

River Herring Network Annual Meeting October 24, 2013

Update on 2013 River Herring Volunteer Monitoring (John Sheppard, MassDMF)

- Will be sending out memorandum with preliminary summary of count data from 2012 and 2013 (disclaimer – preliminary)
- Summary document by end of the year , please provide comments or feedback to Ben Gahagan (MassDMF, ben.gahagan@state.ma.us)
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Environmental Law Enforcement – River Herring and Eel Regulations (Sergeant Phil Desroches, Massachusetts Environmental Law Enforcement)

- Types of regulated catch: current moratorium on harvest in rivers, tribal catch, cranberry bog kills, at sea catch
- Typical violator is regular guy who doesn't know regs or tries to get away with it
- Not a lot of complaints, but may be due to local management of issue (local police)
- Have to gather all the elements of a crime and prove:
 - “person”
 - “harvest, possess, or sell”
 - Harvest – take or kill
 - Possess
 - simple (holding it)
 - constructive (evidence-based, i.e. alone with a bucket of herring)
 - “waters in jurisdiction of Commonwealth”
- Example of herring kill at cranberry bog
 - Bogs flooded in fall
 - Netting gap around pumphouse attracted juvenile herring
 - Guidelines to avoid take of river herring available through cranberry growers association
- Other EPO's and DMF officials concentrate on commercial harvest, Phil has not worked on this
- Tribal harvest
 - EPO does the most with the tribe in the field
 - Have been asking for more guidance
 - Current policy – have tribal rights, if there is a violation evidence is gathered for presentation to tribal council which then takes responsibility for dealing with the incident and individual
- Eels
 - Can trigger the Lacey Act – federal regulations for trafficking across state boundaries
 - Arrive around new moon on incoming tide
 - Evidence – people out in the middle of the night with headlamps and dip nets, or fyke nets set up in stream
 - \$100s-\$1000s per lb

- EPO look for evidence during daytime
 - Footprints, string
 - Maine plates in April
 - Coolers, sometimes with aerators
 - Cinder blocks in the woods
- Poachers will use lookouts to avoid getting caught
- Roughly a dozen cases in 2013
- Local police are sometimes unsure about the regs and authority
 - Fish and wildlife regs
 - Using local police and Ch.130 § 95 is awkward
- If you see nets, don't touch them (may be evidence, may belong to MassDMF)
- If volunteers see poaching:
 - First, call local police
 - EPO Dispatch: 1-800-632-8075

Monitoring Massachusetts Herring Runs with Video (Ben Gahagan & Mike Bednarski, MassDMF)

- Why count?
 - Determine/monitor run strength/timing/duration
 - Stock assessments
 - Restoration objectives
 - Fishway efficiency
- Counting methods
 - Visual
 - Pros: Widely practicable, low cost, uses volunteers
 - Cons: Unknown accuracy, protocol departures, delay in data
 - Electronic
 - Uses conductivity
 - Single or multiple tube
 - Pros: >95% accuracy when tuned, can handle >50,000 fish/day, real-time
 - Cons: Costly (\$10,000), requires maintenance and power, get non-herring spp.
 - Video
 - Underwater cameras
 - New or rebuilt fishways typically
 - Pros: 100% accurate, can ID all species
 - Cons: video review, requires maintenance and power, time delay
- Case Studies
 - Charles River
 - For river herring run strength/timing/duration and American shad restoration objective
 - Existing 4ft denil fishway, no power
 - Made new system with solar and batteries
 - 350,000 herring passing system
 - Biological sampling – 46% were alewives
 - Bluebacks spawning downstream and upstream of ladder

- Shad using system too
 - Lessons
 - Issues with water clarity on several days
 - Time consuming – check daily, plus 2.5 months of watching video
 - Solar power worked great (just 1 day ran down battery)
- Nemasket River, Middleborough
 - Large run (>500K) with 75,000ac nursery habitat
 - Lots of existing data (MLHC and MassDMF)
 - System did not impede migration of >800,000 herring
 - Video still being reviewed, complements visual counts
- Mill River, Taunton
 - Hopewell Mills Dam removal (one of four on system)
 - Partnership with TNC, MassDER, NOAA
 - Bar racks to guide fish to monitoring channel
 - >13 species
 - 4/1/13 1st herring in ~200 years
 - >800 herring
- Jones River, Kingston
 - Wapping Rd. Dam removal
 - Partner with JRWA
 - 1st herring in 113 years
 - ~142 herring seen
- Stocking low count runs [question]
 - Nothing to be lost by waiting and seeing
 - Batch spawning, strays from other systems
 - Depends on restoration objective
 - Outreach bonus to public to have fish asap

