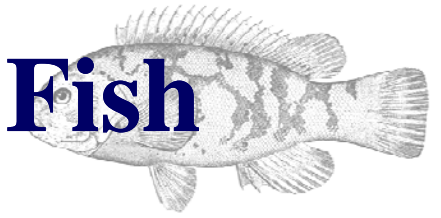
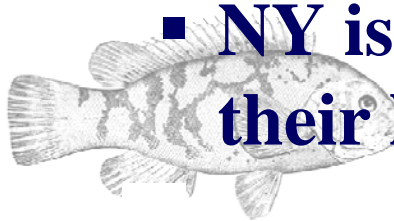


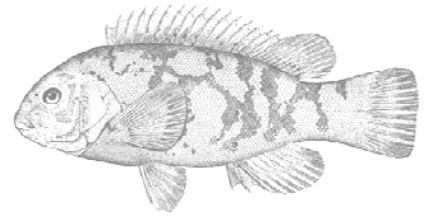


NY Commercial Food Fish Landing License

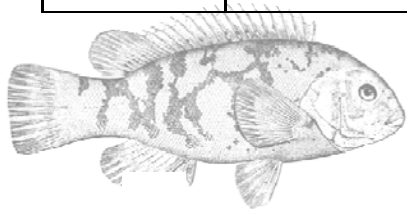


- **Allows any person to land and sell fish for commercial purposes in NY legally taken outside of state waters, including the EEZ**
- **This license does not allow holders to take fish or to land fish taken within State waters.**
- **Opportunity for non commercial licensed fishermen to take, land and sell commercial quantities of fish**
 - **NY is in the process of developing a solution to their license loophole**



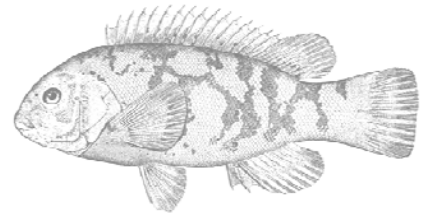


YEAR	TOTAL # OF LICENSES	CORPORATE	NY RESIDENT	NON-RESIDENT
2008	36	8	23	13
2009	36	10	20	16
2010	48	10	31	17
2011	53	13	39	14
2012*	96	17	77	19

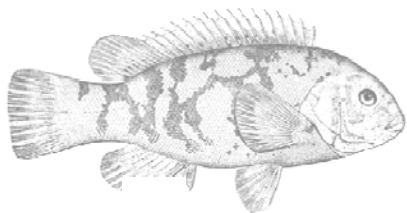




Issue

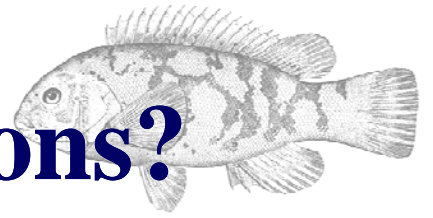


- **Concern about commercial landings of tautog harvested from federal waters.**
- **Suspicion that increased commercial effort is leading to an increase in F in NY**
- **Do other states have possible loopholes?**

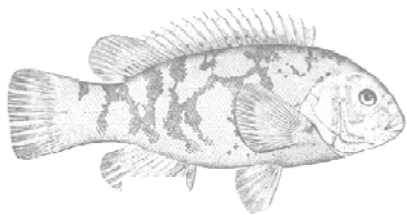




Federal Water Regulations?



- **There is no federal fishery management plan for tautog, nor are there any rules or restrictions for federal waters**
- **Would Federal regulations help close loopholes?**

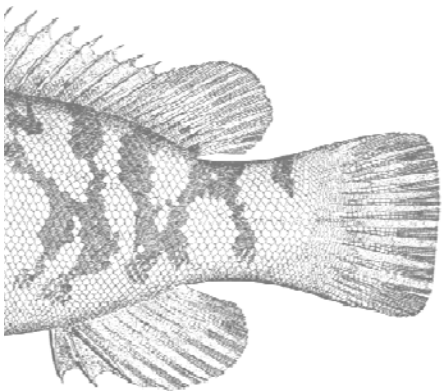




*Working towards healthy, self-sustaining populations
for all Atlantic coast fish species or successful
restoration well in progress by 2015*

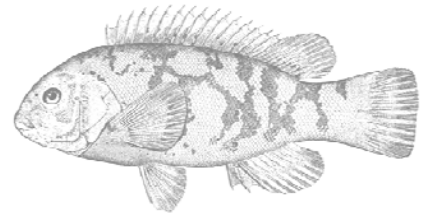
Tautog Ageing Exchange and Workshop

May 2012

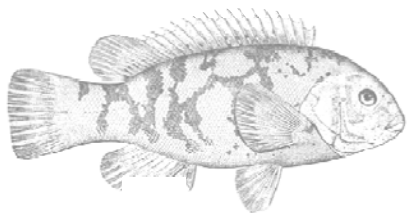




Outline

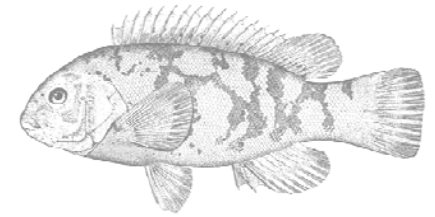


- **Tautog Ageing Background**
- **Workshop Goals**
- **Results and Conclusions**
- **Future Work**

