

Consumption of Blue Crabs by Striped Bass in Mid- Chesapeake Bay

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Summary of collections by CBEF

- Collections year-round, 2006-2013
- Choptank River and mid-Bay combined (Bay Bridge – Solomons)
- Hook and line and gill net catches: mid-Bay striped bass check station & collections under permit in Choptank (sublegal & legal)

Area of Chesapeake Bay monitoring



Data for Blue Crab consumption analysis

- Through a year-round Predator/Prey Monitoring Program, CBEF collected striped bass, examined and recorded diet information, sex, body fat and presence/absence of micro-bacterial nodules in spleen
- Seasonal patterns of prey consumption were evident: April-June, July-Sept, and October-November
- DNR entered all data through 2012, edited and analyzed October – November, 2006-2012
 - For nutrition reference points (Jacobs et al. 2013)

Blue Crabs found in Striped Bass Stomach Sample



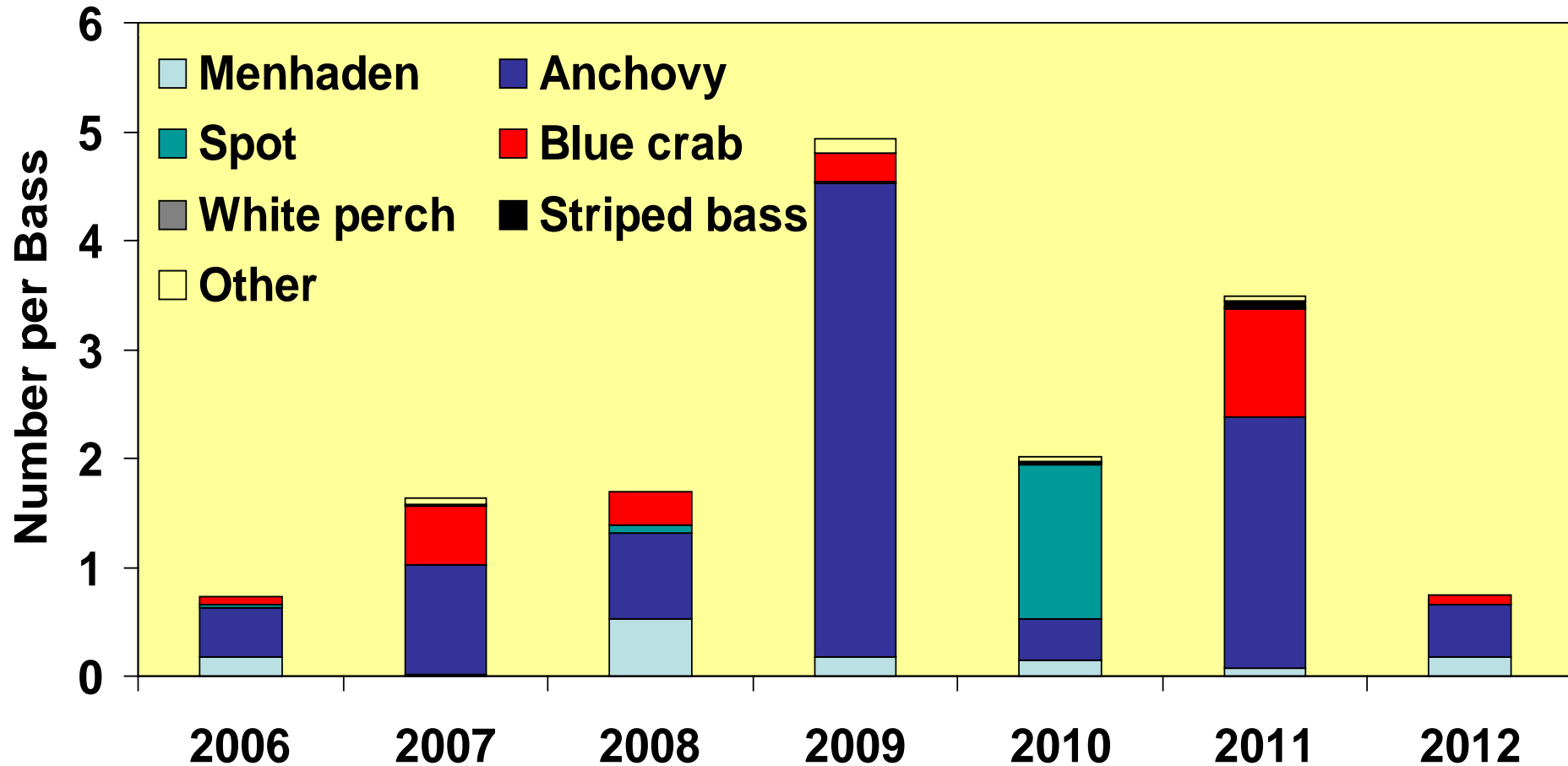
Number of striped bass examined from Chesapeake Bay