Update on River Herring Management (Brad Chase, MassDMF)

- Status and history
 - Historic low harvest
 - MA ban 2006
 - NOAA Species of Concern 2006
 - ASMFC stock assessment and sustainable fishery plans 2010-2012
 - ESA Petition 2013
 - Fishery Management Council – Bycatch 2013
- 2013 a good year – big runs for 2012 repeating and a few big restoration projects
- DMF responsibilities
 - Manage fish populations and harvest
 - Maintain fish passage
 - Protect and restore fish habitat
- Managing runs
 - 48 coastal towns with runs (78 runs, 140 fishways)
 - 61 runs have MOUs with MassDMF (34 towns)
 - 17 runs don't have MOUs (14 towns)
- River Herring Prohibition

- Exceptions: Allowable bycatch, tribal subsistence
- Renewed through 2014, perhaps then open regulated fishery?
- Regulations
 - MGL Ch. 130, §19 – provide fish passage
 - MGL Ch. 130, §93 – opening waterways to create runs and lease harvest
 - MGL Ch. 130, §94 – local control, focus on harvest not passage (MOUs have evolved to include passage)
 - MGL Ch. 130, §95 – fines for killing fish (\$5-50)
 - 322 CMR §7.01 4(f) and 14 (m) – DMF fishway permit needed for any fish passageway, including check-off on engineering plans and O&M
- River herring distribution and stock structure
 - Alewife range from Labrador to S. Carolina
 - Many runs are genetically discrete populations
 - Larger regional stock structure: 4 blueback stocks, 3 alewife stocks
- ESA Review
 - 2011 petition by NRDC to list as threatened, was not listed
 - Threatened – endangered in foreseeable future
 - NOAA had to:
 - Address 5 point petition
 - Determine “species”
 - Determine status
 - Not a distinct population segment
 - Overharvest contributed but is not fully understood
 - Disease and predation not fully understood
 - Limited conclusion based on regulations
 - Qualitative threat assessment
 - #1 threat – dams and barriers
 - #2 incidental catch
 - #3 – water quality, dredging, predation, water withdrawals
 - These do not put river herring in danger of extinction
 - Remain a NOAA Species of Concern
 - NOAA is providing \$\$ to ASMFC for working group
- Bycatch
 - New England Fishery Management Council – 311.4 million ton cap combined for river herring and shad in sea herring fishery
 - Mid-Atlantic Fishery Management Council – 236 million ton cap for mackerel fishery
 - History of river herring harvest
 - Peak in Great Depression
 - Bigger peak when sea herring fishery switched to seining
 - Big drop-off from foreign fleets (kicked out in 80’s, but sloping off occurred before that)
 - Both FMCs are increasing observer coverage and implementing catch caps
 - Next steps
 - Process public comments
 - NMFS review has stated concern over feasibility

- ASMFC
 - States monitor and report annually
 - Develop Sustainable Fishery Plan (no plan, fishery closed)
 - Set sustainability targets (metrics)
 - 5 states with plans
 - Maine: 235 adults/acre production, 35 adults/acre escapement, 40 rivers, 19 open for harvest
 - NH: Great Bay Indicator Stock; exploitation rate 20% of stock, escapement target 350 adults per surface acre
 - SC: Santee-Cooper River; exploitation rate $\leq 18\%$
 - NC: 4 day fishery, 20 permits, 4000 lbs, 250 lbs/permit; no monitoring or sustainability metrics
 - NY: 10/yr recreational, permit commercial with no catch limit
 - 25th percentile is low end of index (low metric)
 - 10 years of data is what ASMFC typically wants