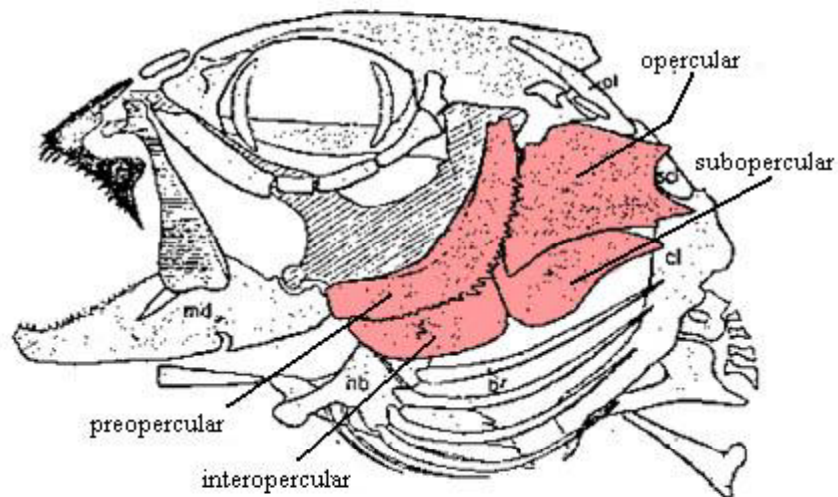




Tautog Ageing



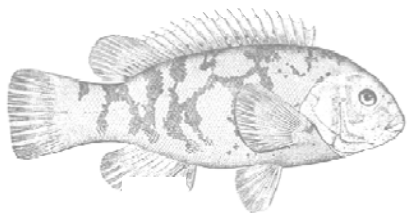
- Tautog have traditionally been aged with opercular bones



Generalized teleost showing Standard Condition of the opercular series

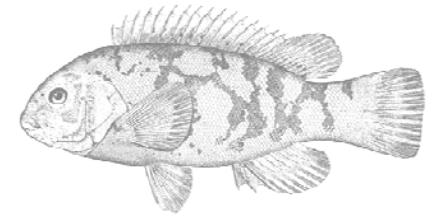


Image: <http://palaeos.com>





Tautog Ageing



- In 2001, Old Dominion University modified their ageing technique for tautog
- Used paired otolith and opercular samples to “train” readings of opercula

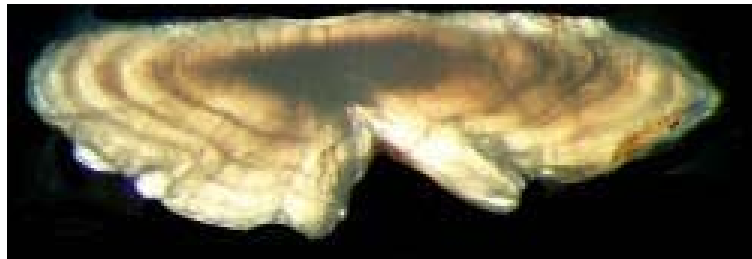
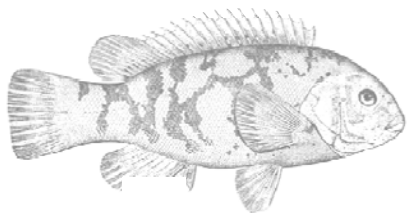
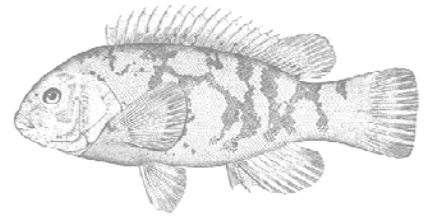


Image: ODU CQFE





Tautog Ageing

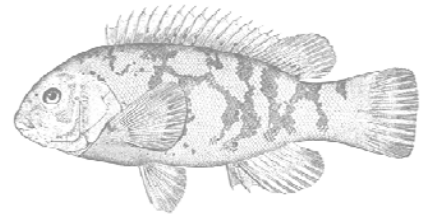


- **TC had concerns about VA's small size-at-age**
- **Could not resolve issue of geographic differences vs. ageing method differences**
- **VA's 2001- 2003 samples were excluded from 2005 Benchmark Assessment**
- **An ageing exchange and workshop was organized to resolve differences prior to next benchmark**

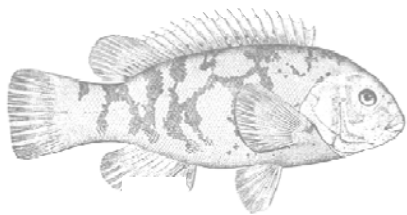




Ageing Exchange

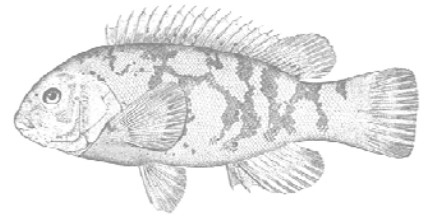


- **9 labs from 8 states participated:**
 - **ODU, VIMS, MD, DE, NJ, NY, CT, RI, & MA**
- **10-12 matched pairs of tautog otoliths and opercula from each state**
- **Each state aged samples using their protocols**
- **Consistency between states and between otolith and opeculum ages was examined**