Seasonal Feeding Pattern

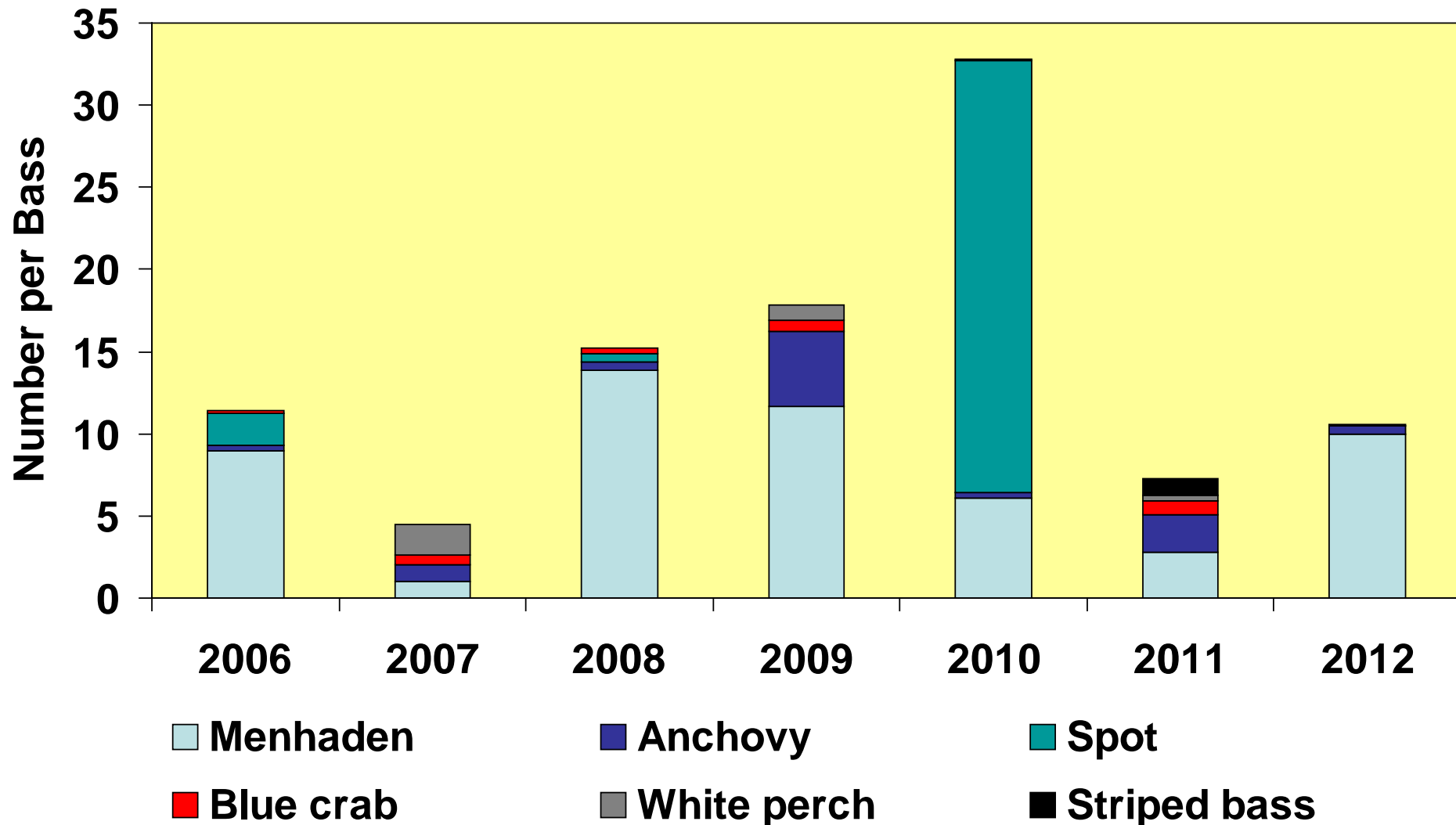
March-June / Oct-Nov

	2006	2007	2008	2009	2010	2011	2012	2013
March	---	---	---	---	---	---	---	---
April-June	400	540	345	542	340	599	731	347
Oct-Nov	312	324	316	357	358	457	387	477
TOTALS	712	864	661	899	698	1056	1118	824

