



# charles river herring count

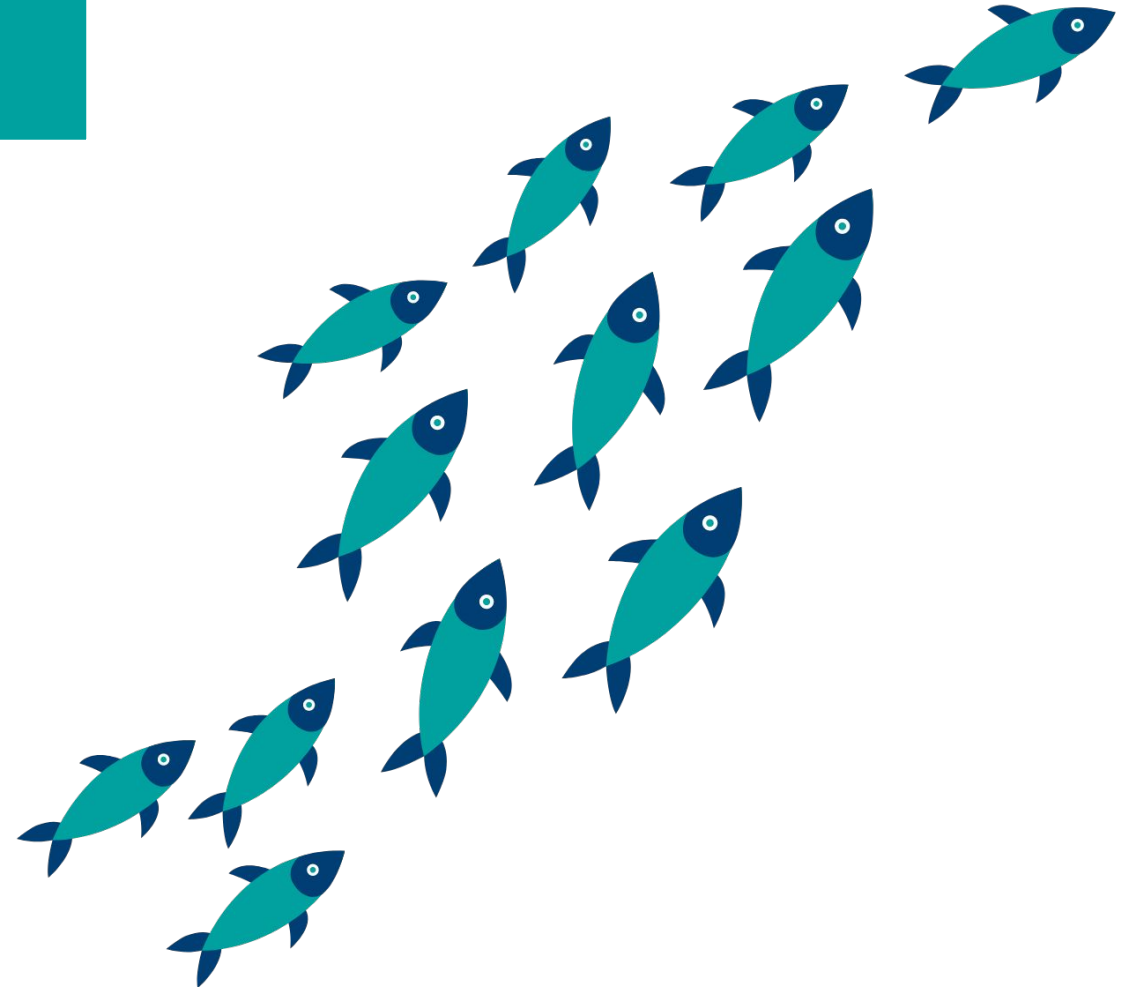
WATERTOWN DAM | APR 15-JUN 30 2024

# THANK YOU FOR JOINING THE CHARLES RIVER HERRING COUNT!



## IN THIS PRESENTATION WE WILL COVER:

- ALL ABOUT CRWA
- RIVER HERRING - AN ECOLOGICAL MIRACLE
- STATEWIDE MONITORING EFFORTS
- FISH MONITORING 101
- FINDING YOUR SHIFT & GETTING STARTED





# Our History

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Since 1965, Charles River Watershed Association has been the voice of the river.



# OUR MISSION

To protect, restore, and enhance the Charles River and its watershed through science, advocacy, and the law.

We develop science-based strategies to increase resilience, protect public health, and promote environmental equity as we confront a changing climate.

# Our Watershed

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## THE RIVER THAT CONNECTS US

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THE CHARLES FLOWS 80 MILES FROM  
HOPKINTON TO BOSTON HARBOR



### **WATERSHED**

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308 SQUARE MILES

35 CITIES & TOWNS

HOME TO 1 MILLION PEOPLE



## Climate Resilience

Advocating for nature-based solutions, climate-smart development, and regional adaptation efforts to protect our communities and ecosystems from the impacts of climate change.

## River Science

Collecting robust water quality data to understand the health of our river, advocate for effective cleanup and restoration strategies, and protect public health.



## River Restoration

Removing defunct dams, tackling invasive species, daylighting streams, and more to restore natural ecology and build climate resilience.



## Stormwater Solutions

Curbing stormwater pollution with green infrastructure and stronger stormwater regulations to achieve a clean river.



## Education & Outreach

Informing and supporting community members to advocate for laws, policies, and behaviors that build community resilience and promote well-being for all.



# River Restoration

Removing defunct dams, tackling invasive species, daylighting streams, and more to restore natural ecology and build climate resilience.



# RESTORING NATURAL ECOLOGY

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# WHY RESTORE HERRING?

- **ABUNDANT IN NEW ENGLAND RIVERS**
- **ANADROMOUS FISH, SPENDING LIFE AT SEA AND SPAWNING IN RIVERS FROM MARCH TO JUNE**
- **ECOLOGICALLY SIGNIFICANT! IMPORTANT PART OF FOOD WEB:**
  - **STRIPED BASS, COD, BLUEFIN TUNA, OSPREY, LOONS, HERONS, BALD EAGLES, EGRETS AND MORE RELY ON FOR FOOD**
- **INDIGENOUS FOOD SOVEREIGNTY:**
  - **VITAL TO NIPMUC, MASSACHUSETT, + WAMPANOAG PEOPLE FOR FOOD, ECOSYSTEM BENEFITS, AND CULTURAL SURVIVAL**







# MEET THE MIGRATORY FISH:



American Shad (U.S. Fish & Wildlife Service)

## American Shad *Alosa sapidissima*

American Shad are the most abundant anadromous fish in Eastern North America. With sleek, silver scales, and a row of black spots, they can grow to be two feet long and often travel in large schools.



Alewife Herring (U.S. Fish & Wildlife Service)

## Alewife Herring *Alosa pseudoharengus*

Alewife herring are a key species in the Charles River ecosystem. With a silver back and blue-green undertones, these small, swift fish dart upstream to spawn before returning to the sea for most of their adult lives.



Blueback Herring (U.S. Fish & Wildlife Service)

## Blueback Herring *Alosa aestivalis*

Blueback Herring, like alewife herring, return from the sea each spring. With blue-green backs and silvery, metallic scales underneath, Blueback Herring are found across the Atlantic coast, but are a species of concern.



Rainbow Smelt (U.S. Fish & Wildlife Service)

## Rainbow Smelt *Osmerus mordax*

The Rainbow Smelt is the first diadromous fish to arrive in the Charles River in mid-March. Small, slender, silver fish, Rainbow Smelt used to return to the Charles River by the millions each spring and were caught by the barrelful in the 1800s.



Atlantic Salmon (U.S. Fish & Wildlife Service)

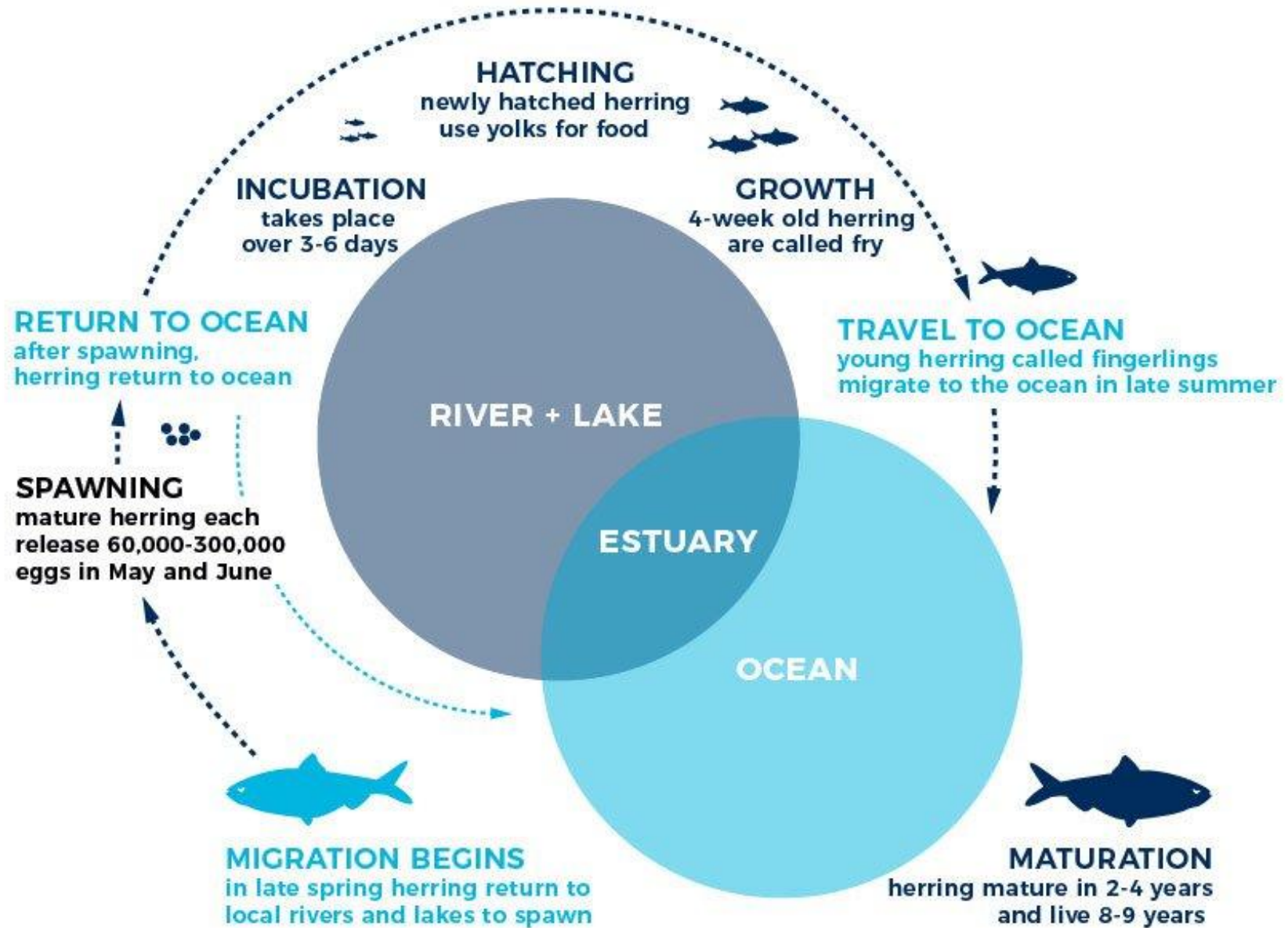
## Atlantic Salmon *Salmo salar*

Atlantic Salmon, known as the king of fish, numbered in the hundreds of thousands in New England's coastal rivers, including the Charles River.

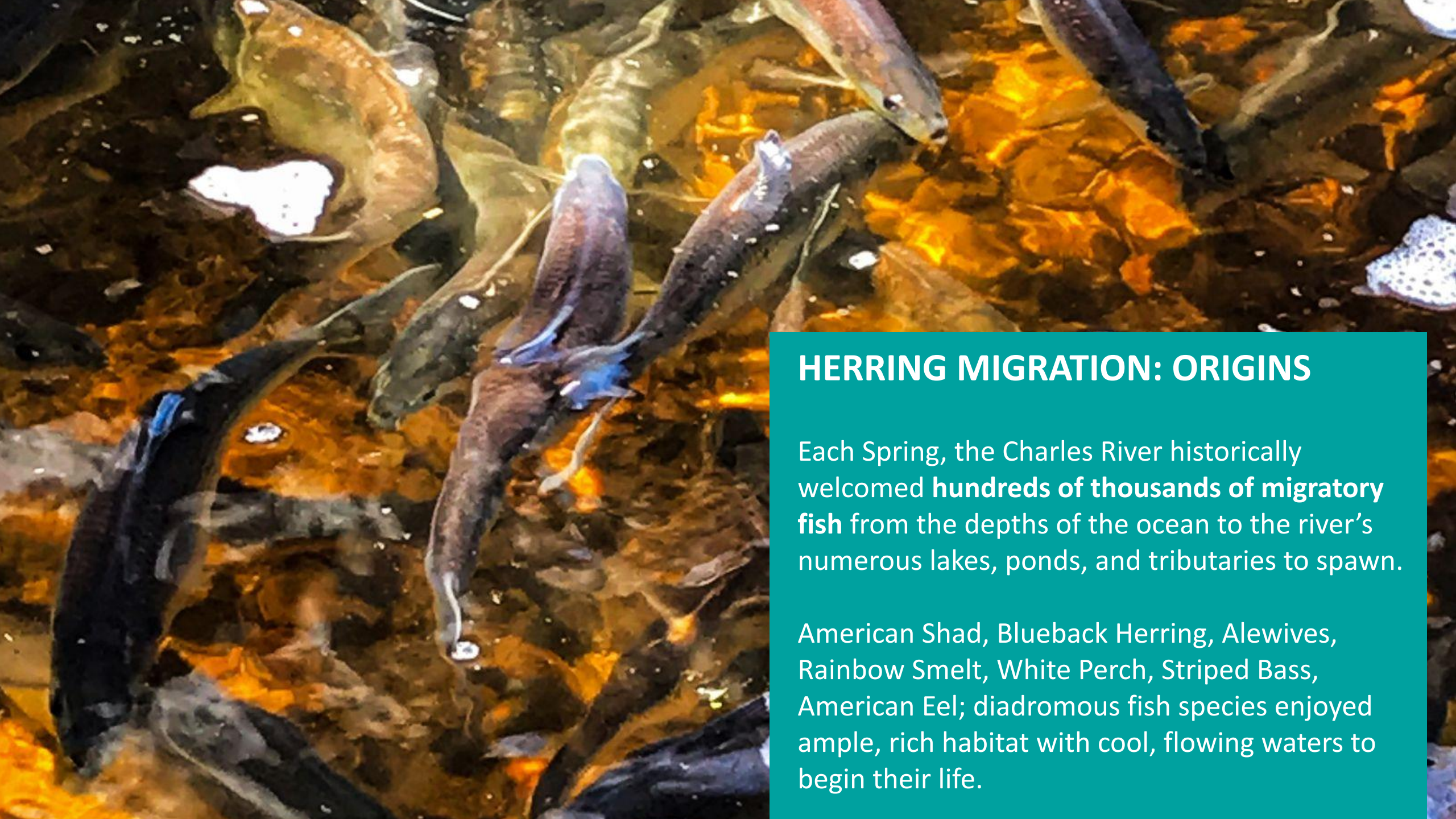
However, the legacy of dams, industrial pollution, and overfishing have **caused the extinction of the wild Atlantic Salmon population in the Charles River.**