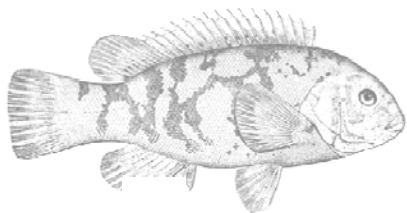




Ageing Workshop

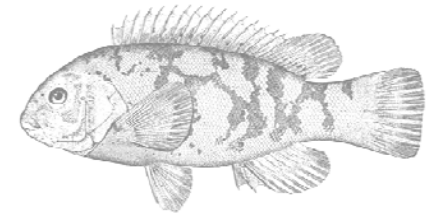


- **In-person workshop after exchange**
- **Goals:**
 - **Review exchange results**
 - **Recommend best practices for tautog ageing**

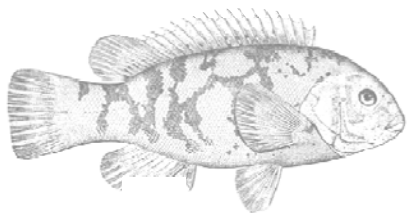
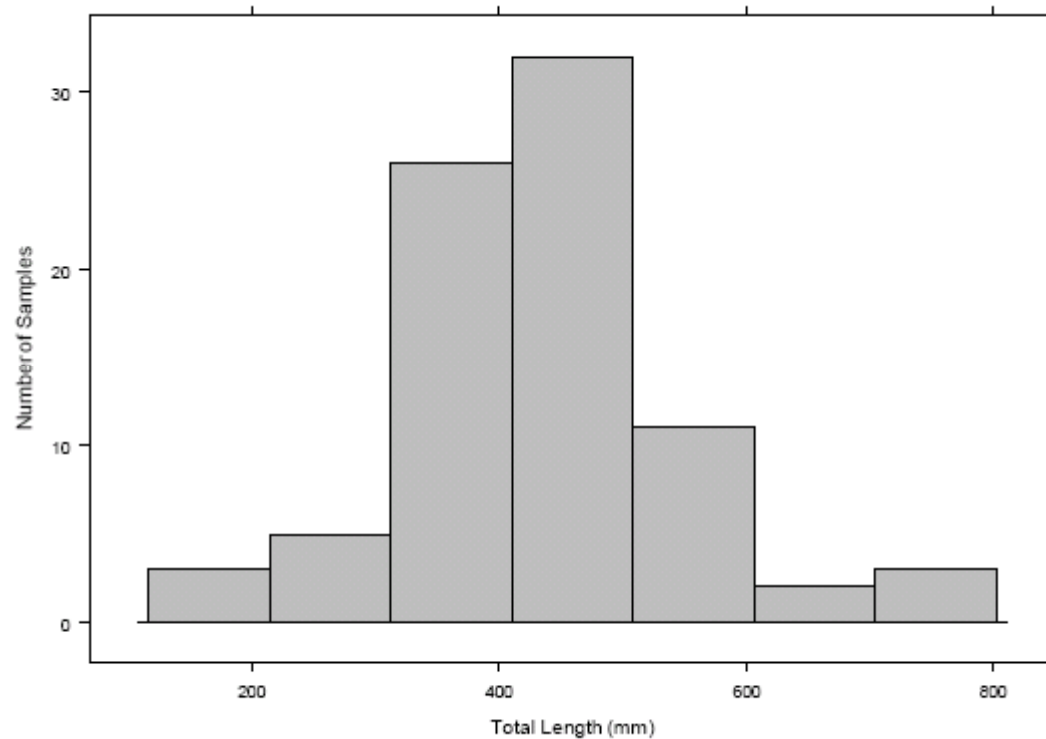




Exchange Results

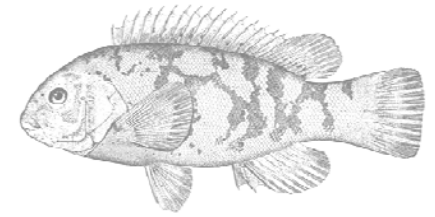


- **154 tautog samples (82 opercula, 72 otoliths)**
- **5.5 inches – 30.5 inches**
- **Most 12 – 24 inches**

