

SUDBURY RIVER

WARNING

SUDBURY RIVER FISH



Fish Contaminated With Mercury
DO NOT EAT

Pescado Contaminado con Mercurio
NO SE PUEDE COMER

Peixe Contaminado com Mercúrio
NÃO COMER

Cá Bị Ngộ Độc Với Thủy Ngân
Đừng Ăn

For Information Call:

U.S. Environmental Protection Agency
Massachusetts Department of Public Health

1-888-372-7341
1-617-624-5757

Mercury Contamination - Sudbury



NYANZA

**Offers for WOOL - COTTON
SYNTHETIC and MIXED FIBERS
a complete line of
ANILINE and ALIZARINE COLORS**

ANTHRANOL Chrome colors for wool.
METAMINE Acid colors for wool.
MILLING FAST Neutral or weak acid dyeing colors for wool, good fastness to light and fulling.
NYAGENE Developed colors for cotton, rayon and other vegetable fibers.
NYALITE Direct colors for vegetable fibers of superior light fastness.
NYANCET Dye-stuffs for acetate silk or celanese and Nylon.
NYANTHRENE Vat colors for cotton and rayon.
NYANZA Direct colors for the dyeing of vegetable fibers.
NYAPERM Direct colors for vegetable fibers which when after-treated with Nya-Permol render shades of vat color fastness.
NYASOL Metalized colors for wool characterized by exceptional fastness properties.
NYANZOL Oxidation colors for the dyeing of fur skins.
NUTRACHROME Colors for wool applied by the Metachrome process yielding shades of excellent all-around fastness.
PARANOL FAST Direct colors for vegetable fibers of excellent light fastness.
VEGAN Union colors for the dyeing of mixed fibers of cotton or wool yielding solid shades of good fastness.

TEXTILE CHEMICALS
IMMERSOL Synthetic wetting-out and leveling agents in the dyeing of cotton and wool.
LANALBINE Protective agent in the dyeing of wool, silk and other animal fibers.
MELLOSTRINE Water-proofing compound for the treatment of cotton, rayon and other vegetable fibers.
NUTROSAN Synthetic detergents for the scouring of wool.
NYAPON Synthetic detergents of sulfonated fatty alcohols.

• call or write for technical data or information:

NYANZA Color & Chemical Company, Inc.
109 WORTH STREET • NEW YORK 13, N. Y.

FACTORIES:
CHEMICAL MANUFACTURING CO., ASHLAND, MASS. NEW BRUNSWICK CHEMICAL CO., NEWARK, N. J.

BRANCHES:
549 West Randolph St. CHICAGO 6, ILL. 38 Maplewood Ave. PHILADELPHIA 44, PA.
ASHLAND, MASSACHUSETTS 115 W. Fourth Ave. PORTLAND 4, ORE. 304 E. Marshall St. CHARLOTTE 3, N. C.

- From Nyanza Chemical and Dye in Ashland
- Listed on the National Priorities List 1983; cleanup began 1987
- Mercury contamination to Sudbury River sediments; remediation proposed sand capping on Framingham Reservoirs or natural attenuation – opted for natural attenuation.
- National Resources Damage Assessment and Restoration Fund funded restoration projects along all 3 rivers

Water chestnut

- Sudbury River
 - Heaviest coverage
 - Managed in Concord, Lincoln, Wayland areas by US F&W and towns (harvester/hand-pulling)
 - Management starting in Framingham
- Concord River
 - Heavy infestation in Billerica impoundment & some downstream
 - No management
- Assabet River
 - Smaller areas
 - Managed by hand-pulling
 - Fourth year of OARS' Rapid Response team



Rapid Response Team 2016

Powdermill Impoundment, Acton



Water chestnut mapping

- Mapping all 3 mainstem rivers (summer 2106 will be 3rd time)
- Find emerging populations & track progress managing
- Guide Rapid Response team pulling on the Assabet





CONCORD RIVER



- Water chestnut
- Somewhat eutrophied
- Dams
- Diadromous fish passage

First large tributary on the Merrimack



Diadromous Fish Restoration Study

Feasibility Study

CONCORD RIVER DIADROMOUS FISH RESTORATION

PUBLIC MEETING | FEBRUARY 23, 2016 | NORTH BILLERICA, MA



Project Lead



Project Partners



Project Consultants



- One of the 12 projects funded by Nyanza Restoration fund
- Focus: Alewife, American Shad, Blueback herring, American eel, Sea lamprey
- Mass Marine Fisheries, NOAA, US F&W, Mass DEP