# MIGRATION FROM SEA TO FRESH WATER:

<1% of fish species  
are diadromous



**HERRING LIFE CYCLE** ALEWIFE + BLUEBACK SPECIES



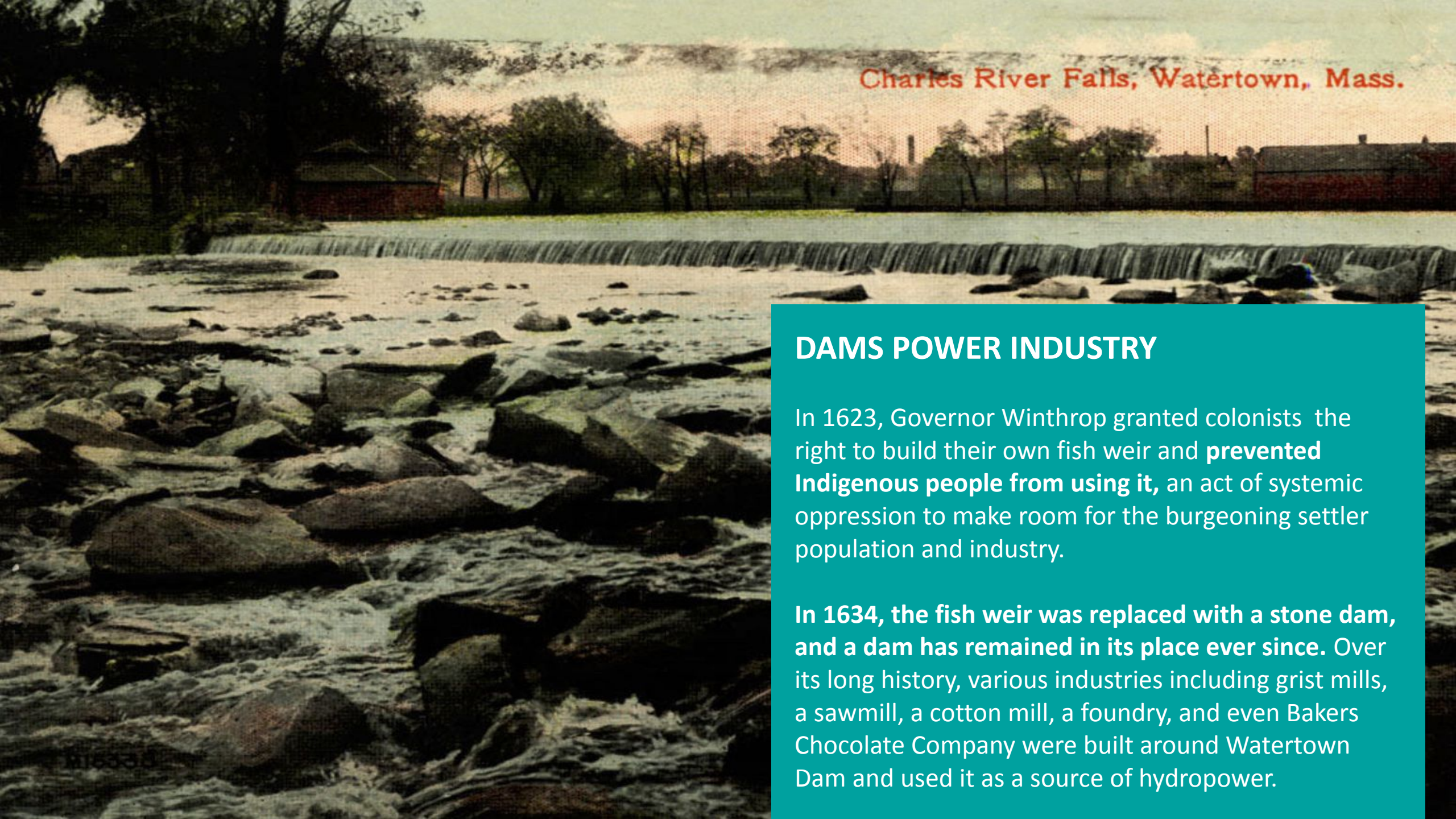
## HERRING MIGRATION: ORIGINS

Each Spring, the Charles River historically welcomed **hundreds of thousands of migratory fish** from the depths of the ocean to the river's numerous lakes, ponds, and tributaries to spawn.

American Shad, Blueback Herring, Alewives, Rainbow Smelt, White Perch, Striped Bass, American Eel; diadromous fish species enjoyed ample, rich habitat with cool, flowing waters to begin their life.



**BEFORE COLONIZATION,** the Charles River flowed freely and Indigenous ancestors relied on its vibrant population of migratory fish, maintaining a productive fish weir just above the head-of-tide where the free-flowing Charles River met the Boston Harbor at what is now Watertown Square.



Charles River Falls, Watertown, Mass.

## DAMS POWER INDUSTRY

In 1623, Governor Winthrop granted colonists the right to build their own fish weir and **prevented Indigenous people from using it**, an act of systemic oppression to make room for the burgeoning settler population and industry.

In 1634, the fish weir was replaced with a stone dam, and a dam has remained in its place ever since. Over its long history, various industries including grist mills, a sawmill, a cotton mill, a foundry, and even Bakers Chocolate Company were built around Watertown Dam and used it as a source of hydropower.

AN ACT to prevent Nuisances by Hedges, Wears, and of the passage of Fish in Rivers

(Page 162, ch. 3.) *Be it enacted, That garths, stakes, kiddles, or other disturbance or set, erected or made, on or across any river, to*

EARLY REGULATIONS AIM TO PROTECT FISH PASSAGE

Beginning in 1709, the first dam regulations were enacted to "prevent nuisances by hedges, wares, and other incumbrances obstructing the passage of fish in rivers." In 1727, the law was strengthened with a penalty to fine dam owners for failing to provide ample fish passage.

In 1740, "An Act to Prevent the Destruction of Fish Called Alewives" was enacted to explicitly require dam owners to provide passage for river herring.

However, with the explosion of dams across New England and their role as the main economic engine for the Industrial Revolution, regulations to protect migratory fish species often went unenforced.

CHAPTER 16.

AN ACT IN ADDITION TO AN ACT MADE TO PREVENT THE DESTRUCTION OF THE FISH CALLED ALEWIVES, AND OTHER FISH.

WHEREAS, notwithstanding the several acts made for the preservation of the fish, and to give them free passage up and down the rivers, in their seasons, yet, by reason of the many dams erected, and often erecting across such rivers and streams where the several sorts of fish pass up into the natural ponds to cast their spawns, said fish are diverted in their passage, to the great decay and ruin of such fishery,—

Preamble. 1735-36, chap. 21.

*Be it therefore enacted by His Excellency the Governour, Council and Representatives in General Court assembled, and by the authority of the same,*

[SECT. 1.] That whosoever shall hereafter erect or build any dam across any such river or stream where the salmon, shad, alewives or other fish usually pass up into the natural ponds, to cast their spawn, shall make a sufficient passage-way for the fish to pass up such river or stream, through or round such dam, and shall keep it open, for the free passage of the fish, from the first day of April to the last day of May, annually; and all the owners or occupants of any mill-dam, or other dams heretofore erected and made across any such river or stream where the fish can't conveniently pass over, shall make a sufficient way, either round or through such dam, for the passage of such fish, at or before the first day of September next, and after that to keep such passage-way open from the first day of April to the last day of May, annually, on pain that every person offending, in any of the particulars aforesaid, shall forfeit and pay the sum of fifty pounds for each offence.

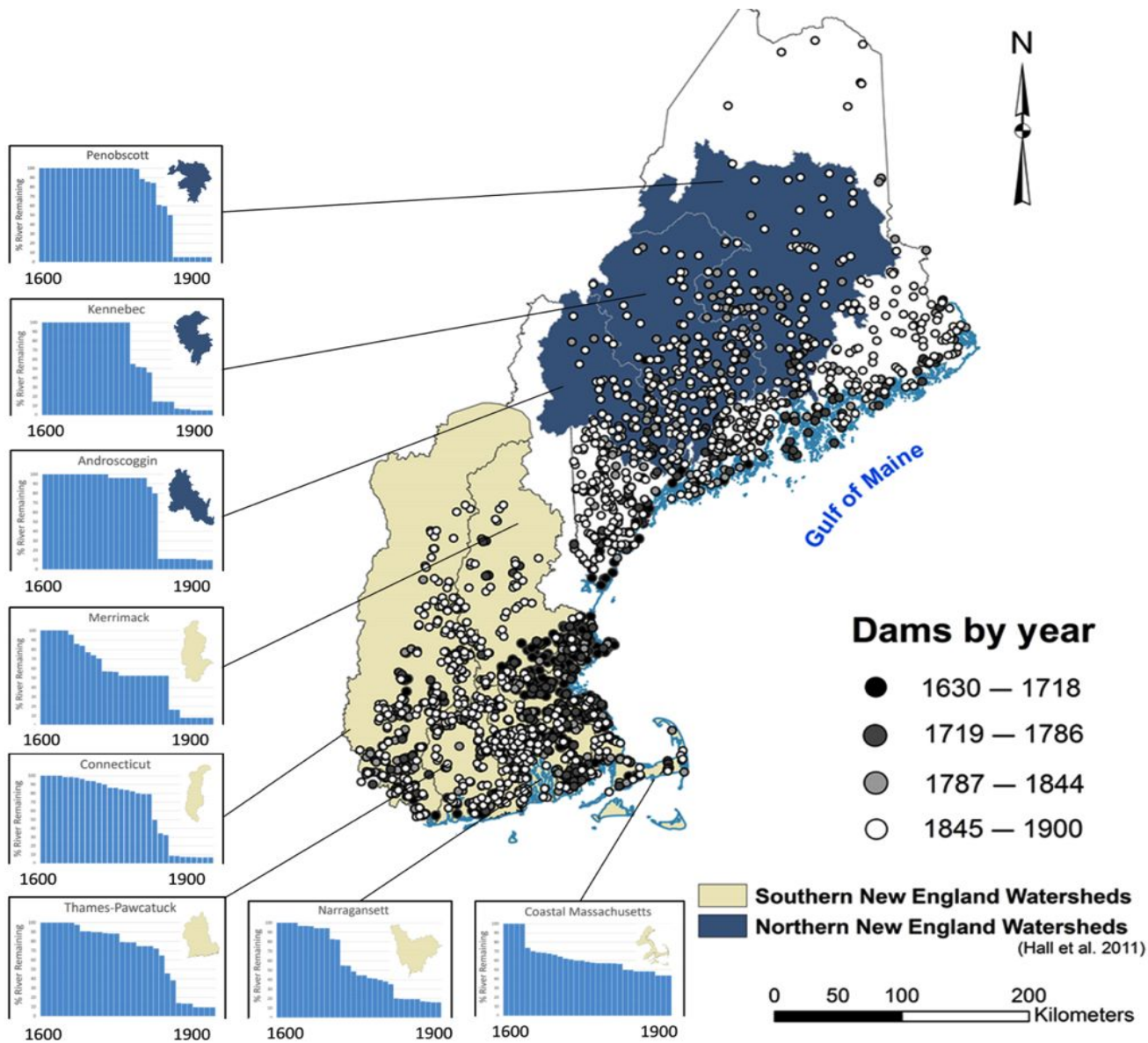
Passage in dams to be kept open for the fish at the proper season. 5 Pick. 204. 7 Cush. 101.

Penalty.