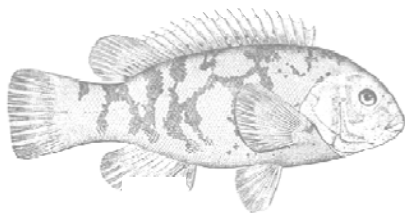
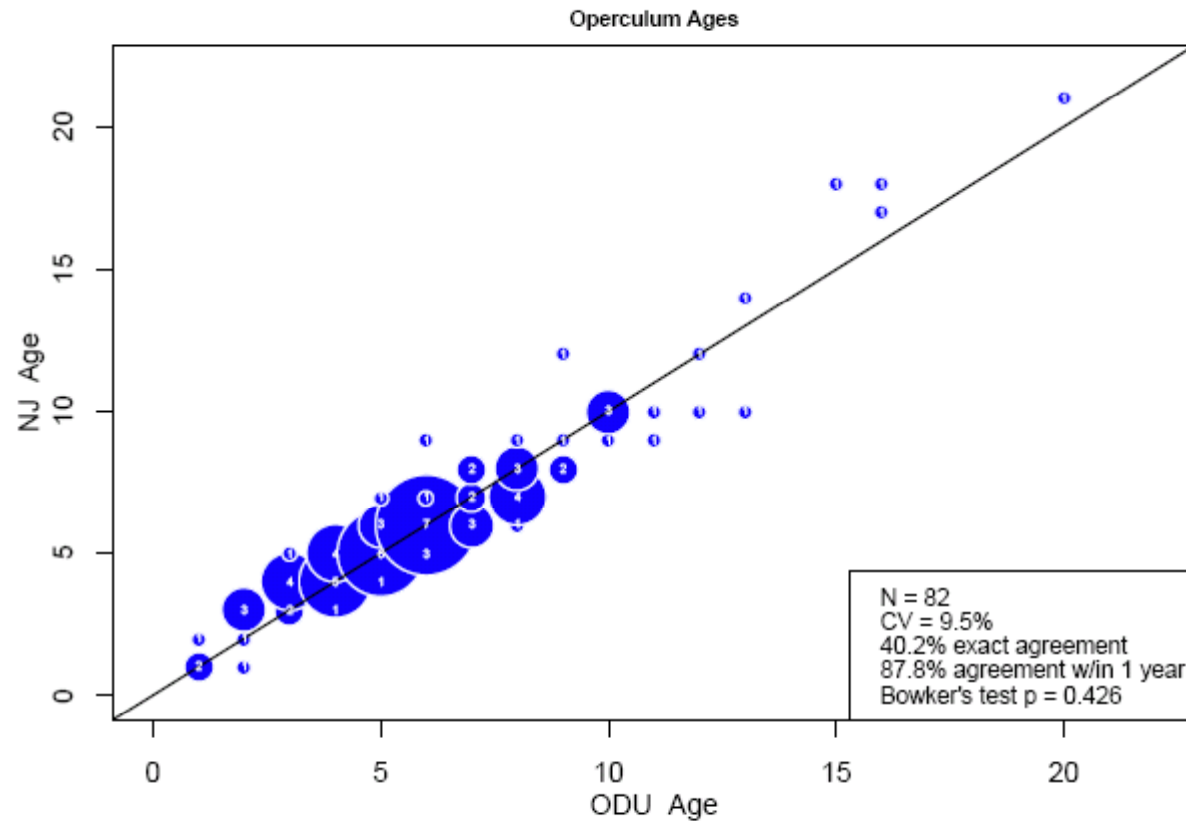




Exchange Results

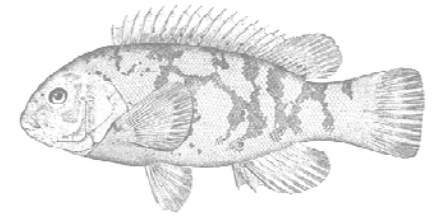


➤ **ODU was not significantly biased compared to most states**

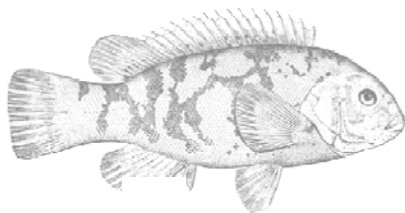




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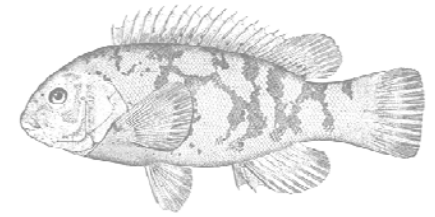


