



NOAA
FISHERIES
SEFSC

SEDAR 58 Cobia Stock ID Review Workshop

Life History

June 5, 2018

DRAFT

Life History Data for Reveiw

- Weight – Length Relation
- Age data
- Length-at-age
- Growth
- Reproductive Biology

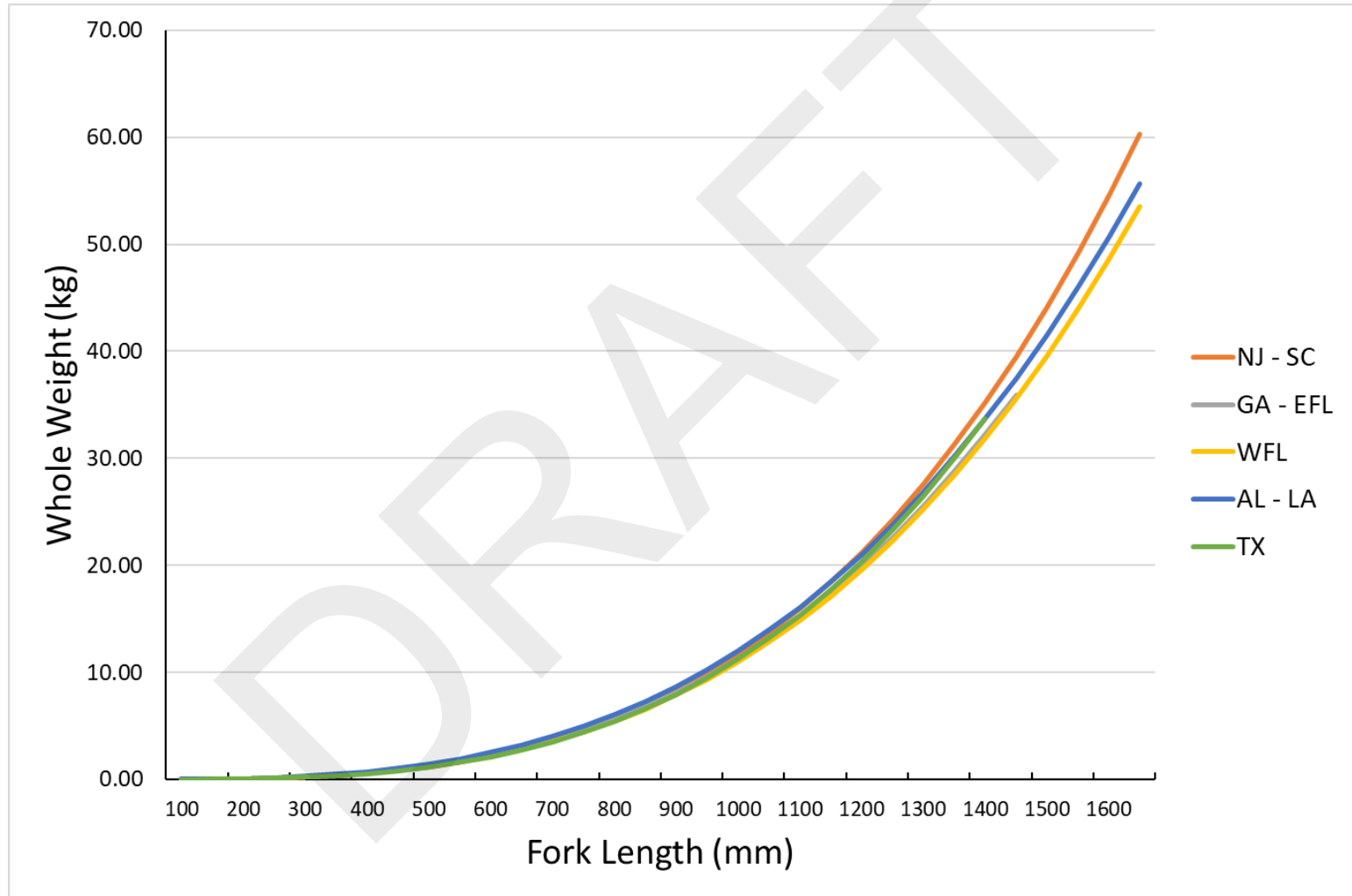
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Life History: Weight-Length Relation

