2016-2020 Yellow Eel Landings

American Eel Board

May 4, 2021

Background

- Addendum V (2018)
  - Coastwide Cap= 916,473 pounds
  - If exceeded by 10% for 2 years Board must take action
  - Proactive monitoring
    - Annual Review of Yellow Eel Landings at Spring Meeting
    - If Landings exceed Cap by 5% in 1 year, voluntary action by states harvesting 1% of the coastwide total
  - Advisory Panel met April 26th
    - Participation was low
    - Mari-Beth will present Report
    - Board should consider their current American Eel AP representation

Yellow Eel Landings

Year	2016	2017	2018	2019	2020
Maine	6,811	6,358	2,832	2,567	*C*
New Hampshire	Time series average of less than 400				
Massachusetts	1,705	592	375	1,577	NA
Rhode Island	2,651	2,968	3,988	4,056	1,425
Connecticut	2,445	905	3,268	5,275	2,783
New York	36,371	41,732	39,218	33,039	9,865
New Jersey	67,422	77,499	69,679	76,241	23,340
Delaware	44,558	29,945	31,378	13,628	1,942
Maryland	583,578	541,270	514,226	331,878	134,024
Potomac River Fisheries Commission	58,223	33,555	31,151	27,111	24,971
Virginia	96,336	97,328	57,281	34,247	21,916
North Carolina	39,911	24,752	18,058	8,140	3,291
South Carolina	Time series average of less than 400				
Georgia	Time series average of less than 400				
Florida	6,034	7,456	4,659	1,542	499
Total	946,110	864,360	776,131	539,301	225,122

Questions?

Advisory Panel Report on American Eel Fisheries, Recent Landings, and Market Demand

Presented to the American Eel Board on May 4, 2021

Background

The AP met virtually on April 26, 2021, to review yellow eel landings and provide information on the recent trends in the fishery.

Only two participants on AP call:

- Mari-Beth DeLucia (TNC:PA/DE)
- Mitch Feigenbaum (PA)

Lawrence Voss (DE) and Jimmy Trossbach (MD) provided comments by phone.

Additional comments provided by watermen in Maryland who are not on the Advisory Panel.

Observed changes in availability of eels since 2016

- Current landings based on market conditions not changes to eel population.
- No real change in catch or catch per unit effort. May have increased but that is largely due to there being less people fishing for eels.
- Availability of yellow eels has increased. In 2021, fishing less gear and catching more eels. Animals appear abundant. One watermen reporting an average catch per pot of 2-3 pounds. Another reported 3-5 pounds. Both are higher than past years.

Primary Markets for Yellow Eels

- International Market:
  - European grocery stores and restaurants (Frozen)
- Domestic Market:
  - Bait Market to Wholesalers for recreational fishery
    - Stiped Bass, Blue Catfish and Cobia
  - Limited Asian markets and restaurants

Factors influencing Recent Catch

Both the European food market demand and U.S. domestic bait market demand has decreased.

- Increase in European aquaculture
- Decrease in demand for eels in Europe, e.g. Aldi
- Covid-19
- Markets have been shrinking over past decade.
- Decrease of individuals still active in the fishery.
- Farm raised eels from Asia have taken over the restaurant markets in the US.

Future fishery performance

Lots of uncertainty but may see a small increase from 2020 landings due to increase in bait landings.

- Little or no change in European markets due to on-going Covid-19 concerns/restrictions.
- Some optimism for European markets in future as there is still demand for wild caught eels.

Questions?

Progress Update on 2022 American Eel Benchmark Stock Assessment

May 4th, 2021

Timeline

Year	Month	Task
2020	December	Data Workshop
2021	January-April	Index, Model Development
	June	Assessment Workshop I
	July-September	Continued Model Development
	Fall/Winter	Assessment Workshop II
2022	January-Summer	Finalize Analyses, Write Report
	Summer	TC Review of Assessment
	Late Summer/Early Fall	Peer Review
	September-October	Post-Review Work
	Annual Meeting	Board Meeting

Data

- Abundance Indices
  - 25 YOY
  - 10 Elver
  - 16 Yellow Eel
  - Additional data sources from 2012 assessment
- Landings
  - Validated 1998-2020
  - Historic landings from 1950
  - Recreational estimates
- Life History Information