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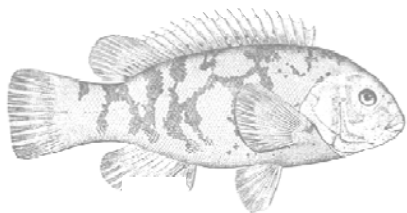
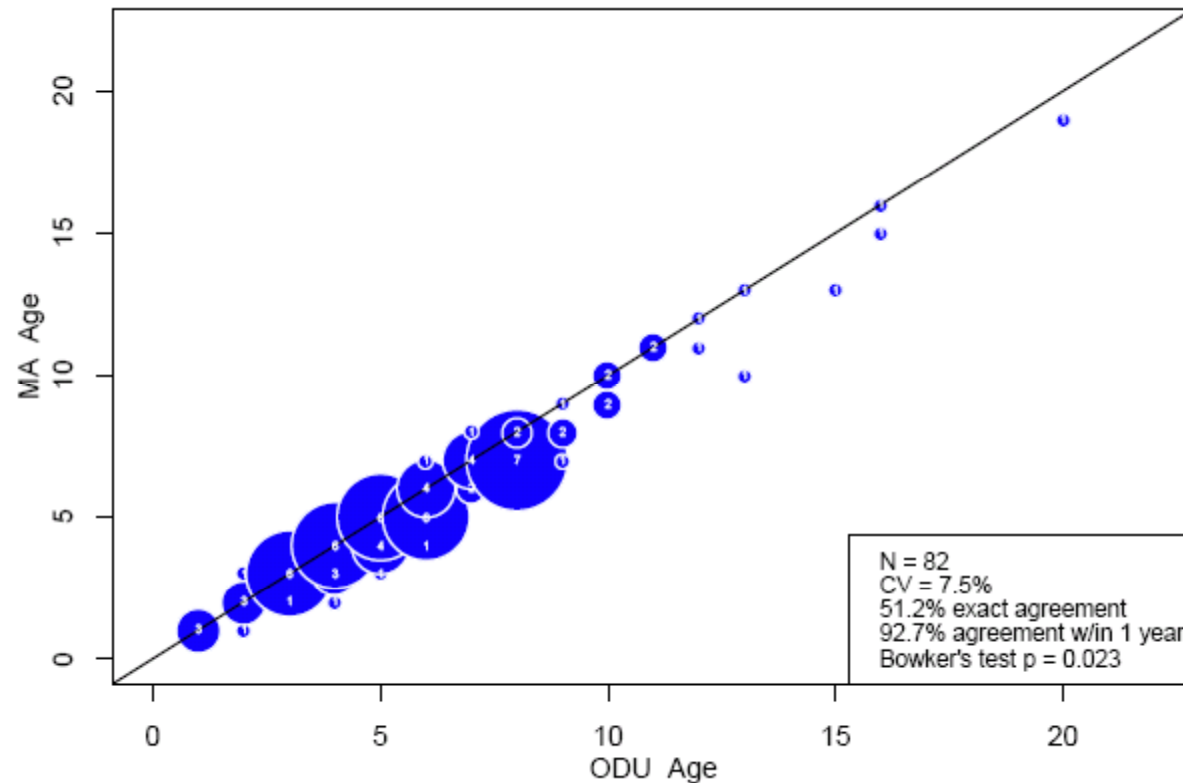




Exchange Results

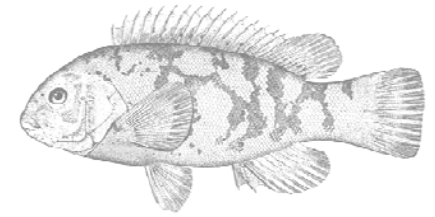


- MA aged tautog younger than most other states
- Missing the 1st annulus in some samples





Exchange Results



➤ **Operculum ages and otolith ages agreed over the range of ages examined**

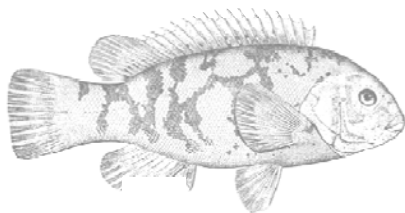
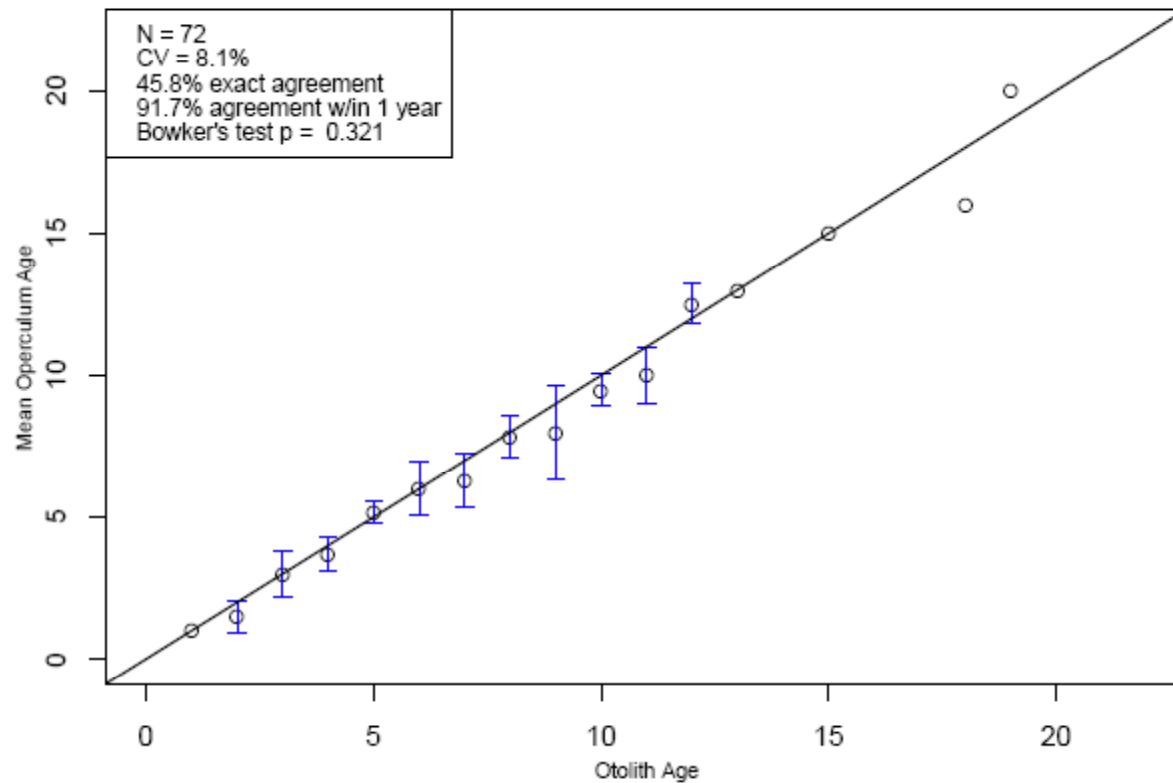
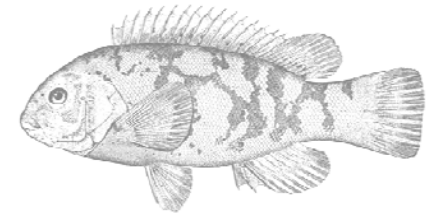


