

ALWTRP Vertical Line Model: Analysis of Current Proposals

Prepared for Atlantic Large Whale Take Reduction Team
January 2012

Funded by:
NMFS / Northeast Regional Office

Prepared by:

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Overview of Presentation

- Review updates to the model since the 2010/2011 TRT Subgroup meetings
- Present updated baseline results
- Analysis of current proposals
 - NMFS Northeast
 - Maine DMR
 - Maine District C-9
 - New Hampshire DFG
 - NMFS Southeast

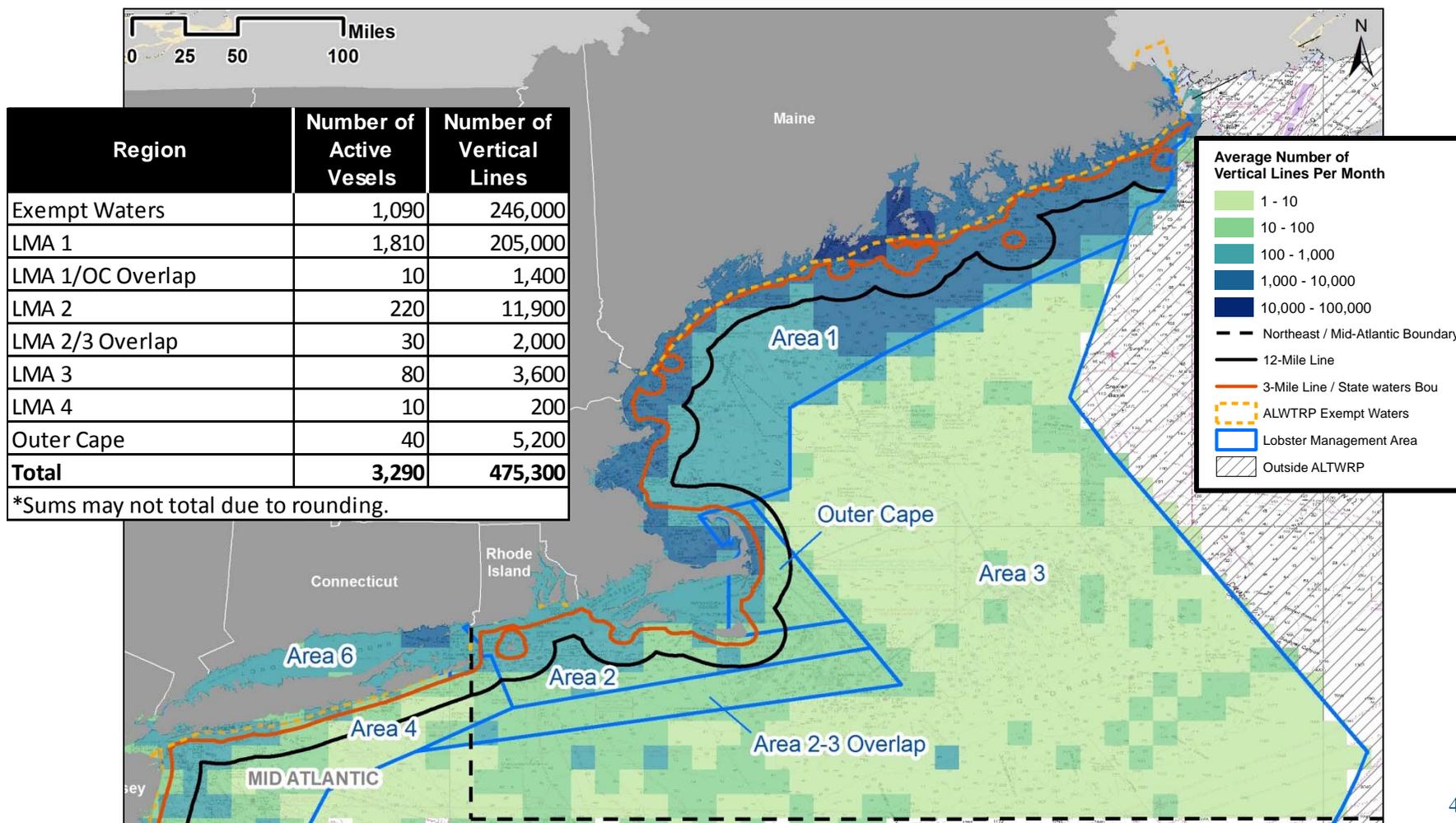
What's new since the last TRT?

- Data updates
 - 2010 State data for all Atlantic states
 - 2009 Southeast Logbook
 - 2009 Northeast VTR and NMFS Permit
- Requests from Subgroup/Working group meetings
 - Distributional approach to gear characterization employed in Maine, Massachusetts, and New Hampshire
 - Confirmed with NARWC that the effort-adjusted whale data contain the most recent datasets for each region
 - Separated out the inshore Blue crab from Other Trap/Pot fisheries in the Southeast
 - Draft model documentation is available for review

Updated Baseline Results

2009/2010 Northeast Baseline (Average)

