Additional information for WP AM discussion #4b

Figure 1 - WP AM Area 1 with Loran and VTR effort

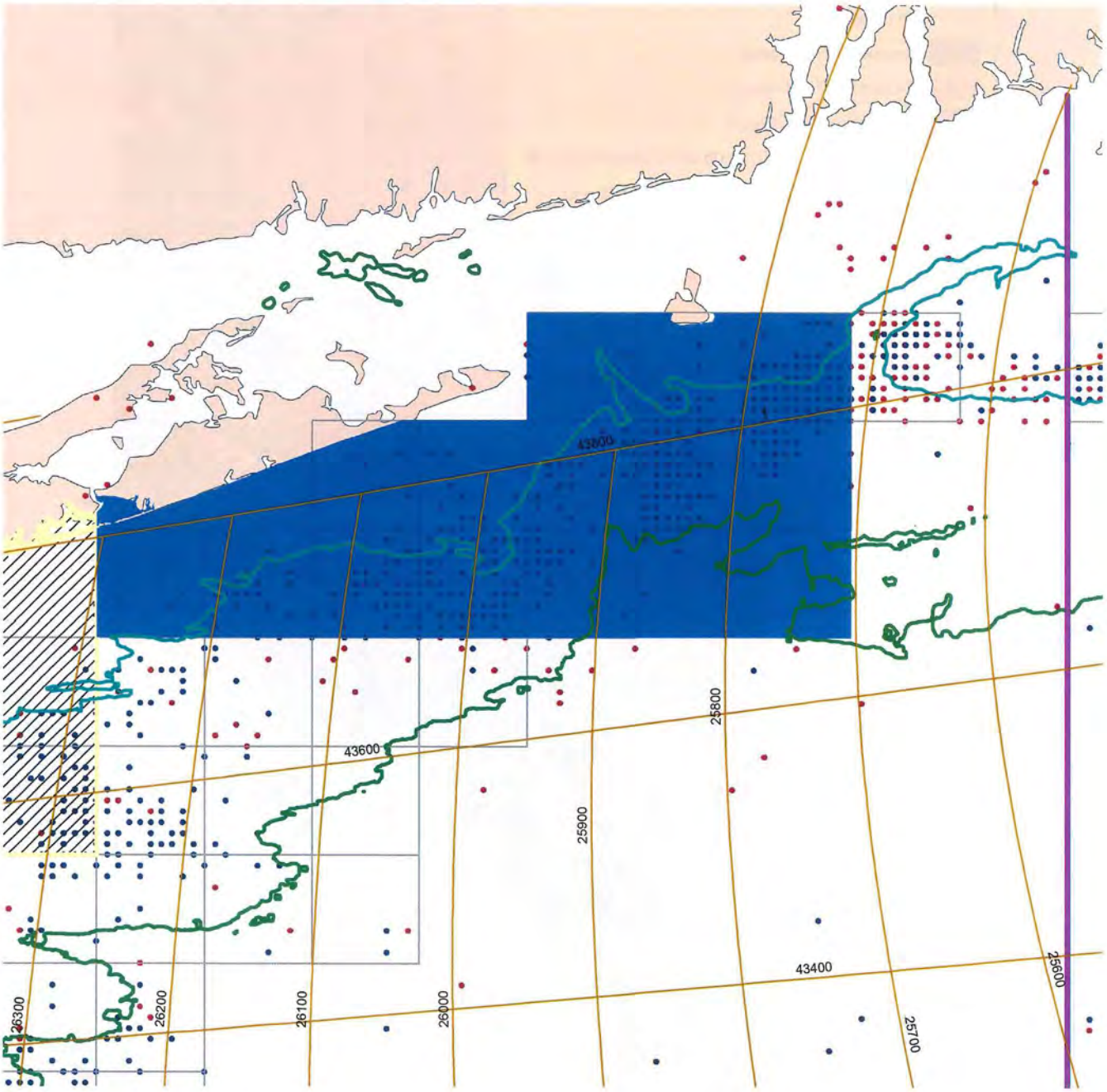


Figure 2 - WP AM Area 2 with Loran and VTR effort