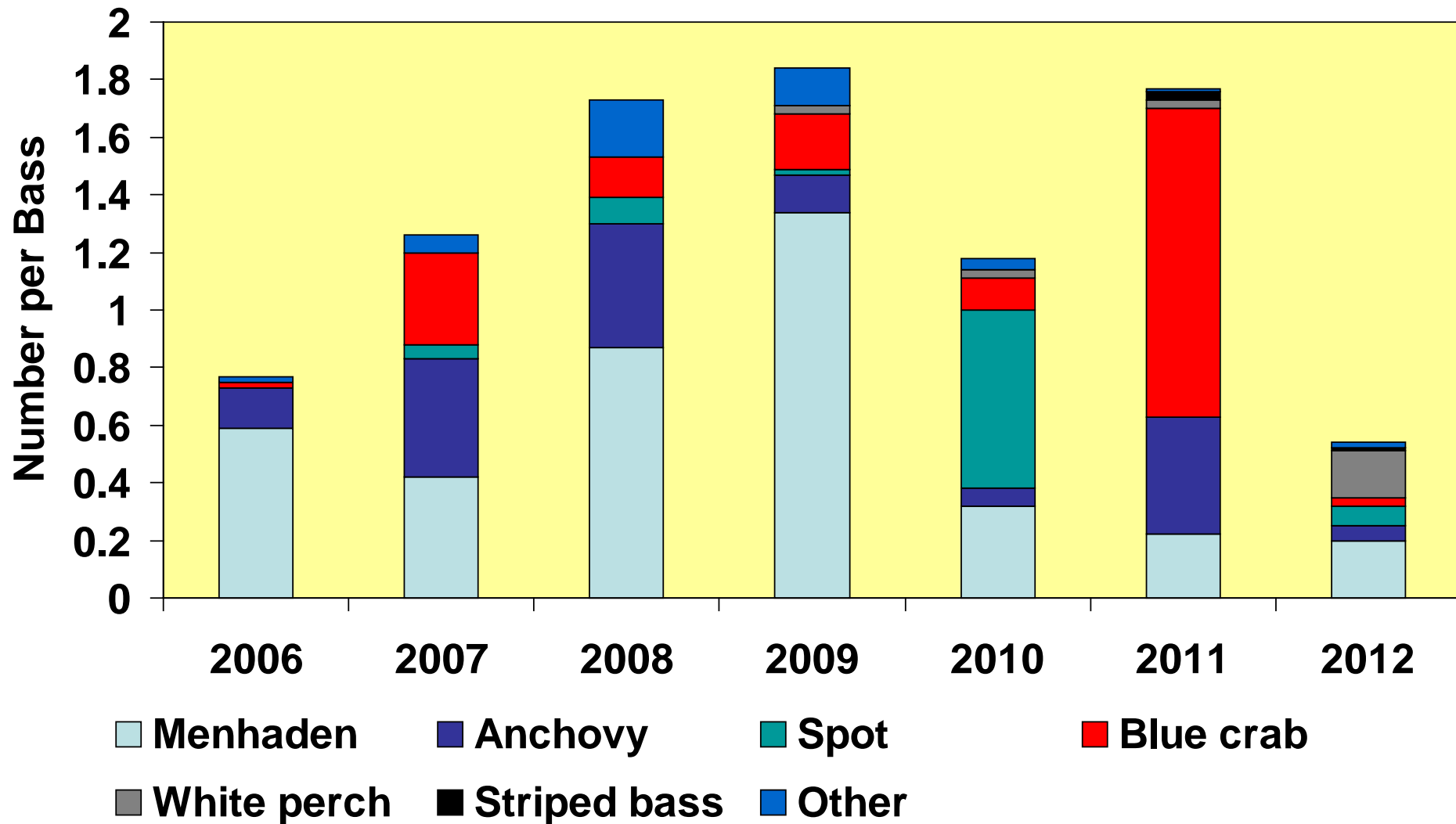
Number of items consumed per 300-456 mm Striped Bass during October-November