Project Lead



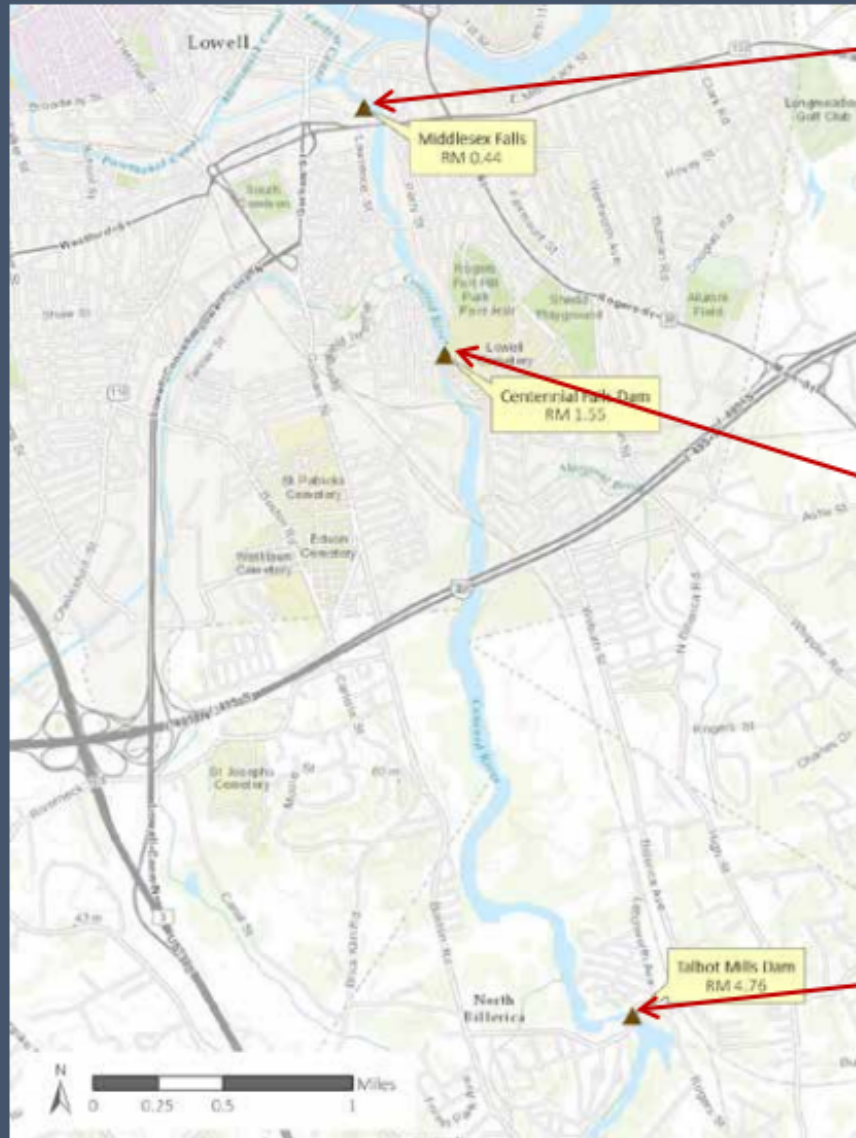
Project Partners



Project Consultants



FISH PASSAGE OBSTACLES



Study 2016 findings: “fish passage restoration on the Concord River is technically feasible”



- Fish passage at Talbot Mills Dam would open access to
 - 35 miles (740 acres) of mainstem rivers
 - 100 miles of tributaries
 - 260 acres of lakes and ponds
- But... monitoring at the Centennial Island dam this spring didn't find any herring headed up stream.

Merrimack River
Essex Dam, Lawrence, Massachusetts
Counts as of June 5, 2018

Species	Total Returns to Date
Atlantic Salmon	9
American Shad	18,999
River Herring	449,050
Striped Bass	76
Sea Lamprey	5,424
American Eel	16,370
Gizzard Shad	11

