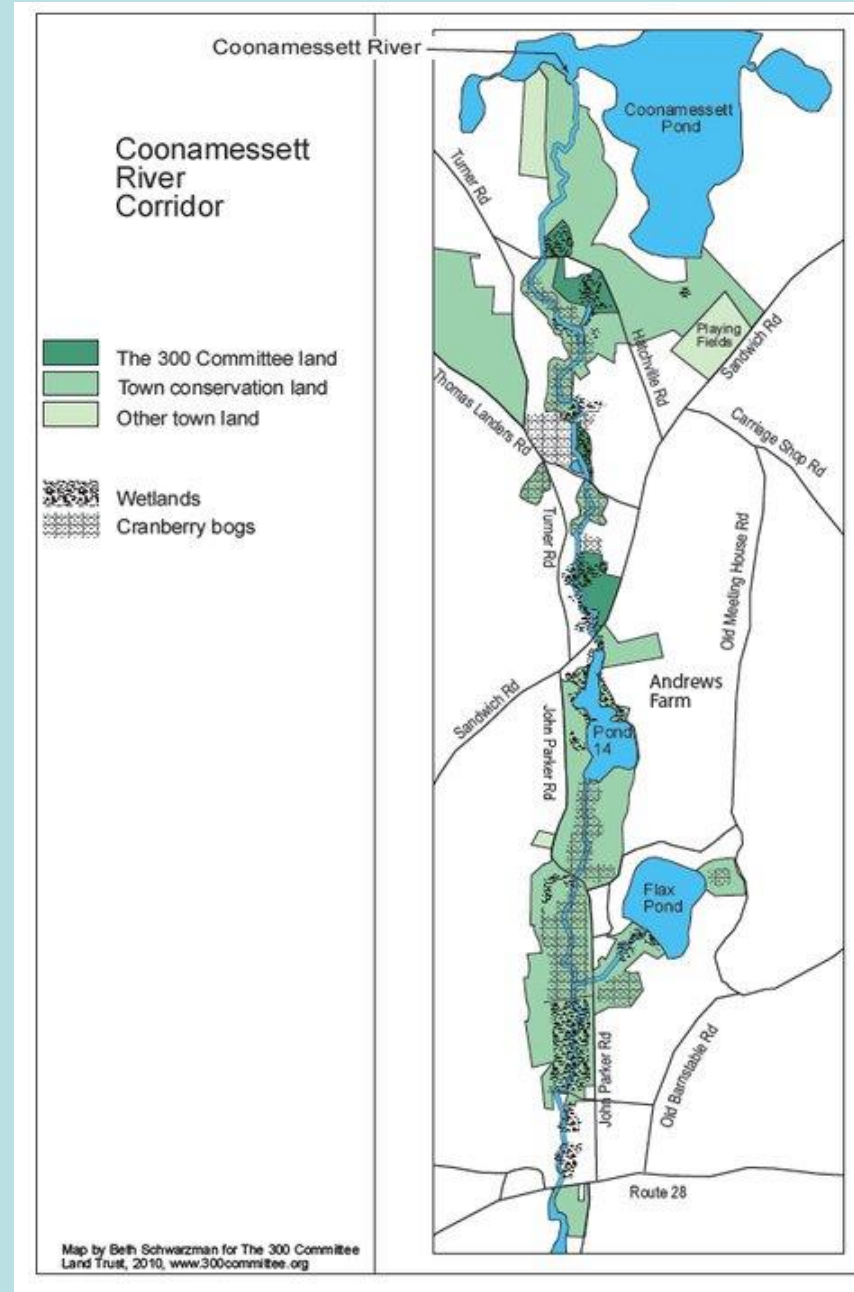


Coonamessett River Trust







Catch Area Flume



Middle/Lower Flume



John Parker Road Culvert

Thank you to our Amazing Volunteers!

6 months = 40 volunteers =
1,481.75 hours = \$50,718.54 match



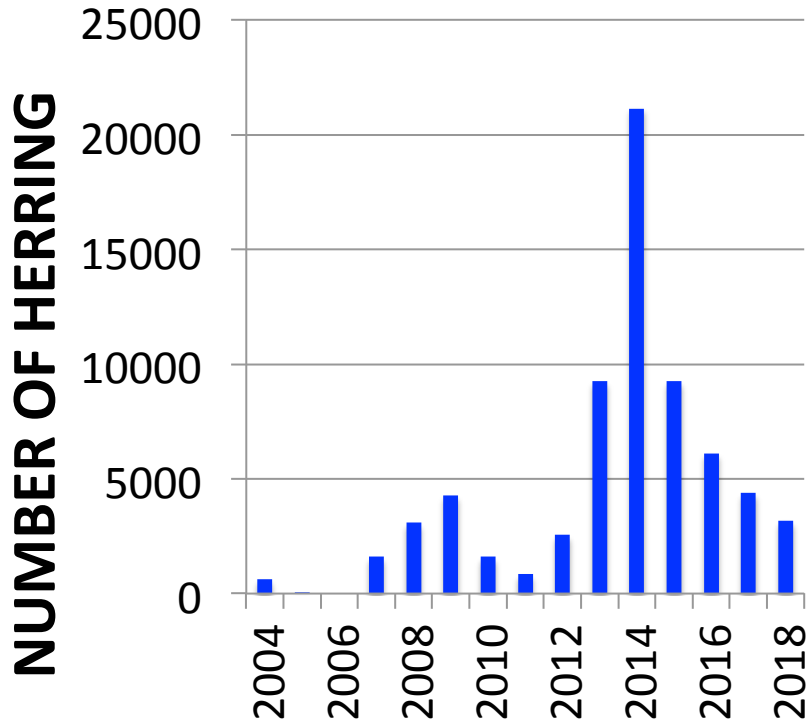
Herring Tagging and Adoption



River Herring Monitoring

Why count?

Visual counting tells us how many fish are in the river each year.



DMF:

2015: 75K

2016: 81K

2017: 42K

2018: 32K

Why tag?

Tagging tells us about their behavior, where they go to spawn, where they get hung up, and what we might do to improve their freshwater habitat.

