



INDUSTRIAL ECONOMICS, INCORPORATED

## Comparison of Massachusetts Buoy Line Estimates

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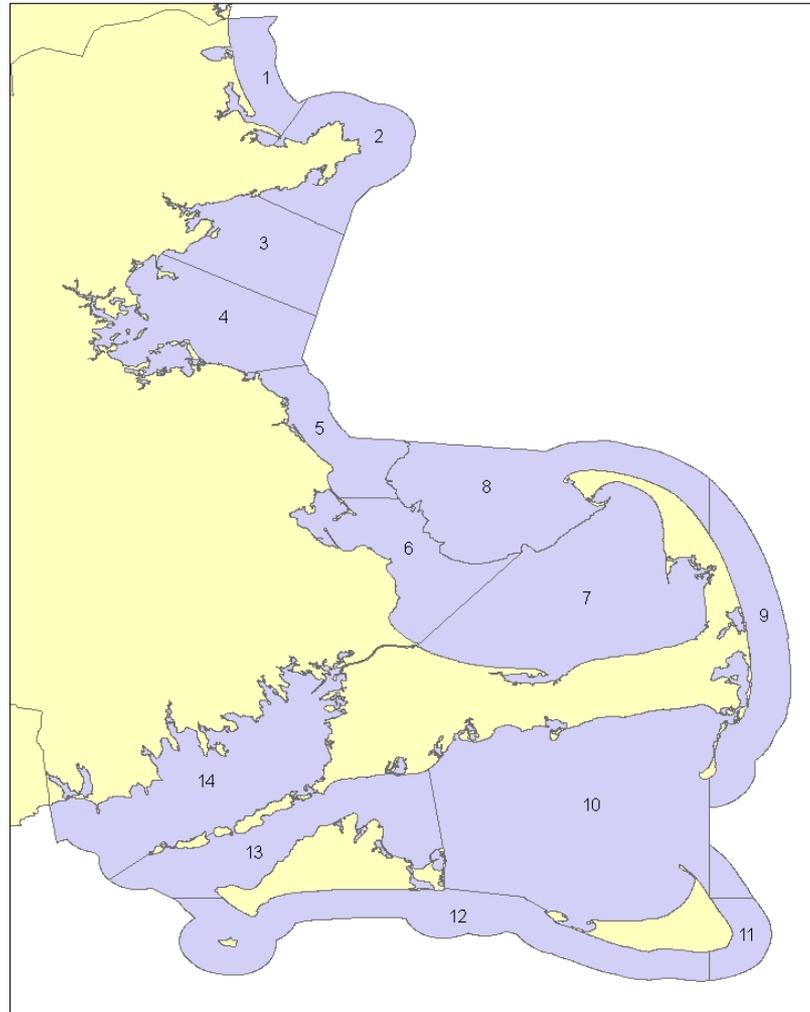
# Introduction

- In 2009, MA DMF began collecting data on number of buoy lines fished by trap/pot vessels.
  - Incorporated into existing reporting requirements.
  - 80% of trap/pot vessels required to report buoy line use.
- As the TRT requested, IEc has compared the estimates of vertical line use developed by the co-occurrence model to the buoy line counts reported to DMF.
- Comparison provides basis for adjusting model vessel configurations to better reflect gear use in Massachusetts waters.

# Methodology

- Comparison is limited to 2009; 2010 data not yet available.
- Comparison made on a monthly and annual basis for each of 14 MA inshore statistical reporting areas and for all inshore waters collectively.
- Comparison focuses solely on lobster fishery (about 90 percent of trap/pot vessels).
- MA DMF provided data the model requires (active vessels, number of traps fished) to generate an estimate of vertical line use in 2009.
- Reported buoy line use in 2009 adjusted proportionately upward in each area and month to account for 20% of vessels not required to report.

# MA Inshore Areas



# Findings

- Good agreement for Massachusetts waters overall: estimate of annual vertical line use generated by model is 96% of estimate based on reported vertical line use.
- Estimates show greater divergence within specific areas and months:
  - Relative differences are most pronounced in winter months and in areas with few active vessels.
  - Absolute differences are greatest for SRAs 2, 4, 7, and 8.
- IEc proposes to work with MA DMF to refine model vessel assumptions and improve agreement between the estimates.