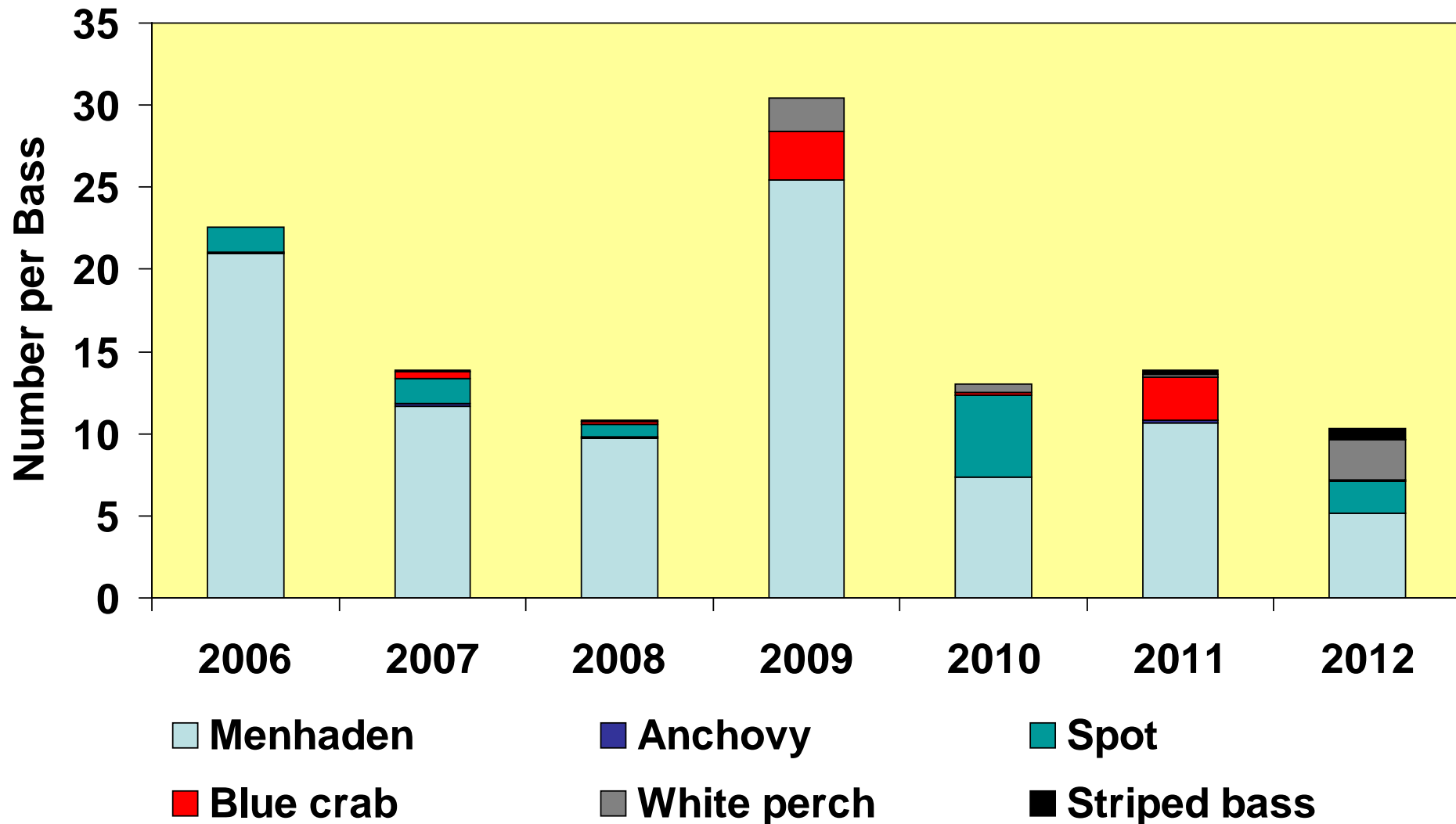
Calories provided for 300-456 mm Striped Bass during October-November, by major item