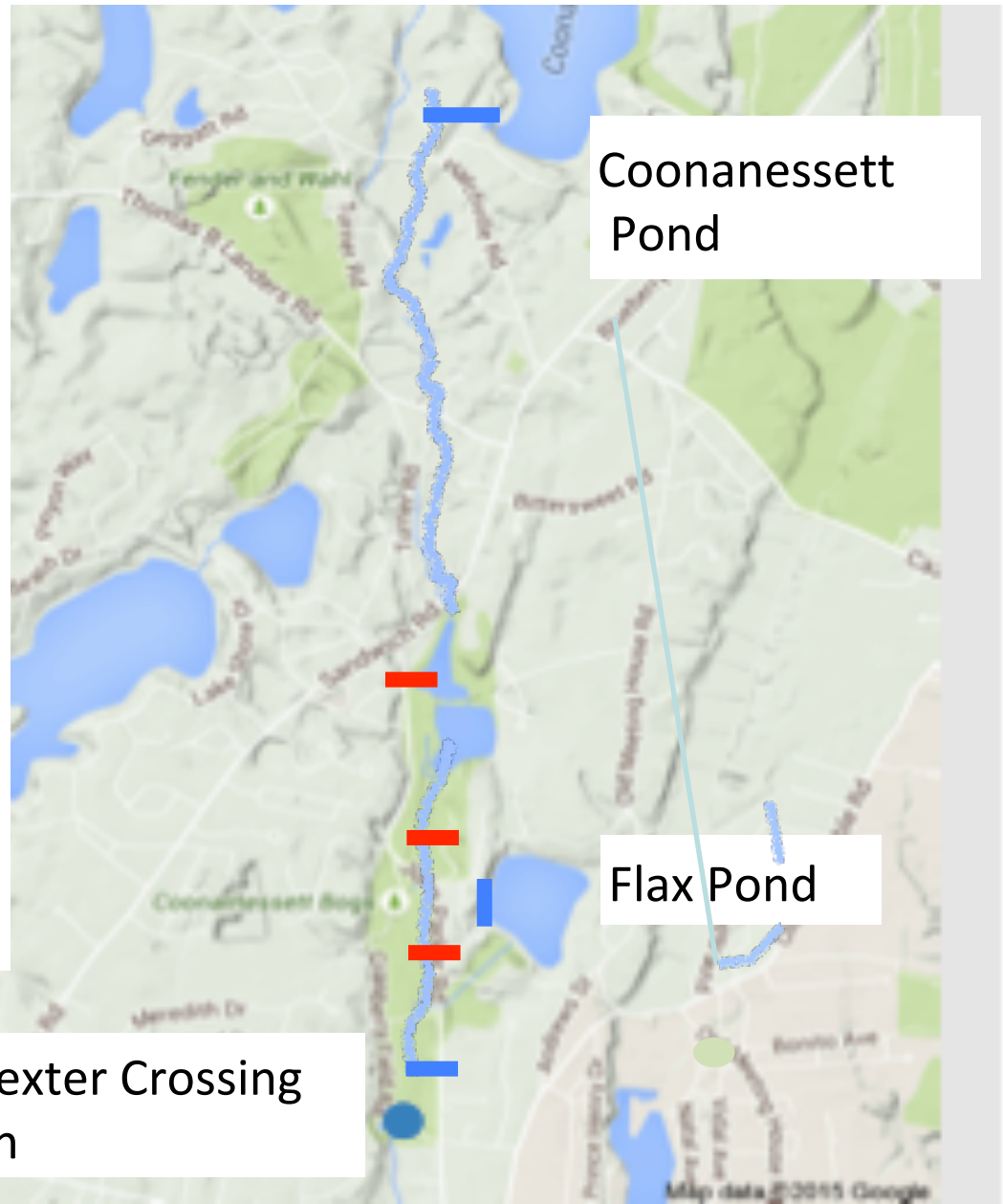


Antenna locations

Antennas placed in strategic position within the watershed

One at the lower river and each terminal pond

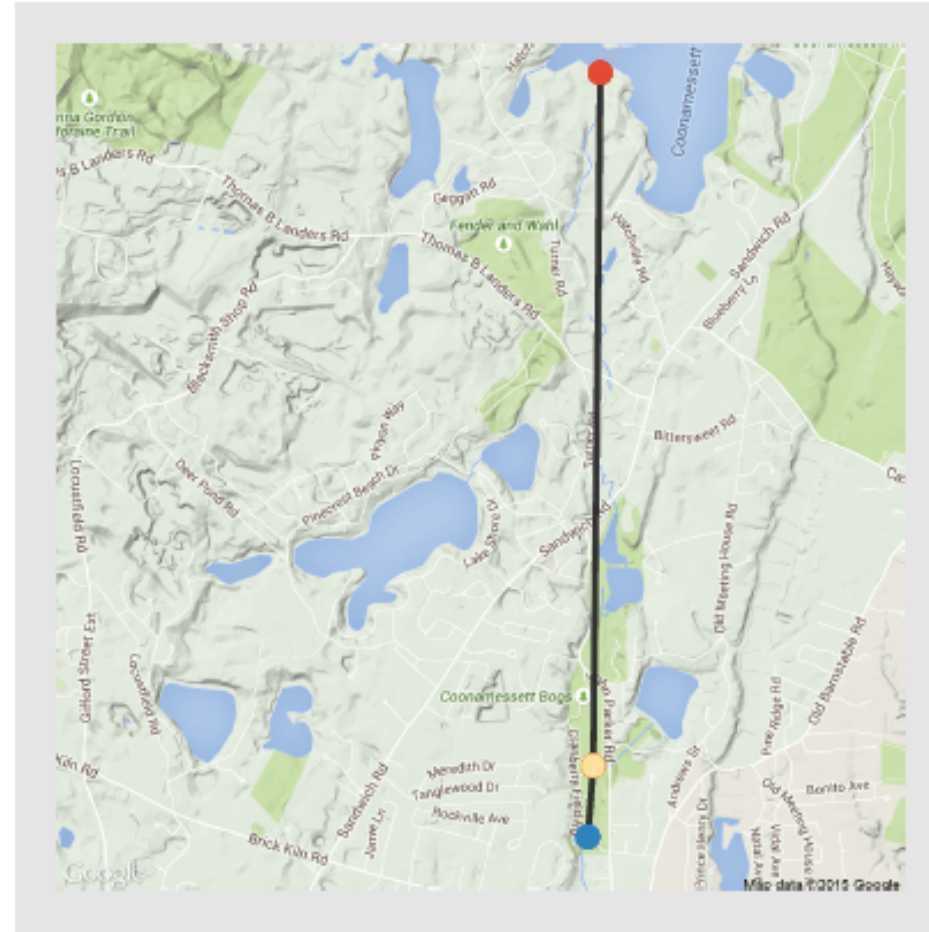
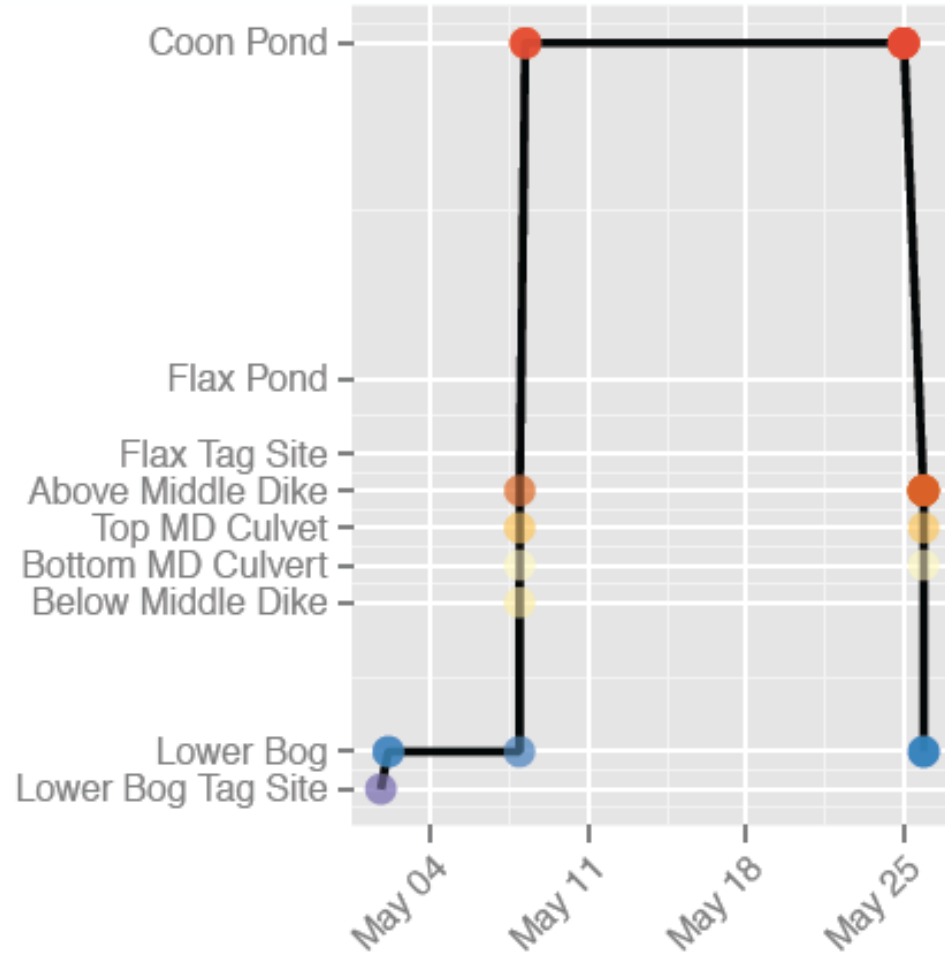
Other places to answer specific questions about passage and blockages



