



North Carolina Aquaculture Plan for 2018



American Eel Management Board
August 2nd, 2017



Outline

- Background
- NC Aquaculture Plan: 2017 season results
- NC Proposed Aquaculture Plan for 2018 and beyond
 - Highlight changes from 2017 plan
- Questions

Background



- NC Aquaculture Plans for American Eel Farm (AEF) submitted in 2015 and 2016
 - Both were reviewed by the TC, with recommended changes
 - Both were approved by the Board
- NC submitted a new plan for 2018 and beyond on June 1st
- July 2017 TC Call: 2017 results & proposed plan presented
- NC submitted revised plan on July 25
 - Modified based on TC recommendations
 - LEC discussed revised plan same day

2017 Season Results



- 12 of 17 weeks fyke nets were deployed
- Fyke nets were fished 44 out of 85 available days (no fishing on Saturday and Sundays)
- Majority of fishing effort was in White Oak River

- **775 glass eels (.25 lbs) were harvested**
- 51 glass eels were released alive
- 23 elvers were captured and released
- 199.74 lbs of unused glass eel quota remained

2017 Season Results



- Violations

- 3 Citations issued by N.C. Marine Patrol

- Jan 2017: using stationary net to block more than 2/3 of a waterway (rule violation)
 - (Twice) Mar & Apr 2017: violated conditions of aquaculture plan for not fishing gear within approved timeframe (2 hrs after sunrise w/o rigid device to keep net open)

- Citations by N.C. Wildlife Resources Commission

- (3)Mar 2017:
 - Operating motor vessel w/o proper navigation lights (rule violation)
 - Operating motor vessel w/ invalid registration number
 - Charged w/ taking eels by method other than hook & line from inland waters of N.C. (rule & permit violation)

Proposed Changes for 2018 & beyond



Revised Plan based on TC recommendations

Section Heading	2016 Plan	2017 Plan	Modification
Dates of Harvest	Jan 1-Apr 30	Jan 1-May 30	Extent season by 1 month
Duration of Plan	1 year period	2 year period	Extend from 1 to 2 years
Method of harvest	Fyke & dip nets	Fyke, dip nets, and irish eel ladder	Added Irish eel ladder
Location of Harvest	11 primary sites & 3 alternative sites. **All Creeks and Rivers**	4 site areas: -Albemarle Sound -Pamlico Sound -Newport River -North River	Replaced Creeks & Rivers with Sounds and associated tributaries
Monitoring Program	1 harvester; 2 mates	3 harvesters; 2 mates each	Increased number of harvesters and mates X 3

Proposed Changes Cont'd



Section Heading	2016 Plan	2017 Plan	Modification
Monitoring Program	15 pieces of equipment	30 pieces of equipment	Increase in gear X 2
Time of year harvest specifications	Jan 1- Feb 28	Jan 1-May 30	Extend period by 3 months
Harvest specification	Fyke nets fished once every 24 hrs	No requirement	Requirement removed
	Mar 1-Apr 30 fyke & dip nets may only be fished & cod ends closed from 2 hrs before sunset to 2 hrs after sunrise		Requirement removed: no longer require removing nets from water over weekend during this period
	Tamper evident tags used to secure the cod ends with gear at all times		Requirement removed

Proposed Changes Cont'd (2)



Section Heading	2016 Plan	2017 Plan	Modification
<u>Before Harvest</u>	GPS coordinates of each net once set		Information now reported after harvest, once nets removed and/or moved
	Daily reporting of individuals involved	Beginning of the season	Only reported one time at the beginning of season
	Info on number of boats & registration; number of vehicles and license plates		
<u>During Harvest</u>	Record weight of elvers captured by each piece of equipment	No requirement	Requirement removed
	Collected CPUE data	No change*	*Initially removed, but added back in in revised plan

Proposed Changes Cont'd (3)



Section Heading	2016 Plan	2017 Plan	Modification
<u>After Harvest</u>	Require call-in to NCDMF of total harvest prior to leaving last harvest site & report est. time of arrival	No requirement	Requirement removed
	Once all gear fished, must travel to designated landing site		
	Once at designated landing site, all eels must be offloaded & transported directly to AEF facility		
	Require AEF to report to NCDMF by noon total harvest for previous day	Require AEF to report to NCDMF by 5pm	5 hours later for reporting next day



Questions ?



