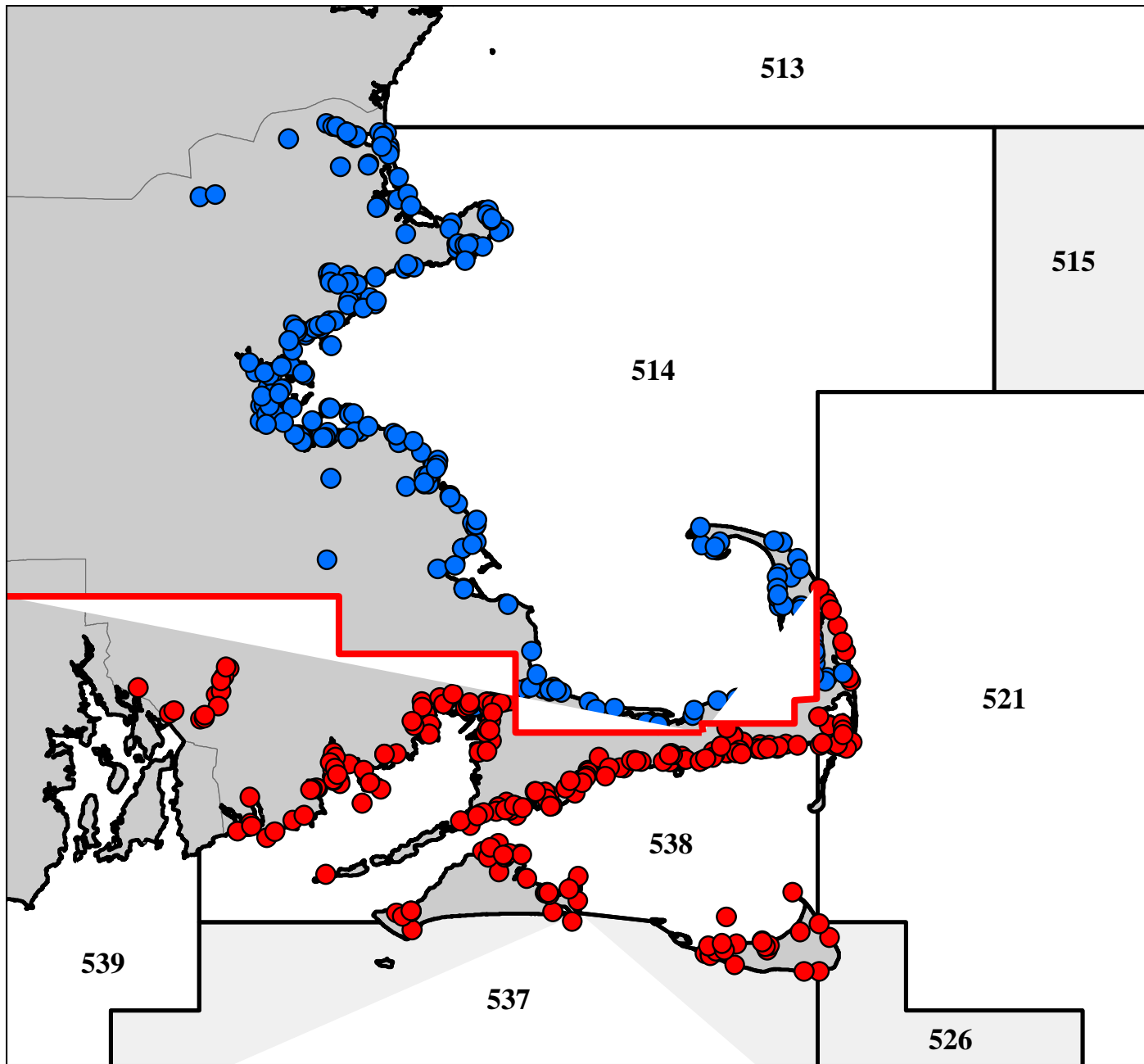


MRIP Data



- Data query website
<http://www.st.nmfs.noaa.gov/recreational-fisheries/data-and-documentation/run-a-data-query>
 - State-level estimates
- Launched an email subscription service for notification of data updates
- 2013 and 2014 estimates were revised on 6/24/2015
- MRIP for-hire effort estimates adjusted with end-of-the-year VTR data since 2013
- New data collection approach for shore and private boat modes in 2017