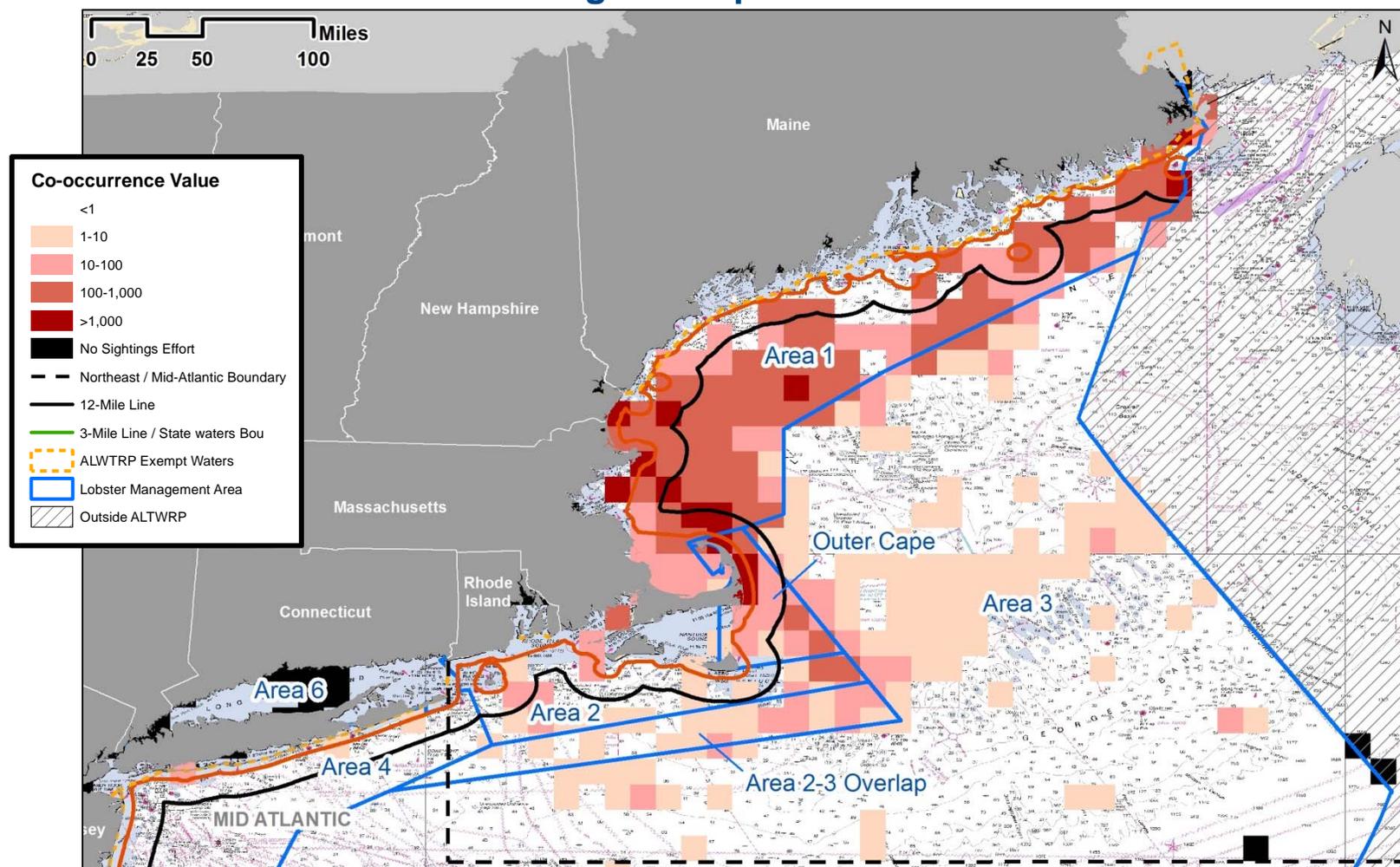
Estimated Number of Vertical Lines ~ All Fisheries



Updated Baseline Results

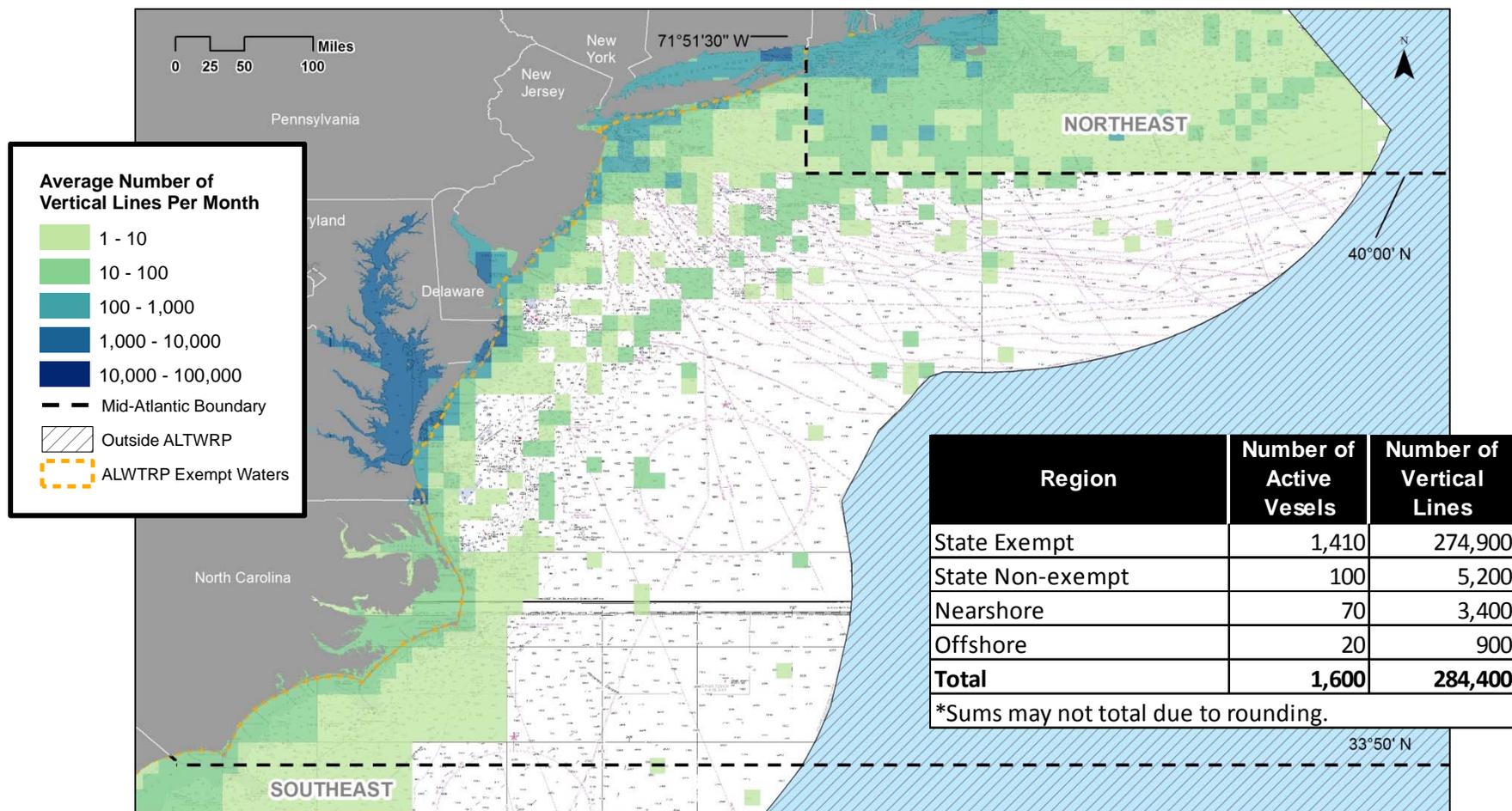
2009/2010 Northeast Baseline (Average)