ASMFC American Eel TC Report



American Eel Management Board
August 2nd, 2017

Introduction



- American Eel TC met via conference call on July 6th
- Received an update on Nematode Research
- NC DMF Staff presented the 'initial' NC Aquaculture plan for 2018-2020
- Progress report on the Stock Assessment Update
- American Eel Ageing Project
- Preliminary 2016 yellow eel landings
- NC Senate Bill 410

Introduction



- American Eel TC met via conference call on July 6th
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'Initial' NC Aquaculture Plan



- Third year of reviewing NC Aquaculture proposals
 - Initial year was approved too late to be applied
 - Second year proceeded under initial plan/proposal approved
- Concerns with this year's proposal:
 - Removal of some monitoring requirements (see Table)
 - Statements in the proposal on 'minimal contribution', especially without dedicated YOY survey
 - Expansion of the fishing area from 11 small creeks to larger estuaries may effect adult eel recruitment
 - Additional gear types (irish eel ramp) not conducive to harvest in coastal waters
 - **TC did not support the 'initial' plan**

TC recommendations



- Aquaculture plan should be for 1 year (2018)
 - If successful & compliant in '18, potentially allow for 2 years
- Remove language on abundance statement
 - TC found it misleading
- Require net ID numbers and reporting of gear specifications
- Require that fyke nets be fished at least once every 24 hours
 - Alleviate potential unwanted mortality and bycatch
 - Inclement weather could make this req. difficult
- Require CPUE data collection*
- TC recognizes that 200 lbs was granted and the expansion of area and gear types, within reason, may be needed

Update



- Revised Plan was submitted on July 26th
 - CPUE data collection added back in
 - Gear will be marked with unique ID numbers
 - Requested time frame was reduced from 3 years to 2
- TC has not met again to review it fully
 - To date, only 1 response by TC member who was satisfied with the changes



Questions ?

Proposed Changes for 2018 & beyond



- Revised Plan based on TC recommendations
 - Focus on actionable changes

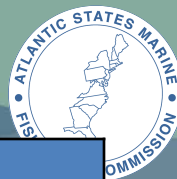
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Proposed Changes Cont'd



Section Heading	2016 Plan	2017 Plan	Modification
Monitoring Program	15 pieces of equipment	30 pieces of equipment	Increase in gear X 2
Time of year harvest specifications*	Jan 1- Feb 28; fyke cod end contain device that does not exceed 6" in length	Jan 1-May 30; device length no longer than 8" in length	Extend period by 3 months & increased length of rigid device by 2"
Harvest specification	Fyke nets fished once every 24 hrs	No requirement	Requirement removed
	Mar 1-Apr 30 fyke & dip nets may only be fished & cod ends closed from 2 hrs before sunset to 2 hrs after sunrise	No requirement	Requirement removed: no longer require removing nets from water over weekend during this period
	Tamper evident tags shall be used to secure the cod ends with gear is fished as well as when gear is not fished	No requirement	Requirement removed

Proposed Changes Cont'd (2)



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Preliminary 2016 Yellow Eel Landings Overage and Coastwide Cap



**American Eel Management Board
August 2nd, 2017**



Outline

- Addendum IV Provisions
- Preliminary 2016 Yellow Eel Landings
- Next Steps
- Questions

Addendum IV (2014)



- Established Coastwide Cap (**907,671 pounds**)
 - Based on average landings from 1998-2010
- Accountability: 2 management triggers
 - The coastwide catch cap is exceeded by more than 10% in a given year (998,438 pounds).
 - The coastwide catch cap is exceeded for 2 consecutive years
- If ‘tripped’, state-by-state quotas implemented
 - New coastwide quota would be **907,669 pounds**
 - **State Quota overage = pound for pound payback**
 - Quota transfers allowed