Gulf of Maine Cod and Haddock: Review of the Recreational Bioeconomic Model and Potential AMs for FY 2016



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Bioeconomic Model



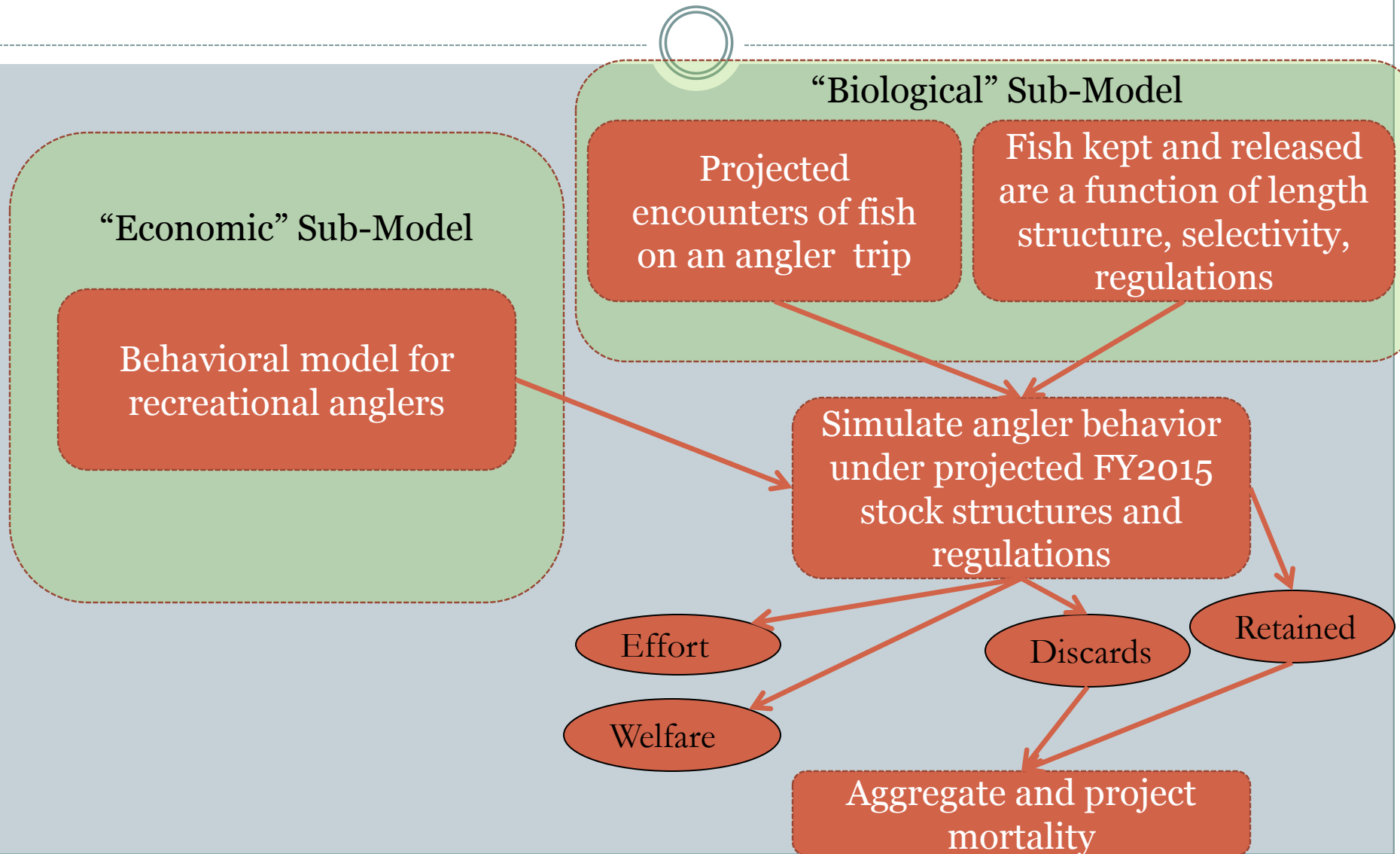
- Joint Mid-Atlantic and New England Council SSC review conducted in 2012.
- Used to set recreational AMs for GOM cod and haddock in FY 2013 – FY 2015