AN ACT IN ADDITION TO OF AN ACT, MADE A. D. ONE THOUSAND TITLED, " AN ACT TO PASSAGE WAYS FOR OTHER FISH, UP NE EFFECTUAL PROVISIO

*Whereas in and by said fish were to be m of the said river to which was the dam at the dam at Daniel Le ways over the two dan for the purpose for w*

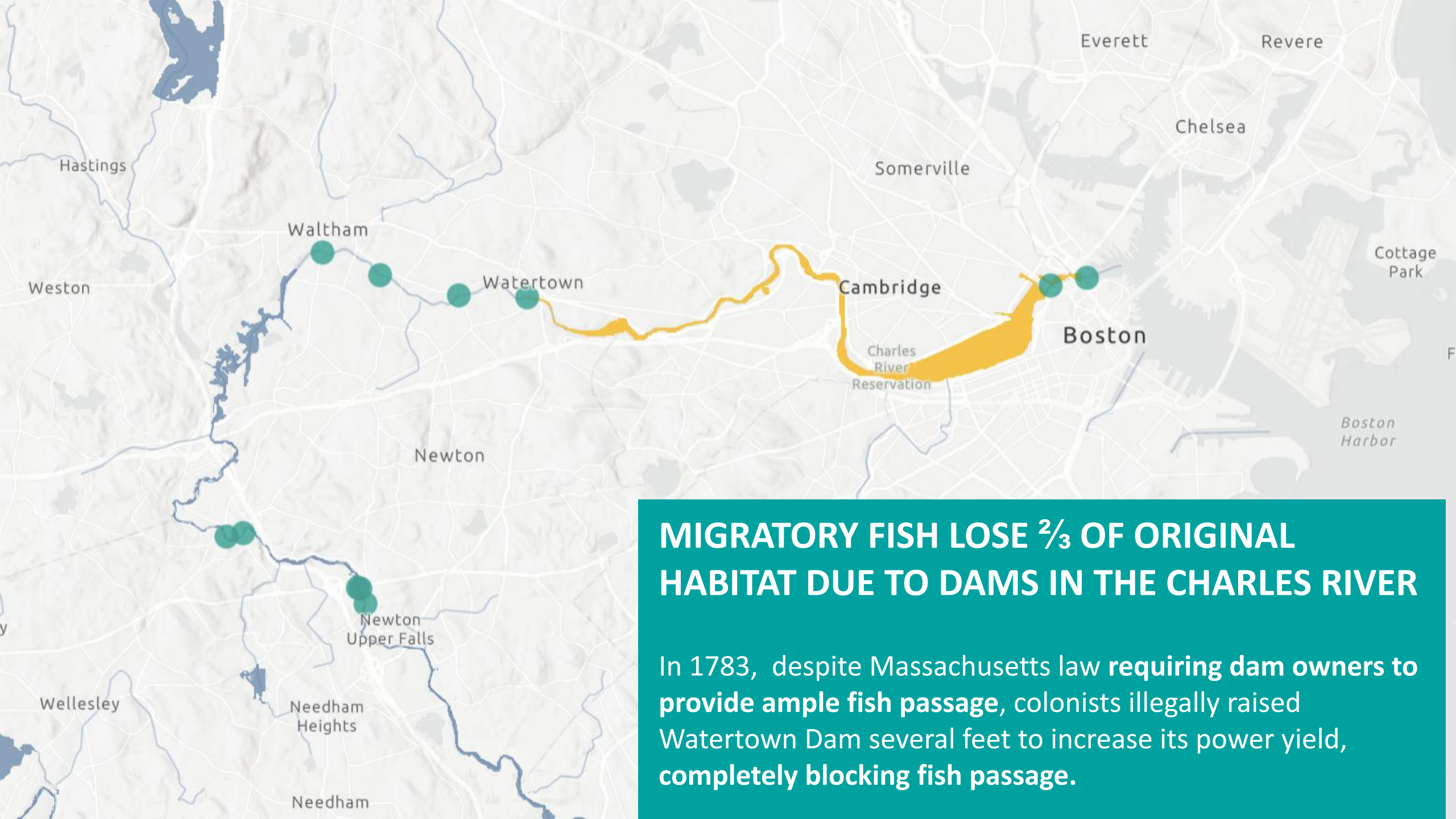
*Be it enacted by th tives in General Cou the same, That such vision for the passing Andrew Gillespie an they are, hereby rep*



# HABITAT LOSS ACROSS NEW ENGLAND

**Figure 1. Historical dams and resulting timelines of habitat loss (inset graphs) from eight watersheds in New England. The black points depict earlier dams (1630–1718), and the white points represent later dams (1845–1900). The lighter watersheds are southern New England habitat; the darker watersheds are northern New England habitat. Northern New England watersheds include the Androscoggin, the Kennebec, and the Penobscot. Dams were classified using natural breaks (Jenks) and projected using Massachusetts State Plane 2001.**

Mattocks et al (2017), [Bioscience](#). 67(8).



## MIGRATORY FISH LOSE $\frac{2}{3}$ OF ORIGINAL HABITAT DUE TO DAMS IN THE CHARLES RIVER

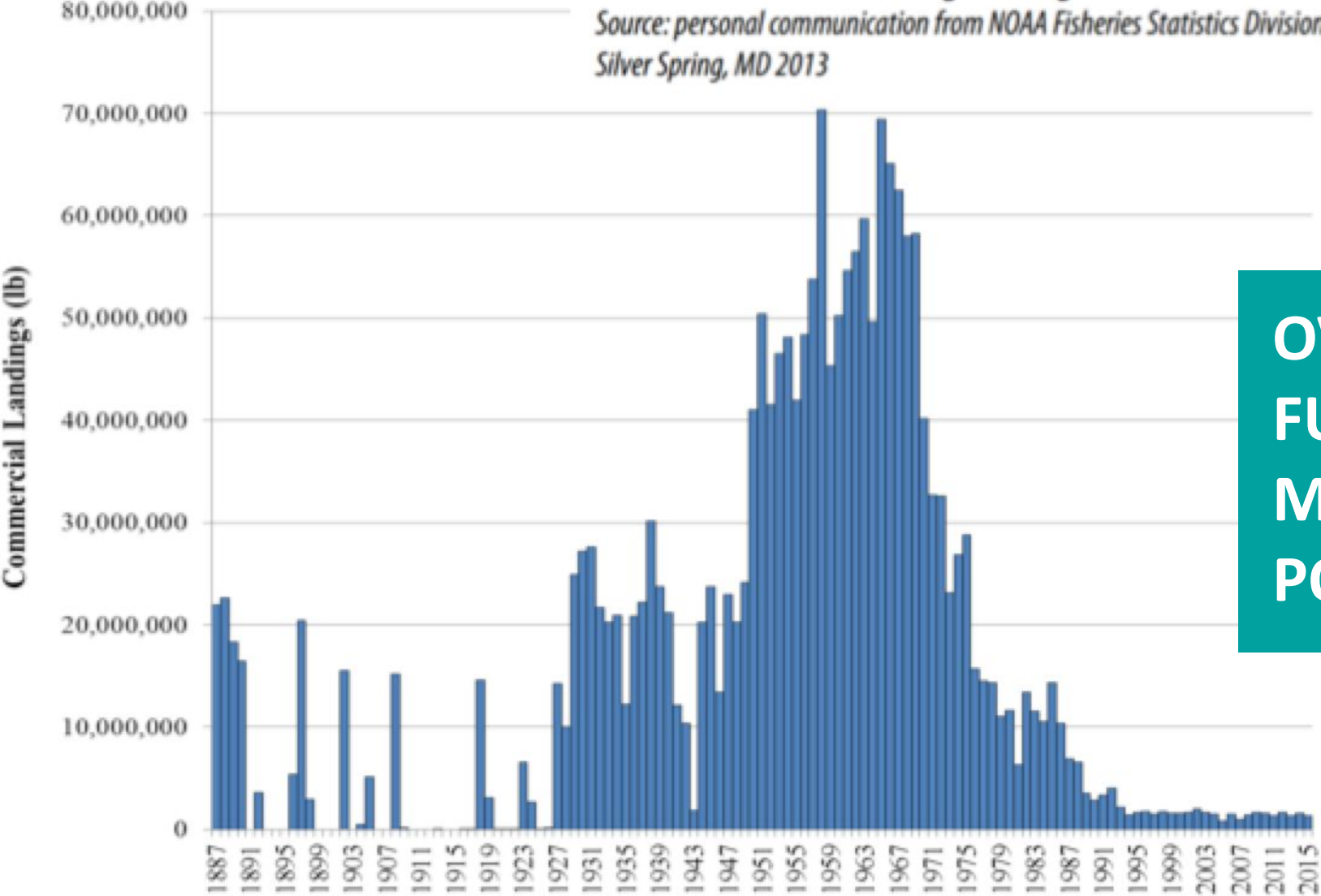
In 1783, despite Massachusetts law requiring dam owners to provide ample fish passage, colonists illegally raised Watertown Dam several feet to increase its power yield, completely blocking fish passage.



# Commercial landings river herring

Atlantic Coast River Herring Landings

Source: personal communication from NOAA Fisheries Statistics Division, Silver Spring, MD 2013



**OVERFISHING  
FURTHER STRESSES  
MIGRATORY FISH  
POPULATIONS**



## HERRING & ALEWIVES DECLARED EXTINCT

By 1920, American Shad and Alewives, two of the most populous native migratory fish species, **were declared extinct in the Charles River.**

The first Alewife fishery in Massachusetts to go extinct, the possibility of their return was deemed remote in a study from the Division of Fisheries & Game. **Their sharp decline was attributed to industrial pollution and the significant obstruction of dams in the Charles River.**







## HERRING SURVIVE, BUT POPULATIONS STILL IN DECLINE DUE TO DEFUNCT DAMS

American Shad and Alewives did not go extinct, thanks to the **considerable cleanup and restoration of the Charles River**. But, today, aging, functionless dams persist, obstructing the free passage of vital migratory fish species.


# DAMS DESTROY RIVER ECOSYSTEM




Stagnant Water  
Low Dissolved Oxygen  
Death of Aquatic Life




Sediment Accumulates  
Excess Nutrients  
Invasive Plant Growth



Temperatures Rise  
Evaporation  
Cyanobacteria Blooms



Fish Passage Blocked  
No Spawning Habitat  
Fish Predation



Rushing Water  
Erosion  
Thermal Pollution





## CLIMATE CHANGE IS BRINGING NEW CHALLENGES FOR MIGRATORY FISH

The climate crisis brings additional threats—extreme heat, drought, and sea-level rise. Migratory fish face warmer waters + lower streamflow, which can cause catastrophic fish kills. As sea levels rise + saltwater intrudes further inland, the critical freshwater spawning habitat is restricted even further.

A photograph of a dam in a river, surrounded by dense forest with autumn foliage. The water is turbulent as it flows over the dam, creating white foam. The scene is framed by dark tree branches in the foreground.

**"A dam in a river is like  
a blocked artery; it's  
like a heart attack."**

**—Robert Kearns**

*Climate Resilience Specialist*

# REMOVING DEFUNCT DAMS

## SOUTH NATICK DAM

Town voted to remove the dam in 2022!



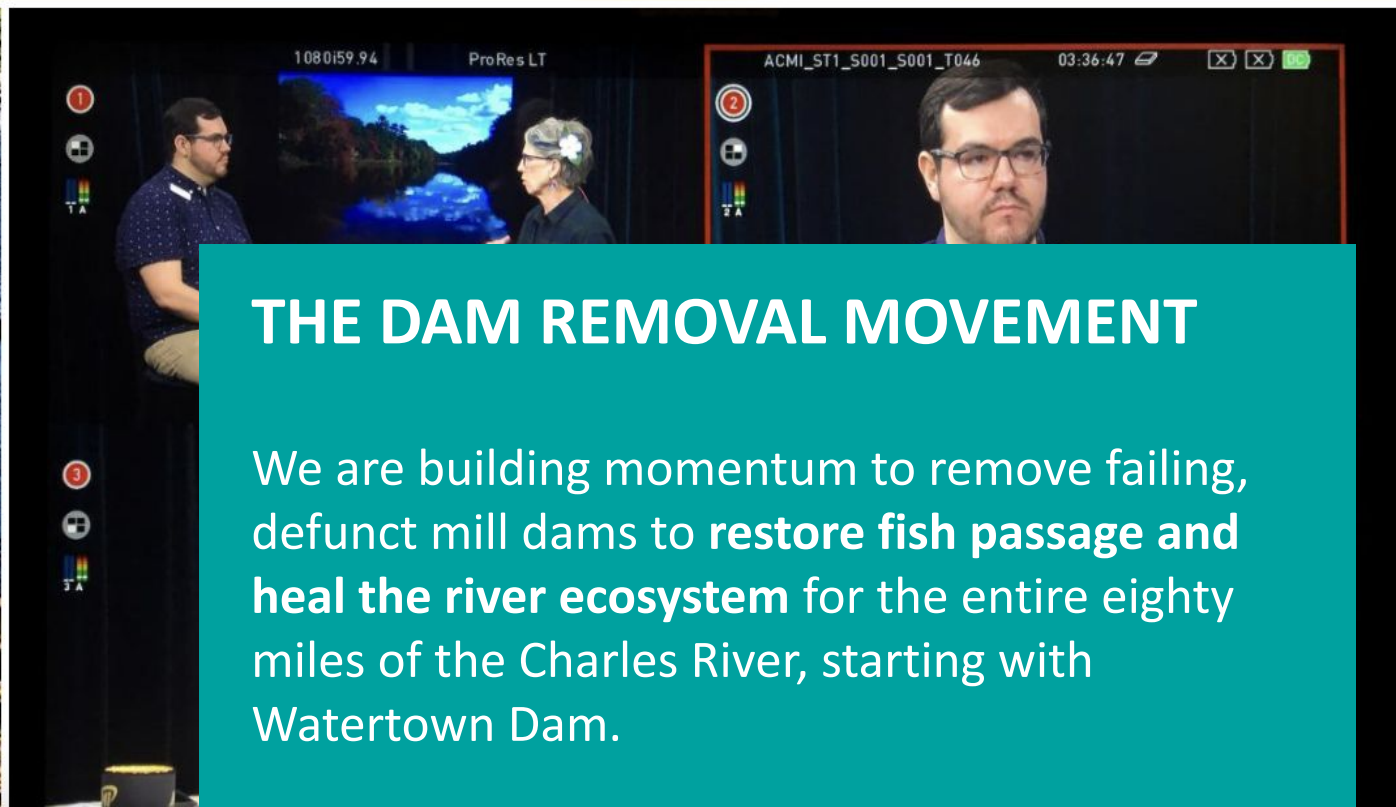
● 19

DAMS ON THE  
MAINSTEM RIVER

## WATERTOWN DAM

First barrier to fish passage





## THE DAM REMOVAL MOVEMENT

We are building momentum to remove failing, defunct mill dams to **restore fish passage and heal the river ecosystem** for the entire eighty miles of the Charles River, starting with Watertown Dam.



# BY COUNTING FISH, YOU HELP US ADVOCATE FOR RIVER RESTORATION!

MONITORS CONDUCT  
10-MINUTE OBSERVATIONS



DATA COLLECTED &  
ANALYZED BY CRWA & DMF



RESULTS INFORM ADVOCACY  
FOR DEFUNCT DAM REMOVAL!



