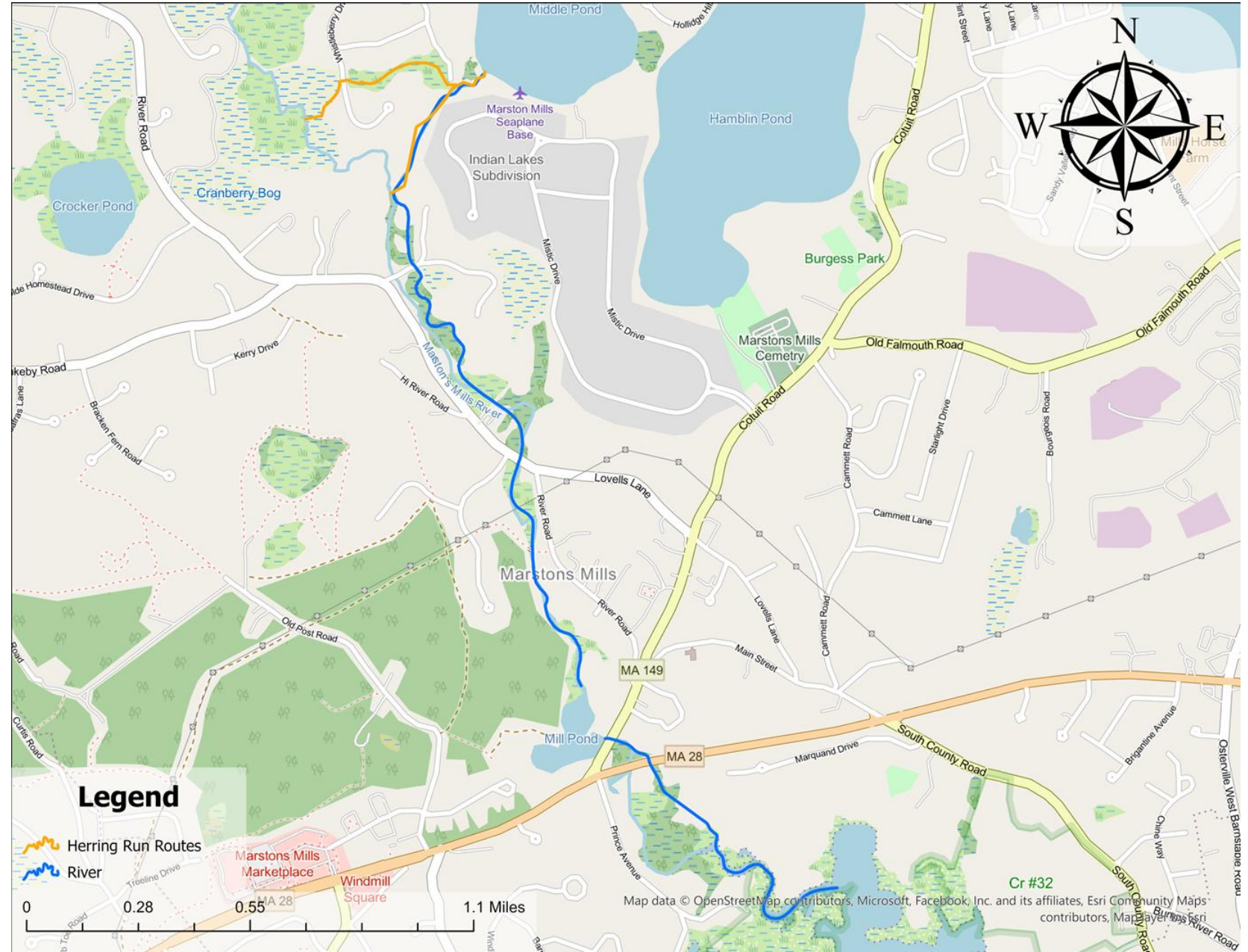
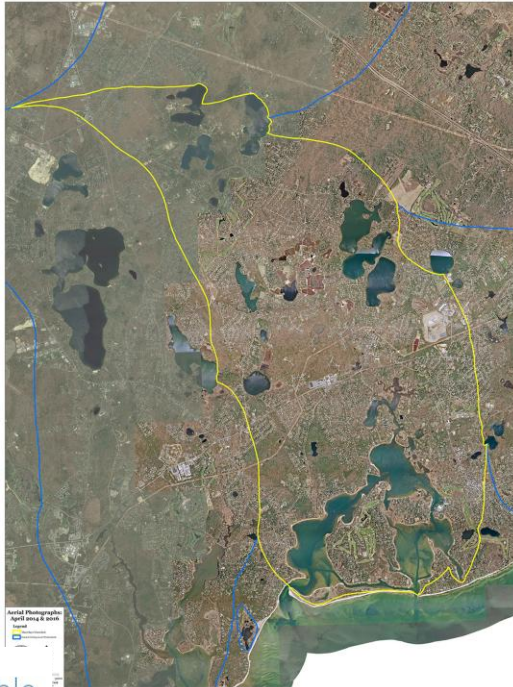