Co-occurrence of Vertical Lines & Right/Humpback Whales ~ All Fisheries



Updated Baseline Results

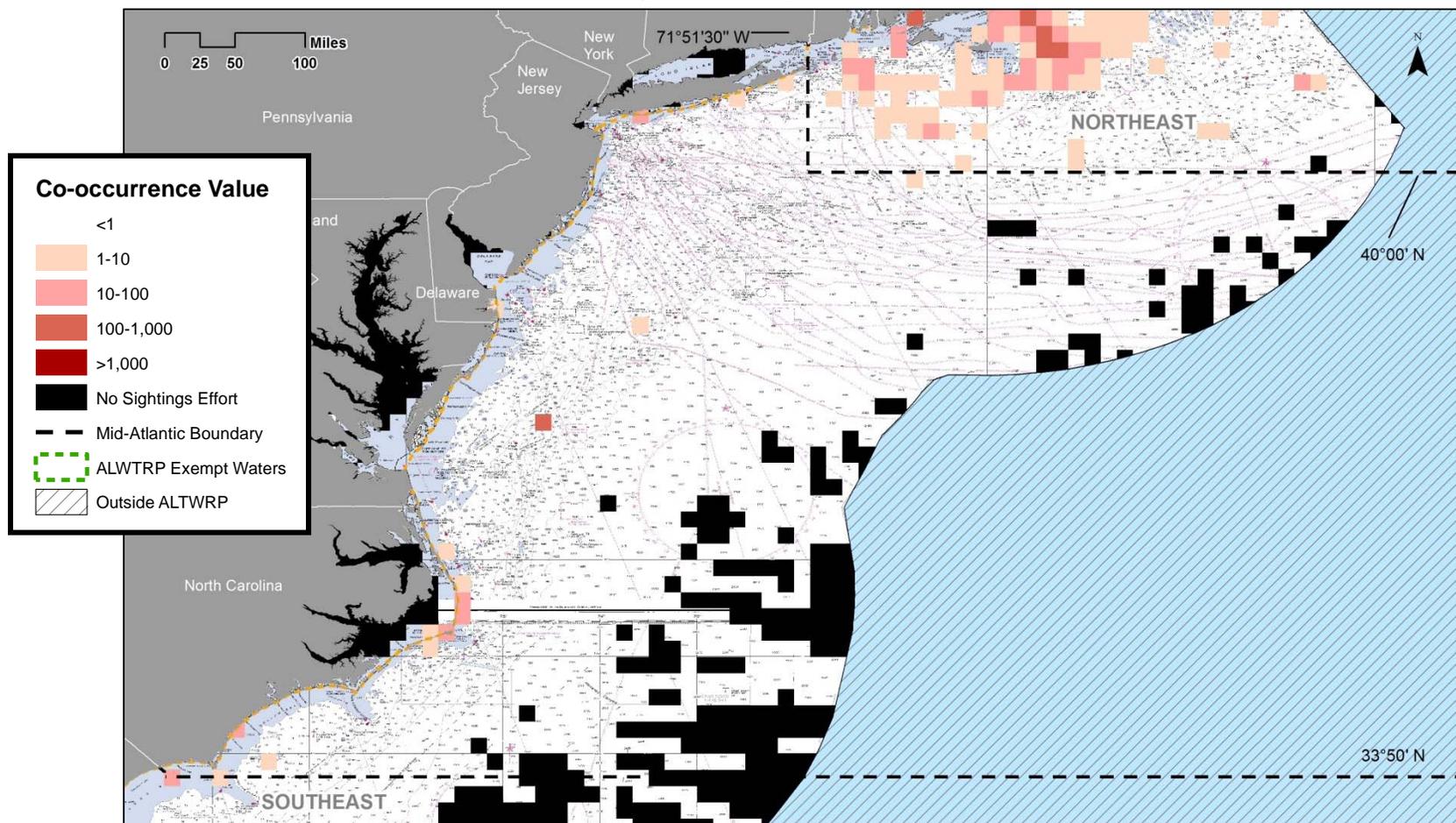
2009/2010 Mid-Atlantic Baseline (Average) Estimated Number of Vertical Lines ~ All Fisheries



Updated Baseline Results

2009/2010 Mid-Atlantic Baseline (Average)

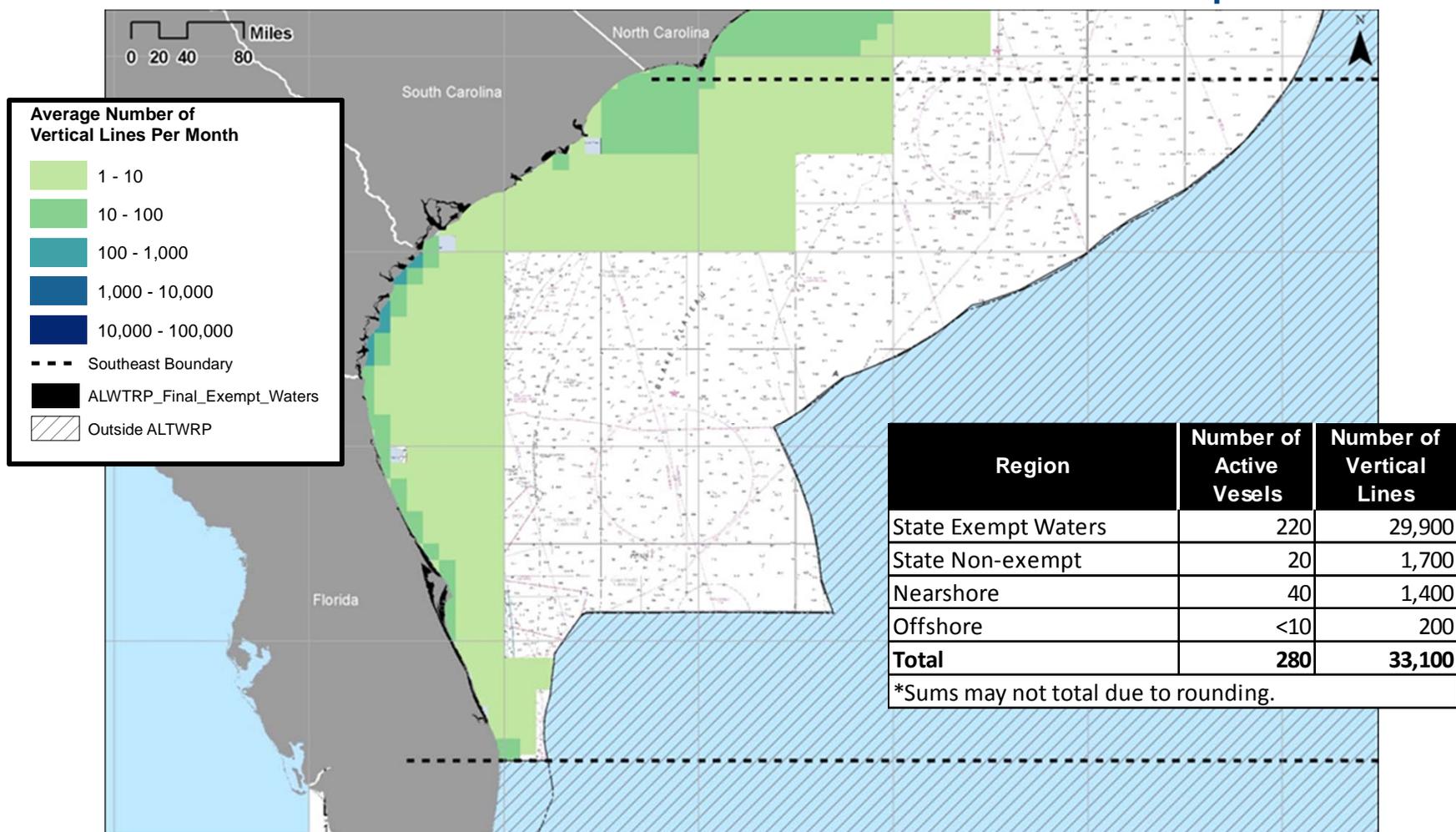
Co-occurrence of Vertical Lines & Right/Humpback Whales ~ All Fisheries