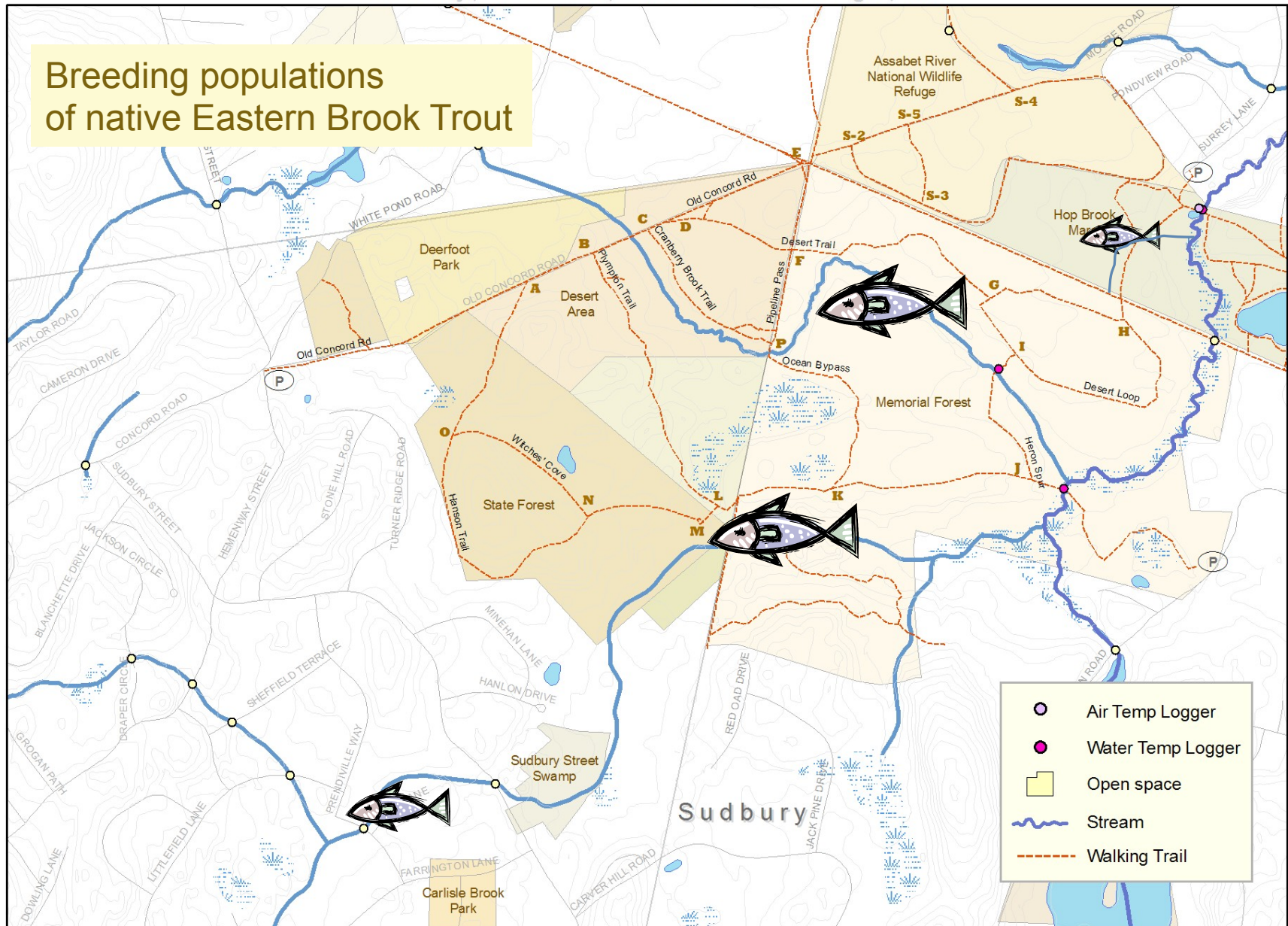
*River herring refers collectively to two fish species: blueback herring and alewife

TRIBUTARY STREAMS



Trout Streams Project Sudbury, Hudson, and Marlborough, MA

Breeding populations
of native Eastern Brook Trout



Base map data from Mass GIS (NAD 1983 MA State Plane). Hydrographic features data from USGS National Hydrography Dataset. S. Flint, OARS, October 2012.