- Data Sources

Source	Location
Trip Interview Program	GOM and SA
Southeast Region Headboat Survey	GOM and SA
MRIP	Louisiana – U.S. Atlantic
NMFS Bottom Longline Survey	Texas – East Coast Florida
NMFS Pelagic Acoustic Trawl Survey	Texas – West Coast Florida
GOM SEAMAP Summer/Fall Trawl Survey	Texas – West Coast Florida
SA SEAMAP Trawl Survey (SCDNR)	North Carolina – East Coast Florida
SCDNR	South Carolina – East Coast Florida
GCRL	Texas – West Coast Florida
Mote Marine Laboratory	Texas – southeast coast Florida
NMFS Panama City	
GADNR	South Carolina
NMFS Beaufort	Virginia - Georgia
VMRC	Virginia
NCDMF	North Carolina

Life History : Weight-Length Relation



Life History : Weight-Length Relation

- Noted difference in relation for fish >1300 mm FL
 - NJ – SC: Heaviest fish at largest lengths
 - 92% of fish sampled during spawning season
 - AL – TX: Intermediate
 - 77% of fish sampled during spawning season
 - EFL and WFL: lightest fish at largest lengths
 - 65% of fish sampled during spawning season

Life History: Sources of Age data

Source	Location
GCRL	Texas – West Coast Florida
Mote Marine Laboratory	Texas – Southeast Coast Florida
NMFS Panama City	Louisiana and West Coast Florida
GADNR	South Carolina
NMFS Beaufort	Virginia – East Coast Florida
VMRC	Virginia
NCDMF	North Carolina
FWC	East and West Coast Florida

Life History: Maximum Age

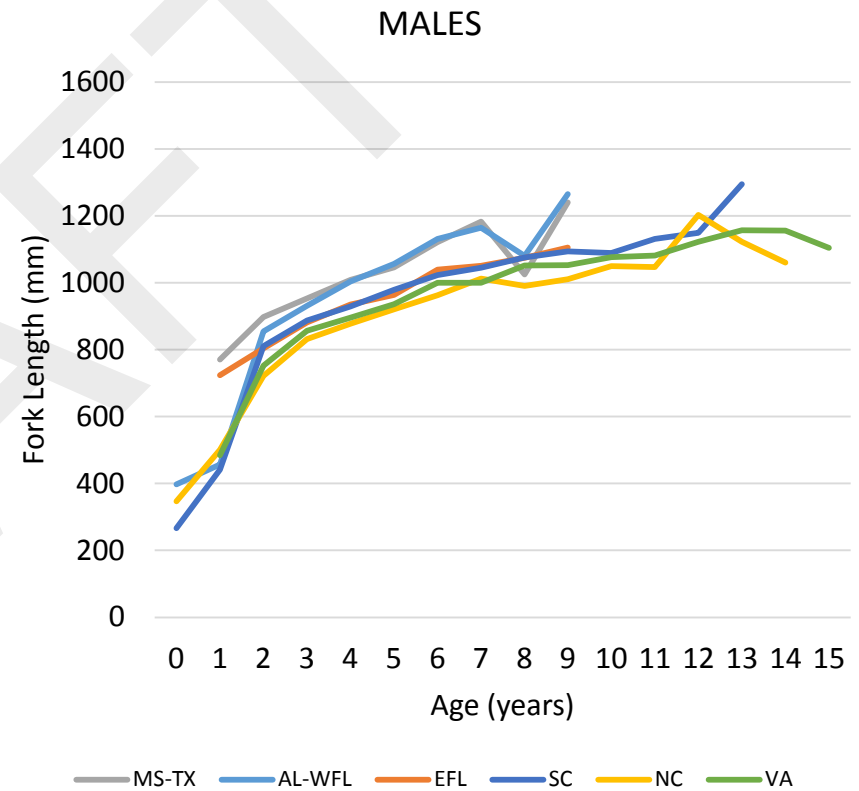
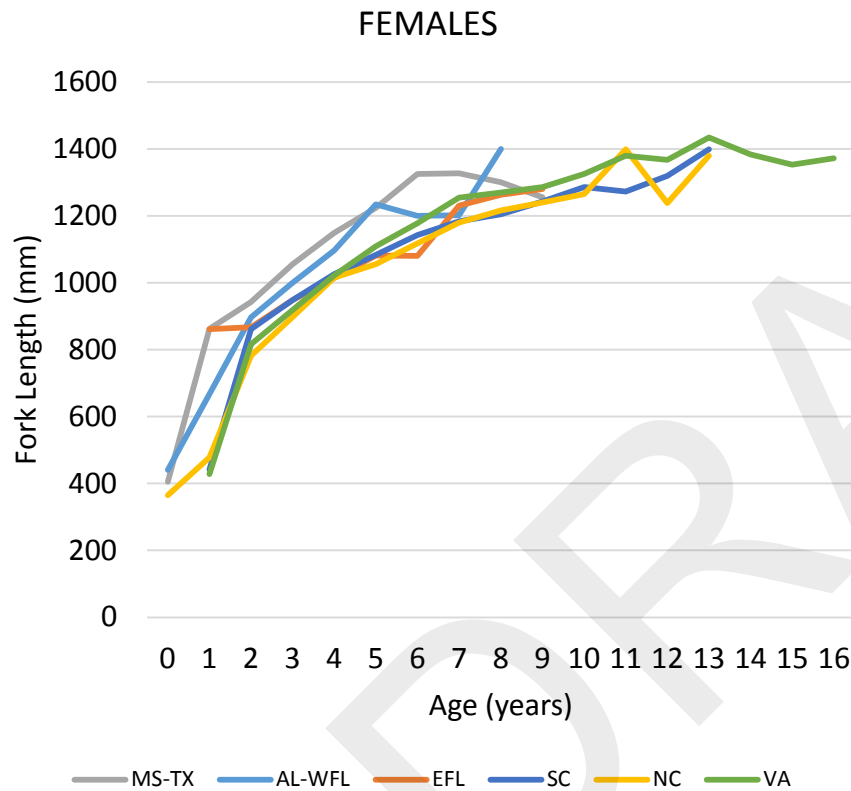
- Assumption: exploitation rate/time was consistent throughout range
 - Oldest fish, 16 years, found off Virginia
 - Max age in GOM was 11 years
 - Max age decreased as moved south and into the GOM
- Sample sizes from different areas may explain differences