Updated Baseline Results

2009/2010 Southeast Baseline (Average October to March)

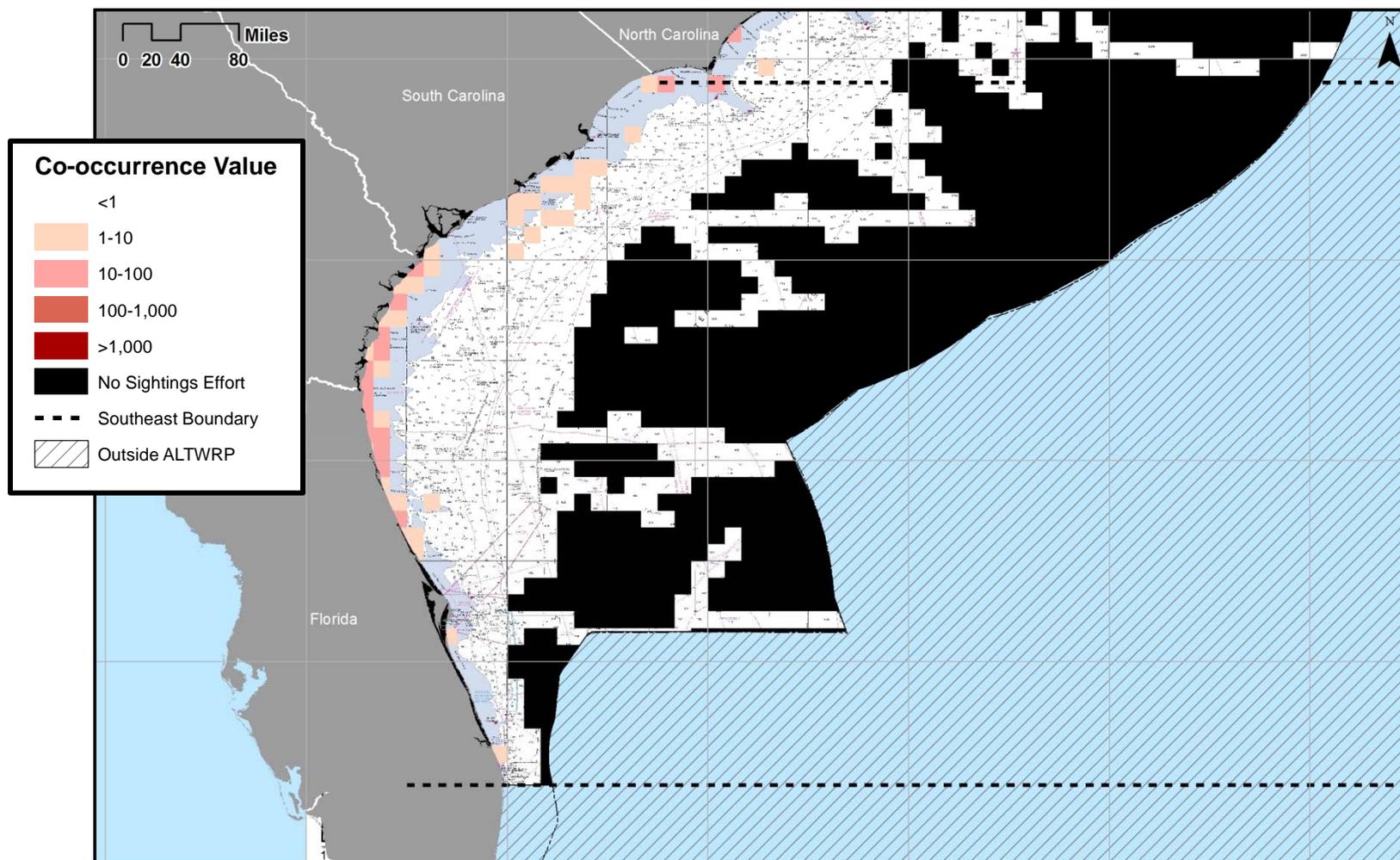
Estimated Number of Vertical Lines ~ All Fisheries Seaward of the Exemption Line



Updated Baseline Results

2009/2010 Southeast (Average October to March)

Co-occurrence of Vertical Lines & Right Whales ~ All Fisheries Seaward of the Exemption Line



Analysis of Current Proposals

- NMFS Northeast
- Maine DMR
- Maine District C-9
- New Hampshire DFG
- NMFS Southeast