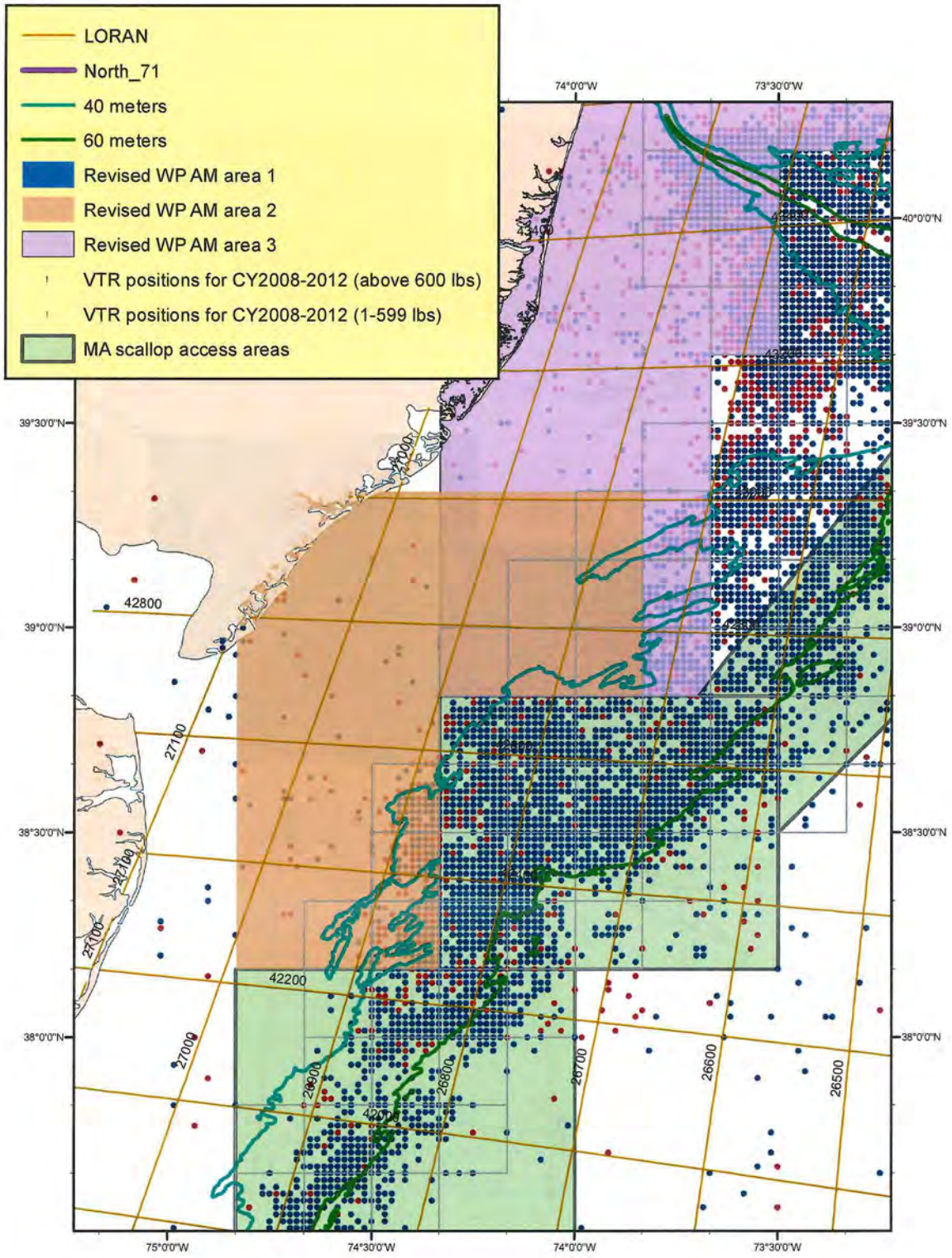
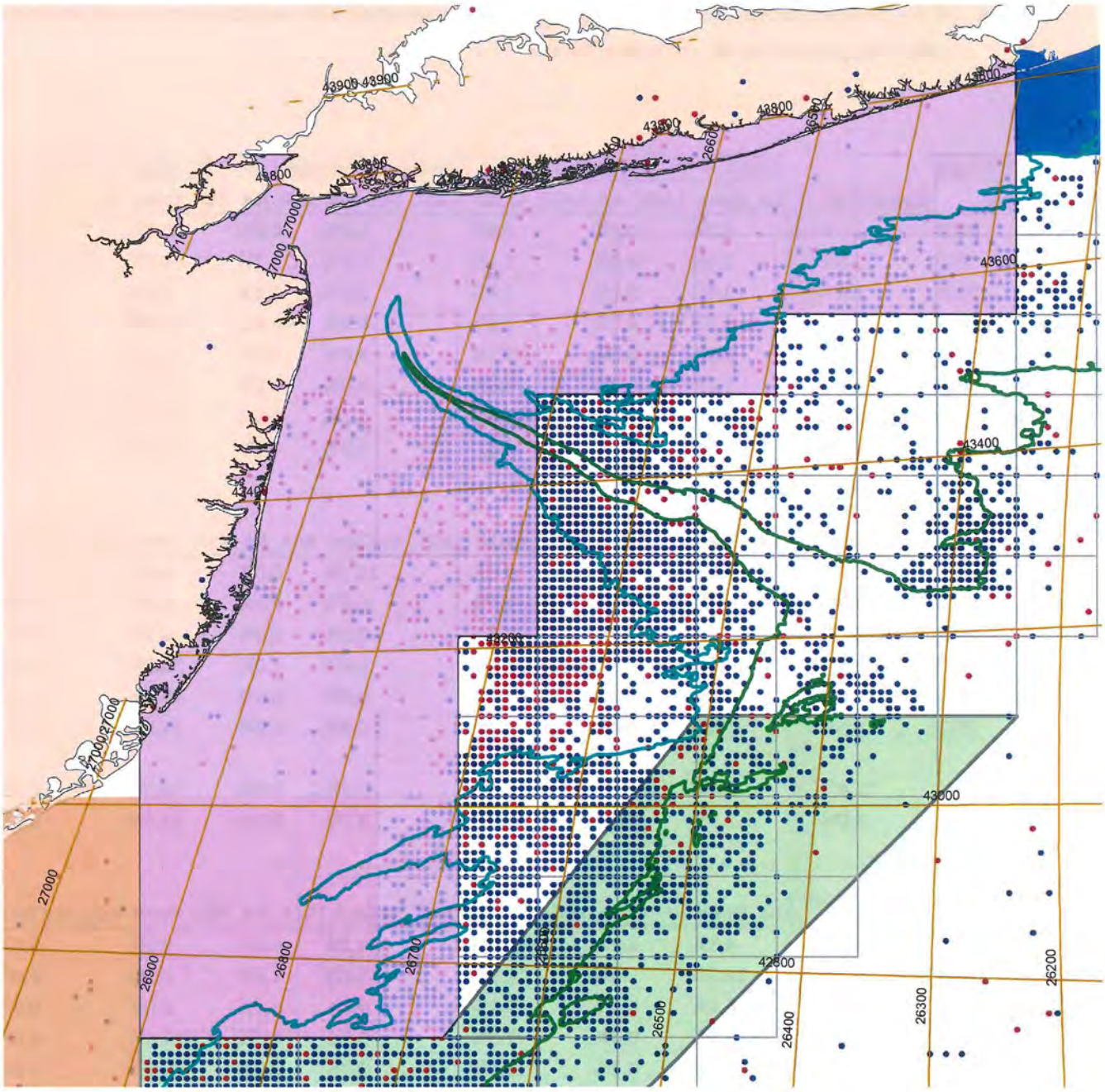