Bioeconomic Model



- Predicts how changes in management measures for GOM cod and haddock alter angler fishing effort and recreational fishing mortality in the Gulf of Maine

Model Overview



FY 2015 Mortality Projections



	MRIP (preliminary)	Model Prediction
GOM Cod	69 mt	155 mt
GOM Haddock	301 mt	341 mt
Angler Trips	112,271	173,570

FY 2013 and FY 2014 underestimated cod and haddock mortality \approx 25 - 30%

Measures of Uncertainty

- Preliminary MRIP data (annual variability in MRIP estimates)
- Economic sub-model and biological projections
- Assumptions about compliance

- Additional level of uncertainty about angler behavior in FY 2016

Re-estimate FY 2015 Projections



- Updated MRIP data
- Updated biological assessment data
- New economic model
- Assumptions about compliance and angler behavior

FY 2015 MRIP vs Updated Projections



	Old Projections	Updated Projections	MRIP (Preliminary)
Cod Mortality	155 mt	61 mt	69 mt
Had Mortality	341 mt	305 mt	301 mt
Angler Trips	173,570	113,723	112,271

FY 2016 Mortality Projections



- Incorporate 2016 biological assessment projections
- Evaluate how status quo measures affect mortality
- Evaluate how alternative measures affect mortality

FY 2016 Gulf of Maine Cod and Haddock Simulation Projections

Option	Haddock						Cod						Angler Trips (Median)	% Under Had ACL (out of 100 Simulations)	% Under Cod ACL (out of 100 Simulations)	
	Had Limit	Had Size	Had Open Season	Had Kept (Median)	Had Release Mortality (Median)	Had Total Mortality (Median)	Cod Limit	Cod Size	Cod Open Season	Cod Kept (Median)	Cod Release Mortality (Median)	Cod Total Mortality (Median)				
				mt	mt	mt				mt	mt	mt				
				(Median)	(Median)	(Median)				(Median)	(Median)	(Median)				
1 (Status Quo)	3	17"	Waves 3, 4, 6, 1	268	137	405	0		Closed	4	62	66	117,139	100	100	
2	8	17"	Waves 3, 4, 6, 1	351	100	451	0		Closed	4	64	68	118,912	100	100	
3	No limit	17"	Waves 3, 4, 6, 1	393	80	473	0		Closed	4	64	68	119,345	100	100	
4	No limit	17"	Waves 3, 4, 5, 6, 1	494	83	577	0		Closed	5	74	79	142,410	100	100	
5	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	626	89	715	0		Closed	5	92	97	167,103	100	100	
6	No limit	17"	Waves 3, 4, 5, 6, 1	499	84	583	1	24"	Wave 3	67	66	133	143,756	100	95	
7	No limit	17"	Waves 3, 4, 5, 6, 1	496	85	581	1	24"	Wave 4	45	69	113	143,503	100	100	
8	No limit	17"	Waves 3, 4, 5, 6, 1	501	85	586	1	23"	Wave 3	79	65	144	144,171	100	73	
9	No limit	17"	Waves 3, 4, 5, 6, 1	497	85	582	1	23"	Wave 4	50	69	119	143,720	100	100	
10	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	631	90	721	1	24"	Wave 3	68	83	151	168,505	100	63	
11	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	629	90	719	1	24"	Wave 4	47	87	134	168,264	100	92	
12	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	633	90	723	1	23"	Wave 3	80	82	162	168,898	100	39	
13	3	17"	Waves 3, 4, 6, 1	275	140	415	1	24"	Waves 3, 4	105	49	154	119,740	100	57	
14	8	17"	Waves 3, 4, 6, 1	359	102	461	1	24"	Waves 3, 4	107	50	157	121,437	100	46	