# Experiences Managing A Herring Run Count on Cape Cod

## *Challenges and Benefits of A Volunteer Visual Count Program*









# Challenge: Site Accessibility

- Difficult due to distance and terrain especially for volunteers with mobility issues
- Limited public access
- Less volunteers capable





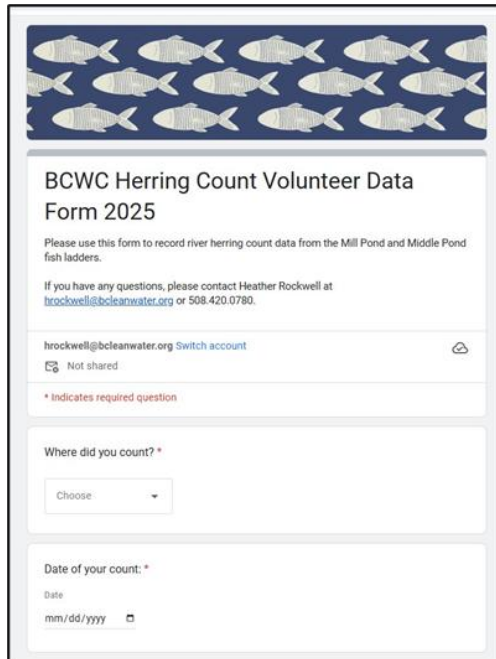
# Challenge: Numbers – Volunteers & Counts

- 2 ½ months  
7 days a week  
12 daily time slots  
2 fish ladders =  
**1,824 counts**
- Data gaps and less representative data
- Encourage volunteers to spread out counts

	30	31	Apr 1	Apr 2	Apr 3	Apr 4	Apr 5
7:00am - 8:00am			<input type="checkbox"/> Mill Pond (Rte. 149 & Rte. 28) Herring Counter	<input type="checkbox"/> Mill Pond (Rte. 149 & Rte. 28) Herring Counter	<input type="checkbox"/> Mill Pond (Rte. 149 & Rte. 28) Herring Counter	<input checked="" type="checkbox"/> Mill Pond (Rte. 149 & Rte. 28) Herring Counter	<input type="checkbox"/> Mill Pond (Rte. 149 & Rte. 28) Herring Counter
8:00am - 9:00am			<input checked="" type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input checked="" type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
9:00am - 10:00am			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
10:00am - 11:00am			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
11:00am - 12:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
12:00pm - 1:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
1:00pm - 2:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
2:00pm - 3:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
3:00pm - 4:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
4:00pm - 5:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
5:00pm - 6:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter
6:00pm - 7:00pm			<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter	<input type="checkbox"/> Middle Pond (#90 - #110 Flume Avenue) Herring Counter

