

GOM Cod and Haddock Bioeconomic Model

- Joint Mid-Atlantic and New England Council SSC review conducted in 2012
- Used to set recreational measures for GOM cod and haddock each year since 2013
- Lee, Min-Yang, Scott Steinback, Kristy Wallmo. 2017. “Applying a Bioeconomic Model to Recreational Fisheries Management: Groundfish in the Northeast United States.” *Marine Resource Economics* 32:2.



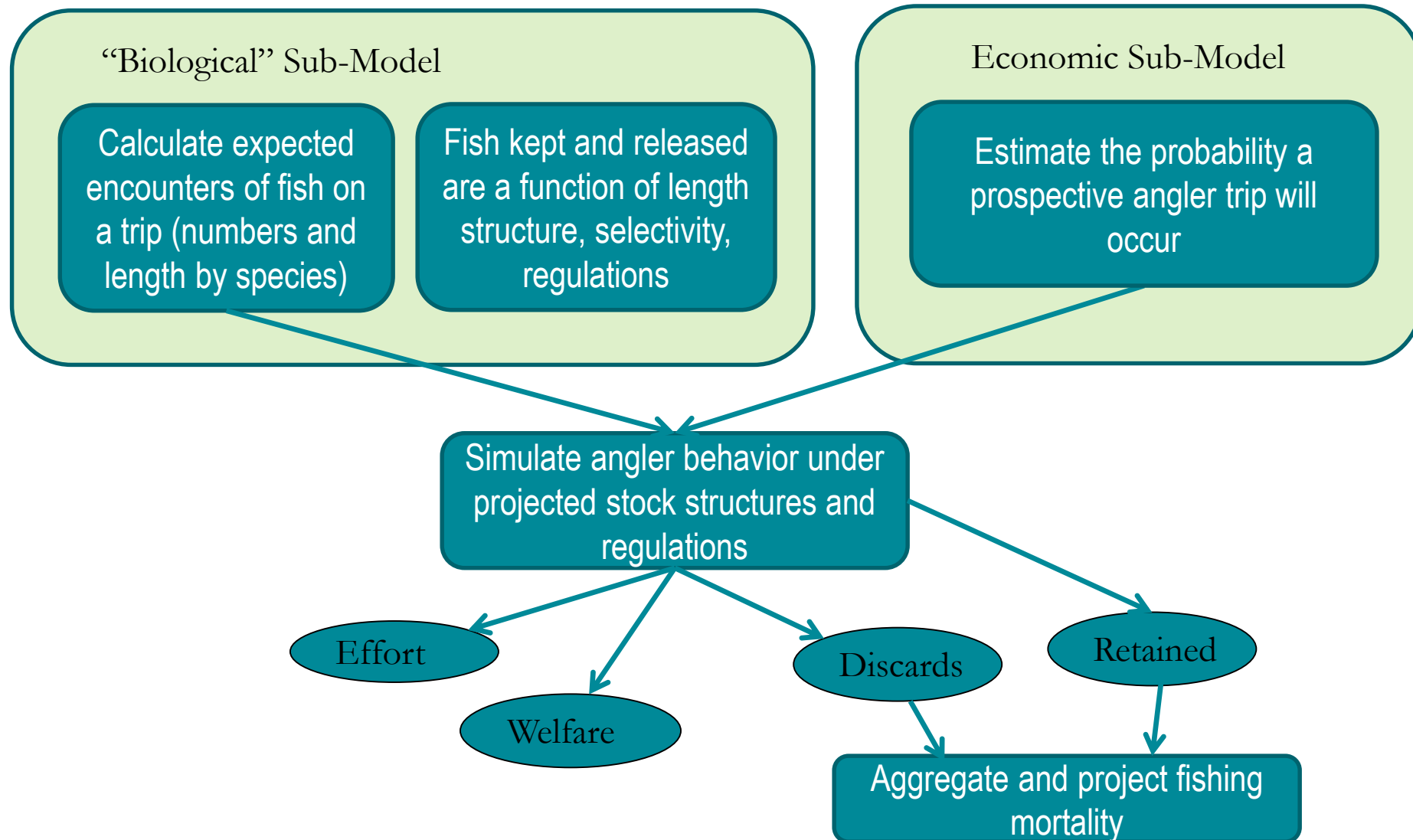
Annual Management Objectives

Predict how proposed management measures for GOM cod and haddock will affect:

- 1) Angler fishing effort
- 2) Angler welfare
- 3) Recreational fishing mortality

Management goal: “achieve but not exceed the sub-ACLs”

Bioeconomic Model Overview



How Accurate is the Model?

GOM Cod	ACL (mt)	Actual	Model
FY 2013	486	639	409 (36% lower)
FY 2014	486	623	422 (32% lower)
FY 2015	121	85	132 (55% higher)
FY 2016	157	286	132 (54% lower)
FY 2017	157	246	147 (40% lower)
FY 2018	220	140*	193 (38% higher)
FY 2019	220		

*Preliminary



How Accurate is the Model?