State/Jurisdiction	Allocation	Quota
Maine	0.47%	3,907
New Hampshire	0.01%	2,000
Massachusetts	0.04%	2,000
Rhode Island	0.16%	4,642
Connecticut	0.19%	2,000
New York	4.26%	15,220
New Jersey	10.19%	94,899
Delaware	6.97%	61,632
Maryland	56.72%	465,968
PRFC	4.67%	52,358
Virginia	9.58%	78,702
North Carolina	4.94%	107,054
South Carolina		2,000
Georgia	0.11%	2,000
Florida	1.69%	13,287
Total	100%	907,669

2016 Preliminary Yellow Eel Landings



New
Hampshire
&
South
Carolina
both had
zero landings

State/Jurisdiction	Landings
Maine	3,316
Massachusetts	1,600
Rhode Island	2,651
Connecticut	61
New York	36,372
New Jersey	67,422
Delaware	44,398
Maryland	583,579
PRFC	58,223
Virginia	82,959
North Carolina	41,678
Georgia	65
Florida	6,034
Total	928,358

Next Steps



- 2016 Landings will be finalized in Fall 2017
- 2017 Preliminary landings will be available by the 2018 ASMFC Spring Meeting (May)
 - If either coastwide cap is exceeded again or landings are more than 10% of the coastwide cap, state by state quotas would be implemented
 - *Determination of whether state by state quotas are to be implemented would be at that time



Questions?

Compare 2015 to 2016	State/Jurisdiction	2015 Landings	2016 Landings	%
	Maine	4,130	3,316	-19.7
	New Hampshire	0	0	-
	Massachusetts	2,502	1,600	-36.1
	Rhode Island	1,538	2,651	72.4
	Connecticut	3,052	61	-98.0
	New York	53,389	36,372	-31.9
	New Jersey	88,828	67,422	-24.1
	Delaware	44,708	44,398	-0.7
	Maryland	493,043	583,579	18.4
	PRFC	31,588	58,223	84.3
	Virginia	78,869	82,959	5.2
	North Carolina	57,791	41,678	-27.9
	South Carolina	*	0	-
	Georgia	*	65	-
	Florida	5,632	6,034	7.1
Total	865,070	928,358	7.3	

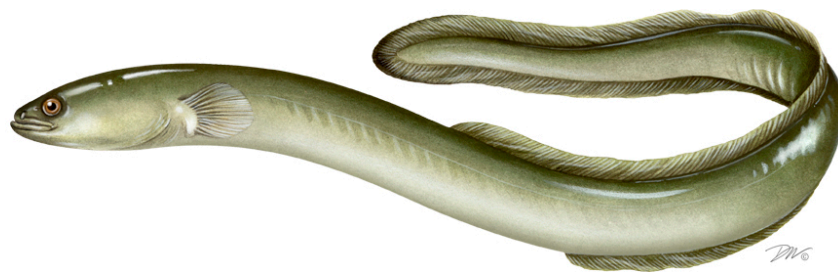
Comparison of 2016 Landings to Quota



State/Jurisdiction	Quota	Landings	% of Quota*
Maine	3,907	3,316	84
Massachusetts	2,000	1,600	80
Rhode Island	4,642	2,651	57
Connecticut	2,000	61	3
New York	15,220	36,372	239
New Jersey	94,899	67,422	71
Delaware	61,632	44,398	72
Maryland	465,968	583,579	125
PRFC	52,358	58,223	111
Virginia	78,702	82,959	105
North Carolina	107,054	41,678	38
South Carolina	2,000	65	3
Florida	13,287	6,034	45
Total	907,669	928,358	102



2016 FMP Review



American Eel Management Board
August 2nd, 2017

Outline



- **Status of the Fishery**
 - Commercial
 - Recreational
- **Stock Status**
- **State compliance with FMP**
 - Highlight changes from 2015 plan
- **PRT Recommendations**

Status of the Fishery: Commercial



- State reported landings of yellow/silver eels were 1,052,514 lbs in 2014 and 865,070 lbs in 2015.
 - 18% decrease from 2014 to 2015
 - Maryland, and Virginia account for 66% of harvest
- Landings of glass eels were reported from Maine and South Carolina.
 - 12,515 lbs in 2014
 - 5,442 lbs in 2015

Status of the Fishery: Recreational



- As of 2009, recreational data are no longer provided for American eel in CRs.
- This is a result of the unreliable design of MRIP that focuses on active fishing sites along coastal and estuarine areas and the high associated PSE.