COUNTING IN THE  
MYSTIC RIVER

# MONITORING IN 2023

Apr 28 - Jun 18

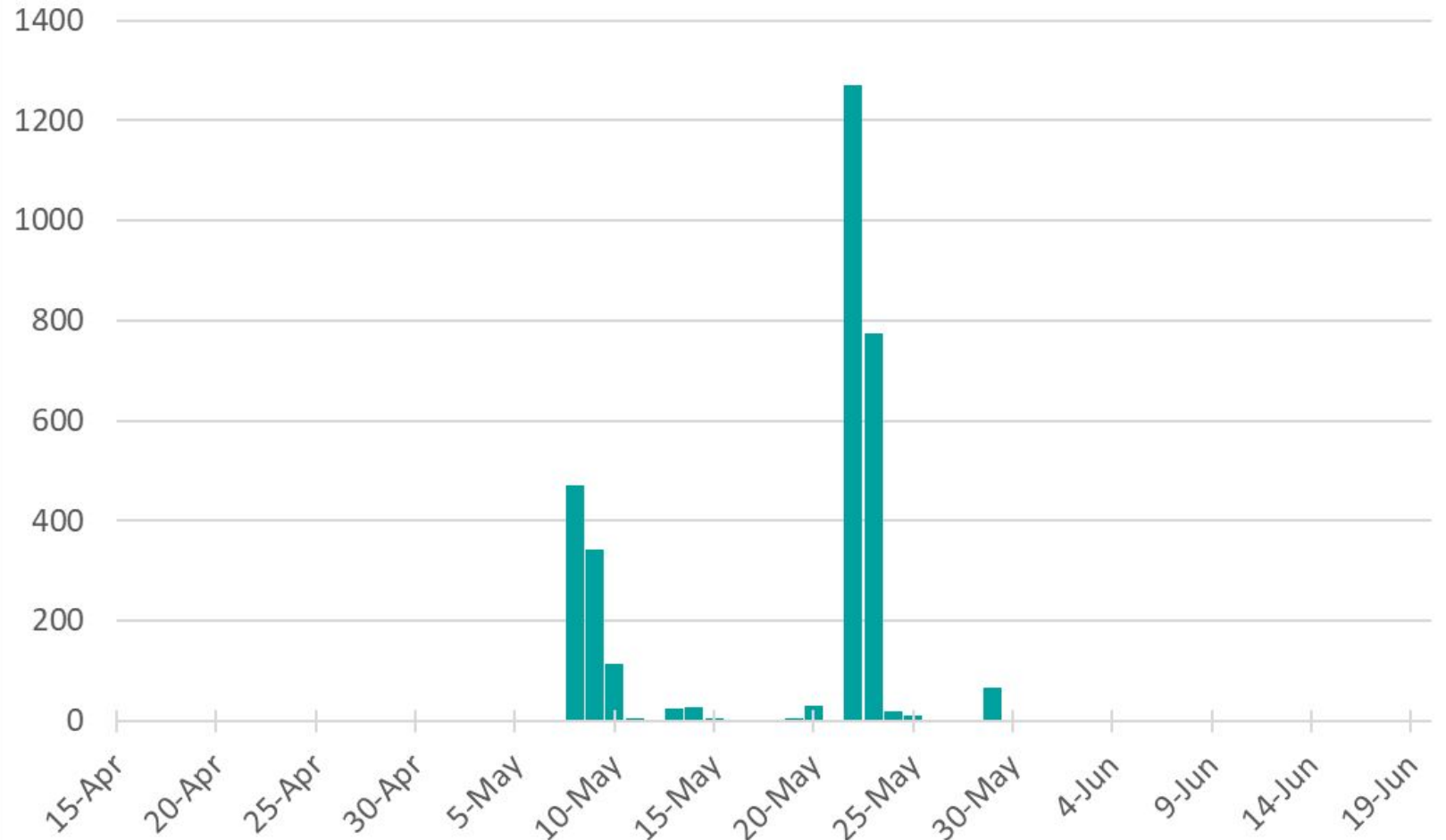
**54**  
volunteers

**249**  
10-min shifts

**3,178**  
fish counted

**~43,500**  
fish estimated  
through Charles

FISH COUNTED DAILY



# STATEWIDE MONITORING EFFORTS

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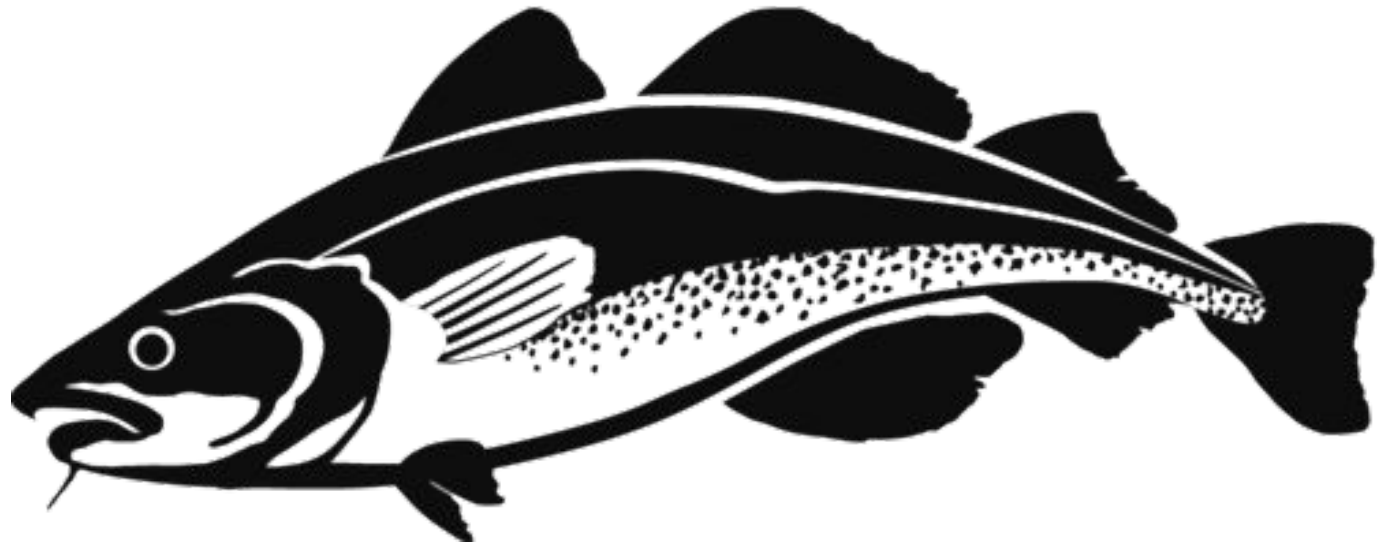
The Charles is one of many important fish spawning areas in MA!



# Marine Fisheries

Commonwealth of Massachusetts

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**John Sheppard**

Research Biologist  
MA Division of Marine Fisheries (DMF)

# A REVIEW OF RIVER HERRING COUNTING PROGRAMS IN MASSACHUSETTS COASTAL STREAMS



**John Sheppard**

Massachusetts Division of Marine Fisheries  
Diadromous Fisheries Biology, Management and Restoration Project

**Marine Fisheries**  
Commonwealth of Massachusetts



Presented at the Charles River Watershed Association (April 3, 2024)

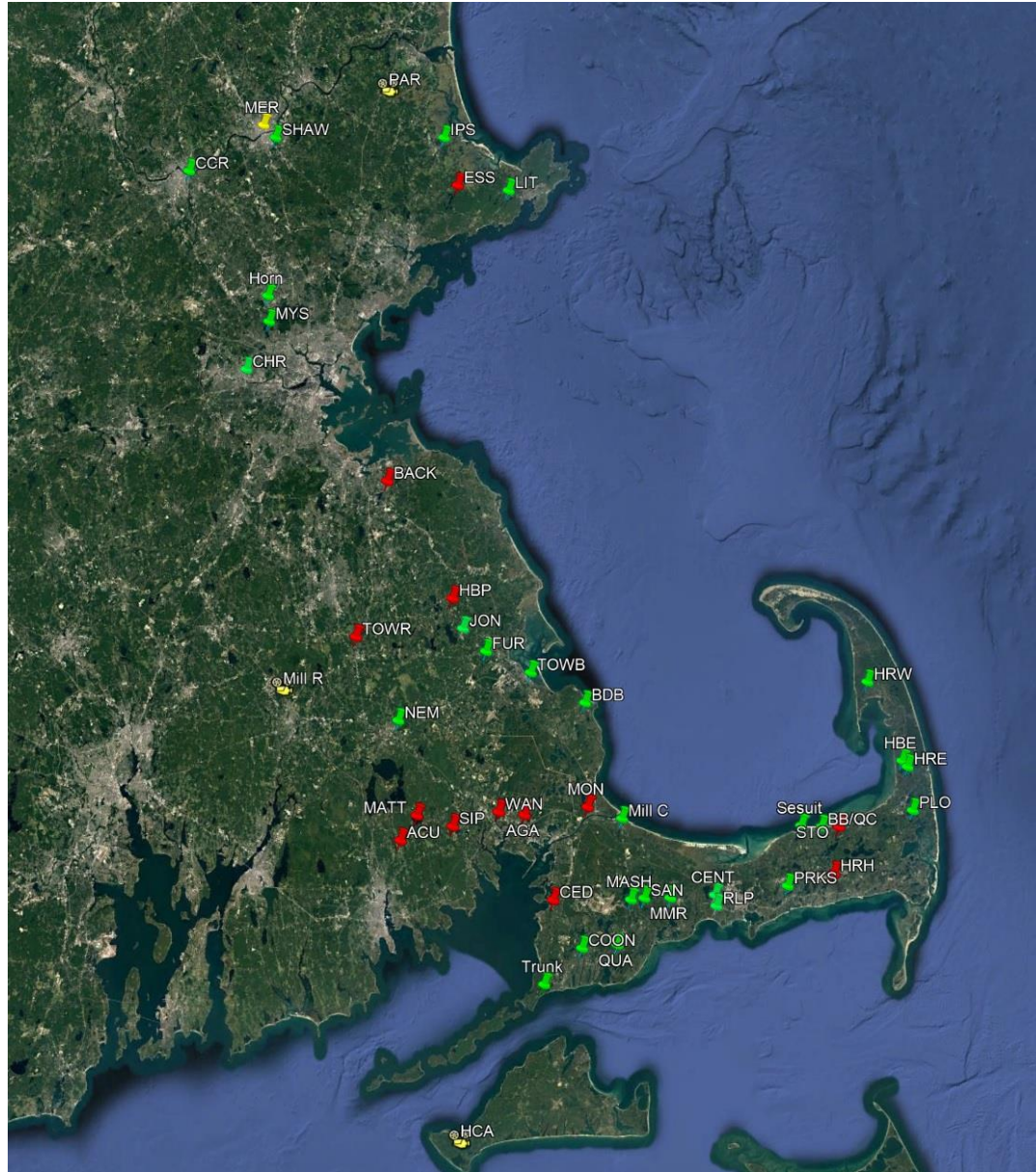
# OUTLINE

1. OVERVIEW
2. PRINCIPLES FOR CONDUCTING VISUAL COUNTS
3. SAMPLING DESIGNS FOR STATISTICAL TREATMENT
4. MA DMF VISUAL COUNTING PROGRAM
5. RECOMMENDATIONS
6. CASE STUDIES
7. DATA LIMITATIONS



High school students participate in counting river herring in the Shawsheen River (Spring 2017)