Figure 3 - WP AM Area 3 with Loran and VTR effort



Results for Revised Areas

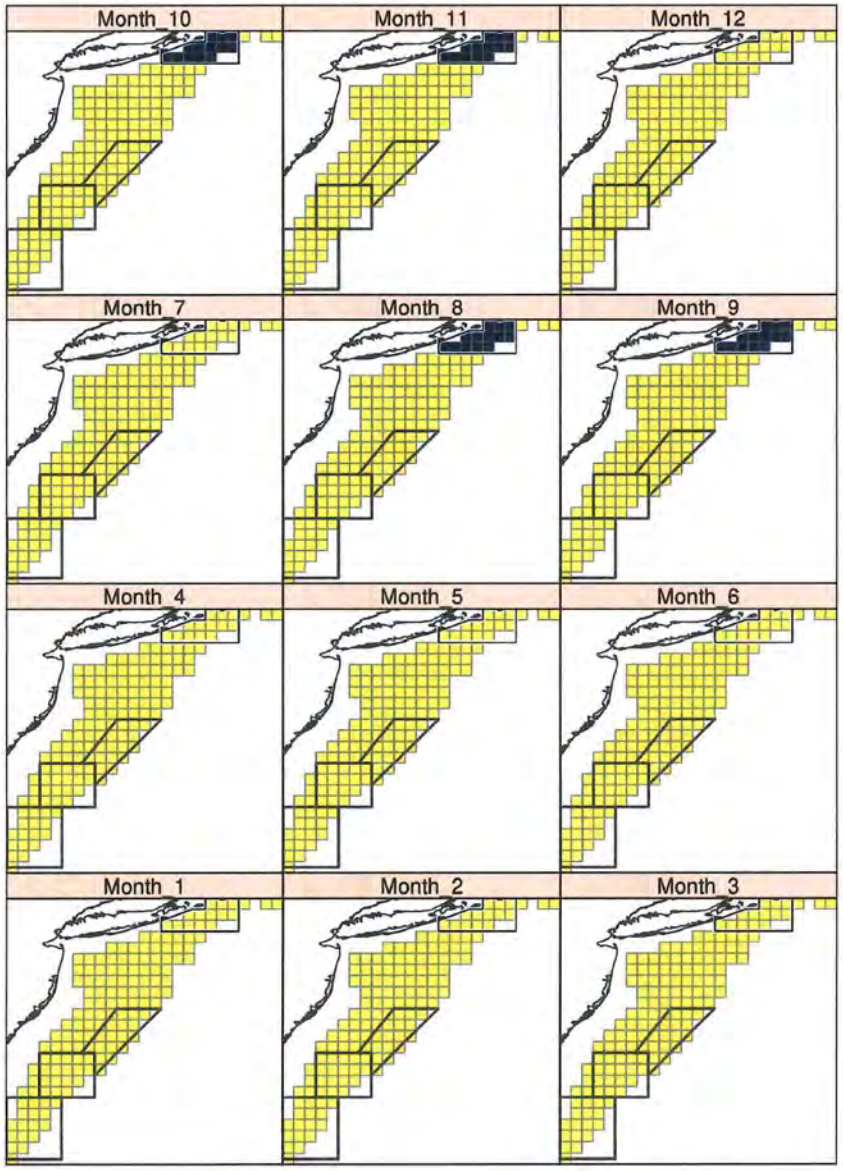
- **If the revised areas are <u>seasonal closures</u> the estimated WP reduction and % of scallop effort displaced are described below**

5%		Effort Displacement							
Year	Reduction	LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
2007	1.5%	2.2%	0.3%	0.0%	5.8%	0.0%	0.0%	0.0%	0.0%
2008	0.0%	0.4%	0.0%	5.1%	0.0%	1.3%	0.0%	0.0%	0.5%
2009	1.0%	0.4%	0.0%	1.4%	0.0%	0.3%	0.0%	0.0%	0.0%
2010	18.0%	4.3%	0.0%	4.5%	0.0%	0.0%	22.4%	0.0%	0.0%
2011	2.8%	0.5%	0.0%	8.7%	0.0%	0.0%	45.1%	0.0%	0.0%
2012	1.4%	1.3%	0.0%	3.6%	0.0%	0.0%	34.8%	0.0%	0.1%
Mean	5.0%	1.7%	0.1%	3.6%	1.2%	0.1%	20.5%	0.0%	0.0%
Median	1.5%	1.3%	0.0%	3.6%	0.0%	0.0%	22.4%	0.0%	0.0%