Figure 2: Mean operculum age vs. otolith age for ODU. Error bars = standard deviation.



Exchange Results



➤ **Operculum ages and otolith ages agreed over the range of ages examined**

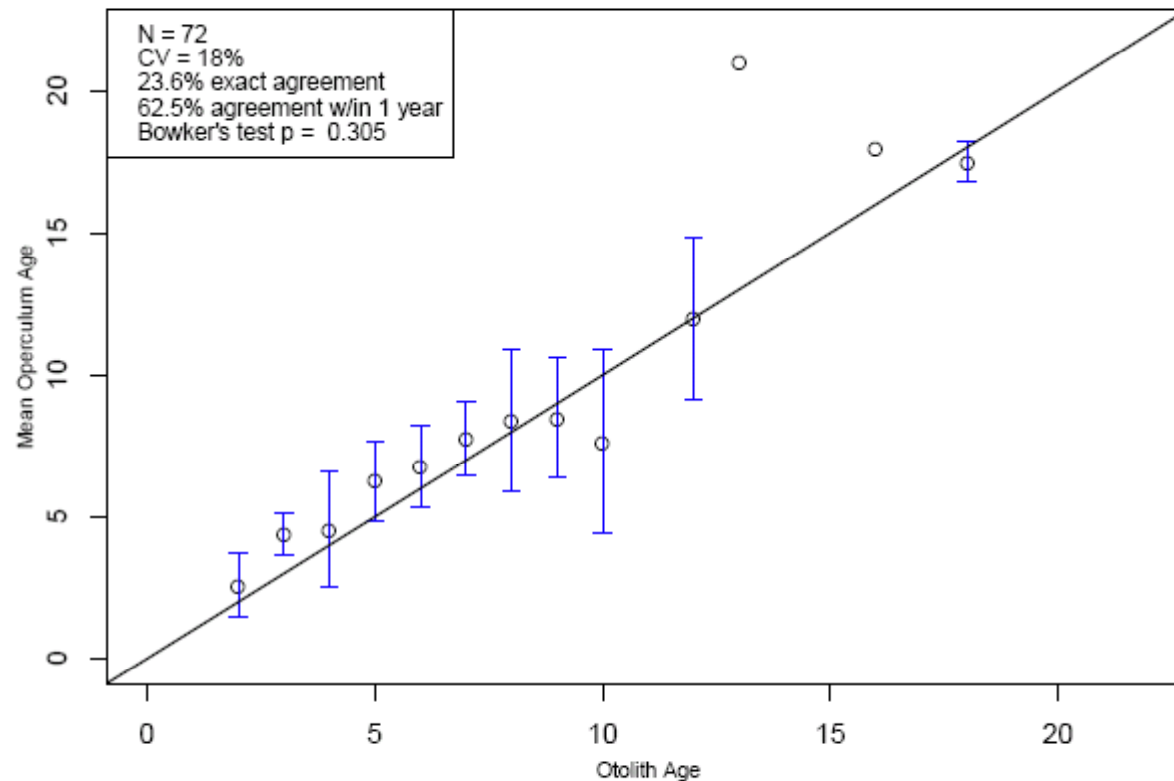
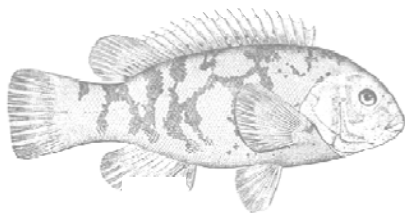
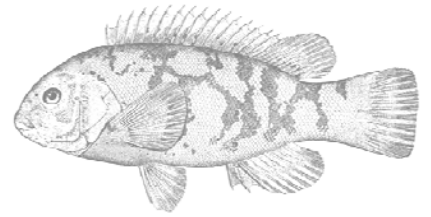


Figure 5: Mean operculum age vs. otolith age for NJ. Error bars = standard deviation.