# 1. OVERVIEW

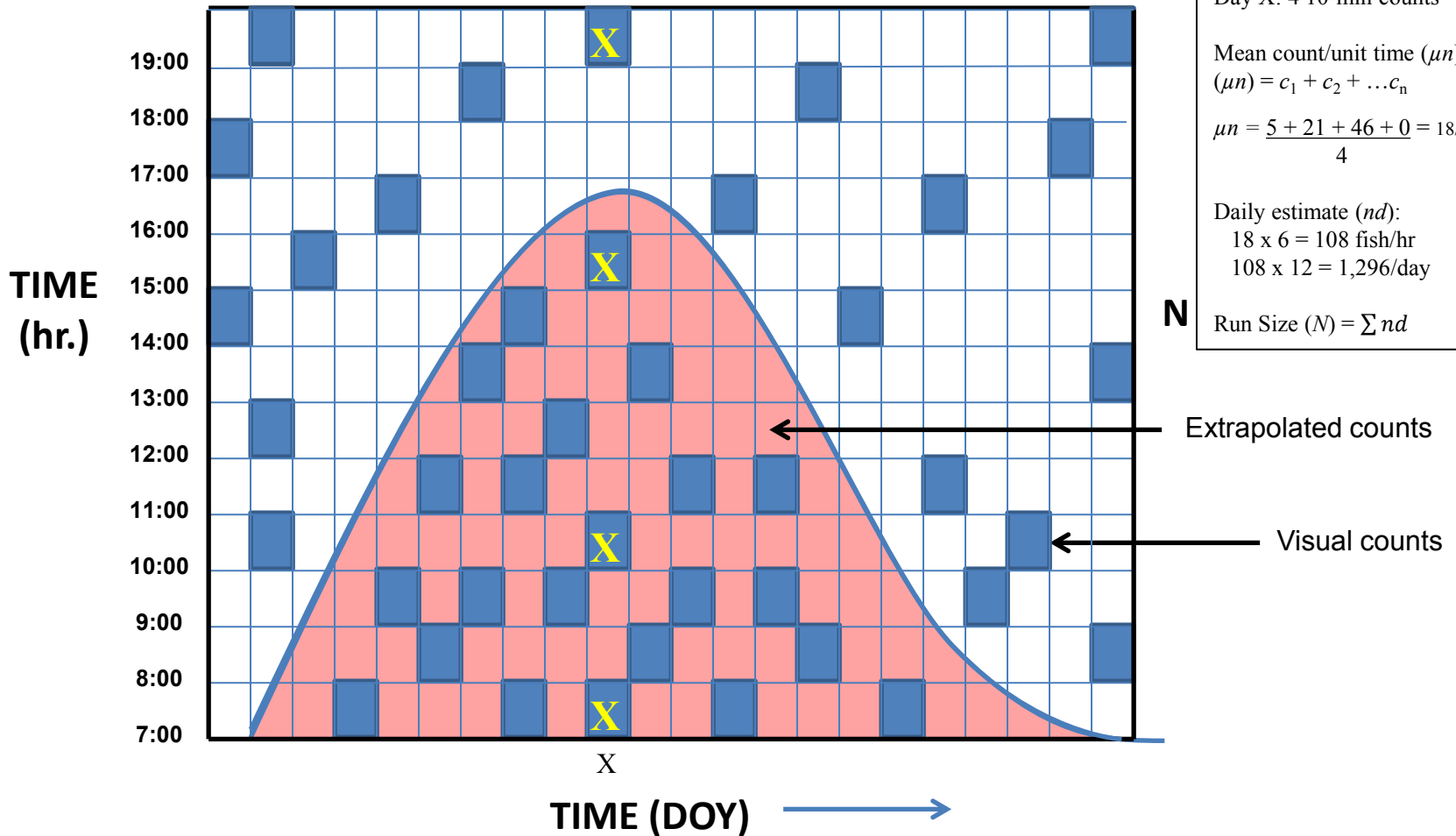


## MA River Herring Monitoring Summary (2023)

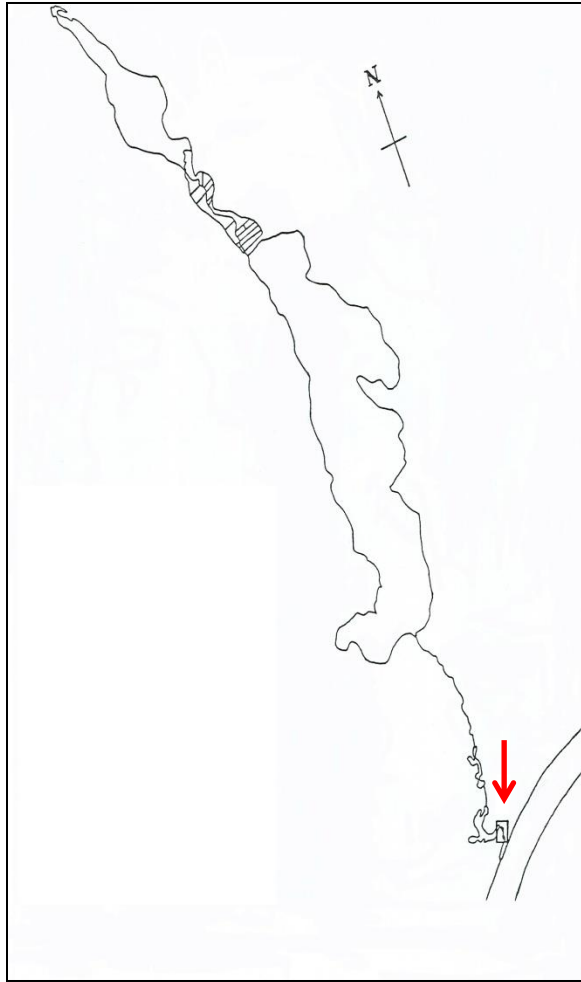
- 48 streams counted in 2023  
(9 watersheds, incl. CT River)
- By method:
  - **Visual** = 30 (63%)
  - **Electronic** = 13 (27%)
  - Video = 4 (8%)
  - Lift = 1 (2%)
- 90% of streams monitored by citizen scientists or with assistance by citizen scientists in 2023
- Volunteers:
  - Municipalities
    - Middleborough-Lakeville Herring Commission*
    - Pembroke Herring Fisheries Commission*
    - Town River Fisheries Commission*
  - Watershed Associations
    - North & South River Watershed Association*
    - Mystic River Watershed Association*
  - NGO's
    - Association to Preserve Cape Cod*
    - Barnstable Clean Water Coalition*
    - Buzzards Bay Coalition*
  - Private Organizations
    - Alewives Anonymous*

## 2. PRINCIPLES FOR CONDUCTING VISUAL COUNTS

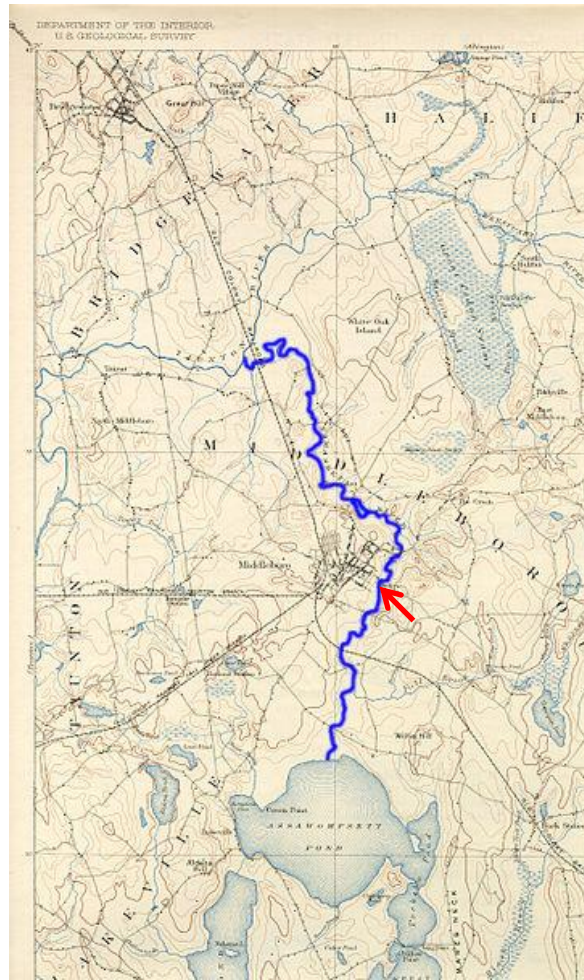
Rideout, S.G., J.E. Johnson, and C.F. Cole. 1979. Periodic counts for estimating the size of spawning population of alewives, *Alosa pseudoharengus* (Wilson). *Estuaries* 2(2): 119-123.



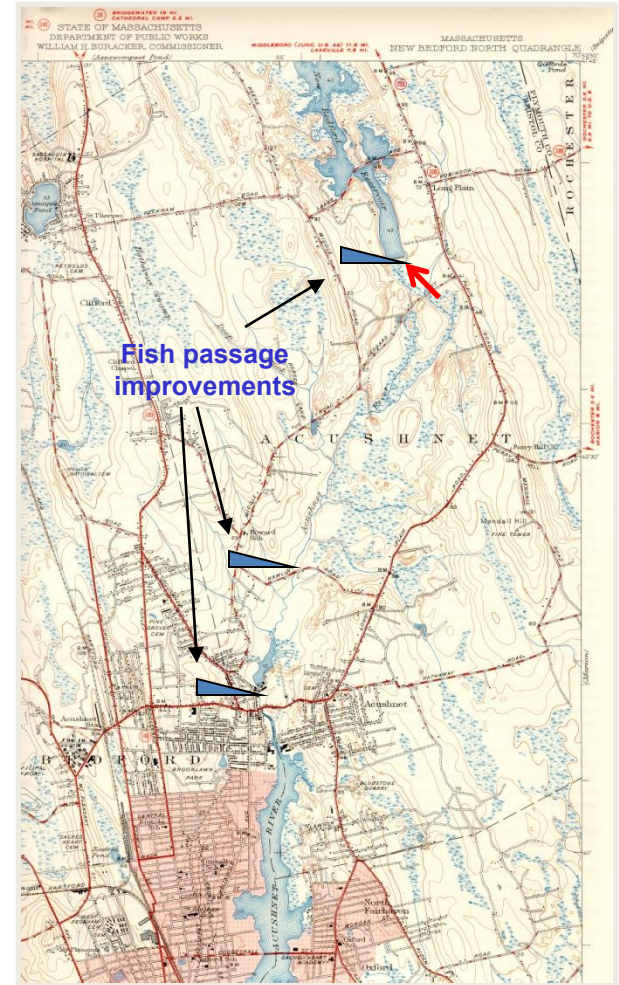
## 2. PRINCIPLES FOR CONDUCTING VISUAL COUNTS: COUNTING LOCATION



A. Total population estimate



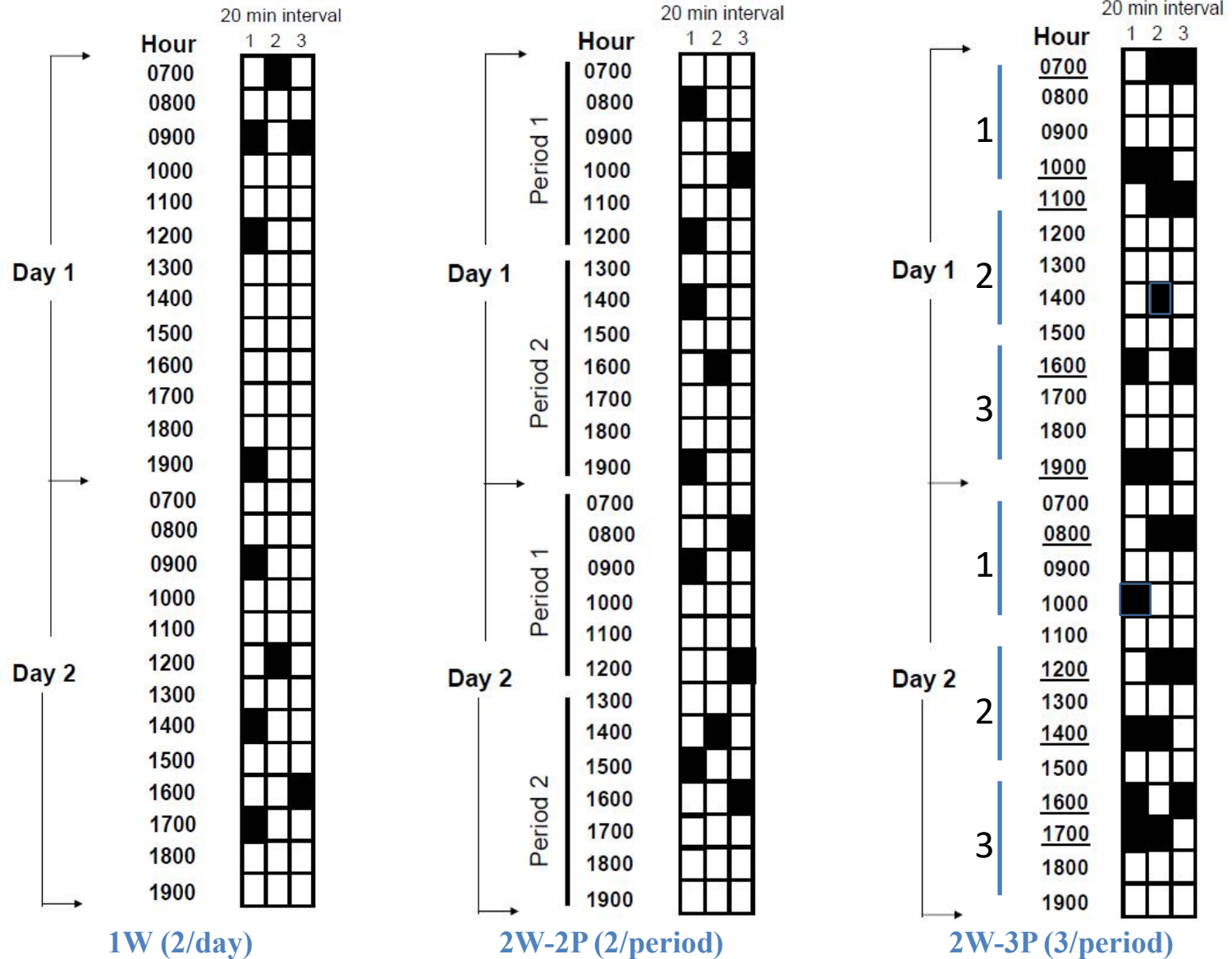
B. Escapement estimate



C. Restoration response

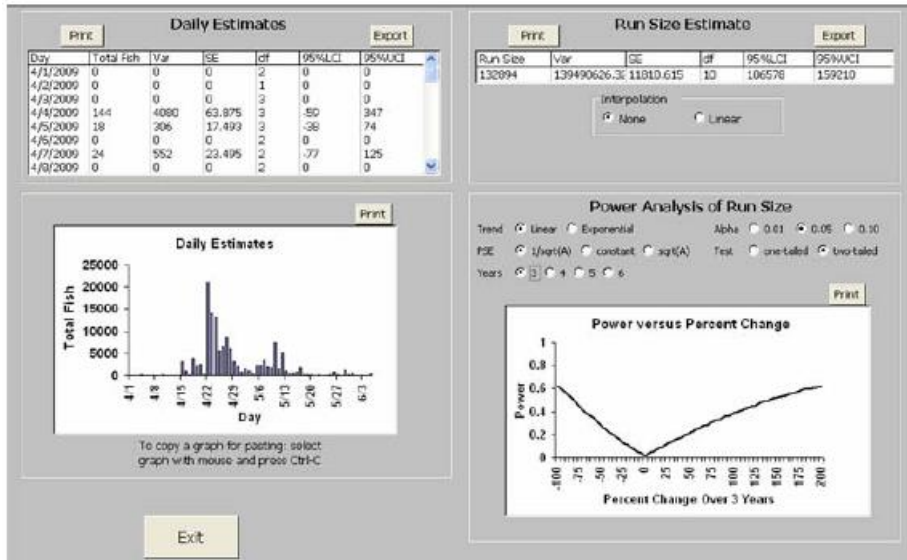
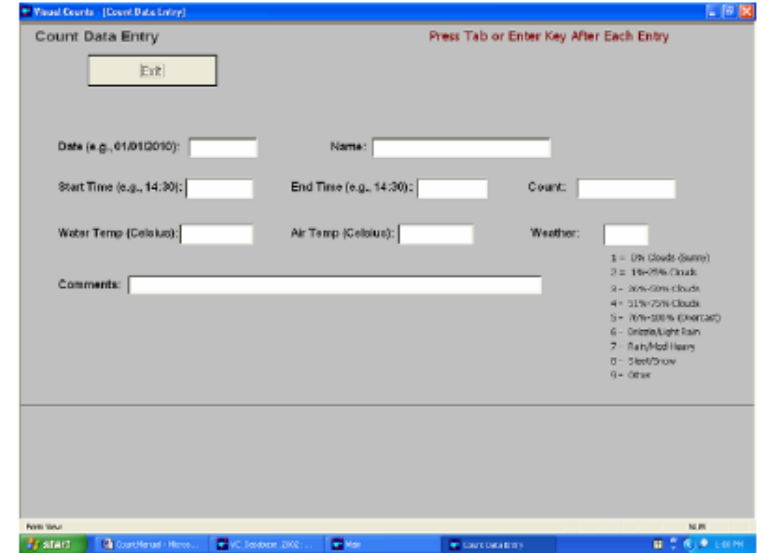
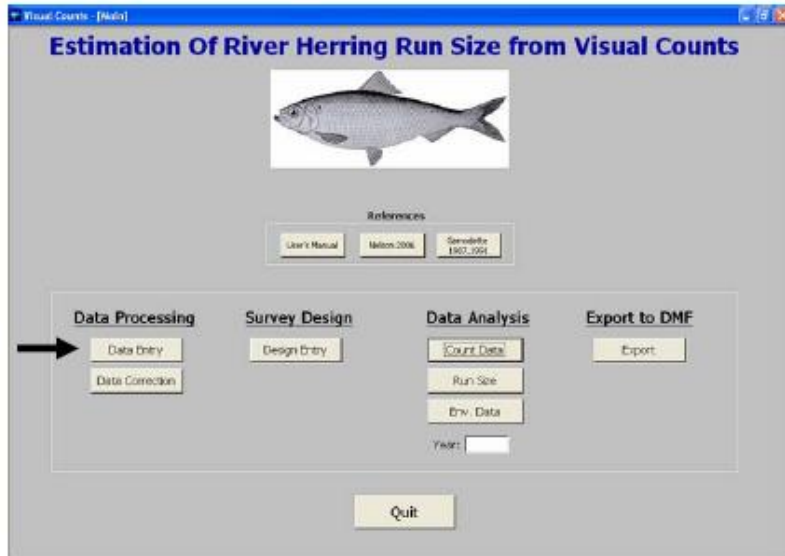