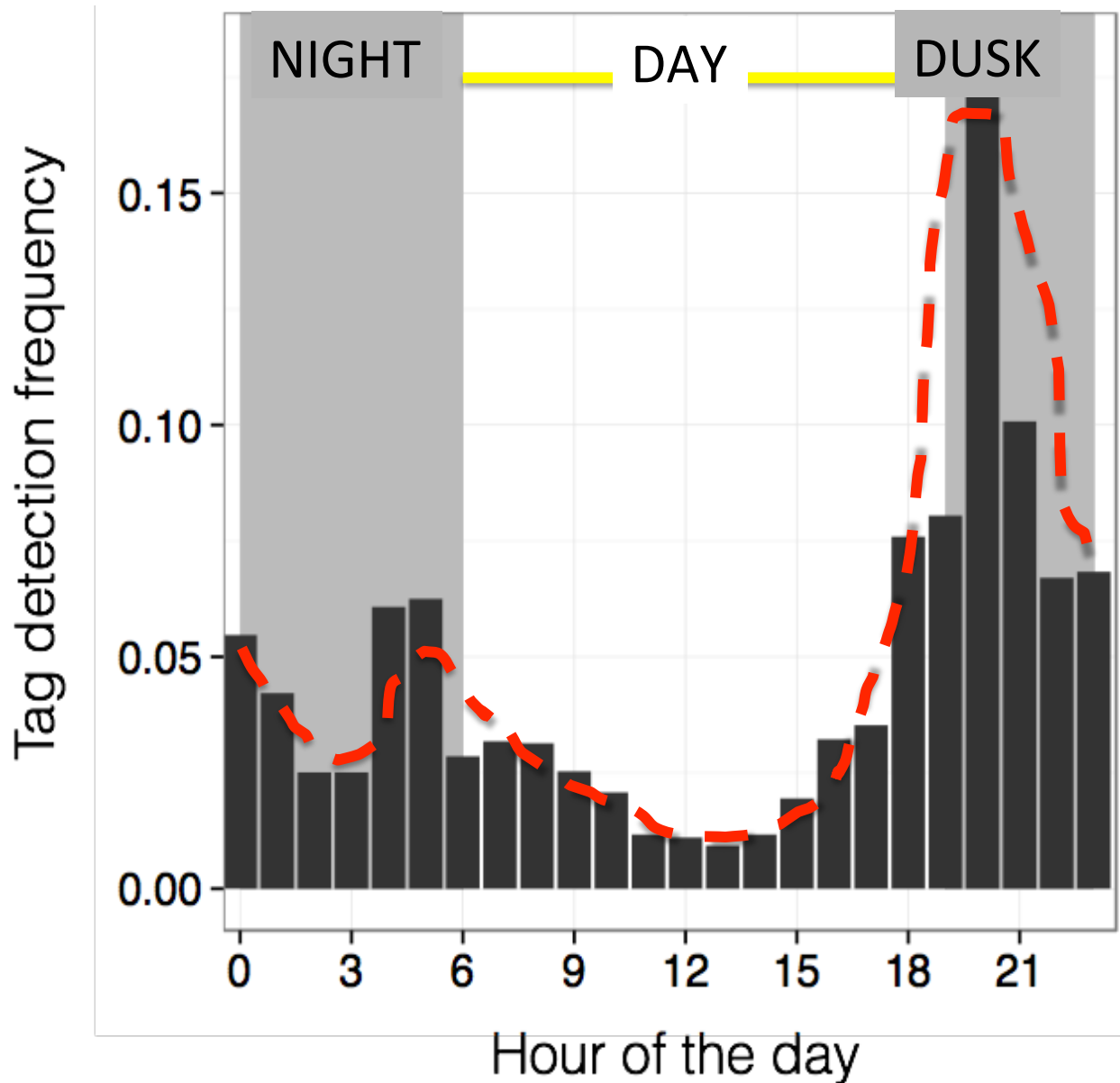
Lower river = Dexter Crossing
Tagging location

The perfect migration track . . .

For an Alewife



Night Time Migration



Perhaps without riparian cover or in-stream structure
high bird predation has driven the fish
to migrate at night?