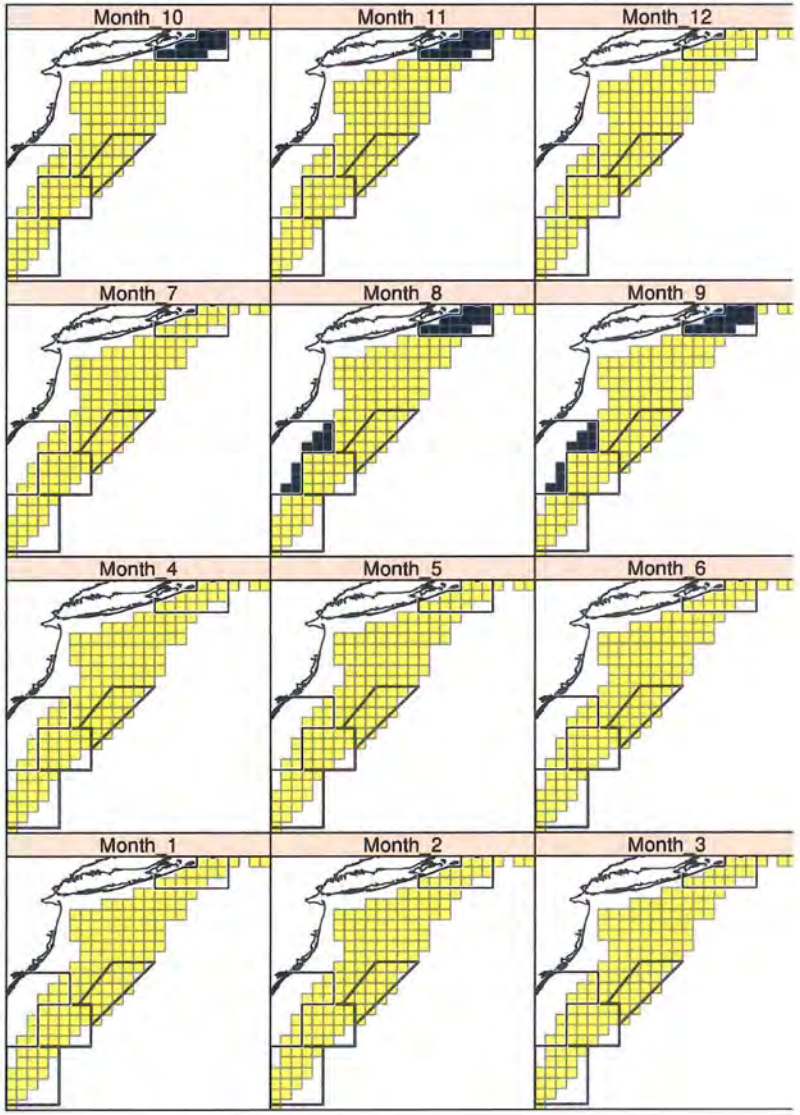
10%									
Year	Reduction	LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
2007	26.7%	3.5%	0.6%	0.0%	11.3%	0.0%	0.0%	0.0%	0.0%
2008	2.4%	1.4%	0.0%	12.9%	0.0%	1.3%	0.0%	0.0%	0.5%
2009	8.0%	2.1%	0.0%	2.9%	0.0%	0.3%	0.0%	0.0%	0.0%
2010	18.2%	4.5%	0.0%	6.3%	0.0%	1.0%	22.4%	0.0%	0.0%
2011	2.8%	0.5%	0.2%	8.8%	0.0%	0.0%	45.1%	0.0%	0.0%
2012	1.5%	1.4%	0.0%	5.1%	0.0%	0.0%	34.8%	0.0%	0.1%
Mean	11.4%	2.4%	0.2%	4.6%	2.3%	0.3%	20.5%	0.0%	0.0%
Median	8.0%	2.1%	0.0%	5.1%	0.0%	0.0%	22.4%	0.0%	0.0%

20%									
Year	Reduction	LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
2007	27.5%	4.5%	2.3%	0.0%	14.2%	0.0%	0.0%	0.0%	0.0%
2008	6.9%	12.0%	2.0%	12.9%	13.2%	1.3%	0.8%	0.0%	0.5%
2009	17.5%	6.3%	0.5%	6.2%	0.8%	0.3%	0.0%	0.0%	0.1%
2010	41.7%	8.4%	0.0%	7.5%	0.0%	1.0%	22.4%	0.0%	0.0%
2011	13.0%	7.5%	0.3%	15.6%	0.0%	0.0%	45.1%	0.0%	0.1%
2012	35.8%	10.4%	0.1%	10.4%	0.0%	0.0%	35.9%	0.0%	0.2%
Mean	27.1%	7.4%	0.6%	7.9%	3.0%	0.3%	20.7%	0.0%	0.1%
Median	27.5%	7.5%	0.3%	7.5%	0.0%	0.0%	22.4%	0.0%	0.1%