NMFS Northeast Proposal

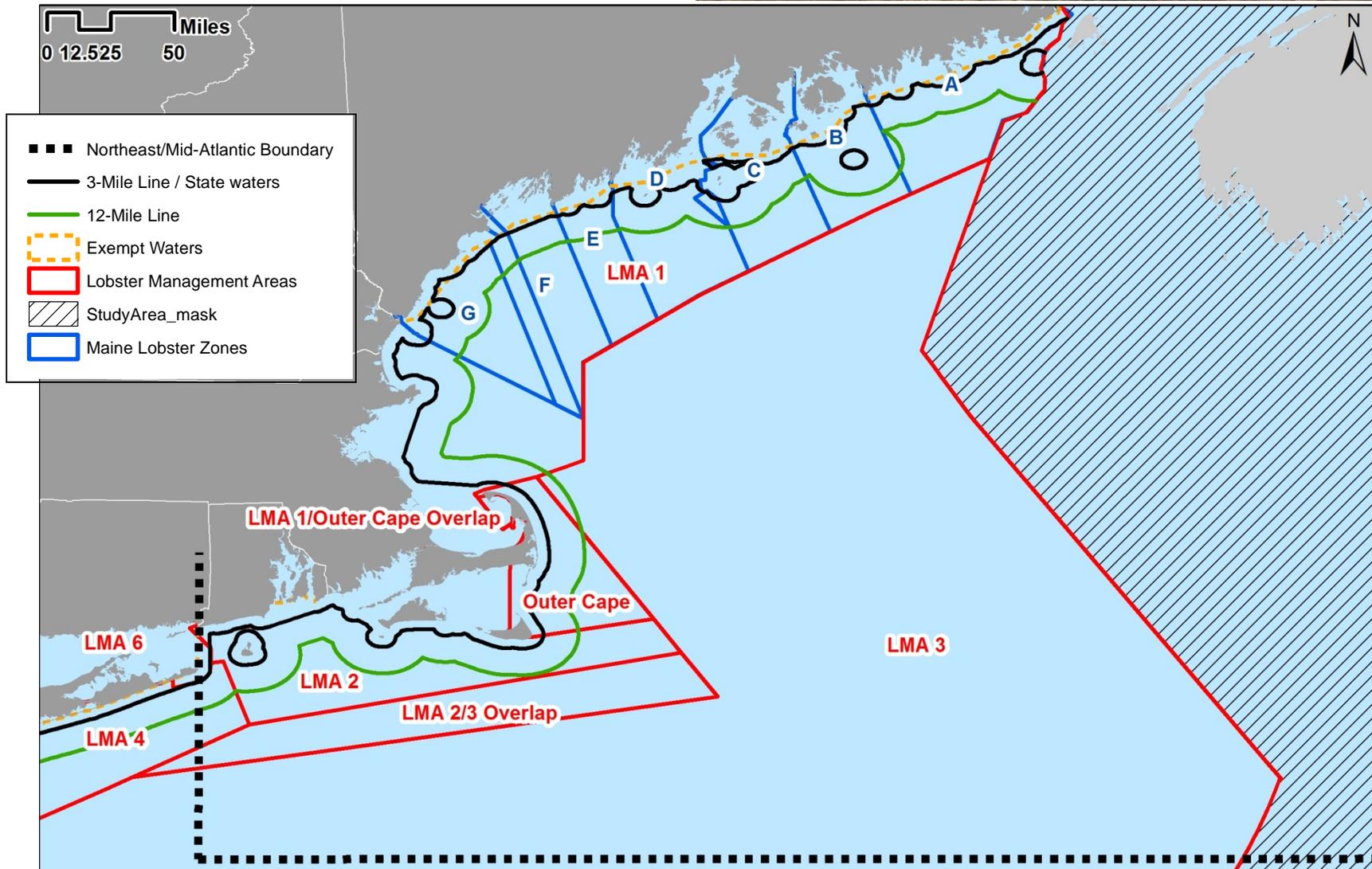
NMFS Northeast Proposed Management Measures

Northeast Area (miles)	Minimum Traps/Trawl	Number of Endlines
Maine A (non-exempt state waters)	2	1
Maine B (non-exempt state waters)	3	1
Maine C (non-exempt state waters)	3	1
Maine D (non-exempt state waters)	3	1
Maine E (non-exempt state waters)	2	1
Maine F (non-exempt state waters)	4	1
Maine G (non-exempt state waters)	2	1
Maine A (3-12)	5	1
Maine B (3-12)	5	1
Maine C (3-12)	5	1
Maine D (3-12)	5	1
Maine E (3-12)	5	1
Maine F (3-12)	10	2
Maine G (3-12)	10	2
Maine A (12+)	10	2
Maine B (12+)	10	2
Maine C (12+)	10	2
Maine D (12+)	10	2
Maine E (12+)	10	2
Maine F (12+)	20	2
Maine G (12+)	20	2

Northeast Area (miles)	Minimum Traps/Trawl	Number of Endlines
LMA1/OC Overlap (0-3)*	2	1
OC (0-3)*	2	1
LMA 1 (0-3)*	3	1
LMA 2 (0-3)*	3	1
LMA 1 (3-12)	10	2
LMA 2 (3-12)	10	2
LMA 3 (3-12)	10	2
OC (3-12)	10	2
LMA 1 (12+)	20	2
LMA 2 (12+)	20	2
LMA 2/3 Overlap (12+)	20	2
LMA 3 (12+)	20	2
OC (12+)	20	2

* Includes Massachusetts state waters that go beyond 3 miles

NMFS Northeast Proposal



NMFS Northeast Proposal

- Northeast waters seaward of the exemption line
- Average number of affected vessels
- Average reduction in the number of vertical lines

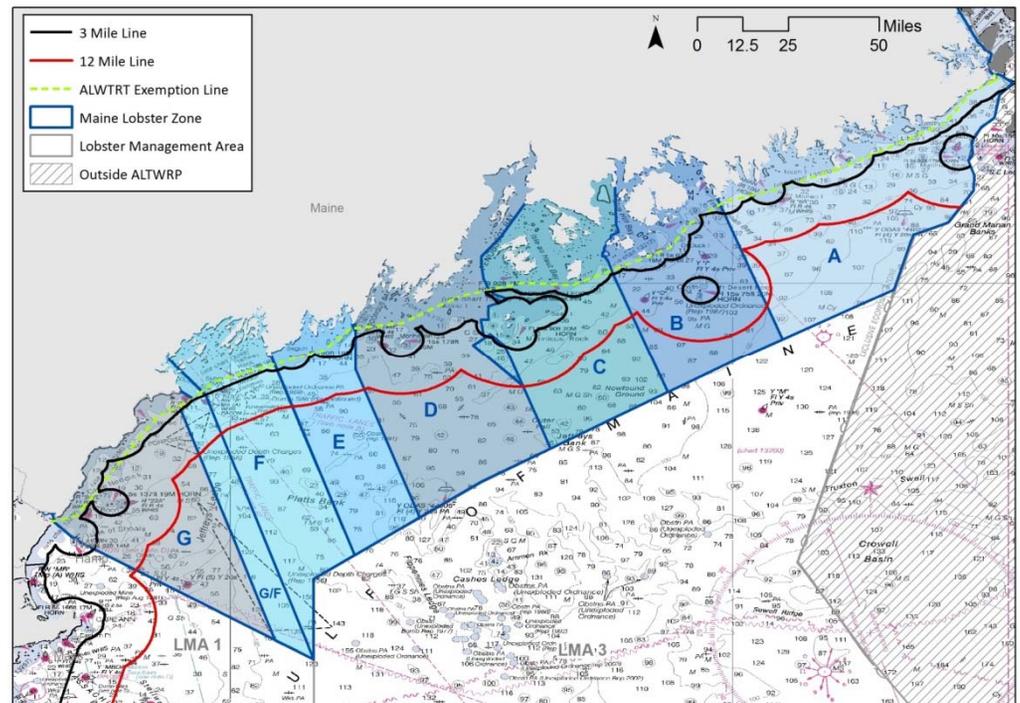
Region	Vessels			Vertical Line				
	Baseline (Active)	NMFS Scenario (Affected)	% Affected	Baseline (Number)	NMFS Scenario (Number)	Reduction (Number)	% Reduction (Zone)	% Reduction (Northeast Waters)
LMA 1	1,810	920	51%	205,000	125,400	79,600	39%	35%
LMA 1/OC Overlap	10	<10	60%	1,400	800	600	43%	0%
LMA 2	220	80	38%	11,900	9,200	2,700	23%	1%
LMA 2/3 Overlap	30	20	56%	2,000	1,500	500	24%	0%
LMA 3	80	<10	2%	3,600	3,400	100	4%	0%
LMA 4	10	0	0%	200	200	0	0%	0%
Outer Cape	40	20	47%	5,200	2,600	2,700	51%	1%
Total	2,190	1,040	48%	229,300	143,000	86,300	38%	38%
*Products and sums may not total due to rounding								