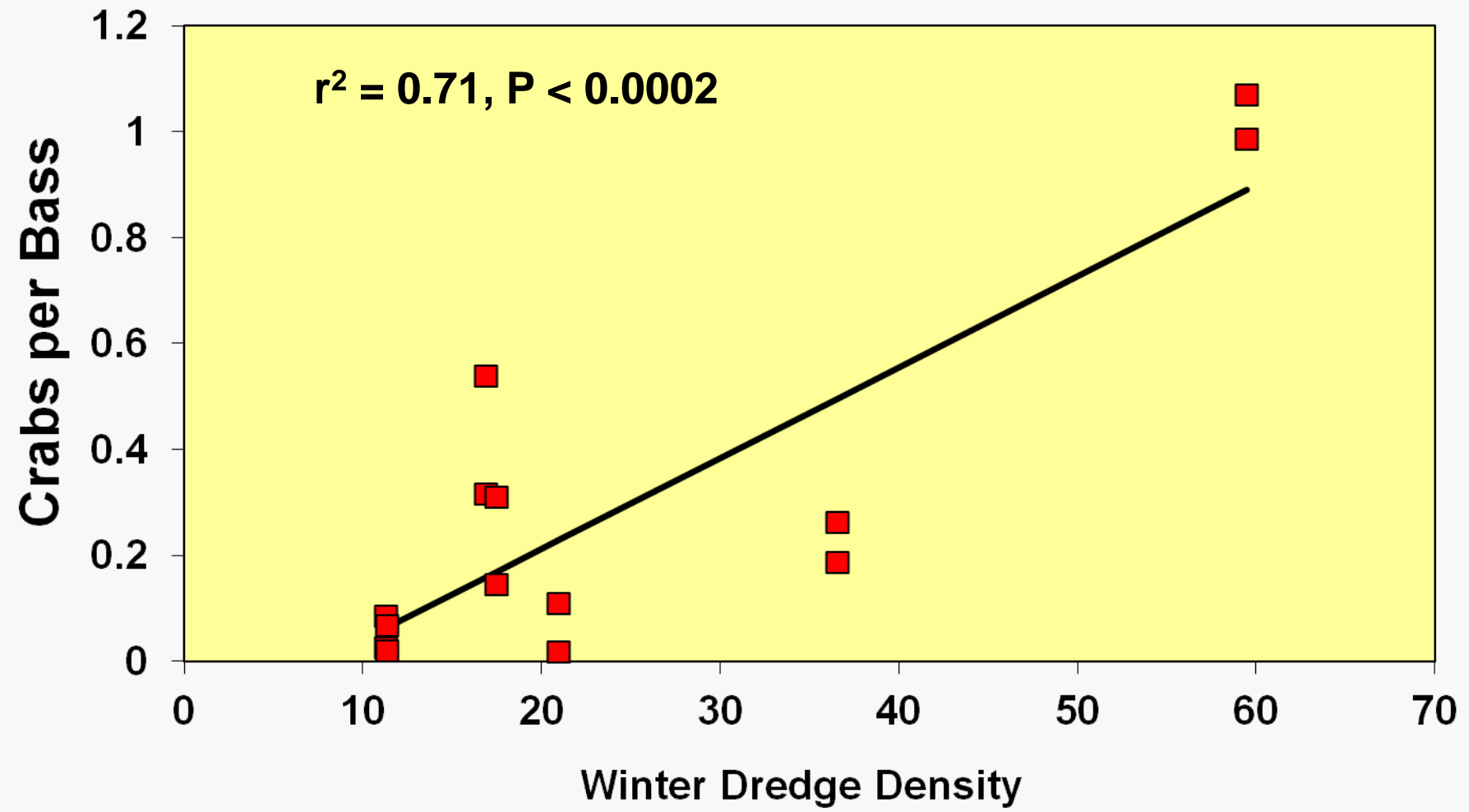
Number of items consumed per 457-800 mm Striped Bass during October-November