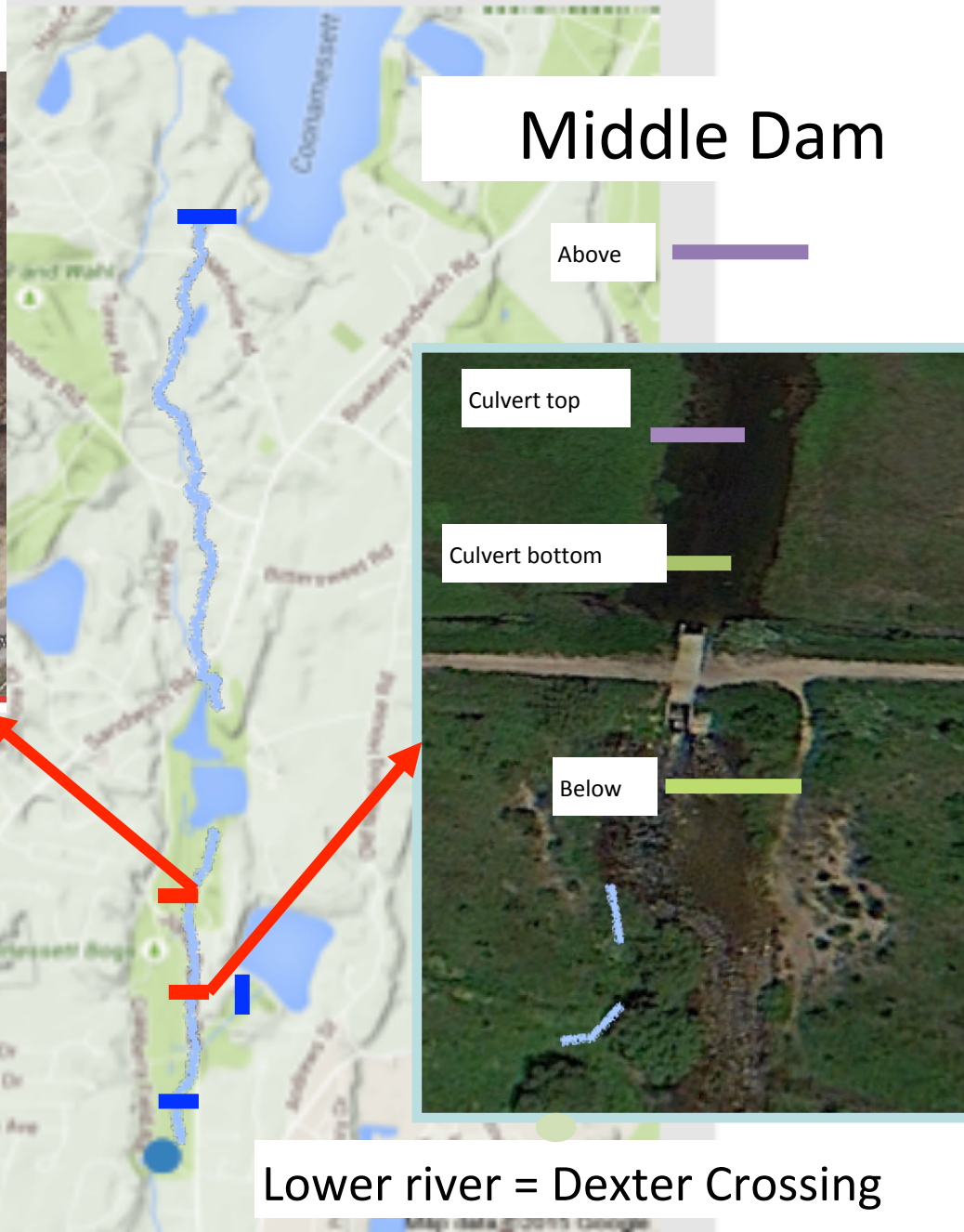


River Connectivity

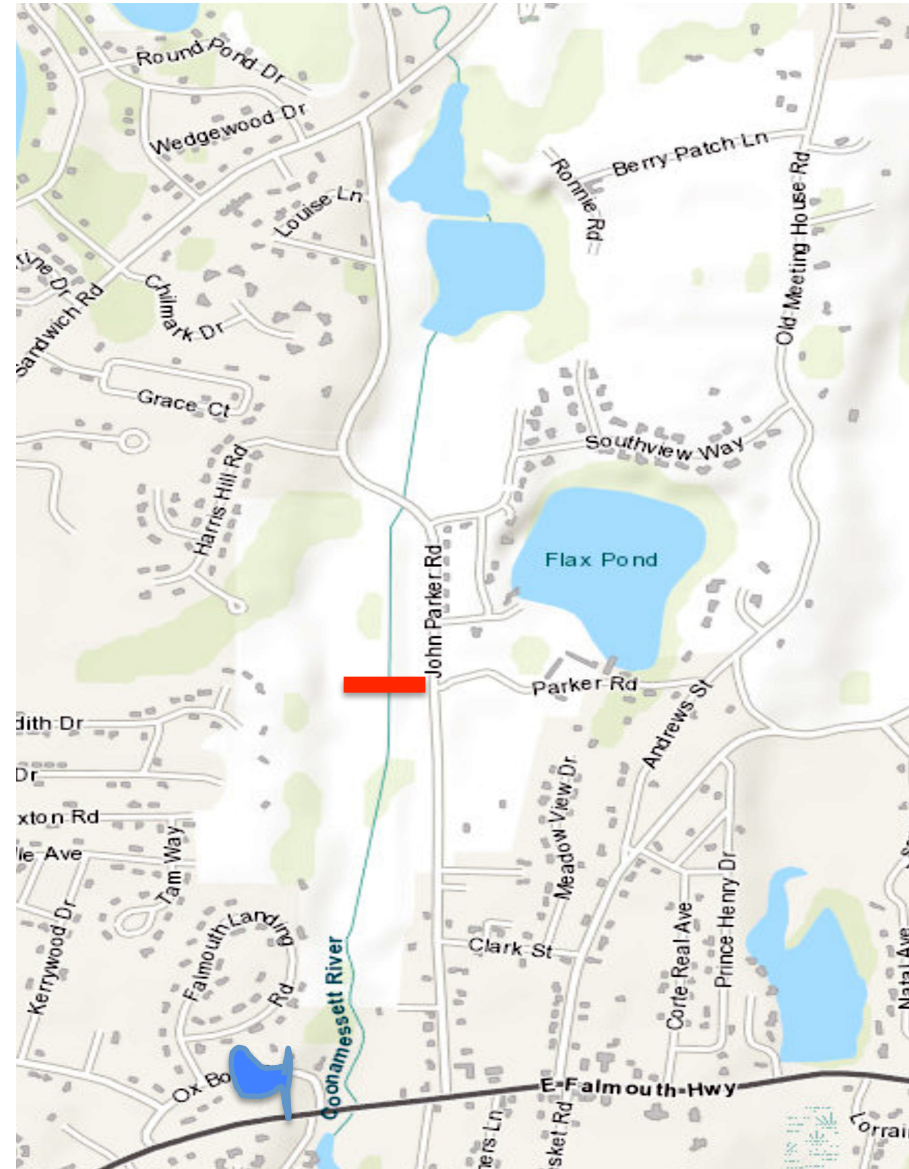
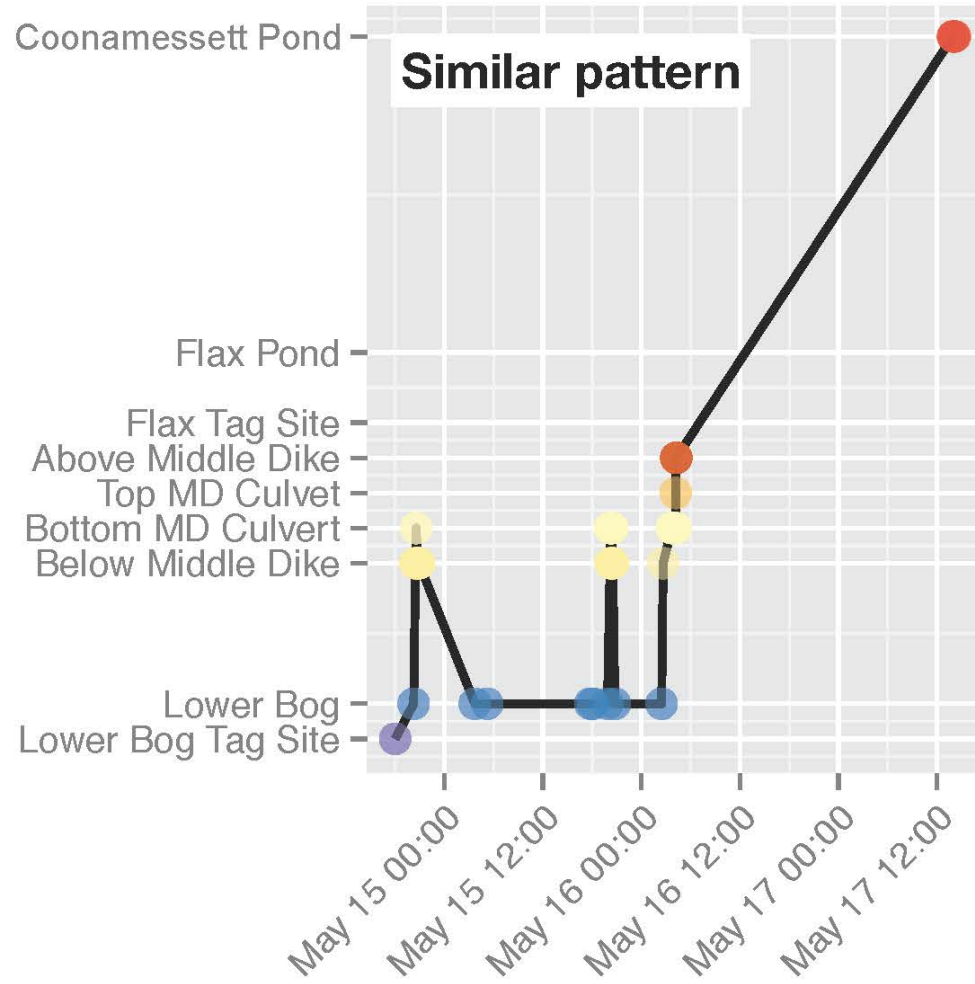
Over 26 water control or culvert or dams in less than 4 miles of river