### 3. SAMPLING DESIGNS FOR STATISTICAL TREATMENT



Nelson, G.A. 2006. A Guide to Statistical Sampling for the Estimation of River Herring Run Size Using Visual Counts. Massachusetts Division of Marine Fisheries, Technical Report 25, Gloucester.

# 4. MA DMF COUNTING PROGRAM (VISUCOUNT)



## INPUT DATA

### REQUIRED

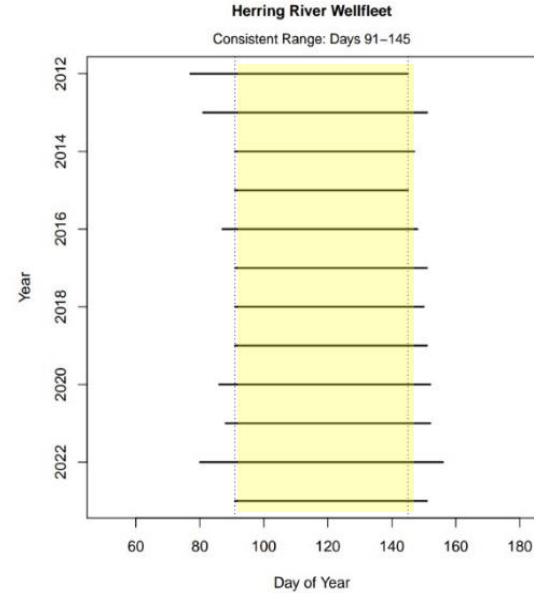
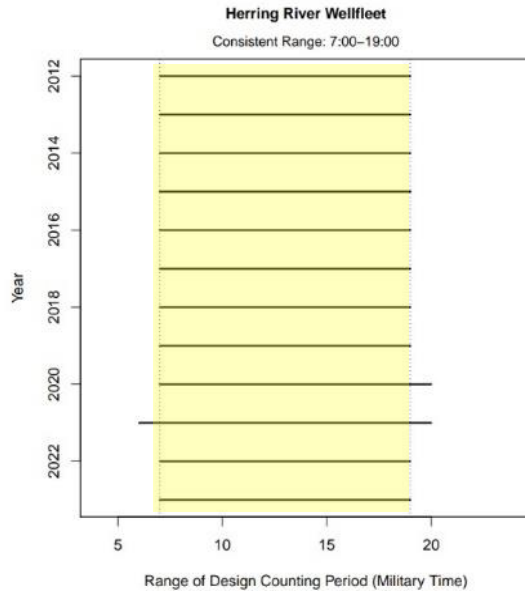
1. DATE
2. START TIME
3. END TIME
4. COUNT

### OPTIONAL

1. NAME
2. WATER TEMP
3. AIR TEMP
4. WEATHER CODE
5. COMMENTS

# 4. MA DMF COUNTING PROGRAM (cont.)

## Example: Herring River, Wellfleet (2012 – 2023)

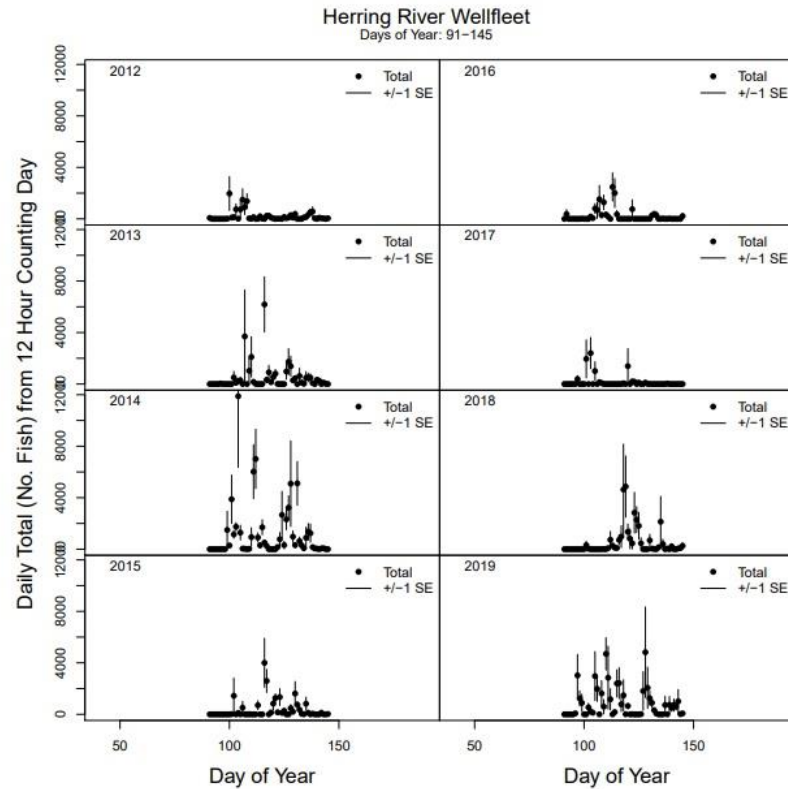


Herring River Wellfleet

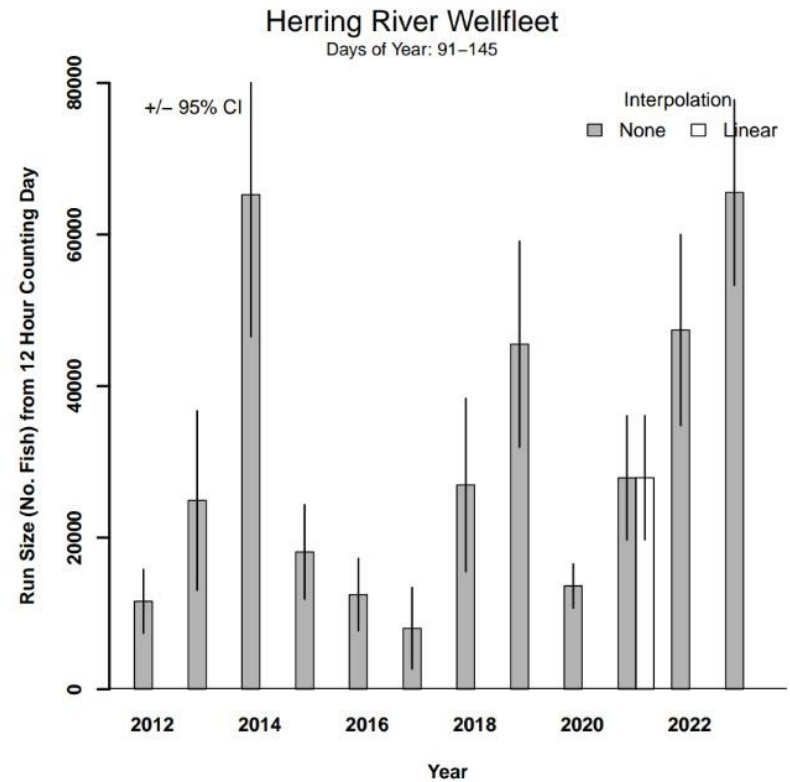
Year	First.Day	Last.Day	Length	Missing	Count.Days	One.Sample	P.Start	P.End
2012	77	145	69	0	69	1	07:00	19:00
2013	81	151	71	8	63	4	07:00	19:00
2014	91	147	57	0	57	2	07:00	19:00
2015	91	145	55	0	55	1	07:00	19:00
2016	87	148	62	0	62	1	07:00	19:00
2017	91	151	61	0	61	1	07:00	19:00
2018	91	150	60	0	60	0	07:00	19:00
2019	91	151	61	0	61	0	07:00	19:00
2020	86	152	67	0	67	4	07:00	20:00
2021	88	152	65	1	64	2	06:00	20:00
2022	80	156	77	0	77	0	07:00	19:00
2023	91	151	61	0	61	0	07:00	19:00

## 4. MA DMF COUNTING PROGRAM (cont.)

### Example: Herring River, Wellfleet (2012 – 2023)



Estimated daily counts (DOY: 91 – 145)



Estimated run sizes (DOY: 91 – 145)

## 5. RECOMMENDATIONS

FROM NELSON (2006)

1. PROGRAMS FOLLOW A 2-WAY STRATIFIED RANDOM SAMPLING DESIGN
2. VOLUNTEERS MAKE 3 10-MINUTE COUNTS DURING EACH OF THREE DAILY PERIODS
  - i.e.) 7am – 11am
  - 11am – 3pm
  - 3pm – 7pm
3. CONDUCT COUNTS DAILY THROUGHOUT THE ENTIRE SPRING SPAWNING RUN
  - i.e.) APRIL 1 – MID-JUNE

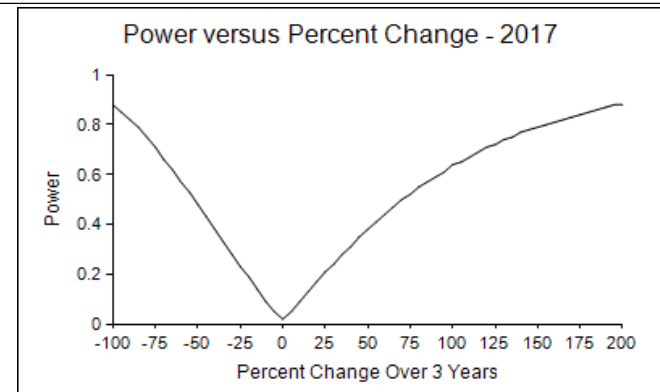
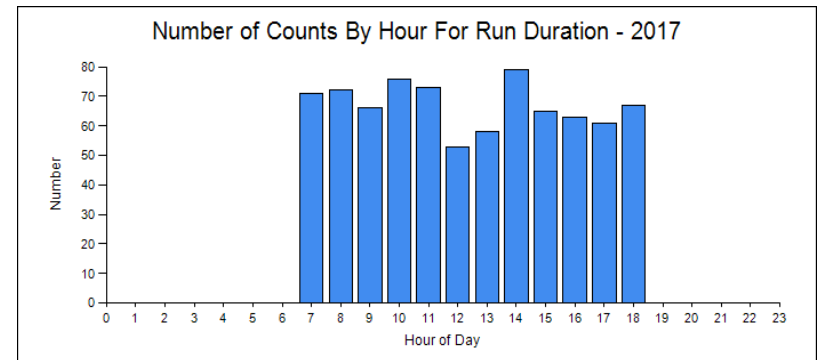
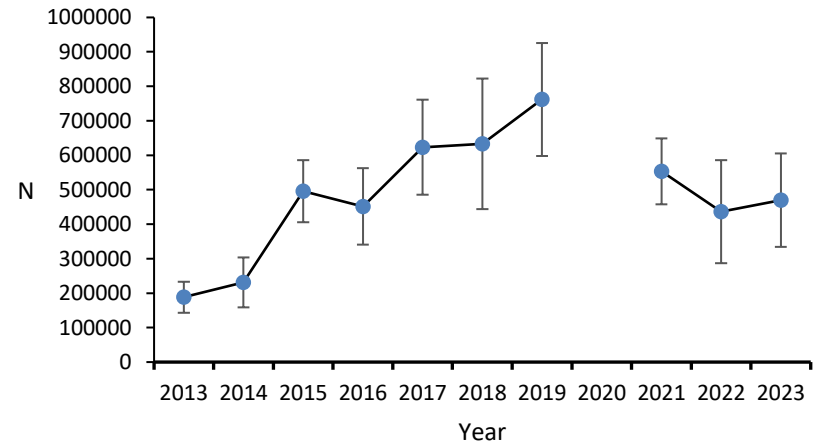


Massachusetts River Herring Network annual meeting (October 15, 2015)