Life History: Length-at-Age

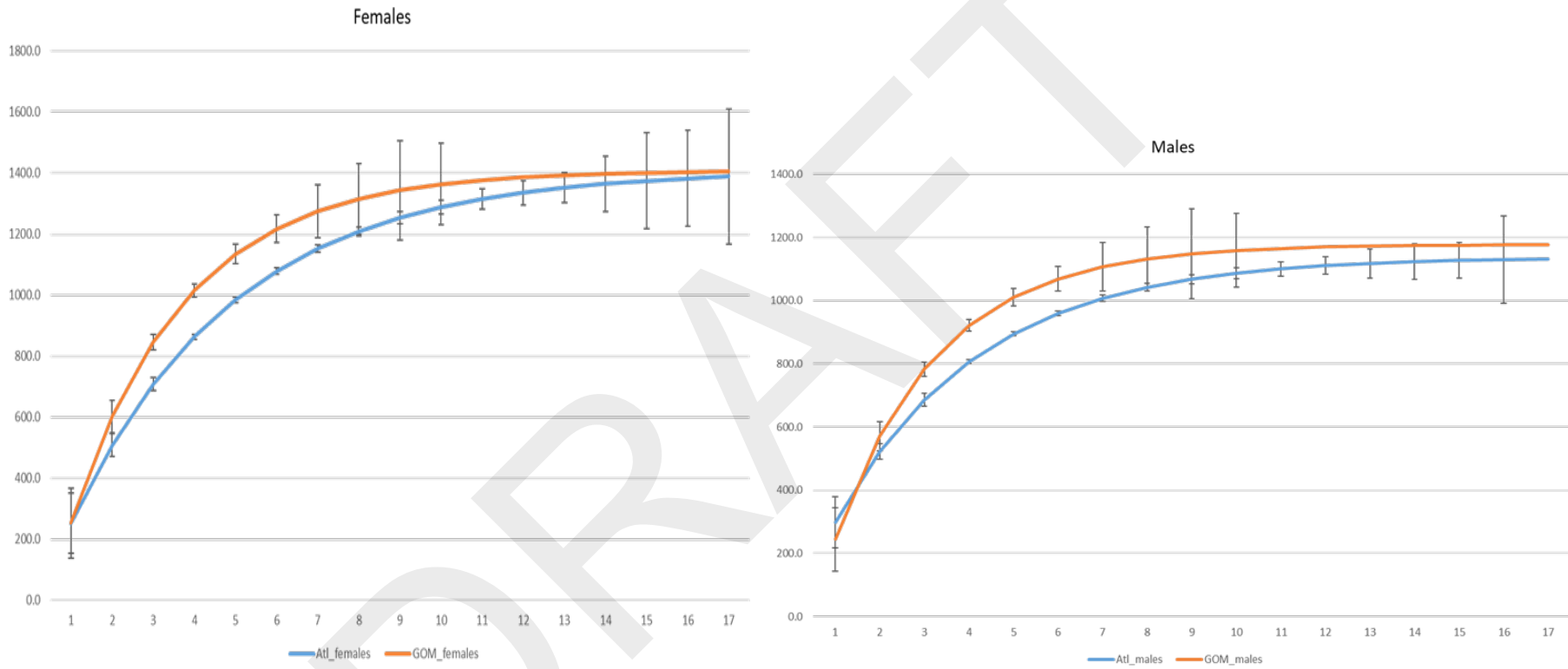
- Similar length range across areas
- Max-age differed