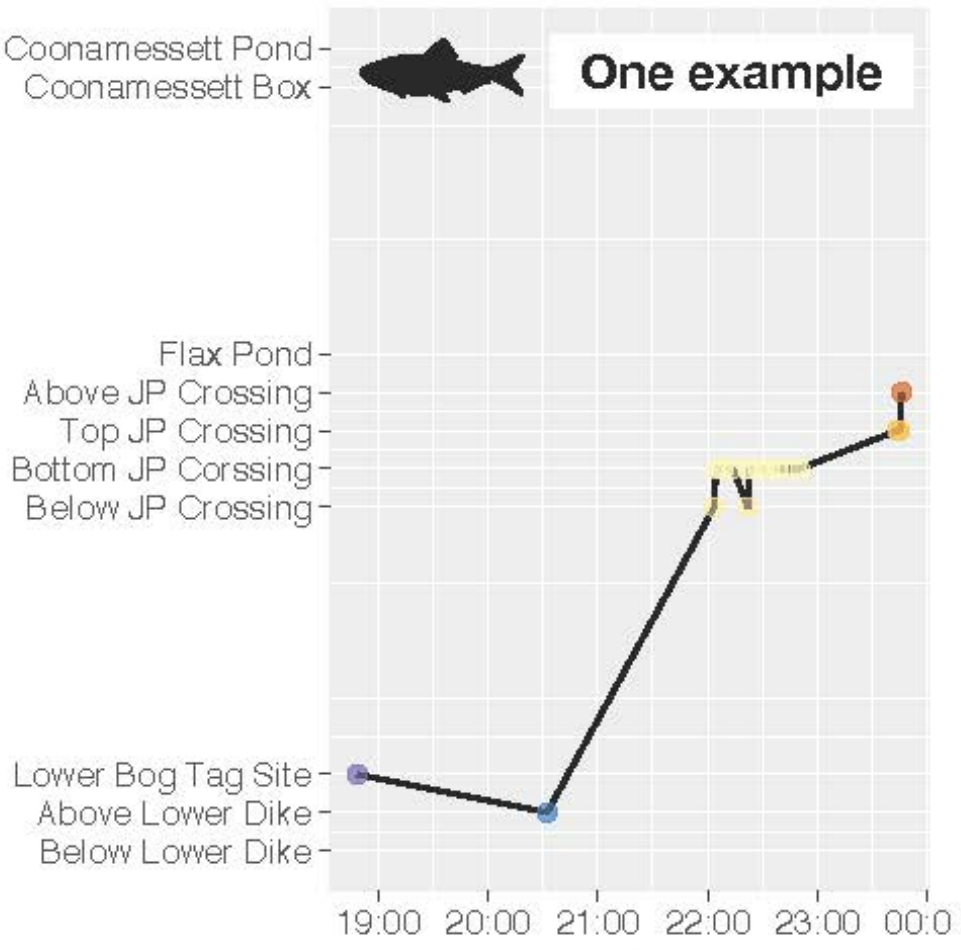
John Parker Rd Crossing



Middle dike pattern in 2015



JP Rd. delay common in 2017



John Parker Rd. Crossing

Standardized movements of all fish tagged in 2017



There were ~7x as many detections below the road crossing as above

Dense set of points from many detections below the culverts

● = seen at antenna
— = movement between antennas

New Species Are Coming In
Immediately!



Sea Run White Perch

Coonamessett River,
May 2018

Next: Fixing the problems

Lower River Culvert



Restored River



COONAMESSETT RIVER RESTORATION PROJECT

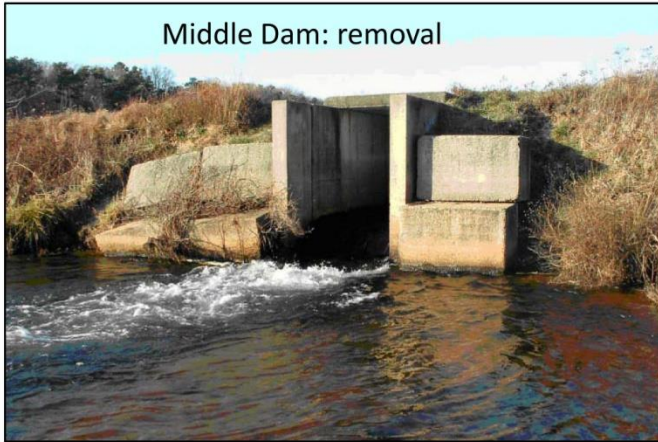




John Parker Road Culvert: design and permitting to replace with a bridge or similar



Middle Dam: removal



Lower Dam: removal



Lower Coonamessett River Restoration Project Area Barriers and Proposed Outcomes with NOAA Funds