# Challenge: Confusion

- “Flip-flopping” fish
- Data entry and transcription errors on Google Doc Form



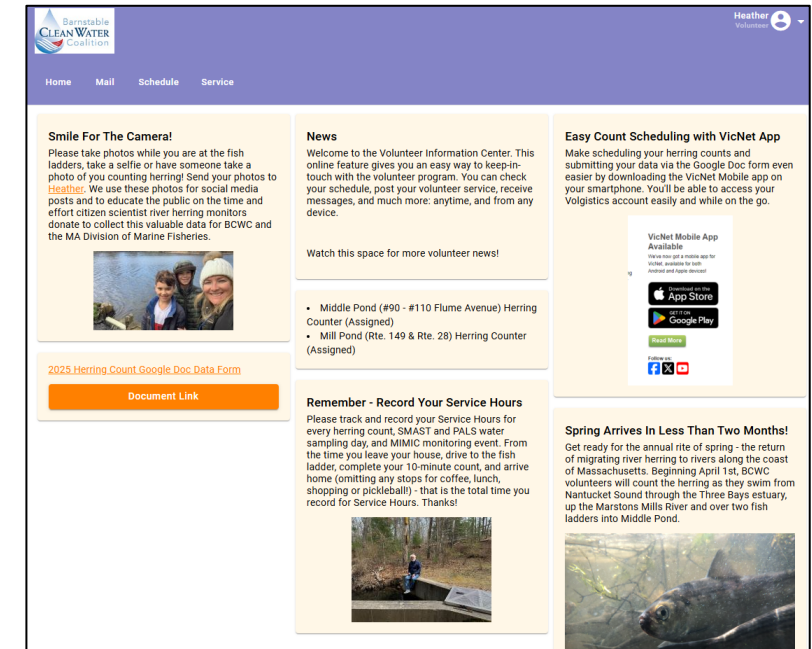
The image shows a Google Docs form titled "BCWC Herring Count Volunteer Data Form 2025". The form has a header with a blue and white fish pattern. Below the header, it says "Please use this form to record river herring count data from the Mill Pond and Middle Pond fish ladders." and "If you have any questions, please contact Heather Rockwell at [hrockwell@bcleanwater.org](mailto:hrockwell@bcleanwater.org) or 508.420.0780." The form is currently "Not shared" and includes a "Switch account" link. A red asterisk indicates a required question. The first question is "Where did you count?" with a dropdown menu set to "Choose". The second question is "Date of your count:" with a date input field set to "mm/dd/yyyy".