Stock Status: 2012 Stock Assessment



- American eel stock status is depleted.
- Assessment passed External Peer Review, but no reference points for management use
- Given depleted status, Board acted to reduce fishing mortality on all life stages.
- Board completed Addendum III (2014) and Addendum IV (2015).
- Assessment Update will be completed by fall 2017

Fishery Management Plan



Glass Eel Fishery Regulations

- All states must implement YOY survey (2000)
- All states must maintain regulations (2000)
- Max of 25 pigmented eels per one pound of glass eels. Use 1/8" mesh to grade eels (2014)
- Maine self imposes a voluntary quota of 11,479 lbs (2014)
- Maine glass eel quota of 9,688 lbs w. payback (2015)
- Maine implements swipe card monitoring program for daily reporting (2014/2015):
 - Harvester to dealer
 - Dealer to dealer
 - Export from state
- Maine is required to implement life cycle survey (2015)

Fishery Management Plan



Glass Eel Fishery Regulations

PRT Review:

- Harvest of glass eels occurred in Florida in 2013 and 2014
- Board exempted implementation of regulations until Florida demonstrated a fishery exists
- Florida closed the fishery in 2015 through 9" min size limit

Fishery Management Plan



Yellow Eel Fishery Regulations (both Com and Rec)

- Increase in minimum size to 9" (2014)
- ½" x ½" min mesh size for yellow eel pots
- Allowance of 4x4" escape panel of ½" x ½" mesh
- Recreational 25 fish bag limit per day per angler
- Crew and captain allowed 50 fish bag limit per day
- Coastwide harvest cap of 907,671 lbs; the 1998-2010 average harvest (2015)
- State by state allocation triggered if quota exceeded by 10% in one year or by any amount for two years.
- State by state quota requires payback and allows transfers

Fishery Management Plan



Yellow Eel Fishery Regulations (both Com and Rec)

- PRT Review:
- CT implementation of escape panel was completed in October 2015.

Fishery Management Plan



Silver Eel Fishery Regulations

- Seasonal closure from Sept 1 – Dec 31, no take except from baited pots/traps and spears (2015)
- One year exemption for weir fishery in Delaware River and its tributaries in NY (2014)
- NY weir fishery exemption continued, but restricted to 9 permits that may be transferred (2015)

Fishery Management Plan



Silver Eel Fishery Regulations

PRT Review:

- FL does not prohibit pound nets from Sept 1-Dec 31, but no active fishery for past 10-15 years

Fishery Management Plan



Other Management Measures

- Trip level reporting by both harvesters and dealers at least monthly
- Sustainable fishery management plans:
 - Fishing Mortality Plan
 - Transfer Plan quota from yellow to glass
 - Aquaculture Plan: 200 pounds of glass eels if can demonstrate watershed contributes minimally to spawning stock
- All plans must scientifically demonstrate that they will not increase overall fishing mortality

Fishery Management Plan



Other Management Measures

PRT Review:

- New Hampshire and New Jersey do not have dealer reporting, but harvesters report some information on dealers
- Delaware, PRFC, and Florida do not have dealer reporting

De minimis



- FMP stipulates that states may apply for *de minimis* status for each life stage if, for the preceding two years, their average commercial landings constitute less than 1% of the coastwide commercial landings for that life stage.
- New Hampshire, Massachusetts, Pennsylvania, District of Columbia, South Carolina, and Georgia requested *de minimis* status for their yellow eel fisheries.
- All states that applied for *de minimis* status for yellow eels met the 1% landings criteria.
- South Carolina requested *de minimis* status for glass eels, but **did not** meet the 1% landings criteria

PRT Recommendations



- The PRT recommends the Board consider state compliance as mentioned.
 - Highlight notable trends
 - States to provide estimates of harvest going to food vs bait
 - States work with law enforcement agencies to include information on illegal or undocumented fisheries
 - States collect harvest data from those in the personal use category
- The PRT recommends the Board approve the *de minimis* requests from New Hampshire, Massachusetts, Pennsylvania, District of Columbia, South Carolina, and Georgia.