* Wave 2 open Apr 15 - 30

FY 2016 GOM haddock recreational sub-ACL = 928 mt

FY 2016 GOM cod recreational sub-ACL = 157 mt

FY 2016 Gulf of Maine Cod and Haddock Simulation Projections Continued

Option	Haddock						Cod						Angler Trips (Median)	% Under Had ACL (out of 100 Simulations)	% Under Cod ACL (out of 100 Simulations)
	Had Limit	Had Size	Had Open Season	Had Kept (Median)	Had Release Mortality (Median)	Had Total Mortality (Median)	Cod Limit	Cod Size	Cod Open Season	Cod Kept (Median)	Cod Release Mortality (Median)	Cod Total Mortality (Median)			
				mt	mt	mt				mt	mt	mt			
				(Median)	(Median)	(Median)				(Median)	(Median)	(Median)			
15	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	630	90	720	1	23"	Wave 4	52	86	138	168,497	100	80
Cod Size Limit = 22"															
16	No limit	17"	Waves 3, 4, 5, 6, 1, 2*	632	91	723	1	22"	Wave 4	71	83	154	169,349	100	57
17	No limit	17"	Waves 3, 4, 5, 6, 1	500	85	585	1	22"	Wave 4	69	66	135	144,591	100	85
Haddock Possession Limit = 20															
19	20	17"	Waves 3, 4, 5, 6, 1	495	86	581	1	24"	Wave 3	66	67	133	143,750	100	96
20	20	17"	Waves 3, 4, 5, 6, 1	493	85	578	1	24"	Wave 4	45	69	114	143,486	100	100
21	20	17"	Waves 3, 4, 5, 6, 1	497	86	583	1	23"	Wave 3	79	65	144	144,142	100	72
22	20	17"	Waves 3, 4, 5, 6, 1	494	86	580	1	23"	Wave 4	50	69	119	143,682	100	100
23	20	17"	Waves 3, 4, 5, 6, 1	497	86	583	1	22"	Wave 4	69	65	134	144,570	100	85
* Wave 2 open Apr 15 - 30															
FY 2016 GOM haddock recreational sub-ACL = 928 mt															
FY 2016 GOM cod recreational sub-ACL = 157 mt															

FY 2016 Gulf of Maine Cod and Haddock Simulation Projections Continued

Option	Haddock						Cod						Angler Trips (Median)	% Under Had ACL (out of 100 Simulations)	% Under Cod ACL (out of 100 Simulations)
	Limit	Had Size	Had Open Season	Had	Had	Had Mortality (Median)	Cod Limit	Cod Size	Cod Open Season	Cod	Cod	Cod Mortality (Median)			
				Kept	Release					Kept	Release				
				mt	mt					mt	mt				
Haddock Possession Limit = 8															
24	8	17"	Waves 3, 4, 6, 1	351	100	451	0		Closed	4	64	68	118,912	100	100
25	8	17"	Waves 3, 4, 5, 6, 1	442	108	550	0		Closed	4	74	78	141,873	100	100
26	8	17"	Waves 3, 4, 5, 6, 1, 2*	555	122	677	0		Closed	5	92	97	166,406	100	100
27	8	17"	Waves 3, 4, 5, 6, 1	447	109	556	1	24"	Wave 3	66	66	132	143,221	100	97
28	8	17"	Waves 3, 4, 5, 6, 1	445	109	554	1	24"	Wave 4	44	69	113	142,934	100	100
29	8	17"	Waves 3, 4, 5, 6, 1	450	109	559	1	23"	Wave 3	79	64	143	143,630	100	74
30	8	17"	Waves 3, 4, 5, 6, 1	446	109	555	1	23"	Wave 4	50	68	118	143,156	100	100
31	8	17"	Waves 3, 4, 5, 6, 1, 2*	559	124	683	1	24"	Wave 3	67	83	150	167,792	100	63
32	8	17"	Waves 3, 4, 5, 6, 1, 2*	559	124	683	1	24"	Wave 4	45	86	131	167,512	100	93
33	8	17"	Waves 3, 4, 5, 6, 1, 2*	561	124	685	1	23"	Wave 3	80	81	161	168,174	100	39
* Wave 2 open Apr 15 - 30															
FY 2016 GOM haddock recreational sub-ACL = 928 mt															
FY 2016 GOM cod recreational sub-ACL = 157 mt															