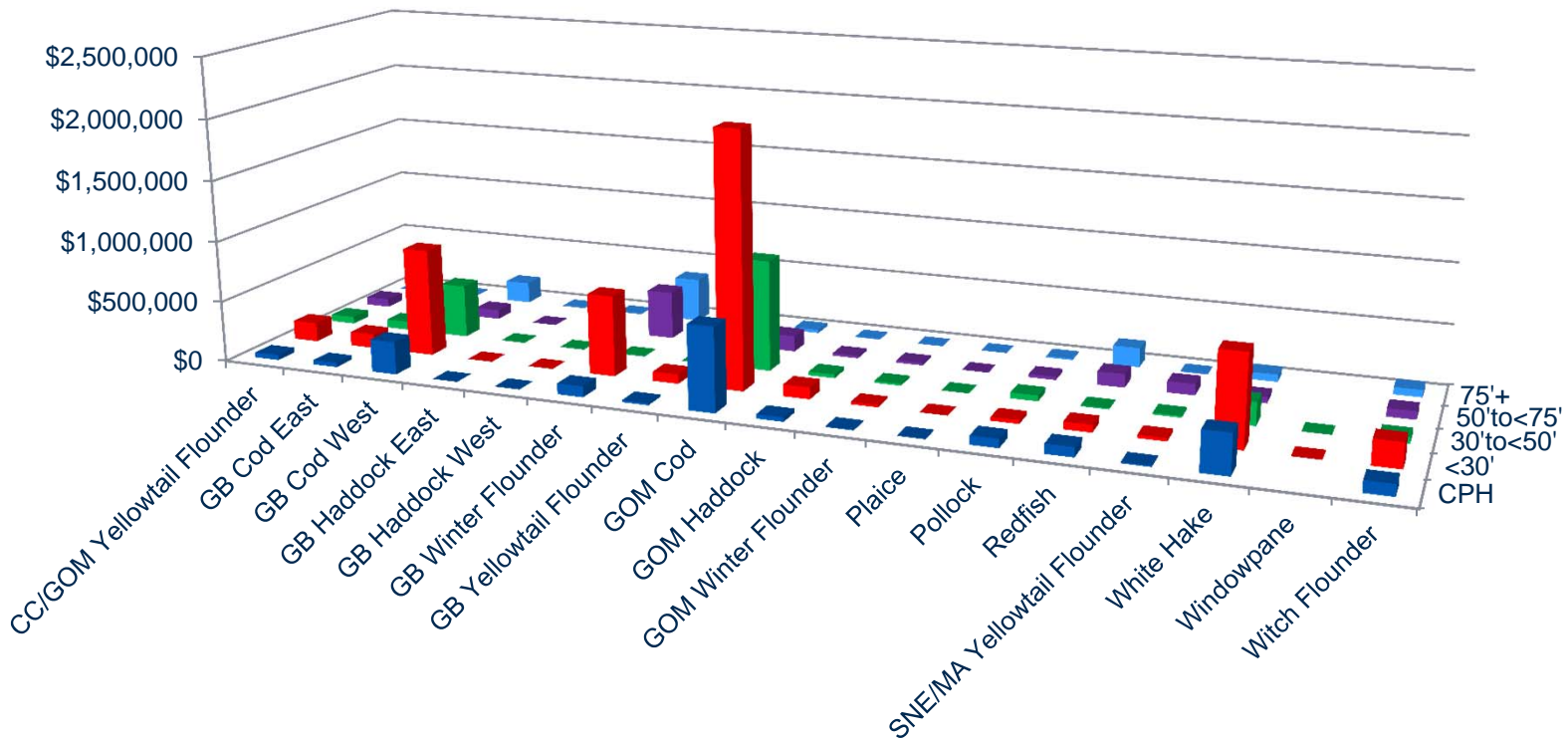
Figure 9. Simulated Quota Requirement Costs by Homeport State and Stock (\$10.8m)