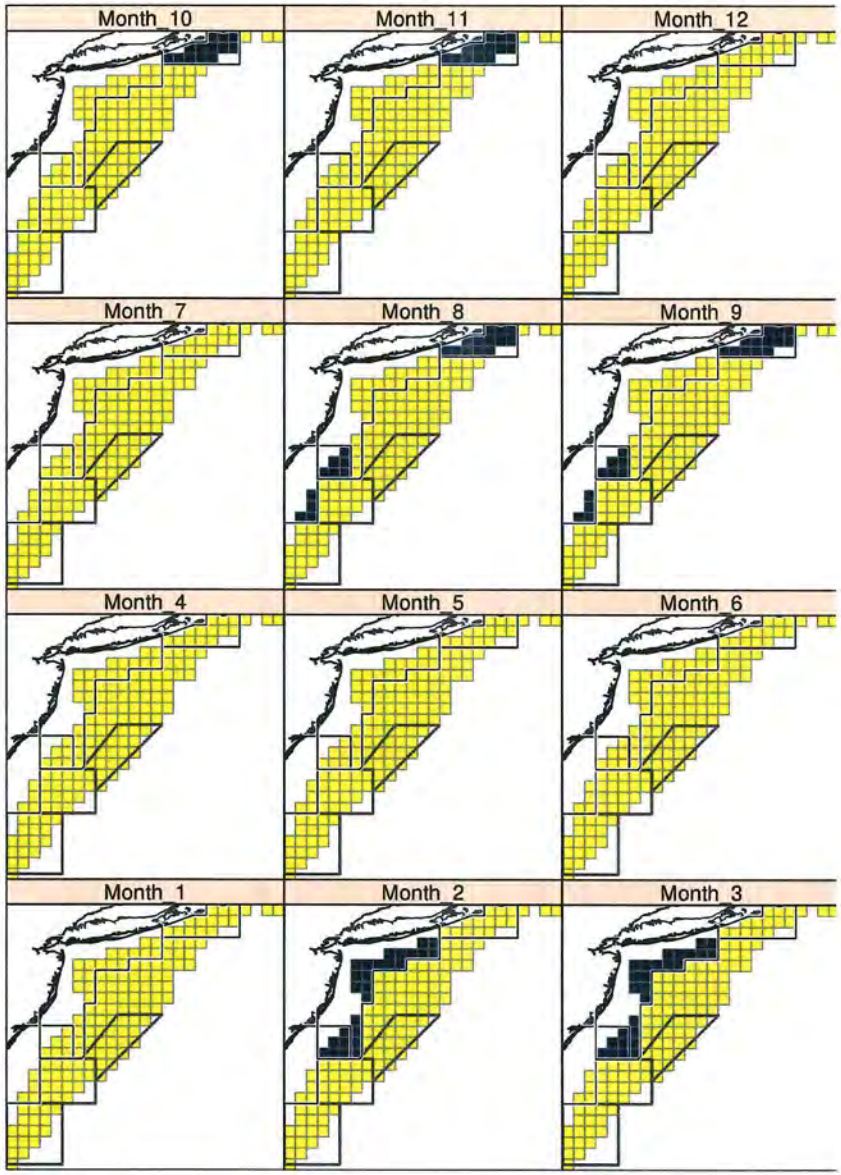
Closed (black) and open areas under a simulated 5% reduction



Closed (black) and open areas under a simulated 10% reduction



Closed (black) and open areas under a simulated 20% reduction



- **If the revised areas are <u>seasonal gear restricted areas</u> the estimated WP reduction values are described below for each area separately by month. Effort patterns are assumed to stay the same – WP reduction based on 45% reduction from gear modification research. Months with higher WP reductions are highlighted in green – strawman alternative described at bottom – months can be adjusted.**

		Month											
Area 1 (Long Island)		1	2	3	4	5	6	7	8	9	10	11	12
	2007	0.04%	0.24%	0.44%	1.91%	0.45%	0.04%	0.64%	1.99%	2.68%	1.69%	0.83%	0.15%
	2008												
	2009	0.06%	0.00%	0.14%	0.45%	0.03%	0.03%	0.28%	0.01%	0.67%	0.14%	0.12%	0.07%
	2010	0.05%	0.13%	0.17%	0.28%	0.05%	0.01%	0.56%	2.02%	4.04%	1.28%	0.45%	0.03%
	2011	0.05%	0.11%	0.82%	5.05%	0.51%	0.08%	0.29%	0.61%	1.10%	1.01%	0.65%	0.05%
	2012	0.08%	0.23%	0.11%	0.62%	0.21%	0.05%	0.41%	1.30%	1.31%	0.42%	0.31%	0.07%
Mean		0.06%	0.14%	0.34%	1.66%	0.25%	0.04%	0.44%	1.19%	1.96%	0.91%	0.47%	0.07%