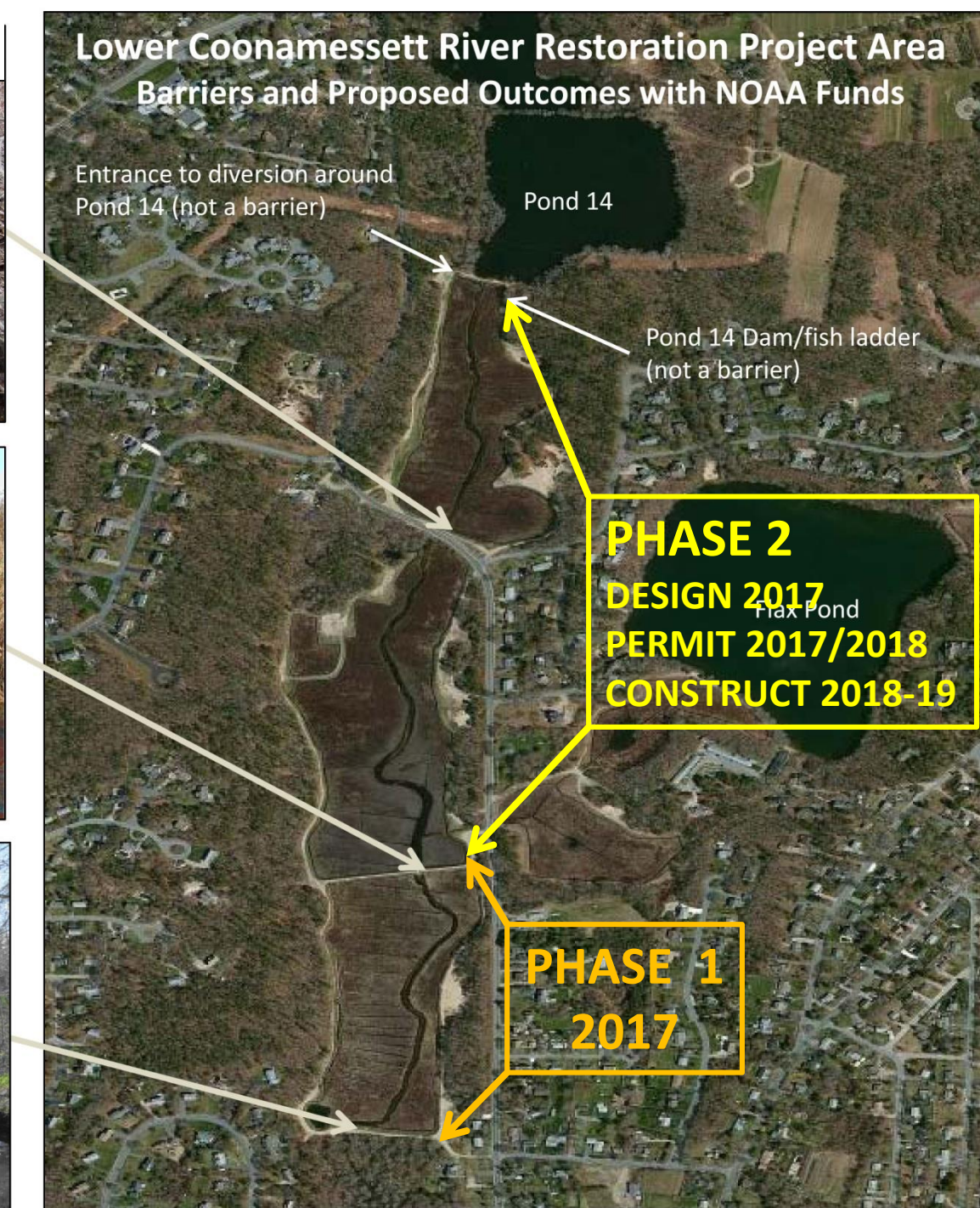
Entrance to diversion around
Pond 14 (not a barrier)

Pond 14

Pond 14 Dam/fish ladder
(not a barrier)

PHASE 2
DESIGN 2017
PERMIT 2017/2018
CONSTRUCT 2018-19

PHASE 1
2017



PROJECT GOALS

- To establish a **healthy, self-sustaining river and wetland ecosystem** that supports fish, other aquatic organisms, and wildlife
- To increase **coastal resiliency** by removing blockages and creating connectivity of floodplain
- To increase **recreational and educational opportunities** for people of all ages to discover the environmental, land use, and cultural history surrounding the Coonamessett River

Wetlands of the COONAMESSETT RIVER LAND USE CHANGE THROUGH TIME

Late 1600s-late 1800s

Industry
Millponds/mills

Late 1800s-early 2000s

Agriculture

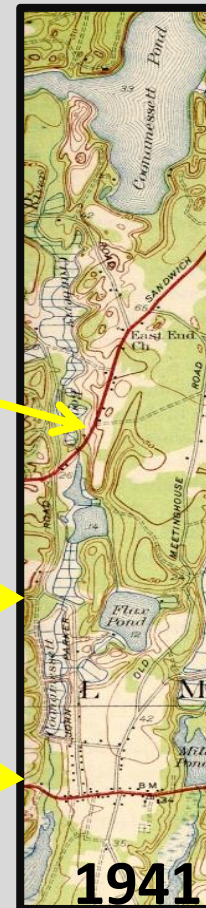
Pre-contact
Period



Sandwich Rd

John Parker Rd

Rte 28



Rewilding
wetlands



3 YR
POST RESTORATION
Eel River, Plymouth

Stressors

- **Compromised river channel (straight, wide, sandy bottom with no structure, no shade)**

Poor habitat for reproduction (blueback herring, trout)

Poor habitat for successful migration (predation pressure)

- **Temperature**
- **Filled in wetlands (100+ years of sand)**
- **Blockages to floodplain connectivity and migration**