## 6. CASE STUDIES

### Mystic River (Medford, MA)

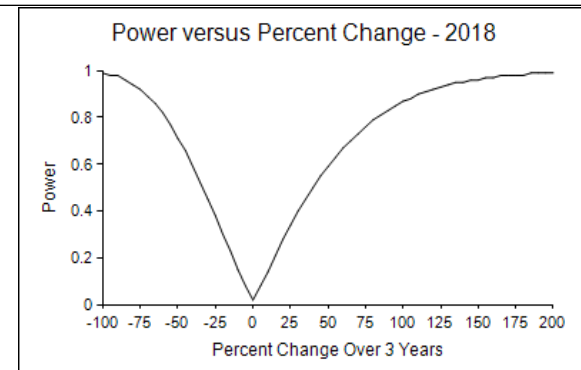
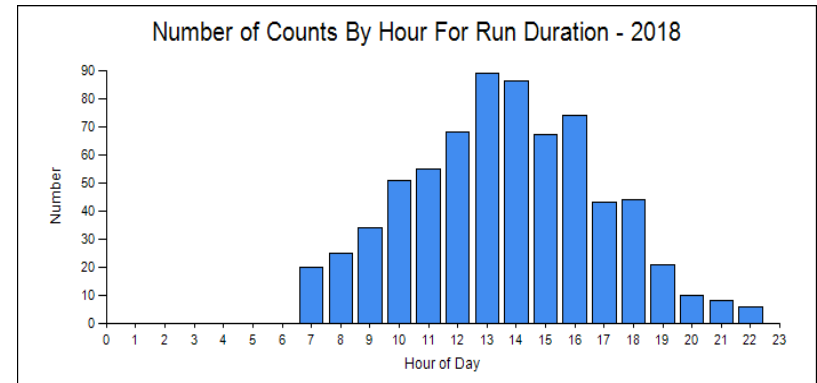
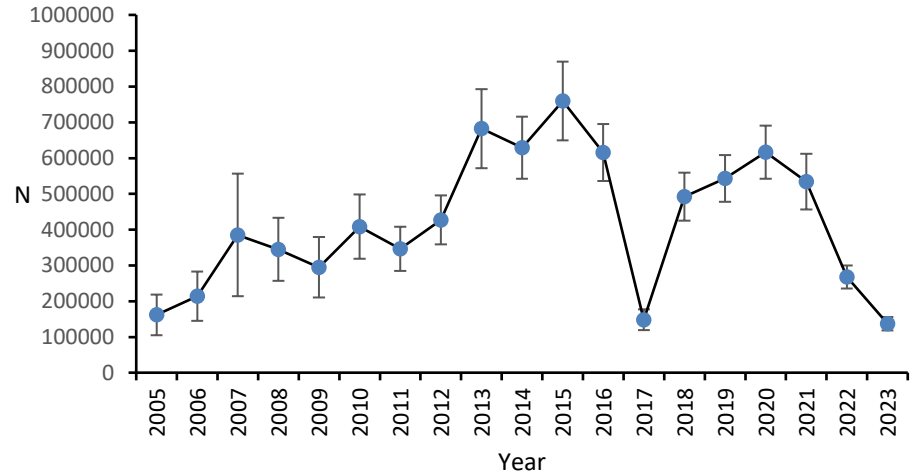
- Time series: 2013 – 2023, minus 2020 (10 years)
- Run size estimation:
  - Location: Upper Mystic Lake ladder
  - Volunteer visual count
  - 2-way, 3-period stratified sampling design
  - Mean counts/day: 9 (3 per 4-hr. period)
- Consistent sampling intensity and design
- Counting augmented by video monitoring
- Potential for inclusion into ASMFC coast-wide stock assessment



## 6. CASE STUDIES (cont.)

### Nemasket River (Middleborough, MA)

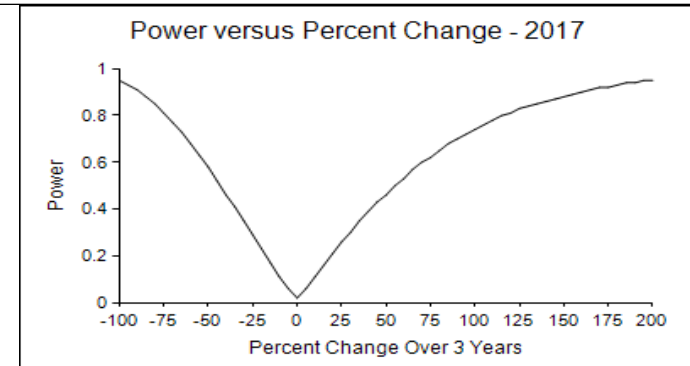
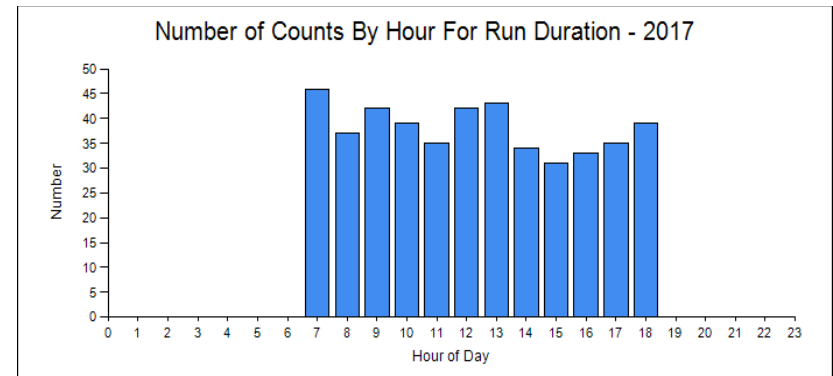
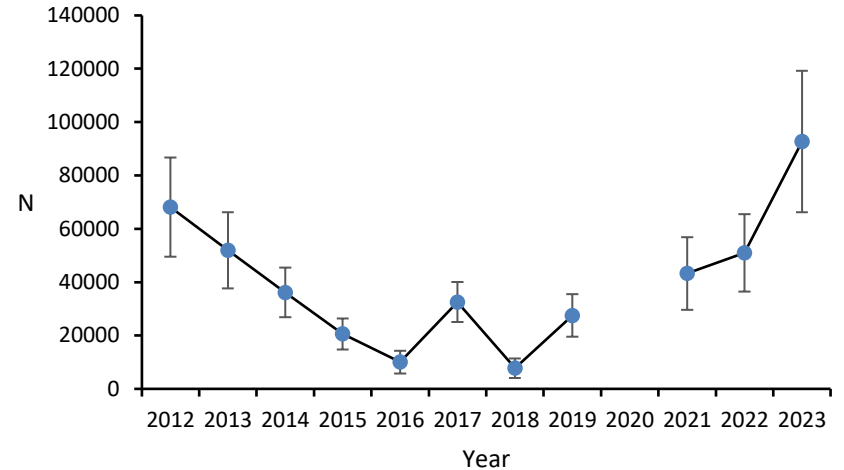
- Time series: 2005 – 2023 (19 years)
- Run size estimation:
  - Location: Wareham Street ladder
  - Volunteer visual count  
(Town appointed Herring Wardens, MLHC)
  - 2-way, 2-period stratified sampling design
  - Mean counts/day: 6.4 (3.2 per 6-hr. period)
- Consistent sampling intensity and design
- Abundance data supplemented with biological sampling data
- Included into ASMFC coast-wide stock assessment (2017)



## 6. CASE STUDIES (cont.)

### Marstons Mills River (Marstons Mills, MA)

- Time series: 2012 – 2023, minus 2020 (11 years)
- Run size estimation:
  - Location: Mill Pond
  - Volunteer visual count
  - 2-way, 3-period stratified sampling design
  - Mean counts/day: 9 (3 per 4-hr. period)
- Consistent sampling intensity and design
- Candidate for inclusion into ASMFC coast-wide stock assessment





## 7. DATA LIMITATIONS

1. The estimates are not true population estimates – indices of abundance
  - 12-hr daily observation period
2. The counts may not account for changes in phenology
  - Changes in spawning migratory patterns over time in MA coastal rivers (Legett et al. 2021; Dalton et al. 2022)
3. The counts may not account for changes in diel migration patterns
  - i.e.) early morning/evening movements
4. Difficulty maintaining consistent count metrics
5. Difficulty maintaining volunteer involvement

# THANK YOU

- USFWS (CNEFRO & CTRO)
- Association to Preserve Cape Cod
- North & South River Watershed Association
- Buzzards Bay Coalition
- NOAA Restoration Center
- Massachusetts River Herring Network
- Municipal Wardens & DNR Personnel
- Watershed Associations
- Barnstable Clean Water Coalition
- ***VOLUNTEERS!!***

<https://www.mass.gov/files/documents/2016/08/om/tr-25.pdf>

[www.mass.gov/marinefisheries](http://www.mass.gov/marinefisheries)



# FISH MONITORING 101

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How to participate  
in the herring  
count!



# FISH MONITORING METHODOLOGY

## CHARLES RIVER HERRING COUNT

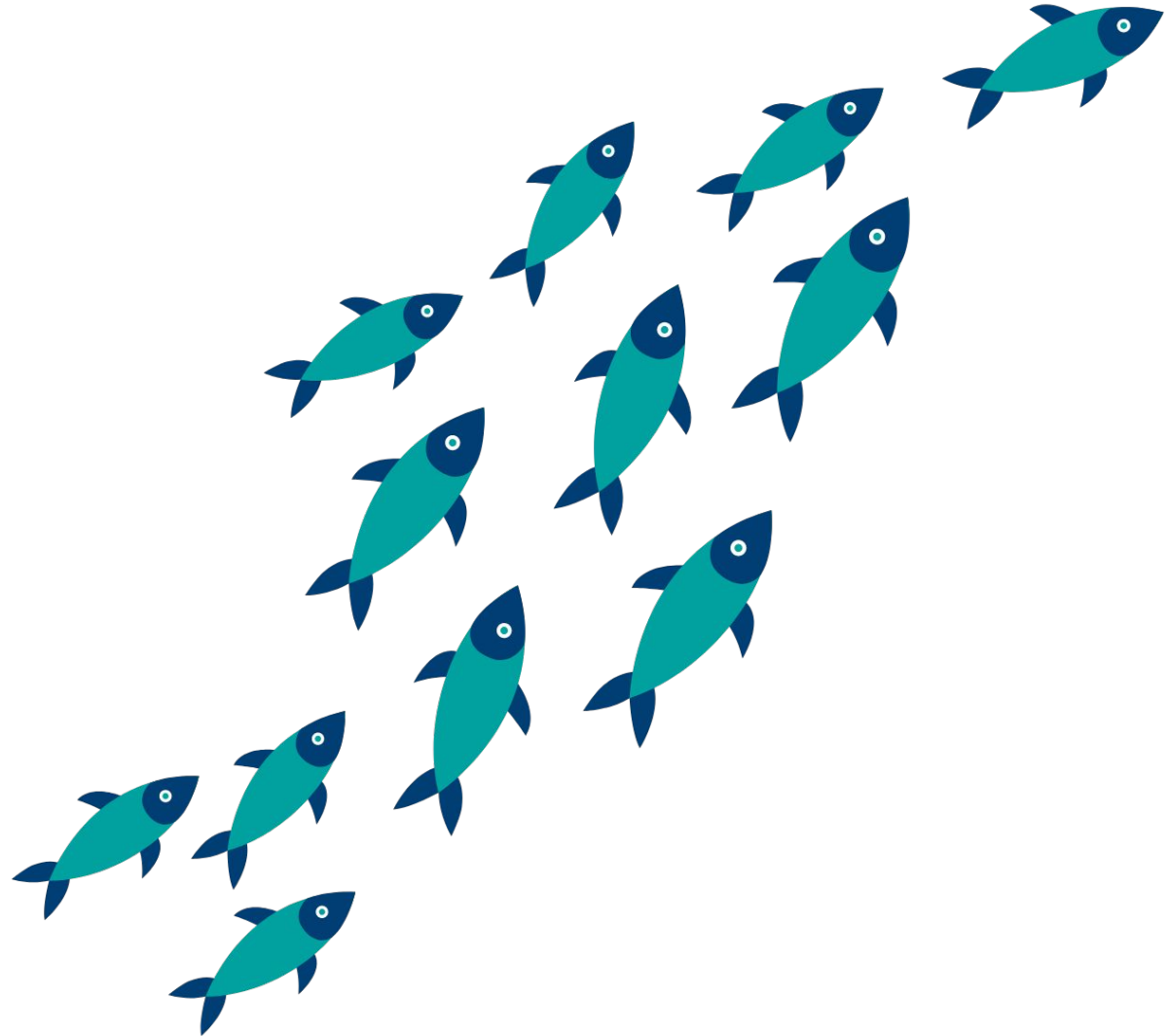
APR 15 - JUN 30 | WATERTOWN DAM

VOLUNTEERS FOLLOW DMF PROTOCOL

10-MINUTE MONITORING SHIFTS - EACH IS VERY  
IMPORTANT FOR ACCURACY!

OBSERVATIONS MADE AT SAME LOCATION - ONLY  
COUNT FROM VIEWING PLATFORM

COUNT OF ZERO IS STILL USEFUL! EVEN IF YOU  
DON'T SEE FISH, IT IS IMPORTANT TO STILL  
RECORD.



# WHAT SUPPLIES DO I NEED?

**WHEN YOU PREPARE TO MONITOR, BE SURE YOU HAVE:**

- **CLICKER**
- **TIMER**
- **POLARIZED SUNGLASSES**
- **CELL PHONE TO RECORD DATA**

**THESE SUPPLIES CAN BE FOUND IN THE BOX ON SITE!**





**STEP 1: ARRIVE AT  
WATERTOWN DAM!**

**NAVIGATE TO:** 42 California St. Watertown, MA 02472  
Free 2-hour parking; be careful crossing the street!



**DISREGARD THE TEMPORARY FENCE!**

**STEP 2: WALK TO THE MONITORING LOCATION**

**VIEWING PLATFORM ABOVE THE FISH LADDER!**  
Walk to end of path between fences, move back temporary fence to access box.



**STEP 2: UNLOCK THE BOX!**

**CODE: 4641**





**DETAILS ON NEXT SLIDE...**

### **STEP 3: COUNT FISH!!!**

**VIEWING PLATFORM ABOVE THE FISH LADDER!**  
Count fish that go upstream over the white board, from right to left, in ten minutes.



## DETAILS:

1. SET CLICKER TO 0

2. SET TIMER TO 10-MINS

3. START COUNTING! ONLY  
COUNT FISH MOVING  
UPSTREAM

4. COUNT FOR 10-MINS

## STEP 3: COUNT FISH!!!

### VIEWING PLATFORM ABOVE THE FISH LADDER!

Count fish that go upstream over the white board, from right to left, in ten minutes.