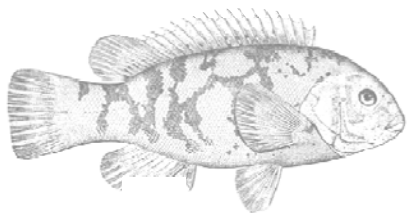


Exchange Results



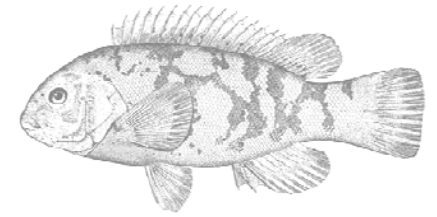
➤ Overall precision

- Operculum ages: 13.2% CV
- Otolith ages: 13.6% CV

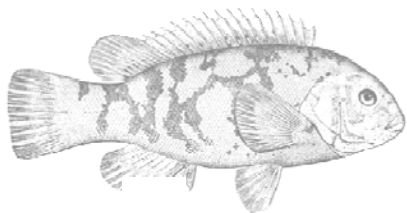




Conclusions

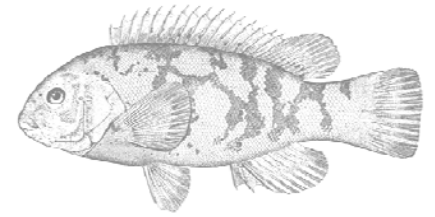


- **VA's ages should be included in the next assessment**
- **Operculum collection should remain the standard for biological sampling of the tautog catch, but paired sub-samples of otoliths should be added.**

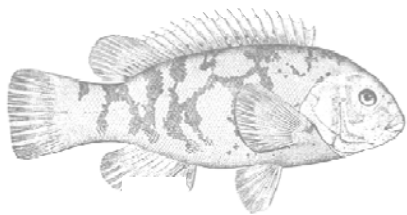




Future Work



- **Spot-check historical samples**
 - **ASMFC staff will coordinate with states after the fall field season**
- **Assemble regional reference collections of paired operculum and otolith samples**
- **Conduct exchanges in the future to ensure consistency across regions**

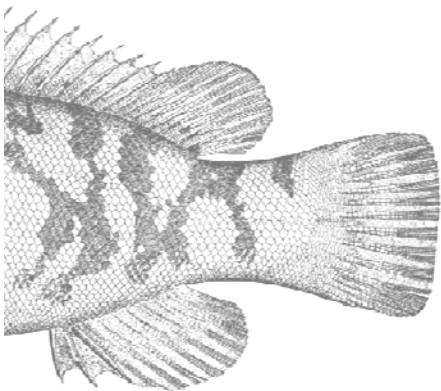




*Working towards healthy, self-sustaining populations
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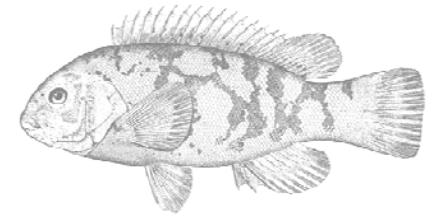
Tautog Assessment Scoping Workshop

September 19 – 20, 2012

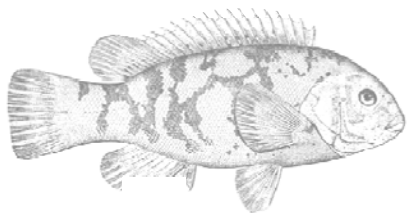




Workshop Summary

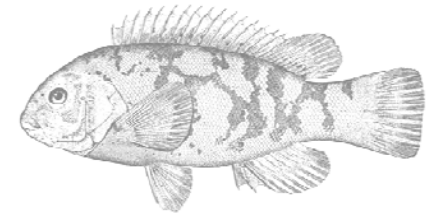


- **Workshop Motivation and Goals**
- **2005 Peer Review Recommendations**
- **Review of potential new models to use**
- **TC/SASC Recommendations for next benchmark assessment**





Motivation and Goals

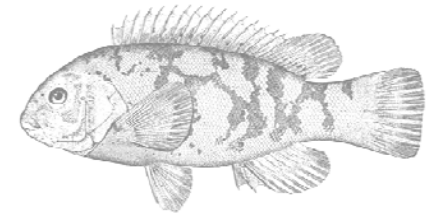


- **Given a lack of confidence in the continued use of a coast wide approach and use of the VPA model for tautog assessments - develop recommendations to move forward.**
- **Draft recommendations for the Board for a new benchmark assessment timeline and possible ways to address previous assessment shortcomings.**