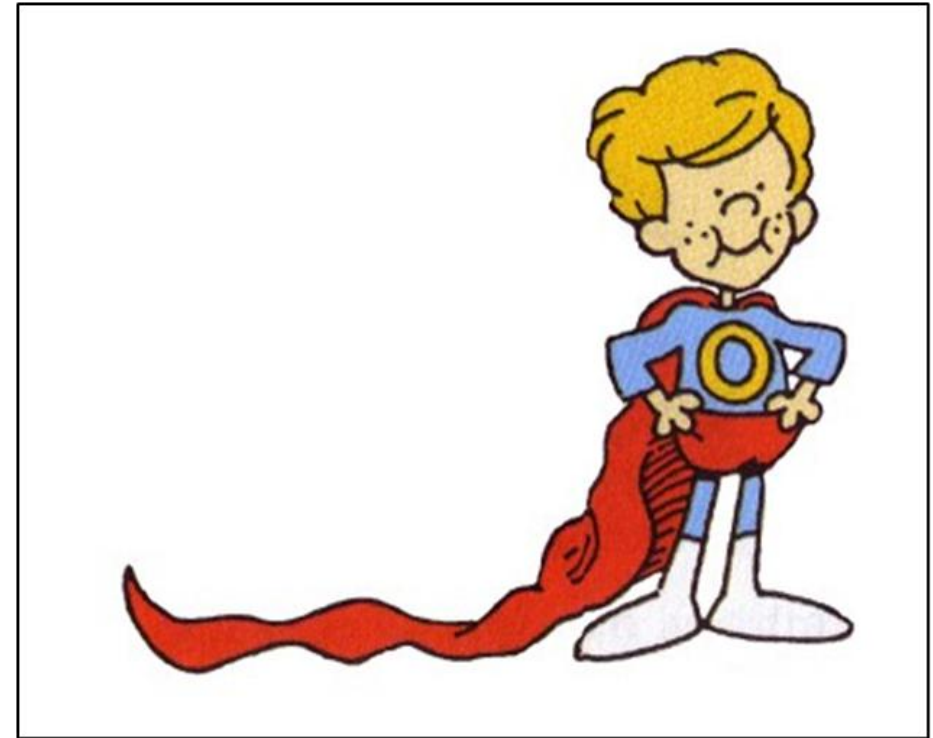
# Challenge: Volunteer Demographics

- Older, retired population on Cape Cod
- Electronic communication, scheduling and uploading data



# Challenge: Maintaining Engagement

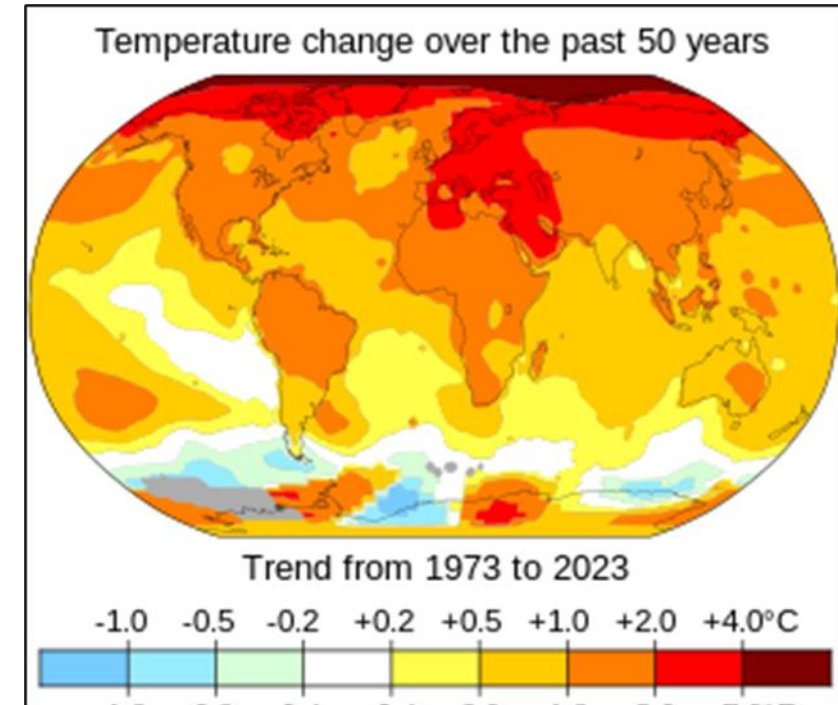
- Excited to count fish, not zeros
- Difficult to keep volunteers engaged