Panel Discussion: Managing Herring Runs by Committee

- Committee structure and formation
 - Alewives Anonymous, Rochester
 - unofficial group in 50's, incorporated 1984, solicited new members and voted in a board
 - Not part of town government, citizens saw a need for stewardship
 - Town River
 - 1992, offshoot of Taunton River Watershed Assn., 7 people, appointed by selectmen
 - Formed to keep runs clear and open
 - Bought a fish costume for a parade (outreach)
 - Westport River
 - 3 elected commissioners, work closely with 2 non-profits
 - moratorium gave committee more "teeth"
 - Middleboro-Lakeville
 - 1st regs ~1680s, town sold rights to herring, Lakeville joined 1853, continue to share herring
 - Board of Selectmen are managers but appoint wardens
 - Group asked to shut down taking (selling in 60's, harvest in 90's)
 - Petitioned state and changed town charter to allow warden appointment
 - Created powers for Board of Selectmen to approve for wardens
 - Shared wardens by both towns (7 actual wardens and some observers)
- Benefits/Challenges of Committee
 - Alewives Anonymous
 - + Don't have to go through selectmen (but have good rapport), takes burden off towns (but each of 3 towns has warden and deputy warden)
 - - recruitment of help
 - Town River
 - + Town doesn't have a lot of \$\$ so if they relied on staff it wouldn't happen

- - All volunteers so don't have a lot of resources
 - Westport River
 - + Have fun, help from other organizations
 - - no \$
 - Middleboro-Lakeville
 - + Funding from sale of herring permits, warden can provide outreach at catching stations
 - - Volunteer interest decline since ban (lost fishermen), constrained by appointment process and open meeting rules
 - General issue of lack of help and ideas for finding volunteers
 - Boy Scouts or Eagle Scouts
 - River Herring Network volunteer page
 - Coalition for Buzzards Bay
 - High school community service
 - Partner with watershed group
- Would you open your run?
 - Mattapoisett (AA) – NO, before had only Saturdays, 50,000 fish had to spawn first
 - Westport – NO? Private property issues, catching areas needed
 - Town River – NO, numbers too low
 - Middleboro-Lakeville – MAYBE
 - Commission is split, don't want to be only run open
 - Non-resident permit (up to 300, by lottery)
 - 900 envelopes, annoyed Town Clerk
 - 4 dozen fish/week, recreational

Reducing River Herring Bycatch in the Atlantic Herring Trawl Fisheries (Dave Bethoney, Umass Dartmouth School for Marine Science and Technology)

- Near real-time communication of high bycatch areas
- Evaluation
 - Industry support – collaboration and fishing patterns
 - Bycatch reduction
- Information Flow
 - Vessels sampled at 50%
 - Tow info (with federal observer and NOAA Study Fleet info added)
 - Trip area classified, create advisories
 - Classes
 - High Alosine weight >1.25%
 - Moderate Alosine weight 0.2%-1.25%
 - Low Alosine weight >0.2%
 - Coded grids with 10' longitude and 5' latitude lines
- Project progress
 - Participation
 - More vessels each year
 - All active mid-water trawlers

- Consistent communication
 - Logs completed
 - Email/phone/in person
- Movement patterns
 - Re-entry into high catch effort?
 - Direction of effort?
 - Getting them to move – do they avoid alosines?
 - Example: Move from Area 1 (75% effort, 75% target catch, 97% of alosine catch) to Area 2 (25% of effort, 25% of target catch, 3% of alosine catch)
- Winter 2013 – lack of clear spatial/temporal pattern
- Does it work?
 - Industry support? Yes
 - Demonstrated separation? Yes
 - Some numerical evidence
 - Under 380 million ton threshold, 50% decline from 2004-2007 bycatch levels
- Long-term funding
 - NFWF no cost extension through this fall
 - Nature Conservancy supporting RI bottom trawl research through Winter 2014
 - Atlantic Herring RSA share of profits 2014-2015
- Caps
 - Support – substantial consequences, tool to manage cap
 - Undermine – cap based on previous 4 years, impetus to maintain catch history
- Improvements
 - Area thresholds based on river herring caps
 - At-sea info (post-tow e-mails)
 - Use modeling (MyMARACOOS) to forecast