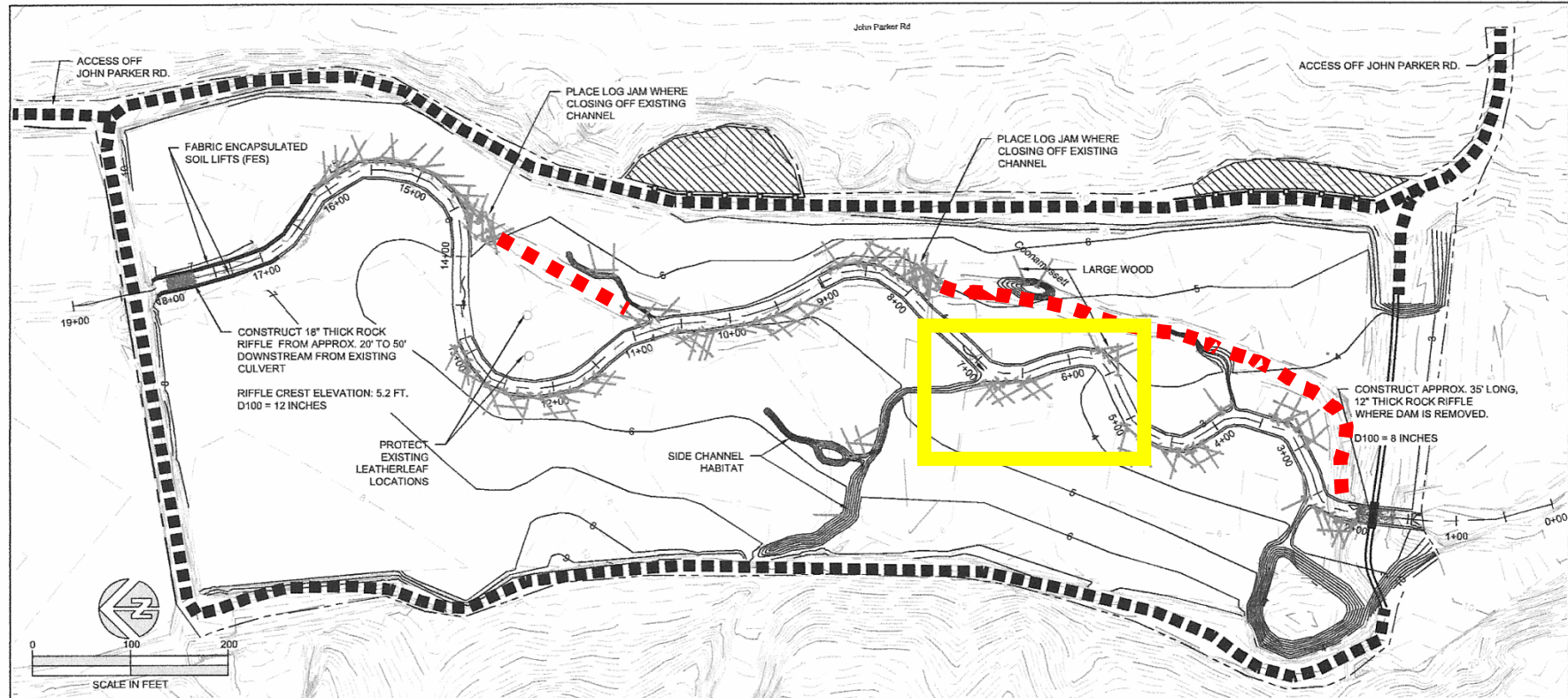


Restoration Actions



- Remove accumulated sand
- Add LWD: added structural complexity
 - more sinuous: more rapid flow
 - Curves provide overhangs for shelter
- Add buffer plantings
- Tie into cold water springs
- Remove barriers to floodplain continuity (along length; accessing side springs and seeps)
 1. Remove dams (lower, middle)
 2. Replace deteriorating pipe culvert with MA approved stream crossing Culvert at John Parker Road





LEGEND

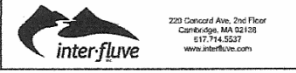
- LIMITS OF DISTURBANCE
- EXISTING MAJOR 5' CONTOURS
- EXISTING MINOR 1' CONTOURS
- PROPOSED CONTOURS
- ▨ ACCESS, STAGING & STOCKPILE AREAS
- TEMPORARY CONSTRUCTION ACCESS
- SILT FENCE
- LARGE WOOD
- FES LIFT AREA
- ▨ RIFFLE