# Challenge: Environmental Conditions

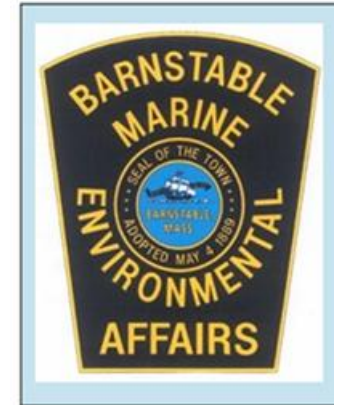
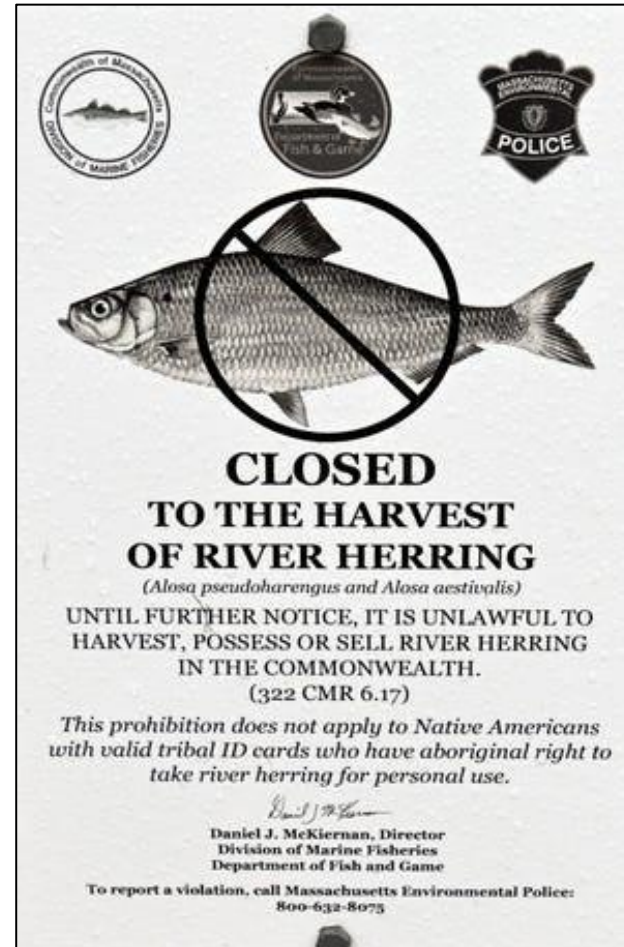
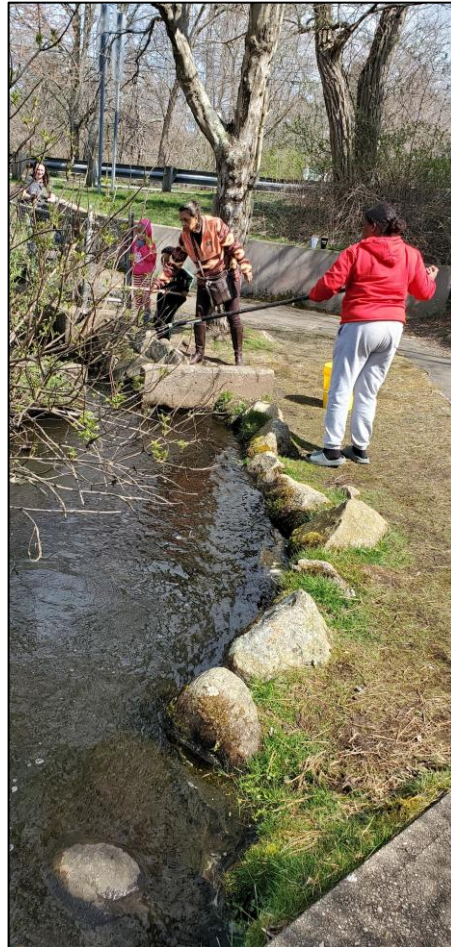
- Warmer water temperatures = earlier sightings
- Missed fish counts outside of the current counting window
- Recent counts are higher earlier in the season and lower later in the season





# Challenge: Extenuating Circumstances

- Reporting Issues
- Respecting Indigenous Tribal Member Rights
- ~~Removing Obstructions~~





# Benefit: Volunteer Recruitment

- Popular volunteer opportunity
- Flexible schedule, minimal time commitment
- Get outside, nature and wildlife



Barnstable CLEAN WATER Coalition

Home Mail Schedule Service

Use the next and previous options to move to a different date range.