Assessment Development

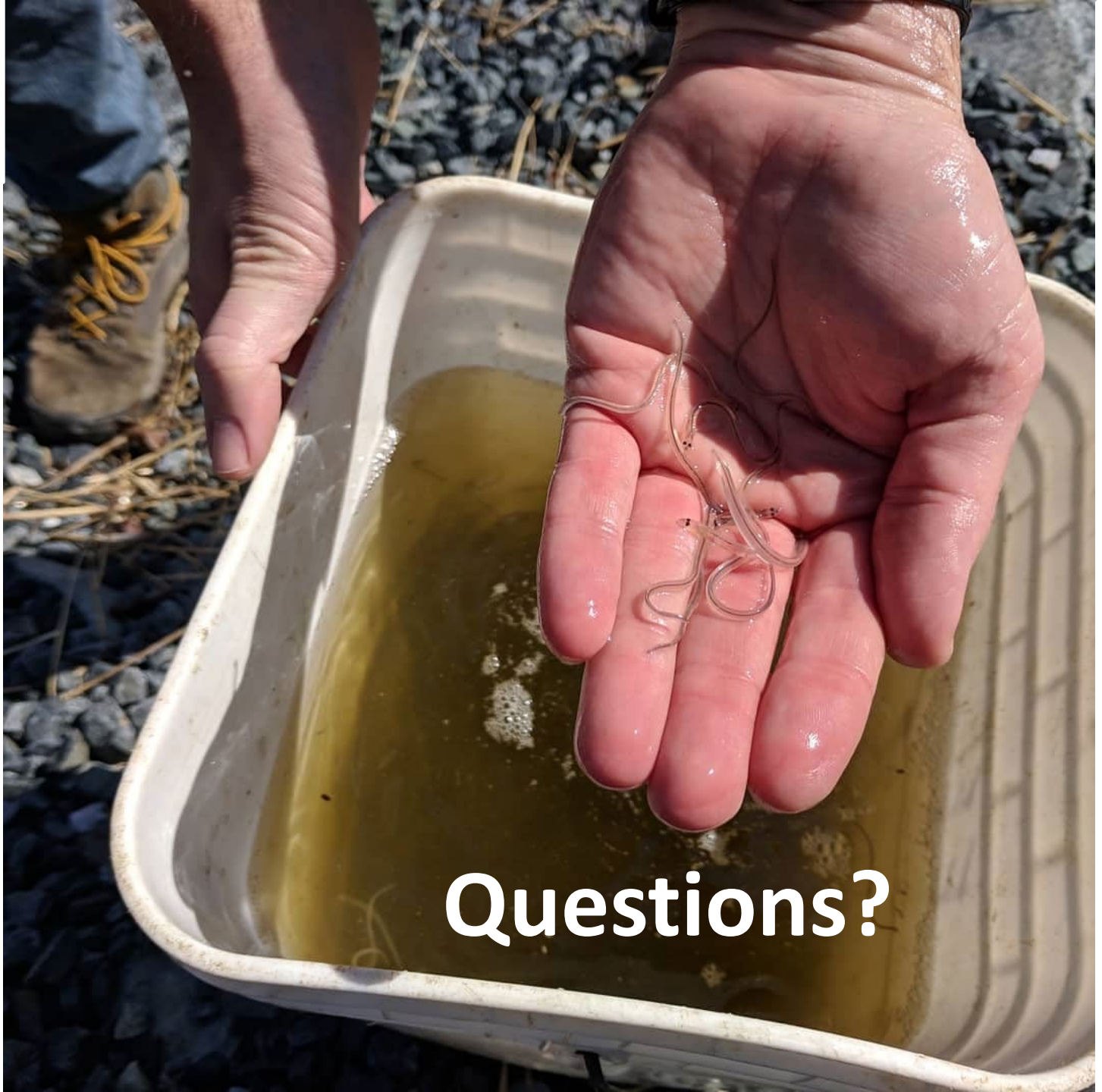
Methods Explored	Status
YOY Survey Analysis	
LIME (length-based integrated mixed effects)	
Production Model	
Production Model, Time-Varying *r (K)*	
Power Analysis	
Egg Per Recruit	
AIM (An Index Method)	
DLM Toolkit → Delay-Difference Model	
USGS Habitat Analysis	
Various Trend Analyses	

Challenges

- More data since 2012, but not new types of data
- Many models not appropriate for eel
  - DB-SRA criticisms
    - Underlying production function may not be appropriate
    - No consideration of stock dynamics in marine stage (only FW, estuarine) or full range of eel
    - Assume negligible error in catch data
    - Uncertainty in input parameters (e.g., $B_{current}/K$, average age of maturity)
    - Uncertainty in the magnitude of resulting biomass and fishing mortality estimates
- Trend analyses

Next Steps

- Continue model exploration
- Consult ASC (May 13th) for advice
- SAS call late May to discuss best path forward
- Update Board at Annual Meeting 2021


Questions?

2022 Benchmark SAS

- Sheila Eyler (USFWS), Chair
- Matt Cieri (ME)
- Jason Boucher (NOAA)
- Troy Tuckey (VIMS)
- Laura Lee (NC)
- John Sweka (USFWS)
- Keith Whiteford (MD)
- Kristen Anstead (ASMFC)
- Kirby Rootes-Murdy (ASMFC)