## Watertown Dam Fish Count

Electronic form for entering visual counts at Watertown Dam, 2024

lkumpf@crwa.org [Switch account](#)

 Not shared

\* Indicates required question



**CLICK HERE >>>**

<https://docs.google.com/forms/d/e/1FAIpQLSdeSyPUZe4cSd0GS2K5DdLFt5BA0RZO-pKKvWQkXNkHxAbRURQ/viewform>

**STEP 4: RECORD  
YOUR RESULTS!**

**USE CRWA'S DATA SHEET!**

With your phone, use QR code or link above to open the data form.

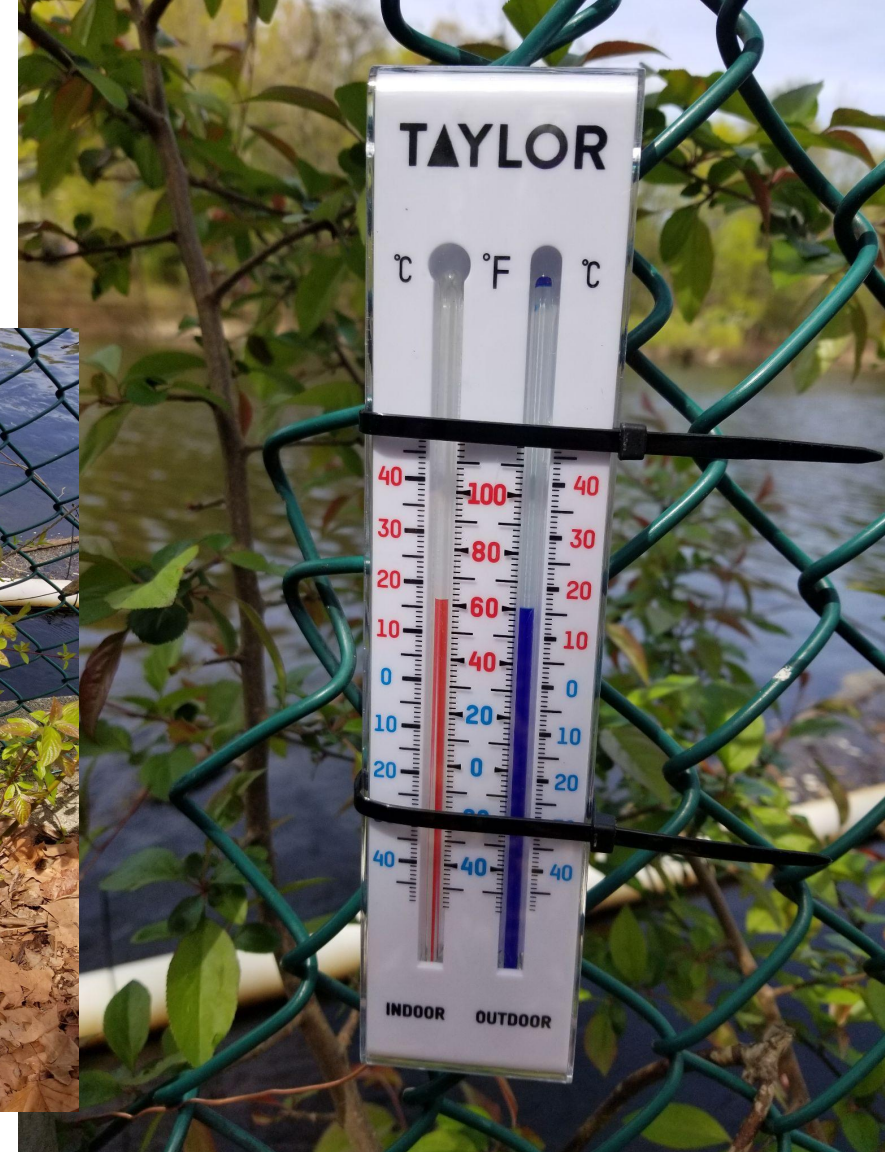
## DATA TO RECORD:

1. DATE & TIME

2. # OF FISH

3. AIR & WATER TEMP  
FROM THERMOMETER

4. WEATHER & NOTES



**STEP 4: RECORD  
YOUR RESULTS!**

**USE CRWA'S DATA SHEET!**

Record count, air and water temperature, date & time, and weather!



## STEP 5: CLEANUP & RETURN SUPPLIES

Return materials to box, lock box to fence, close temporary fence, take your belongings with you!

# SIGN UP FOR YOUR SHIFT!

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Sign up online!

  
**Charles River**  
Watershed Association

SLR 



# HOW DO SIGN UP FOR A SHIFT?

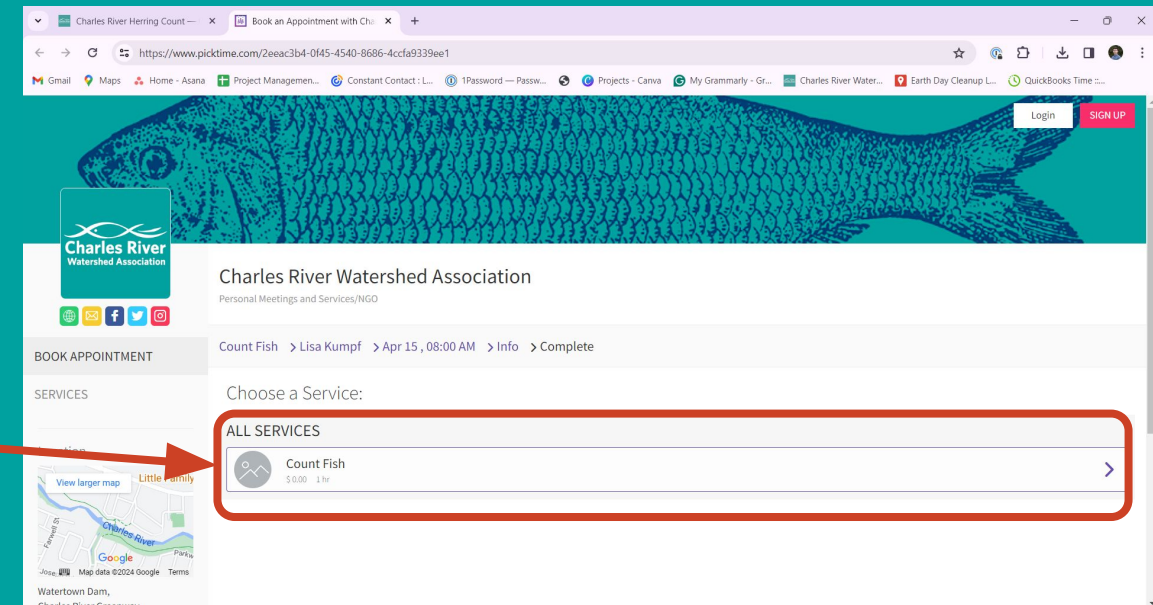
1. Scroll to the bottom of the herring count page and click the “Schedule Now” Button

**Pick your timeslot Today!**

Whether you can volunteer once or a dozen times, each session is vital to understanding fish migration in the Charles River.

SCHEDULE NOW!

2. Click “Count Fish” under “All Services”



Email Lisa Kumpf, [lkumpf@crwa.org](mailto:lkumpf@crwa.org) with questions!

# HOW DO SIGN UP FOR A SHIFT?

Charles River Watershed Association  
Personal Meetings and Services/NGO

BOOK APPOINTMENT

Count Fish > Lisa Kumpf > Date & Time > Info > Complete

WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	
3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
APR	APR	APR	APR	APR	APR	APR	APR	APR	APR	APR	APR	APR

(UTC-04:00) US Eastern Time

08:00 AM	09:00 AM	10:00 AM	11:00 AM
12:00 PM	01:00 PM	02:00 PM	03:00 PM
04:00 PM	05:00 PM	06:00 PM	

Location: Watertown Dam, Charles River Greenway, Watertown, MA.

3. Navigate to the desired date to see available times and click what one you want

4. Fill out required information and hit “Book Appointment”

Charles River Watershed Association  
Personal Meetings and Services/NGO

Count Fish > Lisa Kumpf > Apr 15, 08:00 AM > Info > Complete

BOOK APPOINTMENT

SERVICES

Location: Watertown Dam, Charles River Greenway, Watertown, MA.

Enter your Information:

FIRST NAME \*

LAST NAME \*

EMAIL ID \*

MOBILE NUMBER

BOOKING NOTES

Email Lisa Kumpf, [lkumpf@crwa.org](mailto:lkumpf@crwa.org) with questions!



# HOW DO SIGN UP FOR A SHIFT?

5. Click the “Book Again” button or repeat steps 1-4 to fill another timeslot!

Count Fish > Lisa Kumpf > Apr 15, 07:00 AM > Info > Complete

BOOK APPOINTMENT

SERVICES

Location

View larger map Little Family

Watertown Dam,  
Charles River Greenway,  
Watertown, MA.

Watertown Dam,  
Charles River Greenway,  
Watertown, MA.

✓

Your booking has been confirmed.

An email has been sent to rsmith@crwa.org

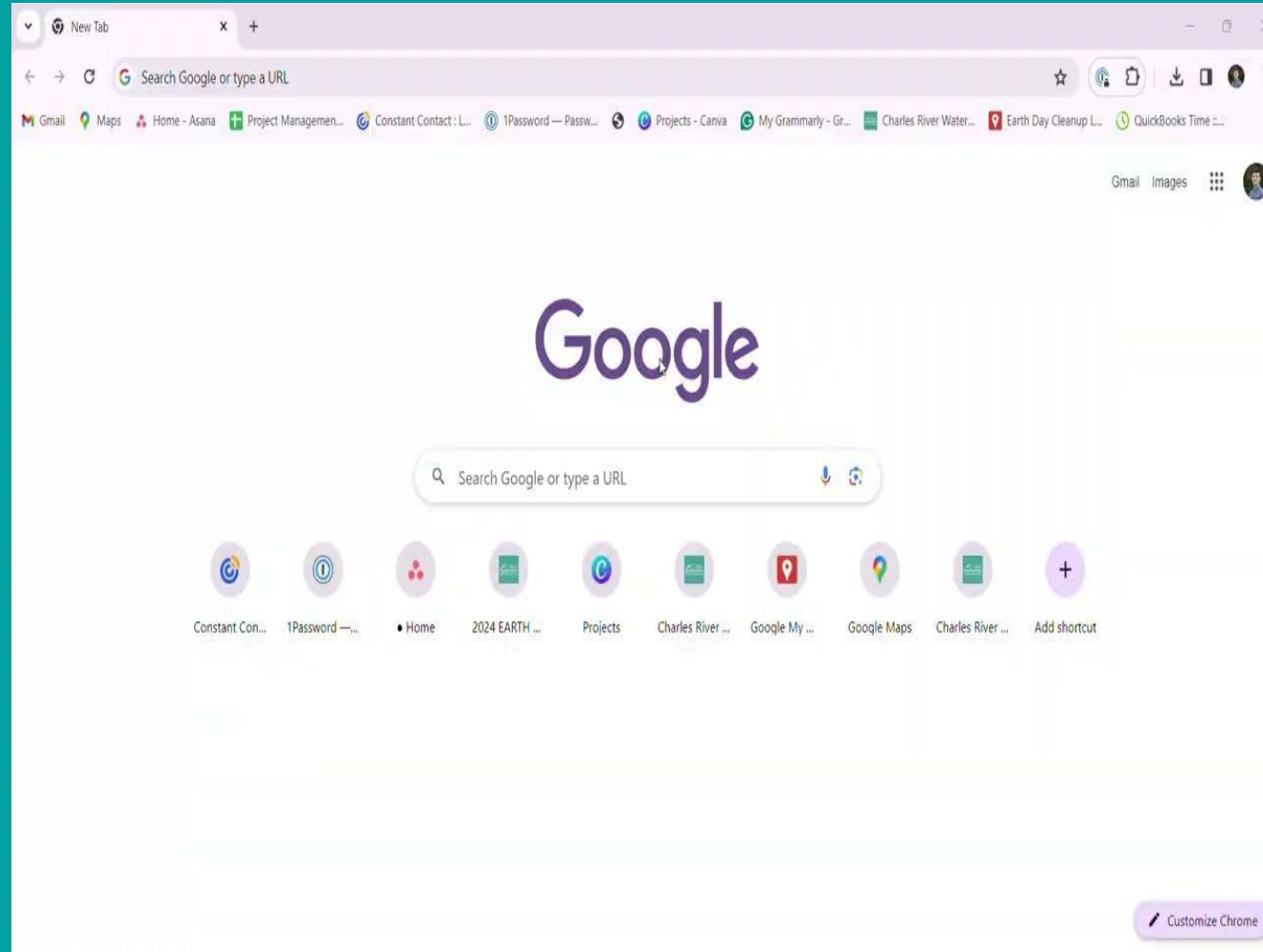
Service	Count Fish
Team Member	Lisa Kumpf
Date & Time	Apr 15th 2024, 07:00 AM UTC -04:00, US Eastern Time
Client	joe Shmo rsmith@crwa.org

Book Again

Made with by Picktime

Email Lisa Kumpf, [lkumpf@crwa.org](mailto:lkumpf@crwa.org) with questions!

# HOW DO SIGN UP FOR A SHIFT?



VISIT: [www.crwa.org/fish-count](http://www.crwa.org/fish-count)



# Charles River Watershed Association (CRWA) Volunteer Waiver

Please complete this waiver if you intend to participate in a volunteer opportunity with the Charles River Watershed Association (CRWA). A separate waiver should be completed for each individual in your party. One adult will need to fill out a separate waiver for any minor(s) in your party.



[CLICK HERE >>>](https://forms.gle/FzXY594b1J5Kdrth9)

<https://forms.gle/FzXY594b1J5Kdrth9>

**REQUIREMENTS TO PARTICIPATE!**

Everyone must sign CRWA's Volunteer Waiver! Youth may participate with an adult.

# SAFETY & TIPS

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Reminder to sign  
waiver!



Two mallard ducks are swimming in dark water. The duck on the right is facing left, and the duck on the left is facing right. Both have green heads and yellow bills. The water is dark with some ripples.

**HAPPY MONITORING!**

**QUESTIONS? NEED TO CHANGE YOUR SHIFT?**

**Email Lisa Kumpf, [lkumpf@crwa.org](mailto:lkumpf@crwa.org) !**