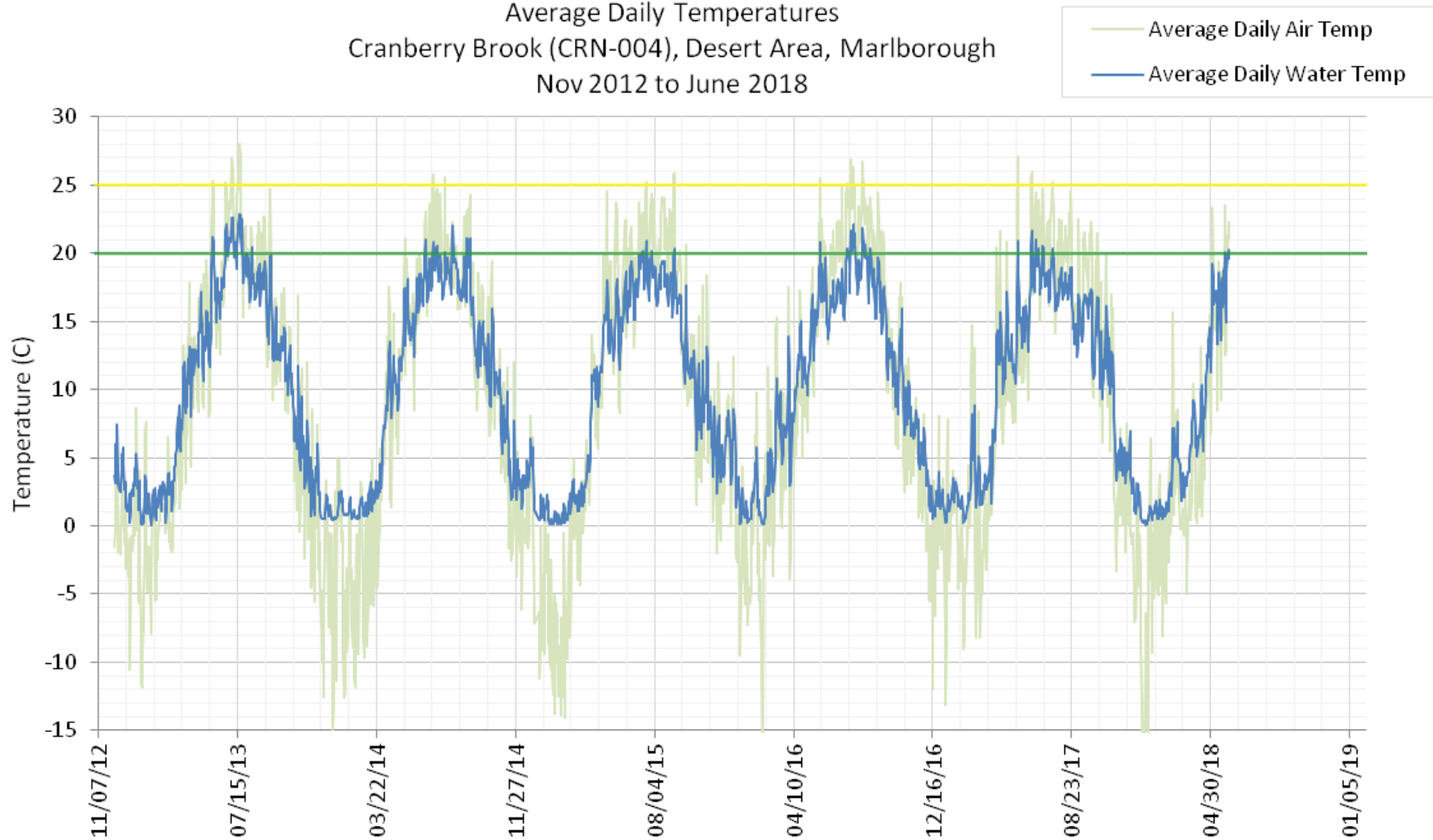


Photo: J. Sklenak

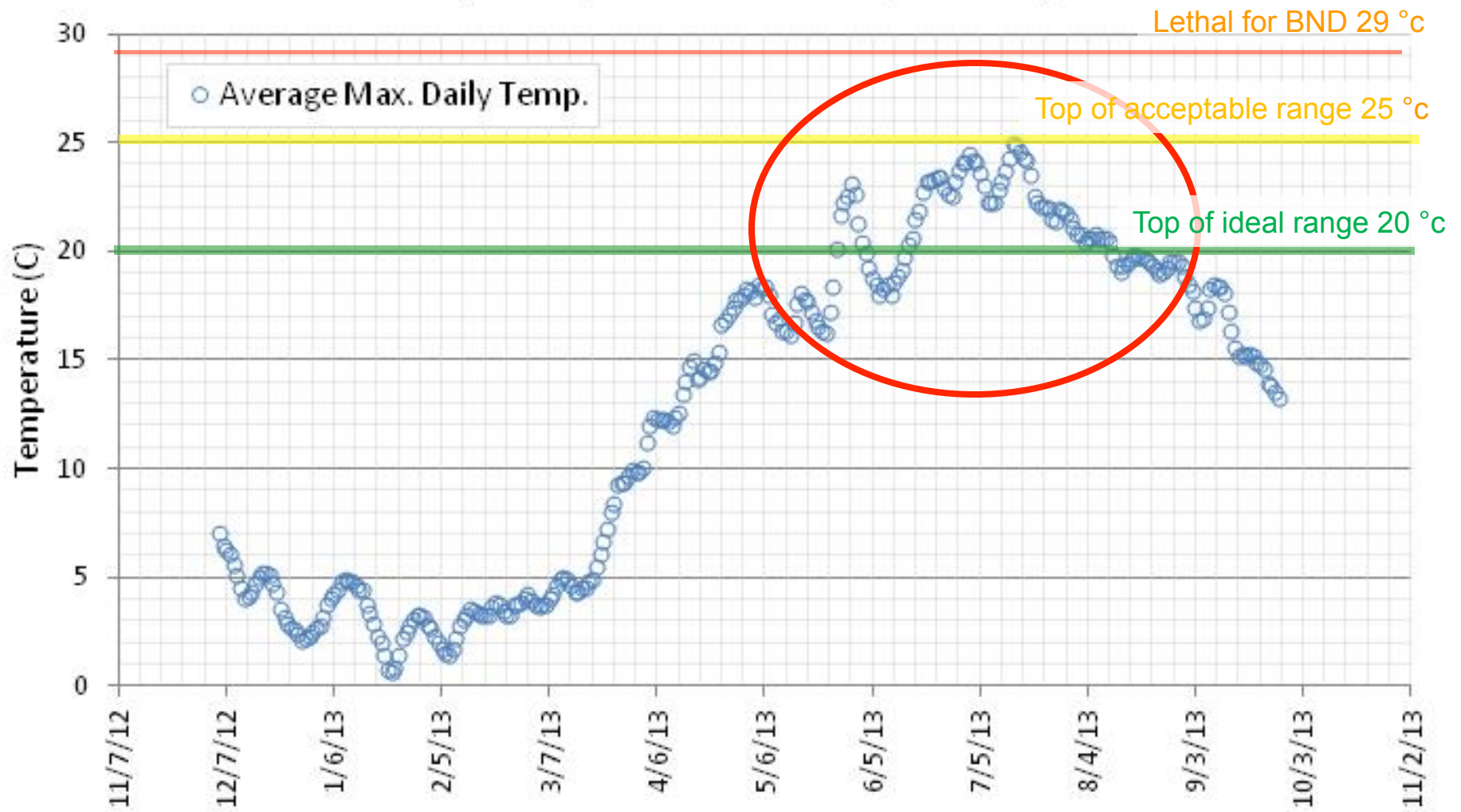
Temperature Logging – assess vulnerability to climate change



Average Daily Temperatures
Cranberry Brook (CRN-004), Desert Area, Marlborough
Nov 2012 to June 2018



7-Day Rolling Average Max. Daily Temperature Cranberry Brook, Memorial Forest, Sudbury, MA



Culvert Surveys



Culverts =
potential barriers & habitat fragmentation



Cranberry Brook

beaver impoundment

Downstream sections "good" to "excellent"

Trout Brook

Legend

SuAsCo-Barrier-XY-IDs

- Not Assessed
- Insignificant Barrier
- Minor Barrier
- Moderate Barrier
- Significant Barrier
- Severe Barrier

Stream Section Rating

- Excellent
- Good
- Fair
- Poor
- Not assessed




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DOWNSTREAM

www.oars3rivers.org

Upcoming OARS events:

Annual Meeting with “Canoes” presentation: June 12th at 7pm

Riverfest Events: June 17th




FOR THE ASSABET SUDBURY & CONCORD RIVERS

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Upcoming events

- [Canoes - A Journey of Art, Technology and Survival at OARS Annual Meeting](#)
(5 days)
- [Water Quality Sampling](#)
(10 days)
- [Riverfest - Fishing Class for Kids! Sunday, June 17](#)
(10 days)
- [RiverFest - Ride for the Rivers, June 17](#)
(10 days)
- [Riverfest - Yoga, Music, Art and History, June 17](#)
(10 days)
- [Solstice Cardboard Boat Challenge, June 17](#)
(10 days)

[more](#)

[Canoes - A Journey of Art, Technology and Survival at OARS Annual Meeting](#)

Start: 06/12/2018 7:00 pm



"The stories in *Canoes* are a tribute to the first Peoples who, 500 or 1,000 or even 5,000 years ago, built a craft designed to such perfection that it has plied the waters fundamentally unchanged ever since."

With features of technology, industry, art, and survival, the canoe carries us deep into the natural and cultural history of North America.

Beautiful slide presentation by Norman Sims, co-author of *Canoes: A Natural History in North America*.

Tuesday, June 12
7:00 - 9:00 pm

A close-up photograph of a brown trout with a pattern of dark brown spots and some red spots on its side. The fish is positioned inside a wooden bowl, with its head and front fins visible. The background shows a blurred view of water and some foliage.

Comments? Questions?
Tasty mosquitoes?

Inquisitive Brown Trout