State	Sample Size	Fork Length		Calendar Age		Year Max age caught
		Min	Max	Min	Max	
VA	2069	320	1610	0	16	2006
NC	431	214	1588	0	14	1994
SC	2512	93	1425	0	13	2009, 2014
GA	6	266	1008	0	5	2014
EFL	416	397	1314	1	11	2003
WFL	295	355	1585	0	9	1996
FLKEYS	43	700	1220	1	7	1996
AL	41	760	1520	2	9	1990
MS	289	397	1639	1	8	1988, 2007
LA	208	840	1440	1	11	1989, 1990, 1996
TX	87	370	1350	0	9	1989
GOM	88	493	1530	1	9	1989

Life History: Mean Observed Length-at-Age



Life History: Growth Models

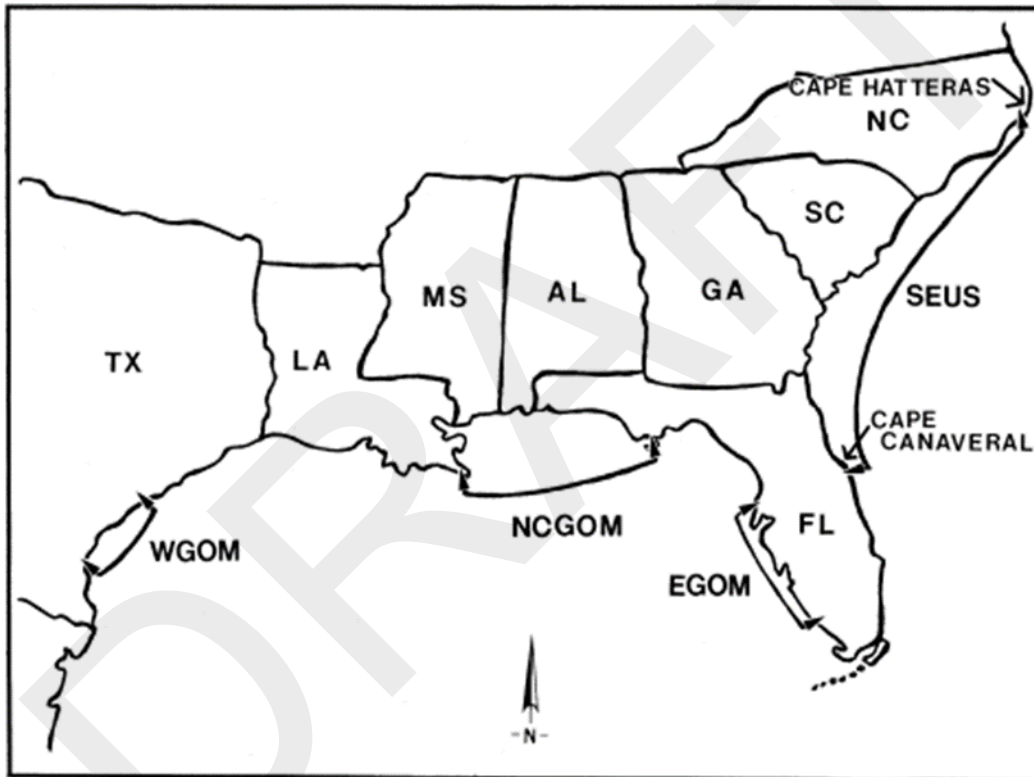


Life History: Reproductive Biology

- No new data available since SEDAR28
- Spawning Season: water temperature driven
 - GOM – begins in March
 - VA – SC: begins in April
- Peak spawning month (Joseph et al. 1964; Brown-Peterson et al. 2001; Franks & Brown-Peterson 2002)

Nth-Central GOM: May	South Carolina: May
Eastern GOM: July	North Carolina: June
	Virginia: July

Life History: Reproductive Biology



Map taken from Brown-Peterson et al. 2001

Life History: Conclusions

- Weight – Length data showed no real biological difference throughout Cobia's range. No evidence for stock separation
- Differences in observed maximum age by state/area was not conclusive in identifying stock structure.

Life History: Conclusions

- Differences in growth between the GOM and Atlantic are apparent, but limited age data from GOM and East Coast Florida does not allow conclusions to be reached.
- Reproductive biology data could not definitively define stock structure. Large gap in data along East Coast of Florida.