Today < > Tuesday, April 1, 2025 Filter Day

### Your Schedule

8:00am - 9:00am	Middle Pond (#90 - #110 Flume Avenue) Herring Counter	Remove
8:00am - 9:00am	Mill Pond (Rte. 149 & Rte. 28) Herring Counter	Remove

### Openings

7:00am - 8:00am	Middle Pond (#90 - #110 Flume Avenue) Herring Counter	Schedule
7:00am - 8:00am	Mill Pond (Rte. 149 & Rte. 28) Herring Counter	Schedule
9:00am - 10:00am	Middle Pond (#90 - #110 Flume Avenue) Herring Counter	Schedule
9:00am - 10:00am	Mill Pond (Rte. 149 & Rte. 28) Herring Counter	Schedule
10:00am - 11:00am	Middle Pond (#90 - #110 Flume Avenue) Herring Counter	Schedule



# Benefit: New Technology



CONTENTS

PAGE	REFERENCE	DATE
<b>WEATHER CODE</b>		
1	NO CLOUDS - SUNNY	
2	1-25% CLOUDS	
3	26-50% CLOUDS	
4	51-75% CLOUDS	
5	76-100% CLOUDS - OVERCAST	
6	DRIZZLE - LIGHT RAIN	
7	RAIN - MODERATE TO HEAVY	
8	SLEET - SNOW	
9	OTHER	

Date:  
Name:  
Start Time:  
End Time:  
Fish count:  
Water Temp C°:  
Air Temp C°:  
Weather Code:  
Comments:



BCWC Herring Count Volunteer Data Form 2025

Please use this form to record river herring count data from the Mill Pond and Middle Pond fish ladders.

If you have any questions, please contact Heather Rockwell at [hrockwell@bcleanwater.org](mailto:hrockwell@bcleanwater.org) or 508.420.0780.

[hrockwell@bcleanwater.org](mailto:hrockwell@bcleanwater.org) [Switch account](#)

Not shared

\* Indicates required question

Where did you count? \*

Choose

Date of your count: \*

Date

mm/dd/yyyy





# Benefit: Educate and Involvement

- Students
- Family Friendly





# Benefit: Organizational Education and Engagement

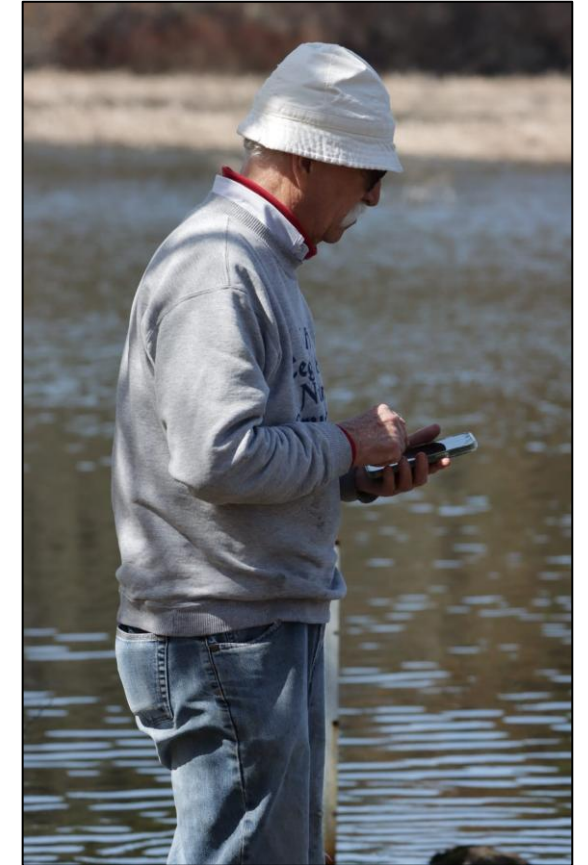
- Educate and engage volunteers
- Promote participation in other opportunities