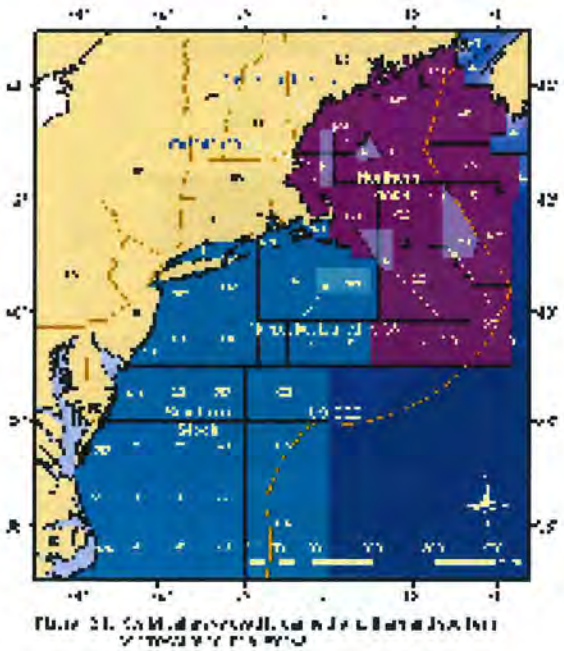
Area 2 (MidAtlantic)		1	2	3	4	5	6	7	8	9	10	11	12
	2007	0.21%	0.88%	0.37%	0.21%	0.16%	0.92%	0.80%	1.84%	2.69%	0.35%	0.02%	0.04%
	2008												
	2009	0.01%	0.22%	0.06%	0.08%	0.04%	1.12%	1.21%	0.31%	1.79%	0.14%	0.00%	0.01%
	2010	0.03%	0.07%	0.02%	0.09%	0.08%	0.28%	0.04%	0.36%	0.13%	0.04%	0.00%	0.01%
	2011	0.03%	0.05%	0.02%	0.04%	0.02%	0.06%	0.02%	0.03%	0.03%	0.01%	0.00%	0.00%
	2012	0.01%	0.08%	0.03%	0.05%	0.07%	0.12%	0.03%	0.17%	0.18%	0.02%	0.01%	0.01%
Mean		0.06%	0.26%	0.10%	0.09%	0.07%	0.50%	0.42%	0.54%	0.96%	0.11%	0.01%	0.02%

Area 3 (Coastal)		1	2	3	4	5	6	7	8	9	10	11	12
	2007	0.78%	1.82%	1.12%	0.87%	0.22%	0.78%	0.60%	1.73%	2.19%	0.99%	0.20%	0.53%
	2008												
	2009	1.43%	4.25%	2.73%	1.39%	0.16%	1.12%	0.80%	0.77%	2.42%	0.61%	0.05%	0.48%
	2010	1.12%	4.79%	1.54%	0.46%	0.32%	1.10%	0.52%	2.10%	1.34%	0.70%	0.22%	1.08%
	2011	1.72%	5.27%	6.36%	2.47%	0.35%	0.26%	0.25%	0.24%	0.43%	0.46%	0.28%	0.65%
	2012	1.32%	7.25%	6.95%	2.11%	0.54%	0.30%	0.30%	1.07%	1.06%	0.52%	0.07%	0.26%
Mean		1.27%	4.68%	3.74%	1.46%	0.32%	0.71%	0.49%	1.18%	1.49%	0.65%	0.16%	0.60%

MidAtlantic/Coastal_Overlap		1	2	3	4	5	6	7	8	9	10	11	12
	2007	0.20%	0.68%	0.18%	0.15%	0.08%	0.33%	0.21%	0.95%	1.10%	0.23%	0.01%	0.04%
	2008												
	2009	0.01%	0.21%	0.03%	0.06%	0.03%	0.15%	0.06%	0.12%	0.66%	0.14%	0.00%	0.01%
	2010	0.03%	0.06%	0.02%	0.08%	0.08%	0.19%	0.03%	0.33%	0.08%	0.04%	0.00%	0.01%
	2011	0.02%	0.05%	0.01%	0.04%	0.02%	0.05%	0.01%	0.03%	0.03%	0.01%	0.00%	0.00%
	2012	0.00%	0.06%	0.03%	0.05%	0.06%	0.07%	0.02%	0.15%	0.17%	0.02%	0.00%	0.01%
Mean		0.05%	0.21%	0.05%	0.07%	0.05%	0.16%	0.07%	0.32%	0.41%	0.09%	0.00%	0.01%

Strawman season example			
	Area 1	Aug-Oct	4.05%
	Area 2	Aug-Sept	1.51%
	Area 3	Feb-Mar	8.42%
			13.98%

Potential impacts – OPEN AREA scallop effort by month and area (GB = northern WP stock boundary and MA = SNE/MA windowpane stock area



Limited Access – In the Mid-Atlantic, open area LA fishery highest in April – June (**Table 1**). August – October was also high in 2010, but in that particular fishing year there were three MA access area trips per FT vessel, and there was an RPM that restricted the number of trips that could be fished between ?? nad /?. This may have impacted open area effort trends. In 2011, catch levels were lower in the summer and fall than 2010. When 2010 and 2011 are combined the months with highest landings are April – July (**Table 2**).