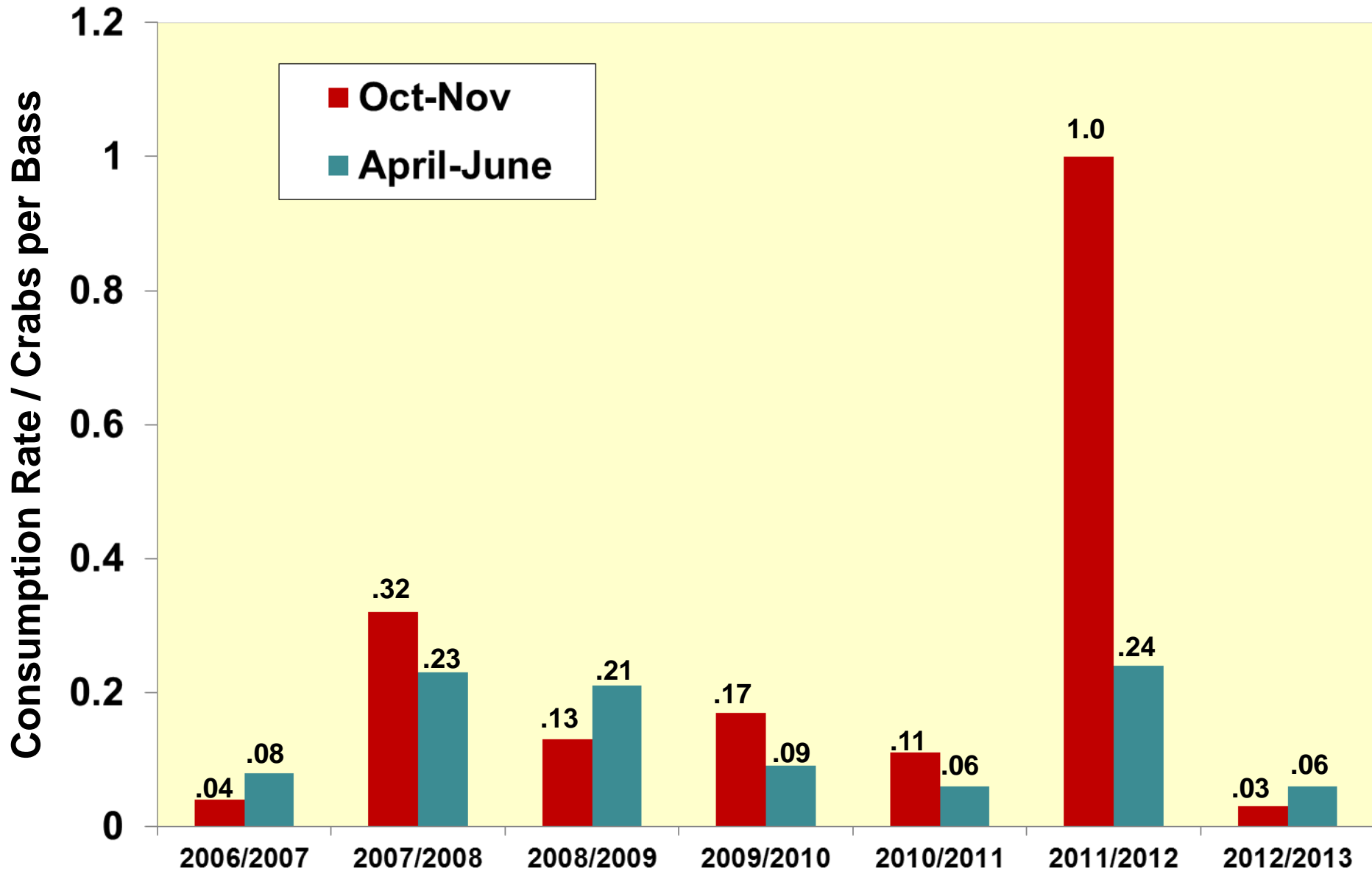
Calories provided for 457-800 mm Striped Bass during October-November, by major item



Blue Crabs consumed per Striped Bass during Oct-Nov reflects density of small crabs in upcoming Winter Dredge Survey. Nearly all crabs are < 50 mm.