Maine DMR Proposal

Maine DMR Proposed Management Measures

Maine Lobster Zone	Minimum Traps/Trawl	Number of Endlines
Maine Nearshore Zone A 3-12 Miles	3	1
Maine Nearshore Zone B 3-12 Miles	3	1
Maine Nearshore Zone C 3-12 Miles	3	1
Maine Nearshore Zone D 3-12 Miles	3	1
Maine Nearshore Zone E 3-12 Miles	3	1
Maine Nearshore Zone F 3-12 Miles	8*	2
Maine Nearshore Zone G 3-12 Miles	8*	2
Maine Nearshore A 12+ Miles	3	1
Maine Nearshore B 12+ Miles	3	1
Maine Nearshore C 12+ Miles	5	1
Maine Nearshore D 12+ Miles	5	1
Maine Nearshore E 12+ Miles	5	1
Maine Nearshore F 12+ Miles	15	2
Maine Nearshore G 12+ Miles	20	2

Maine State and Federal Nearshore Waters



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Prepared for the Atlantic Large Whale Take Reduction Team

Created: November 30, 2011

* Maine's proposal designated small areas within Zones F and G 3-12 miles as minimum 3 traps per trawl. This analysis does not account for these exceptions.

Maine DMR Proposal

- Maine State and Federal Nearshore waters seaward of the exemption line
- Average number of affected vessels
- Average reduction in the number of vertical lines

Region	Vessels			Vertical Line				
	Baseline (Active)	Maine Proposal (Affected)	% Affected	Baseline (Number)	Maine Proposal (Number)	Reduction (Number)	% Reduction (Zone)	% Reduction (Maine Waters)
Maine Zone A	200	70	35%	27,700	23,500	4,200	15%	3%
Maine Zone B	110	40	37%	14,600	12,400	2,200	15%	2%
Maine Zone C	170	50	28%	33,600	30,400	3,200	10%	2%
Maine Zone D	200	70	36%	39,100	34,200	4,900	12%	3%
Maine Zone E	110	60	51%	12,800	10,800	1,900	15%	1%
Maine Zone F	130	50	36%	8,800	7,100	1,700	20%	1%
Maine Zone G	160	60	36%	12,500	9,900	2,600	21%	2%
Total	1,090	390	36%	149,300	128,400	20,900	14%	14%
*Products and sums may not total due to rounding								

Maine DMR Proposal

- Comparison of Maine DMR proposal to the NMFS Northeast proposal in Maine State and Federal Nearshore waters seaward of the exemption line
- Average Number of Affected Vessels

Region	MAINE DMR			NMFS		
	Baseline (Active)	Maine Proposal (Affected)	% Affected	Baseline (Active)	NMFS Scenario (Affected)	% Affected
Maine Zone A	200	70	35%	200	120	57%
Maine Zone B	110	40	37%	110	80	76%
Maine Zone C	170	50	28%	170	160	91%
Maine Zone D	200	70	36%	200	180	92%
Maine Zone E	110	60	51%	110	70	67%
Maine Zone F	130	50	36%	130	70	48%
Maine Zone G	160	60	36%	160	70	45%
Total	1,090	390	36%	1,090	750	69%
*Products and sums may not total due to rounding						

- NMFS Northeast proposal would affect almost double the number of fishermen as the Maine DMR proposal. In part, this is due to NMFS' proposed trap/trawl minimums in Maine non-exempt waters.

Maine DMR Proposal

- Comparison of Maine DMR proposal to the NMFS Northeast proposal in Maine State and Federal Nearshore waters (seaward of the exemption line)
- Average Reduction in the number of vertical lines