Table 1. Composition scallop landings by area and month (%by area, open areas and LA Vessels only)

Year / Month	2010		2010 Total	2011		2011 Total	2012		2012 Total
	GB	Mid-At		GB	Mid-At		GB	Mid-At	
1	0%	0%	**0%**	5%	2%	**3%**	0%	0%	**0%**
2	0%	0%	**0%**	8%	4%	**5%**	0%	0%	**0%**
3	4%	7%	**6%**	4%	8%	**7%**	4%	14%	**10%**
4	15%	14%	**14%**	14%	13%	**14%**	3%	16%	**10%**
5	14%	22%	**21%**	22%	26%	**25%**	15%	38%	**28%**
6	15%	14%	**15%**	16%	22%	**21%**	30%	8%	**17%**
7	3%	4%	**4%**	13%	15%	**14%**	21%	4%	**12%**
8	7%	10%	**10%**	3%	0%	**1%**	15%	8%	**11%**
9	17%	14%	**15%**	3%	3%	**3%**	4%	7%	**6%**
10	17%	8%	**10%**	6%	4%	**5%**	2%	2%	**2%**
11	4%	4%	**4%**	3%	2%	**2%**	4%	1%	**2%**
12	2%	2%	**2%**	2%	1%	**1%**	3%	1%	**2%**
Grand Total	100%	100%	**100%**	100%	100%	**100%**	100%	100%	**100%**

Table 2. Composition of scallop landings by area and month: Averages for 2010 -2012 (% by area, open areas and LA Vessels only)

Month	GB	Mid-At	All
1	2%	1%	1%
2	3%	1%	2%
3	4%	10%	8%
4	11%	14%	13%
5	17%	29%	25%
6	20%	15%	18%
7	12%	8%	10%
8	8%	6%	7%
9	8%	8%	8%
10	8%	5%	6%
11	4%	2%	3%
12	2%	1%	2%
Grand Total	100%	100%	100%

General Category – In the Mid-Atlantic, open area LAGC fishing is highest in May-July, and the months of April and August are also relatively high compared to the rest of the year (**Table 3** and **Table 4**). About 75% of all LAGC open area catch was from waters within the SNE/MA WP stock area when 2010 and 20111 are combined. Both LAGC dredge and trawl vessels had higher scallop catches in May-July compared to the rest of the year (**Table 5**).

Table 3. Composition scallop landings by area and month (% by area , open areas and LAGC permits only)

Year/ Month	2010			2011		2011 Total
	GB	Mid-At	2010 Total	GB	Mid-At	
1	0%	0%	**0%**	5%	6%	**6%**
2	0%	0%	**0%**	5%	6%	**6%**
3	8%	5%	**6%**	7%	7%	**7%**
4	13%	12%	**12%**	10%	6%	**7%**
5	17%	13%	**14%**	13%	15%	**14%**
6	11%	18%	**17%**	16%	19%	**18%**
7	19%	15%	**16%**	14%	13%	**13%**
8	14%	14%	**14%**	10%	9%	**9%**
9	6%	6%	**6%**	9%	8%	**8%**
10	4%	8%	**7%**	4%	5%	**5%**
11	4%	6%	**6%**	3%	3%	**3%**
12	5%	4%	**4%**	4%	4%	**4%**
Grand Total	100%	100%	**100%**	100%	100%	**100%**

Table 4. Composition of scallop landings by area and month: Averages for 2010 -2011 (% by area, open areas and LAGC permits only)

Month	GB	Mid-At	All Areas
1	3%	3%	3%
2	3%	3%	3%
3	8%	6%	6%
4	11%	9%	10%
5	15%	14%	14%
6	14%	19%	18%
7	16%	14%	14%
8	12%	11%	11%
9	7%	7%	7%
10	4%	6%	6%
11	3%	5%	4%
12	4%	4%	4%
Grand Total	100%	100%	100%

Table 5. Composition of scallop landings by area, month and gear: Averages for 2010 -2011 (% by area, open areas and LAGC permits only)

Area/Month	GB		GB Total	Mid-At		Mid-At Total	Grand Total
	Dredge	OTF+OTC		Dredge	OTF+OTC		
1	1%	0%	1%	2%	1%	3%	3%
2	1%	0%	1%	2%	1%	3%	3%
3	2%	0%	2%	5%	1%	5%	7%
4	3%	0%	3%	6%	1%	7%	9%
5	4%	0%	4%	8%	3%	11%	15%
6	4%	0%	4%	10%	5%	15%	19%
7	4%	0%	4%	8%	3%	11%	15%
8	2%	0%	2%	6%	1%	7%	9%
9	2%	0%	2%	3%	1%	4%	6%
10	1%	0%	1%	3%	1%	4%	5%
11	1%	0%	1%	2%	1%	3%	4%
12	1%	0%	1%	2%	1%	3%	4%
Grand Total	23%	0%	24%	58%	18%	76%	100%