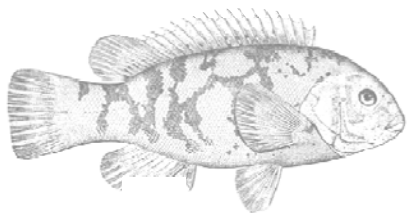


2005 Peer Review



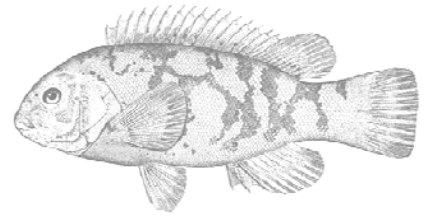
➤ Data Concerns/Issues

- Lack of commercial catch and biological samples
- Limited recreational length sampling, especially in early years and late years of the time series
- Trawl surveys may not be appropriate for tautog
- No fisheries independent indices south of NJ
- Discard mortality rate assumptions
- Geographic differences in growth and maturity



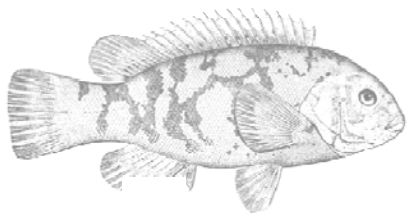


2005 Peer Review



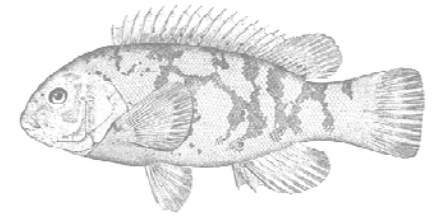
➤ Model Concerns/Issues

- Coastwide model may not be best approach for a population with sub-stock structure
- VPA assumes catch is known without error

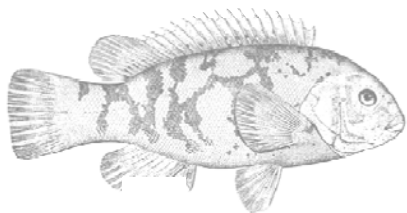




Potential New or Improved Data

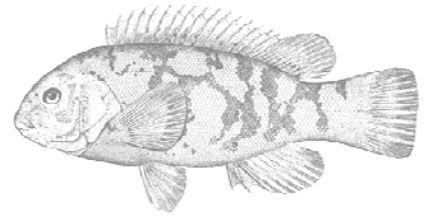


- **State angler based data programs to supplement MRIP length frequency data**
- **Standardize indices with GLMs to account for seasonal and environmental factors**
- **Explore MRIP CPUE as an index**
- **Explore NEFSC trawl survey, URI GSO trawl survey, state juvenile seine surveys, and other data sources as indices**

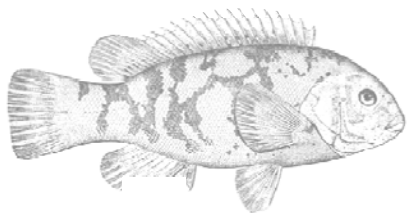




New Model Types

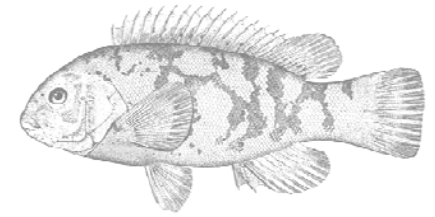


- **Statistical Catch-at-Age**
- **Data Poor Models**

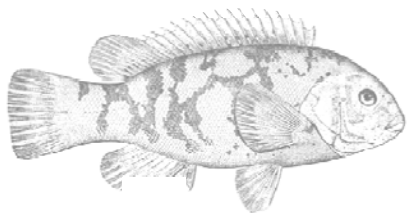




SCAA Model

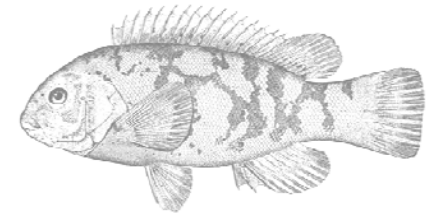


- **Addresses many of the concerns with the VPA model structure, including the assumption that catch is known without error**
- **Still a data-intensive model**





3 Data Poor Models



- **Data Corrected Average Catch, Depletion Based Stock Reduction Assessment, Martell and Froese's Simple Method (2012)**
- **Used for setting OFLs on the west coast for data-poor species (e.g., rockfish species)**
- **DBSRA used in recent eel and river herring assessments**
- **Require time-series of catch and expert knowledge about stock dynamics**





TC/SASC Recommendations

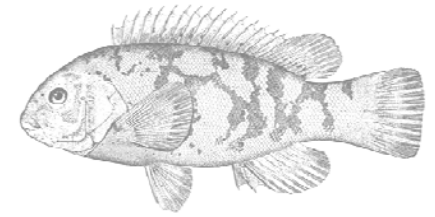


- **Data-poor models could potentially make a regional assessment approach more feasible**
- **Multiple models should be considered for the assessment**
- **Regional splits should be based on examination of available tagging, genetic, and life history data**
- **Some regions may support more sophisticated models than others, which will affect management options**





Proposed Timeline



- **Winter 2012: planning call for Data Workshop**
- **Spring 2013: Data Workshop**
- **Fall 2013 : Data/Modeling Workshop or Webinar if necessary**
- **Winter 2013: Assessment Workshop**
- **Summer 2014: Peer Review**