MAINE DMR

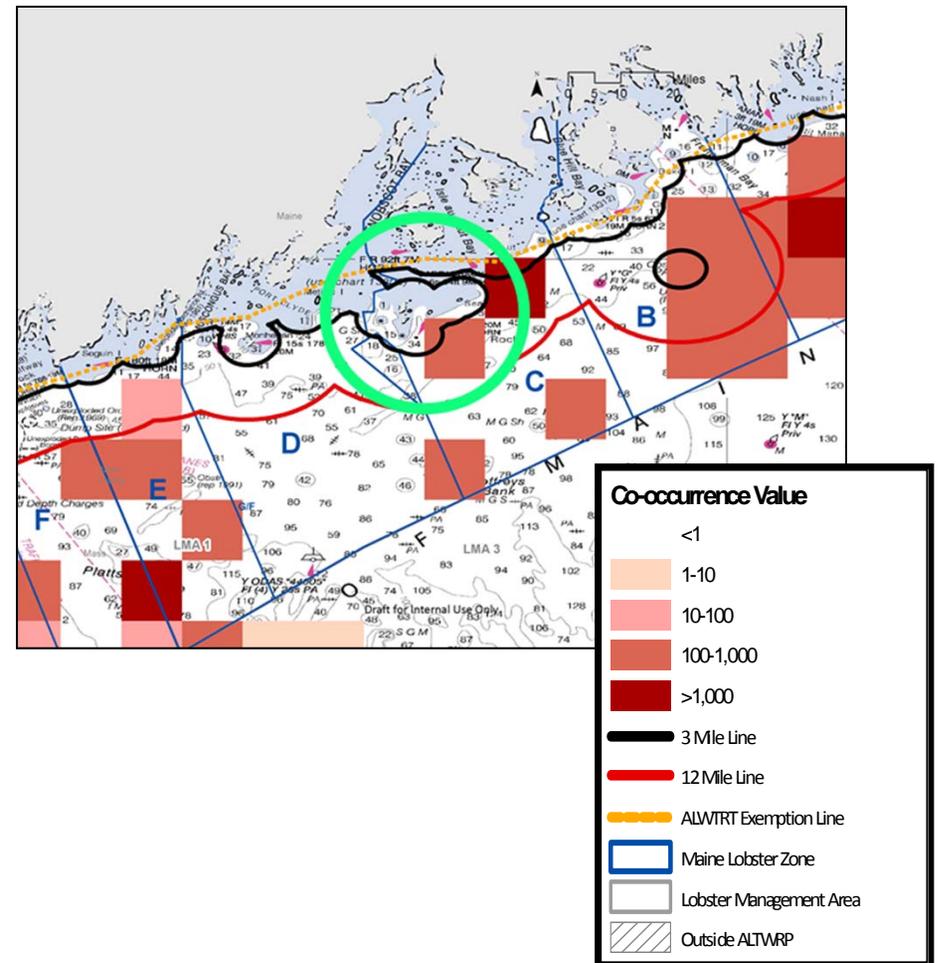
NMFS

Region	Vertical Line					Vertical Line			
	Baseline (Number)	Maine Proposal (Number)	Reduction (Number)	% Reduction (Zone)	% Reduction (Maine Waters)	NMFS Scenario (Number)	Reduction (Number)	% Reduction (Zone)	% Reduction (Maine Waters)
Maine Zone A	27,700	23,500	4,200	15%	3%	17,100	10,600	38%	7%
Maine Zone B	14,600	12,400	2,200	15%	2%	8,100	6,600	45%	4%
Maine Zone C	33,600	30,400	3,200	10%	2%	18,100	15,500	46%	10%
Maine Zone D	39,100	34,200	4,900	12%	3%	20,200	18,900	48%	13%
Maine Zone E	12,800	10,800	1,900	15%	1%	7,700	5,000	39%	3%
Maine Zone F	8,800	7,100	1,700	20%	1%	5,500	3,400	38%	2%
Maine Zone G	12,500	9,900	2,600	21%	2%	8,500	4,000	32%	3%
Total	149,300	128,400	20,900	14%	14%	85,200	64,100	43%	43%
*Products and sums may not total due to rounding									

- NMFS Northeast proposal would reduced approximately 43,000 more vertical lines than the Maine DMR proposal. This is largely due to NMFS' proposed trap/trawl minimums in Maine non-exempt waters.

Maine District C-9 Proposal

- Maine District C-9 proposed management measures
 - Exemption area extended to 3-mile line
 - Pairs or triples to the 3-mile line
 - No fishing in Federal waters June 15th - Sept 15th



Maine District C-9 Proposal

- Zone C at a glance
 - In State waters, fishermen typically fish singles, doubles, or triples
 - In Federal waters, fishermen may fish longer trawls (roughly 5 – 20 percent employ 10 to 20 traps per trawl)
 - The Vertical Line Model estimates a peak of 164 active lobster vessels in Zone C Non-exempt waters (to the 3-mile line); 43 active vessels Zone C Federal waters to the 12-mile line
 - At its peak in July 2010, Zone C employed approximately 41,000 vertical lines in non-exempt waters; 7,300 lines in Federal waters to the 12-mile line
- The C-9 Proposal estimates 12,000 vertical lines within the District. This is consistent with the model, as C-9 accounts for approximately 25% of the vessels fishing in Zone C.

New Hampshire DFG Proposal

- NH DFG Proposal
 - Exempt all State waters from vertical line reduction measures
- NH State waters profile
 - Depending on the season, 10 to 220 active vessels in NH State waters; roughly 25 percent of vessels fish in exempt waters
 - In 2010, fisherman employed approximately 2,000 (March) to nearly 24,000 vertical lines (August) in waters seaward of the current exemption line
 - 50 percent of fishermen employ singles
 - 25 percent use longer trawls (6+ traps/trawl)