I:\COONAMESSETT_BASE.dwg

NO.	BY	DATE	REVISION DESCRIPTION

SJ.GSO	GSO	GSO.MB
DRAWN	DESIGNED	CHECKED
X	4/7/2015	13-05-06
APPROVED	DATE	PROJECT

**COONAMESSETT RIVER
RESTORATION & DAM REMOVAL
FALMOUTH, MA**

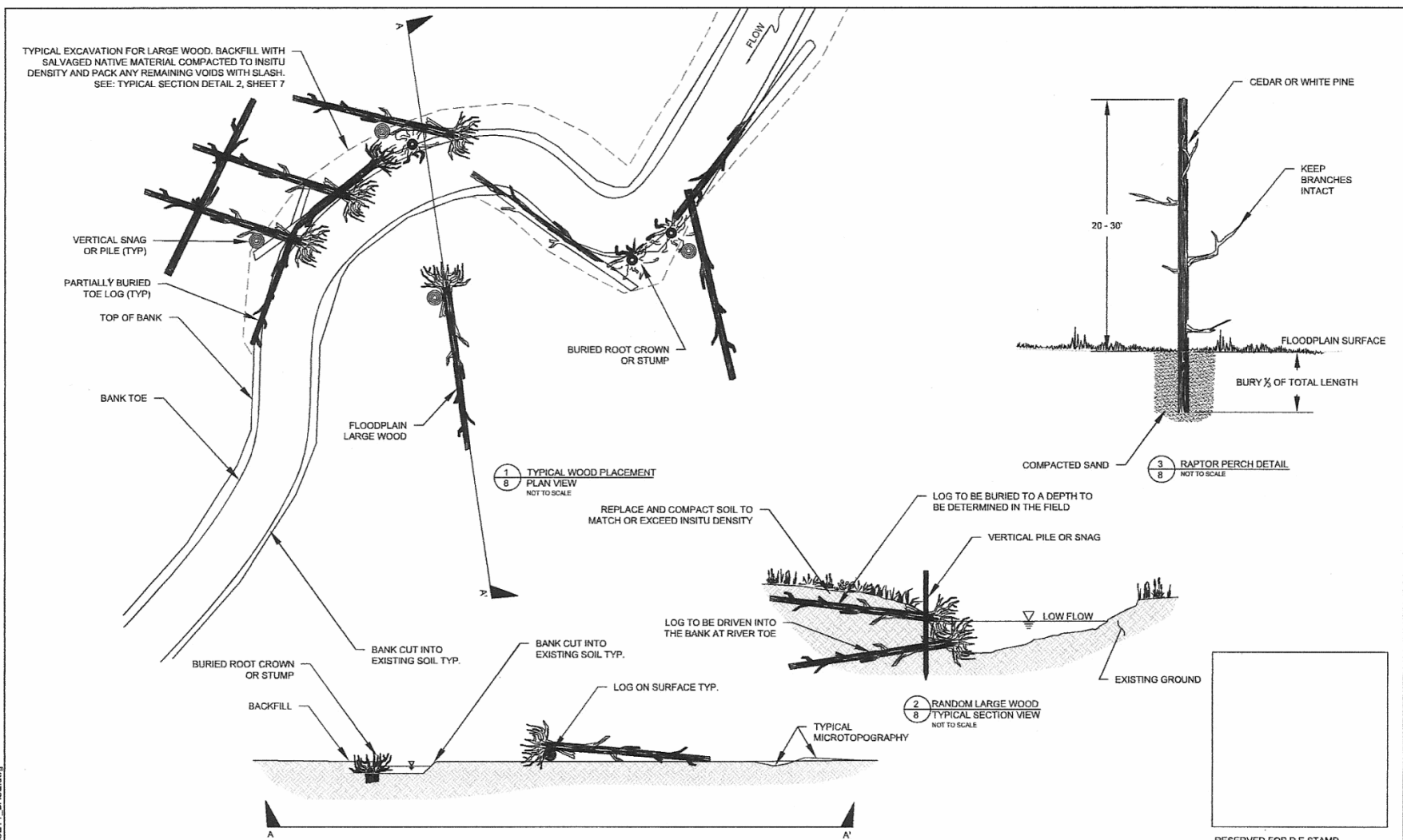


**Proposed Conditions
Treatment Plan**

RESERVED FOR P.E. STAMP

SHEET
6 of 14


IFI COONAMESSETT_BASE.dwg



NO.	BY	DATE	REVISION DESCRIPTION

SJ.GSO	GSO	GSO.MB
DRAWN	DESIGNED	CHECKED
x	4/7/2015	13-05-06
APPROVED	DATE	PROJECT

COONAMESSETT RIVER RESTORATION & DAM REMOVAL FALMOUTH, MA



220 Concord Ave, 2nd Floor
Cambridge, MA 02138
617.754.5527
www.interfluve.com

Typical Wood Placement Details

29 Nov 2017

29 Nov 2017



29 Nov 2017



13 Dec 2017





10 Jan 18



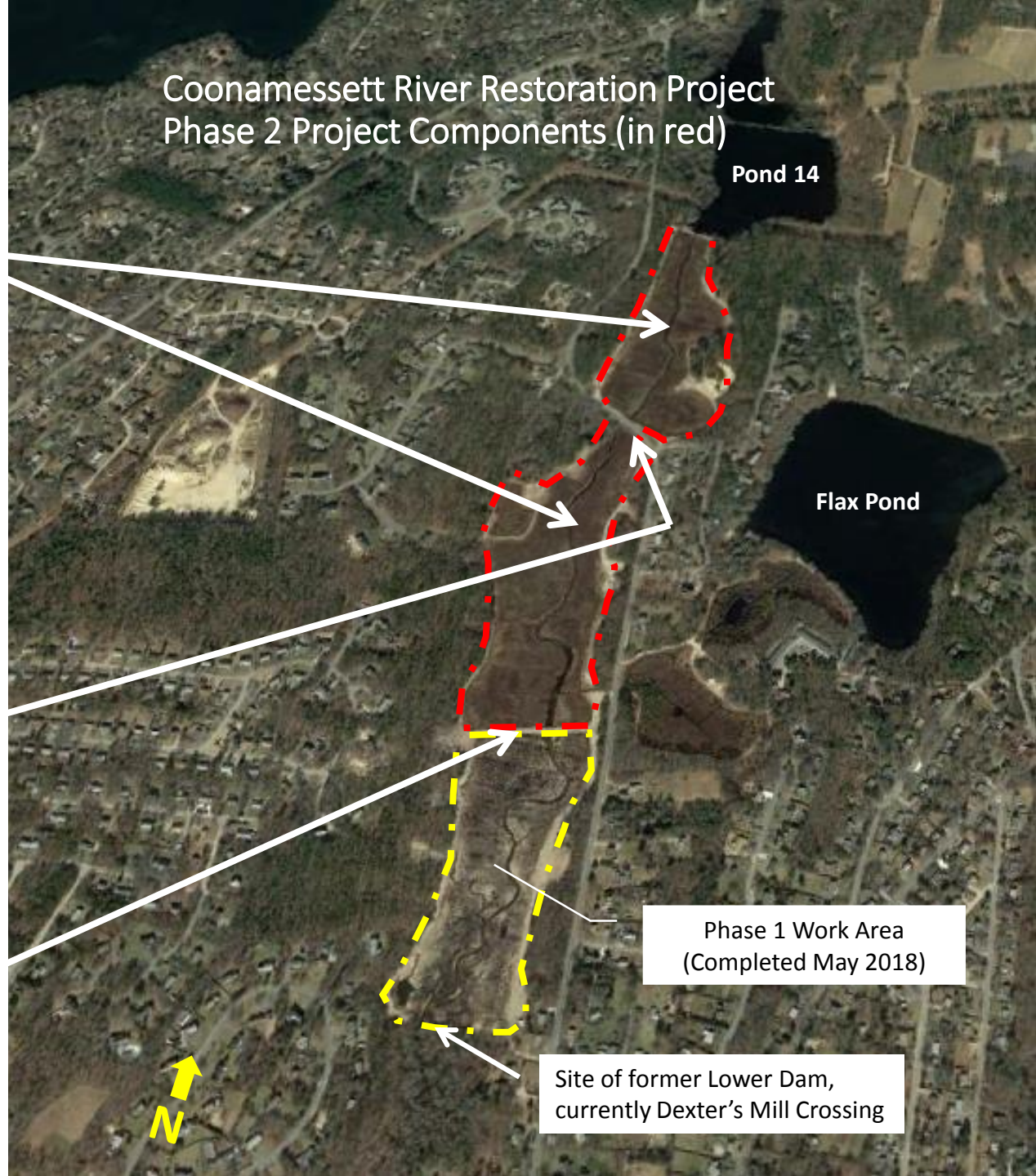
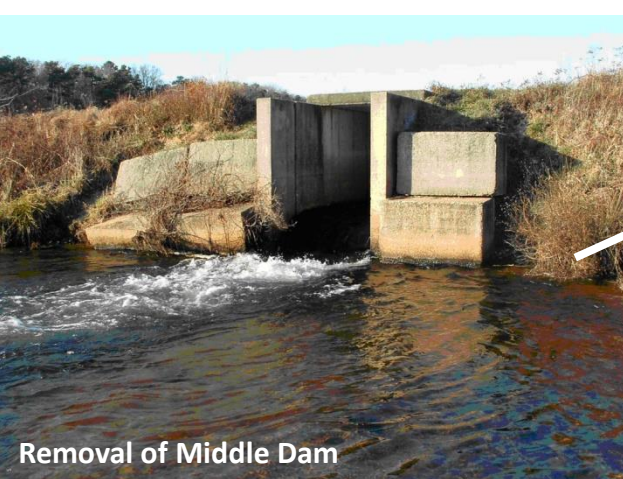
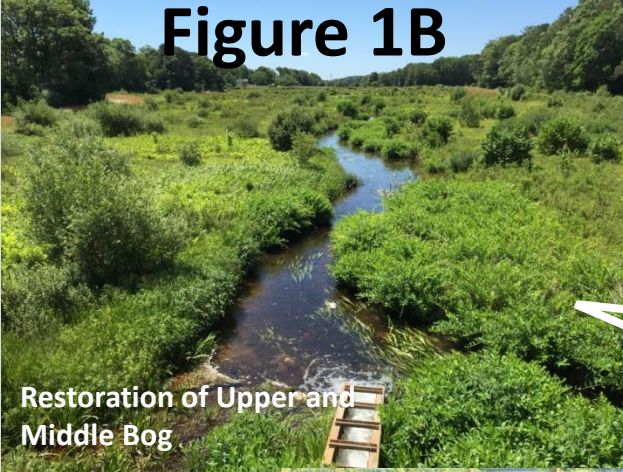
May 2018



August 2018



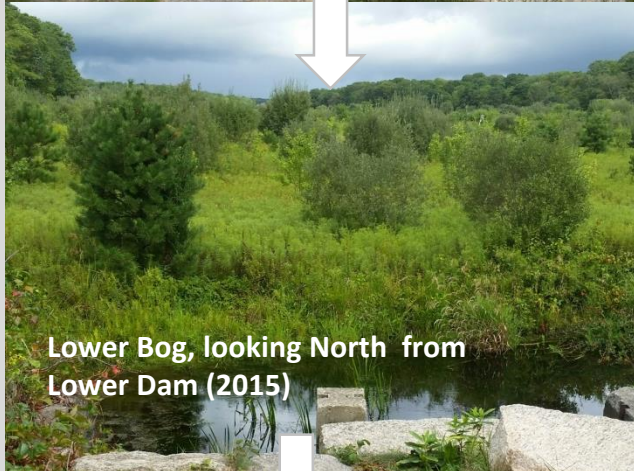
Figure 1B



Coonamessett River Restoration Project Falmouth, MA Phase 1: Pre- and Post-Construction



Lower Bog, looking North from Lower Dam (2006)



Lower Bog, looking North from Lower Dam (2015)



Lower Restored River, looking North from Dexter's Mill Crossing (2018)



Lower Bog and River, looking South From Middle Dam (2016)



Lower Restored River, looking South from Middle Dam (2018)



Cold water Turtle Pond looking North from Lower Dam (2016)



Turtle Pond looking Southeast toward Dexter's Mill Crossing (2018)

The Town of Falmouth thanks the partners and supporters of the Coonamessett River Restoration Project