# Benefit: Encourage Citizen Science

- **Scientific knowledge**
- **Community engagement**
- **Public trust in science**
- **Environmental monitoring**
- **Increased scientific literacy**
- **Free labor**





# Benefit: Build Relationships

- Volunteers
- Barnstable Department of Natural Resources, WHOI Sea Grant, Cape Cod Cooperative Extension, MA Division of Marine Fisheries








# Benefit: Communication

- Community outreach
- Publicity
- Acknowledgment
- Social Media
- Photos



**Herring Count Volunteer Training Session**  
 Tuesday, March 4th at 4:00pm  
 Osterville Village Library, 43 Wianno Ave., Osterville



**One Fish, Two Fish— Herring Counters Needed!**

Join Barnstable Clean Water Coalition (BCWC) and Barnstable Dept. of Natural Resources (DNR) to learn about river herring, the herring runs in the town of Barnstable, and volunteering your time to count herring on their annual spring migration up the Marston's Mills River.

Counting herring is easy and only takes 10 minutes. Join the team of citizen scientists who collect valuable scientific data on river herring for the Massachusetts Division of Marine Fisheries.

For more info, contact BCWC at [info@bcleanwater.org](mailto:info@bcleanwater.org).  
[BCleanWater.org](http://BCleanWater.org)





# In Their Own Words

Marty R.

1. I love science and love contributing data for scientists.
2. It is close to home, and I can schedule my own time.
3. It is such a bizarre thing to do. I leave my daily pickleball game at 11:30. When someone asks me to stay for just one more game, you should see their face when I tell them I must go count fish. It is truly priceless.



Jo-Ann N.

I do it because I care about Cape Cod and its abundant life both in land and in the ocean. I do it to give back as a service to the Cape although it is a very minor thing. I love nature and the gifts God has given to us. We are stewards of this earth!

Lois C.

It's a magical part of Mother Nature that we're privileged to experience here on Cape Cod! Also, it's a way to support an awareness and a potential growth of our herring population.





# In Their Own Words

Jim W.

1. It gets me out into nature to actually see some natural activity.
2. I go to places I wouldn't have found otherwise.
3. I want to contribute to Cape ecology.
4. It's fun to watch the fish swim around and flop over the ladder.

Mary G.

1. Giving back to the community/a civic duty
2. To assist in environment monitoring essential for Cape Codders
3. Personal well being - enjoying nature
4. Contest with spouse - who had the larger count

## Herring Do Have Personalities

For the past 3 years, my wife, Susan and I have been counting herring every spring as they make their way up the waterways at Mill Pond. Having counted hundreds of these clever fish, we have noticed that they do in fact have their own personalities. Below is a list of the characteristics that we have come up with:

- 1) **Show-offs:** Those that jump from one level to the next and get some air at each jump.
- 2) **Timid:** those that need to partner up with other herring before making the leap and are usually the last one over.
- 3) **Business like:** those that cross the board in the middle and keep swimming upstream without waiting for any others to join them.
- 4) **First-timers:** those that make the attempt, but have to do a lot of extra wiggling to actually make it over the board.
- 5) **Scaredy-Cats:** those that hang back in the school and wait forever before making the leap and usually hug the left or right side.
- 6) **Alpha males:** those that lead a school of herring to the next ladder.
- 7) **Cautious ones:** those that have to swim around under the board several times to make sure that everything suits their liking before leaping.
- 8) **Sheepish:** those that make it over the board finally but then don't swim on until there are enough other herring for them to swim with.
- 9) **Clueless:** the herring that swim around and around below the ladder not sure about what they are even supposed to do.
- 10) **Team Players:** Those that go along with the group, and once over the board, swim around the school to, "high fin" with the others.
- 11) **Dinner:** Those that don't know how to avoid the birds of prey flying overhead and end up as sushi.

Jack Gardner  
2024



# Thank You



Heather Rockwell [hrockwell@bcleanwater.org](mailto:hrockwell@bcleanwater.org)