SIMULATION RESULTS – Quota Revenues

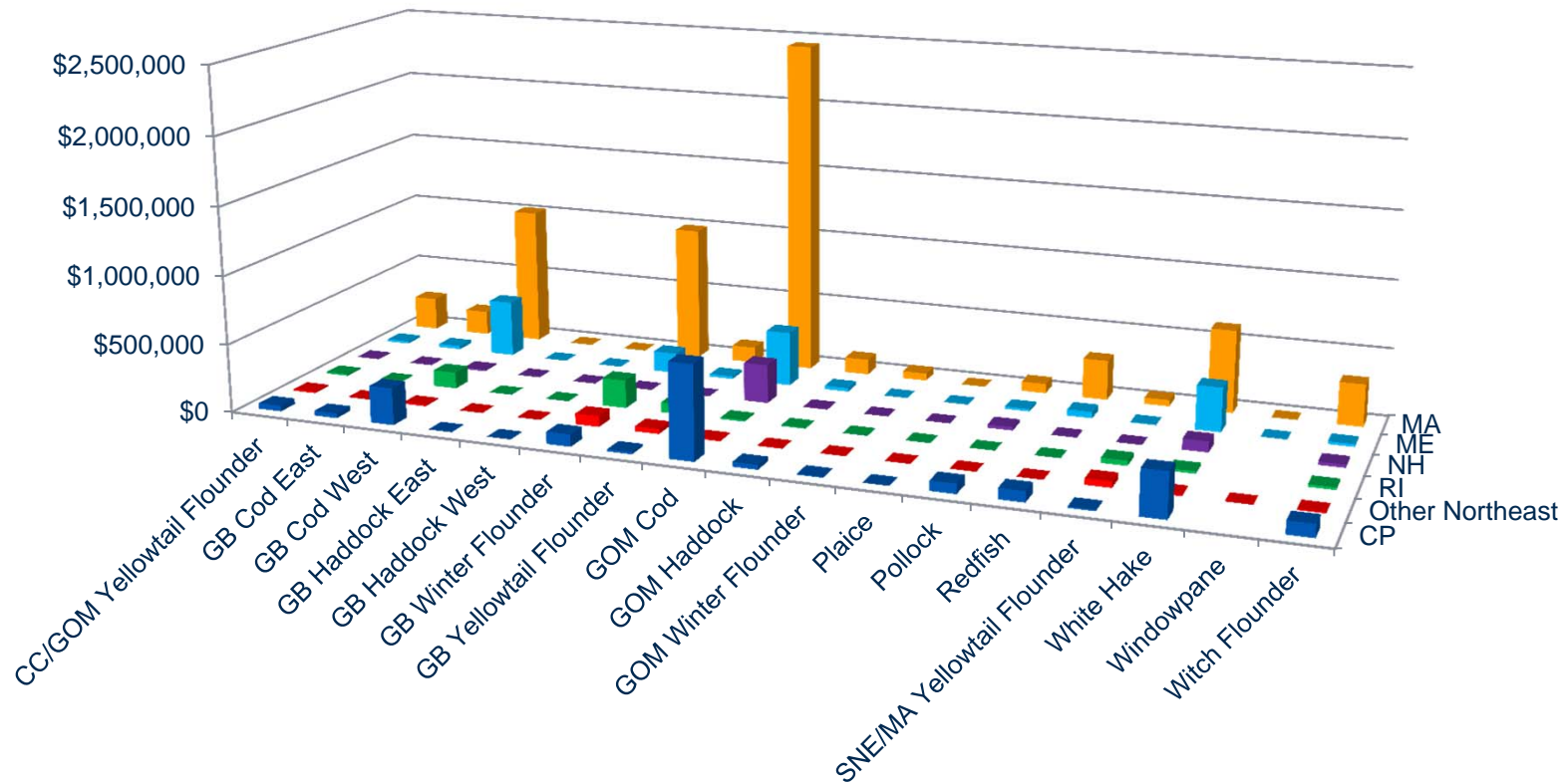
Figure 11. Simulated Revenue from Quota Leases by Stock and Vessel Size Category (\$10.8m)





SIMULATION RESULTS – Quota Revenues

Figure 12. Simulated Revenue from Quota Leases by Stock and Homeport State (\$10.8m)





ADJUSTMENTS TO NET REVENUE

Table 1. FY2011 Average Owners' Share of Net Revenue per Vessel Adjusted by Quota Transfers

Vessel Length	Average net revenue per vessel (from table 19 in 2011 groundfish report) (Std dev)	Average Cost of Quota Purchases (Std dev)	Average Revenue from Quota Sales (Std dev)	Adjusted Average Net Revenue (Std dev)	Percent Change
Less than 30'	\$12,352 (\$3,735)	\$117 (\$1,479)	\$20,128 (\$54,264)	\$32,362 (\$54,862)	162.0%
30' to < 50'	\$63,493 (\$82,405)	\$11,482 (\$29,716)	\$7,519 (\$20,978)	\$59,530 (\$74,258)	-6.2%
50' to < 75'	\$248,674 (\$213,500)	\$28,298 (\$57,670)	\$8,179 (\$15,263)	\$228,554 (\$203,531)	-8.1%
75' +	\$474,363 (\$323,527)	\$48,357 (\$63,168)	\$10,268 (\$29,434)	\$436,273 (\$321,155)	-8.0%



ADJUSTMENTS TO NET REVENUE

Table 2. FY2011 Aggregate Owners' Share of Net Revenue Adjusted by Quota Transfers by Vessel Size

Vessel Length	Aggregate owners' shares (from table 21 in 2011 groundfish report)	Aggregate Cost of Quota Purchases	Aggregate Quota Revenue	Aggregate Adjusted Net Revenue	Percent Change
Less than 30'	\$75,174	\$30,068	\$5,138,826	\$5,183,932	6795.9%
30' to < 50'	\$14,538,866	\$2,732,688	\$1,831,478	\$13,637,655	-6.2%
50' to < 75'	\$32,327,659	\$3,876,862	\$1,153,127	\$29,603,924	-8.4%
75' +	\$38,423,441	\$4,207,098	\$969,885	\$35,186,227	-8.4%
CPH	N/A	\$0	\$1,753,402	N/A	N/A
Grand Total	\$85,365,141	\$10,846,717	\$10,846,717	\$85,365,141	0.0%



ADJUSTMENTS TO NET REVENUE

Table 3. FY2011 Aggregate Owners' Share of Net Revenue Adjusted by Quota Transfers by Homeport State

Homeport State	Aggregate owners' shares (from table 22 in 2011 groundfish report)	Aggregate Cost of Quota Purchases	Aggregate Quota Revenue	Aggregate Adjusted Net Revenue	Percent Change
MA	\$48,277,794	\$8,467,853	\$6,479,331	\$46,289,272	-4.1%
ME	\$8,923,786	\$1,357,362	\$1,468,293	\$9,034,717	1.2%
NH	\$2,725,014	\$492,467	\$432,542	\$2,665,089	-2.2%
RI	\$12,587,341	\$421,068	\$501,217	\$12,667,490	0.6%
Other Northeast	\$12,851,206	\$107,967	\$211,932	\$12,955,171	0.8%
CPH	N/A	\$0	\$1,753,402	N/A	N/A
Grand Total	\$85,365,141	\$10,846,717	\$10,846,717	\$85,365,141	0.0%