# Ratio of Model's Estimate of VL Use to Estimate Based on Reported Use

Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Average
1	0.98	0.97	1.46	1.91	1.15	0.89	0.81	0.77	0.69	0.84	0.88	1.00	0.88
2	0.91	0.99	0.88	0.75	0.73	0.66	0.65	0.73	0.66	0.76	0.75	0.74	0.73
3	1.06	0.87	0.66	0.97	0.72	0.76	0.88	0.89	0.90	0.94	1.01	0.98	0.89
4	1.03	1.49	0.97	0.78	0.55	0.64	0.65	0.63	0.61	0.64	0.68	0.77	0.67
5	1.10	1.74	1.22	0.98	1.17	1.08	1.22	0.99	1.17	1.26	1.31	1.24	1.16
6	0.77	1.00	1.07	1.12	0.87	0.88	0.80	0.78	0.75	0.84	0.91	1.04	0.84
7	1.78	3.20	*	0.73	0.24	0.25	0.27	0.30	0.28	0.27	0.32	0.43	0.29
8	2.75	4.45	4.46	4.60	1.37	1.72	1.87	2.39	2.62	3.76	4.43	5.12	2.77
9	*	*	0.80	1.05	1.11	1.20	1.20	1.21	1.17	1.29	1.66	1.70	1.23
10	*	*	*	1.05	1.60	2.85	2.20	1.57	0.88	0.91	*	*	1.64
12	*	*	1.71	2.60	2.17	2.30	1.52	1.47	1.75	2.58	0.92	2.89	1.84
13	2.85	1.64	1.19	0.96	1.27	1.12	1.08	1.16	1.29	1.87	1.18	1.79	1.19
14	1.06	1.27	0.53	0.60	0.51	0.55	0.52	0.72	0.67	1.45	0.64	0.73	0.62
TOTAL	1.20	1.23	0.95	0.98	0.85	0.87	0.88	0.92	0.92	1.04	1.14	1.24	0.96

\* No buoy line data for comparison.

# Model's Estimate of VL Use Minus Estimate Based on Reported Use

Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Average
1	(5)	(8)	100	312	124	(166)	(354)	(477)	(726)	(242)	(120)	(1)	(130)
2	(356)	(25)	(304)	(1,082)	(1,974)	(3,867)	(4,859)	(4,153)	(4,866)	(2,926)	(2,549)	(2,208)	(2,431)
3	118	(169)	(554)	(47)	(1,030)	(1,703)	(991)	(1,035)	(976)	(484)	44	(109)	(578)
4	29	551	(28)	(436)	(1,874)	(2,186)	(2,810)	(3,106)	(3,288)	(2,613)	(1,934)	(896)	(1,549)
5	73	497	178	(52)	655	457	1,468	(64)	999	1,238	1,172	576	600
6	(119)	(0)	35	126	(274)	(426)	(1,051)	(1,252)	(1,370)	(677)	(291)	62	(436)
7	78	27	*	(127)	(4,413)	(6,892)	(8,268)	(8,693)	(9,293)	(8,356)	(3,795)	(1,327)	(4,251)
8	1,385	632	558	1,045	1,395	3,251	4,731	8,113	10,423	13,834	12,439	10,512	5,693
9	*	*	(25)	34	647	2,033	2,376	2,502	1,589	1,631	1,514	535	1,102
10	*	*	*	6	75	738	627	363	(77)	(23)	*	*	142
12	*	*	205	936	1,001	1,429	1,023	927	966	418	(12)	170	602
13	260	90	177	(82)	480	205	186	402	370	363	105	147	225
14	28	97	(953)	(943)	(1,263)	(1,088)	(1,370)	(391)	(337)	131	(401)	(378)	(572)
TOTAL	2,038	1,694	(560)	(310)	(6,452)	(8,216)	(9,292)	(6,864)	(6,586)	2,294	6,172	7,083	(1,583)

\* No buoy line data for comparison.