Number of Blue Crabs eaten per Striped Bass, Fall - Spring



Estimating consumption of Blue Crab in Oct-Nov

ASMFC SCAM Striped Bass Number @ age

Residence schedule: ASMFC Harvest Control Model

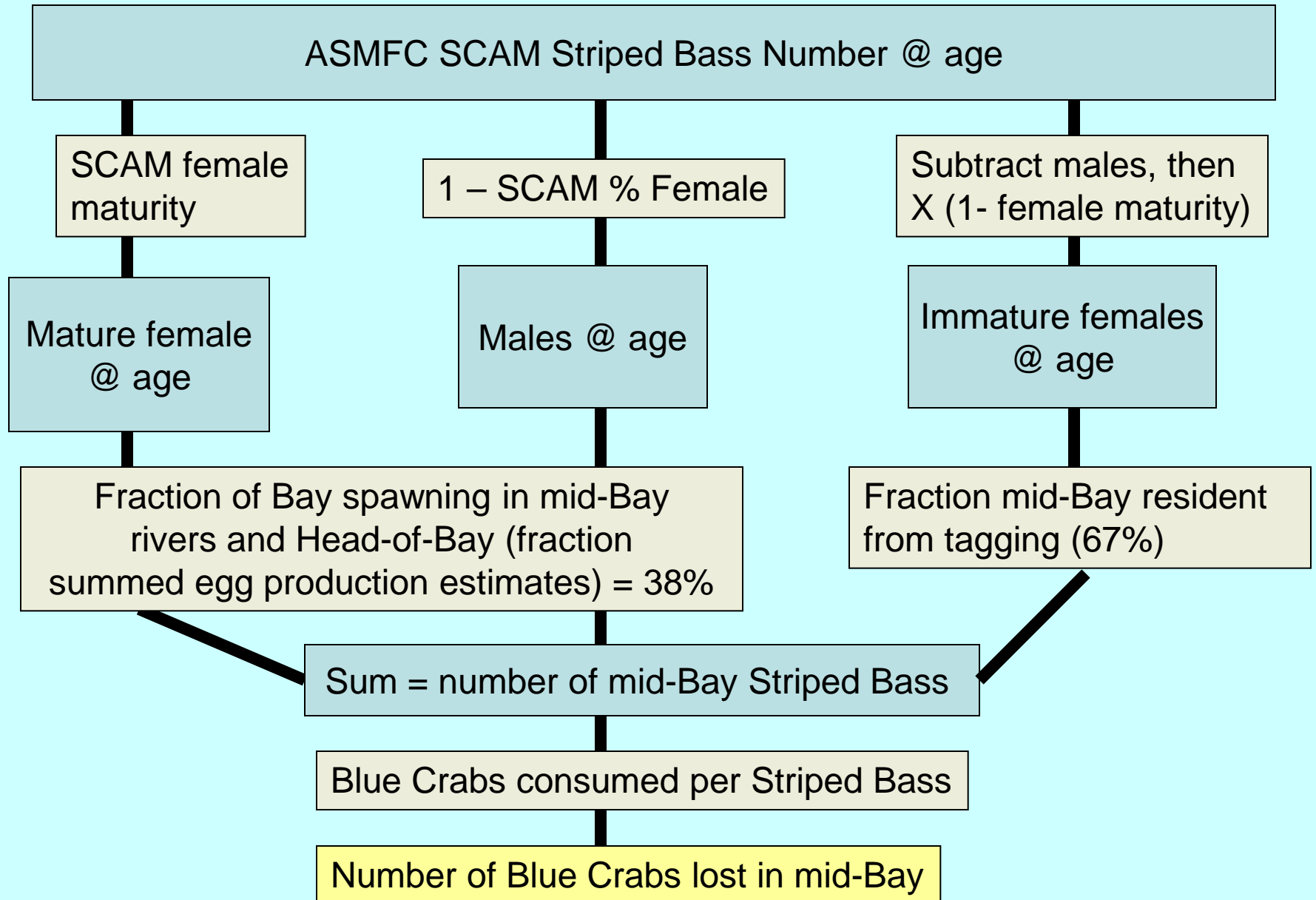
Fraction mid-Bay: 1957-1960 & 1987-2007 tag returns within Bay by NOAA area (MD, Potomac, & VA) = 67%

Mid-Bay Striped Bass Number @ age (age <4 ~ 300-456 mm & age 4+ ~ 457-800mm)

Blue Crab consumed per bass size group

Blue Crab loss in mid-Bay

Estimating Blue Crab consumption in April-June



Conclusions

- **It's good to have diet data**
- **Blue Crabs do not supply much nutrition, but can be numerous in Striped Bass diet**
- **Based on study results, low consumption rates in spring indicate that high mortality on 2011 year class of juvenile blue crabs occurred over winter**
- **During some years, striped bass predation can be high and therefore exerts significant mortality on the blue crab population in the Chesapeake Bay**