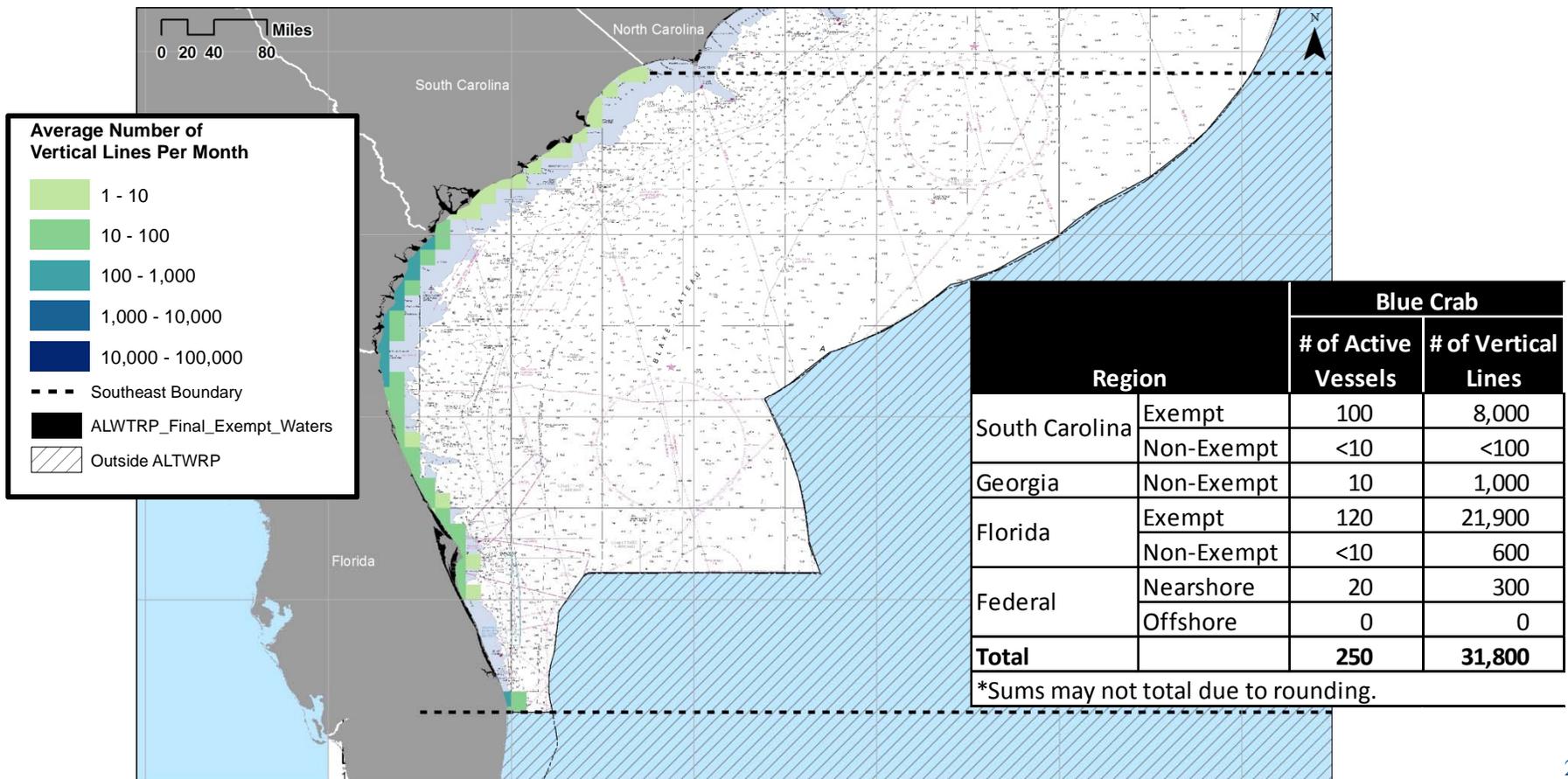


NMFS Southeast Proposal

- NMFS Southeast proposed management measures
 - Cap trap/pot fishing at existing levels *or* trigger consequences
 - Require 100 lb weak link for Blue crab fishery off Florida
- Southeast Analysis
 - Model separates Blue crab out from other trap/pot fisheries
 - Focused on October to March due to presence of Right whales
 - Maps show number of vertical lines in waters seaward of the exemption line only

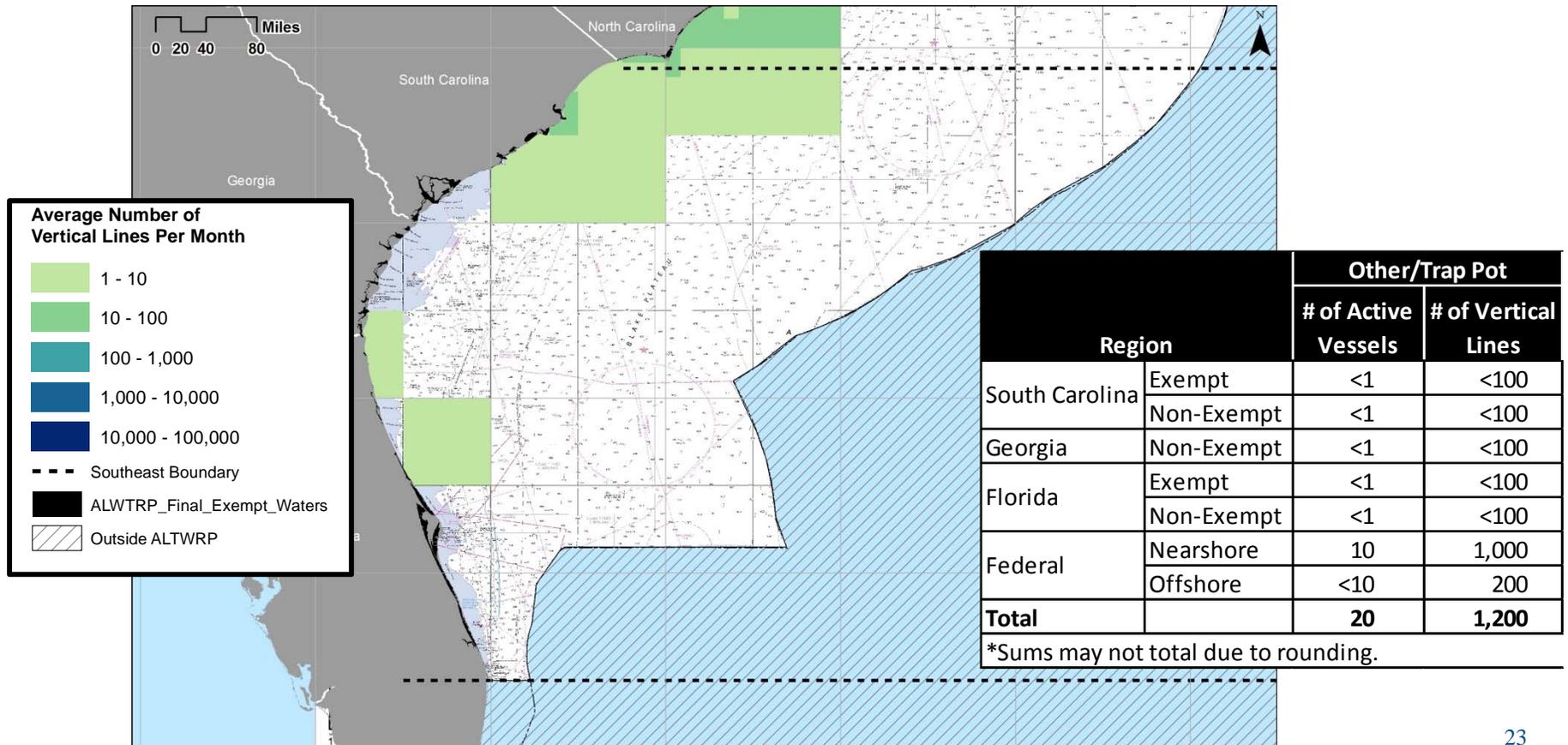
NMFS Southeast Proposal

- Blue Crab Fishery (Average October through March)
 - Map shows vertical line in waters seaward of the exemption line only
 - In the Southeast, primarily occurs in State exempt waters



NMFS Southeast Proposal

- OTP Fisheries (Average October through March)
 - Map shows vertical line in waters seaward of the exemption line only
 - Mainly in Federal waters – report to the Southeast Logbook



NMFS Southeast Proposal

- NMFS Southeast proposed management measures
 - Cap trap/pot fishing at existing levels *or* trigger consequences

Region		Blue Crab		Other/Trap Pot		Gillnet		Total	
		# of Active Vessels	# of Vertical Lines	# of Active Vessels	# of Vertical Lines	# of Active Vessels	# of Vertical Lines	# of Active Vessels	# of Vertical Lines
South Carolina	Exempt	100	8,000	<1	<100	0	0	100	8,000
	Non-Exempt	<10	<100	<1	<100	0	0	0	100
Georgia	Non-Exempt	10	1,000	<1	<100	0	0	10	1,000
Florida	Exempt	120	21,900	<1	<100	0	0	120	21,900
	Non-Exempt	<10	600	<1	<100	0	0	<10	600
Federal	Nearshore	20	300	10	1,000	10	100	40	1,400
	Offshore	0	0	<10	200	<10	<100	<10	200
Total		250	31,800	20	1,200	10	100	280	33,100

*Sums may not total due to rounding.

- Require 100 lb weak link for blue crab fishery off Florida
 - The model estimates that the number of blue crab fishermen fishing in Florida waters seaward of the exemption line ranges from 2 to 8 vessels per month, employing 50 to 230 vertical lines per vessel.