GOM Had	ACL (mt)	Actual	Model
FY 2013	74	232	57 (407% lower)
FY 2014	87	659	80 (824% lower)
FY 2015	372	382	323 (13% lower)
FY 2016	928	1,031	709 (32% lower)
FY 2017	1,160	795	1,160 (46% higher)
FY 2018	3,358	700*	916 (31% higher)
FY 2019	3,194		

*Preliminary

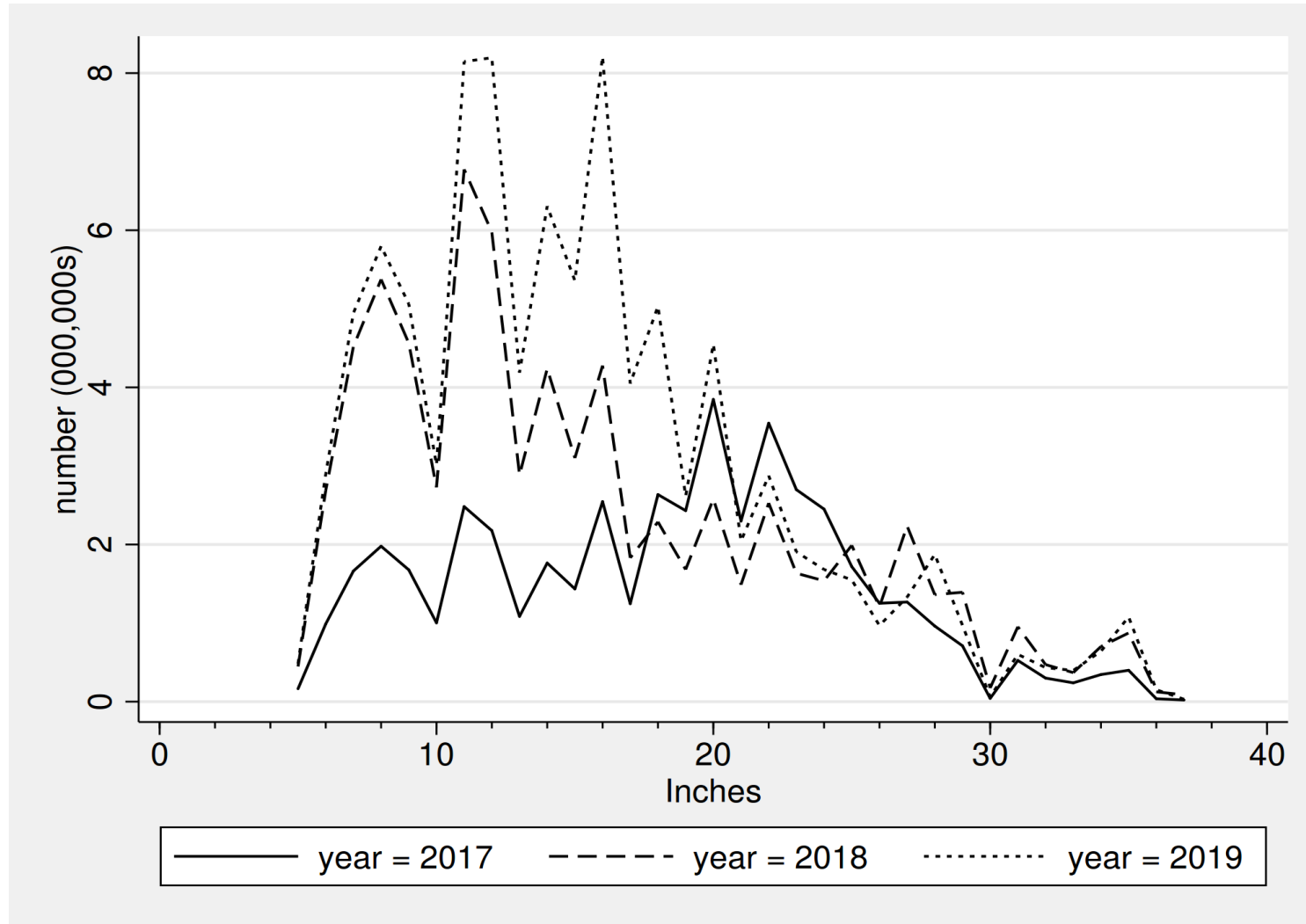


Uncertain FY 2019 Model Data

- 1) Incorporated available “old” FY 2018 MRIP data
 - May through Oct available
 - Nov-Dec, 2017 and Mar-Apr, 2018 used as proxies
 - MRIP calibration model used to convert “new” 2018 estimates into “old” currency increases uncertainty

- 2) Incorporated 2019 biological assessment projections
 - Projections are 3 years removed from the terminal model year

Median GOM Cod Length Structure from Projections



Bottom Line

- FY 2019 model projections have a high degree of uncertainty