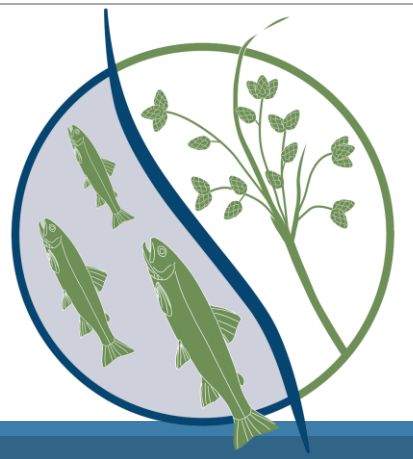
DER Dam Removal Program Overview

CHRIS HIRSCH – DAM REMOVAL PROGRAM MANAGER

11/09/2023



Massachusetts Department of Fish and Game

Division of Ecological Restoration

Invested in Nature and Community

DFG- Division of Ecological Restoration

DER Programmatic Structure

Habitat Restoration Branch

Capacity Building Branch

Technical Services Branch

Dam Removal Program

Wetland Restoration Program

Cranberry Bog Restoration Program

Mission Statement and Approach

DER restores and protects rivers, wetlands, and watersheds in Massachusetts for the benefit of **people** and the **environment**.

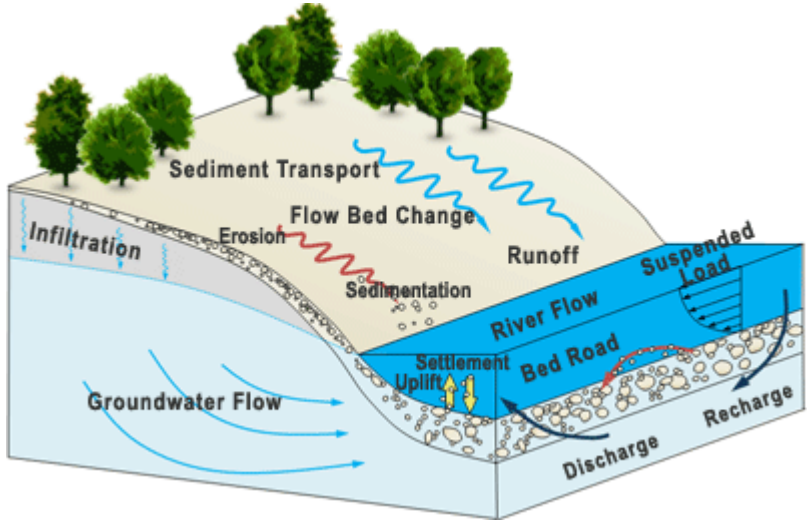


Image Credit: USGS

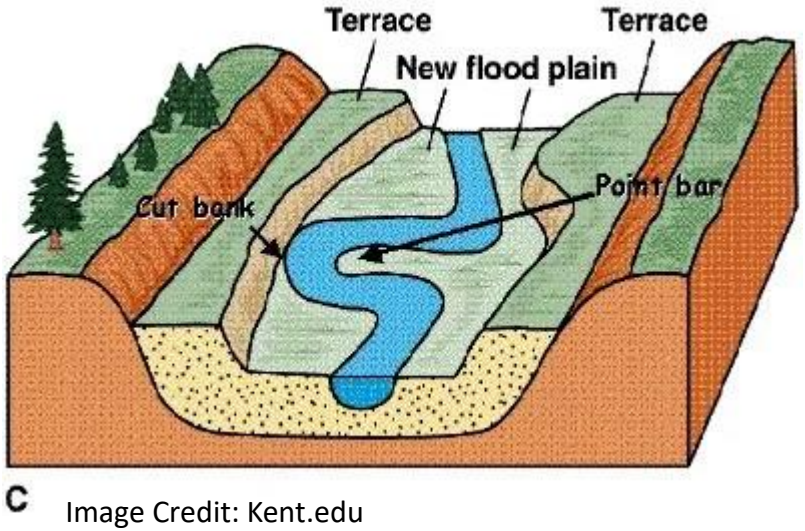


Image Credit: Kent.edu

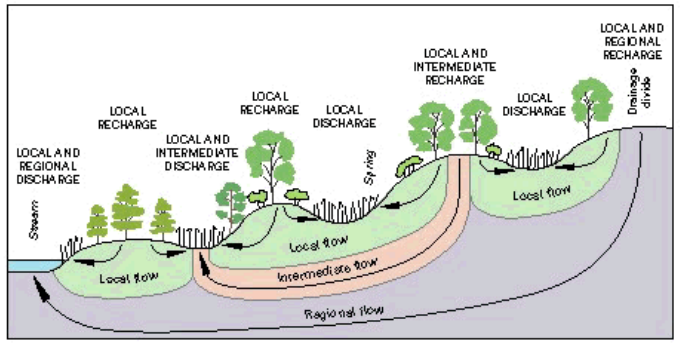


Figure 22. Ground-water flow systems. Local ground-water flow systems are recharged at topographic highs and discharged at immediately adjacent lows. Regional ground-water flow systems are recharged at the major regional topographic highs and discharged at the major regional topographic lows. Intermediate flow systems lie between the other two systems. *(Source: Modified from Winter, 1976.)*

Image Credit: USGS

Process Based Approach to Restoration

Dam Removal Program

Team

Myself

Joe Gould

Susie Bresney

Accomplishments

- 54 dams removed
- Reconnected over 350 river miles
- 22 active projects

Armstrong Dam – Braintree Photos DER

Tel-Electric Dam – Pittsfield photo DER

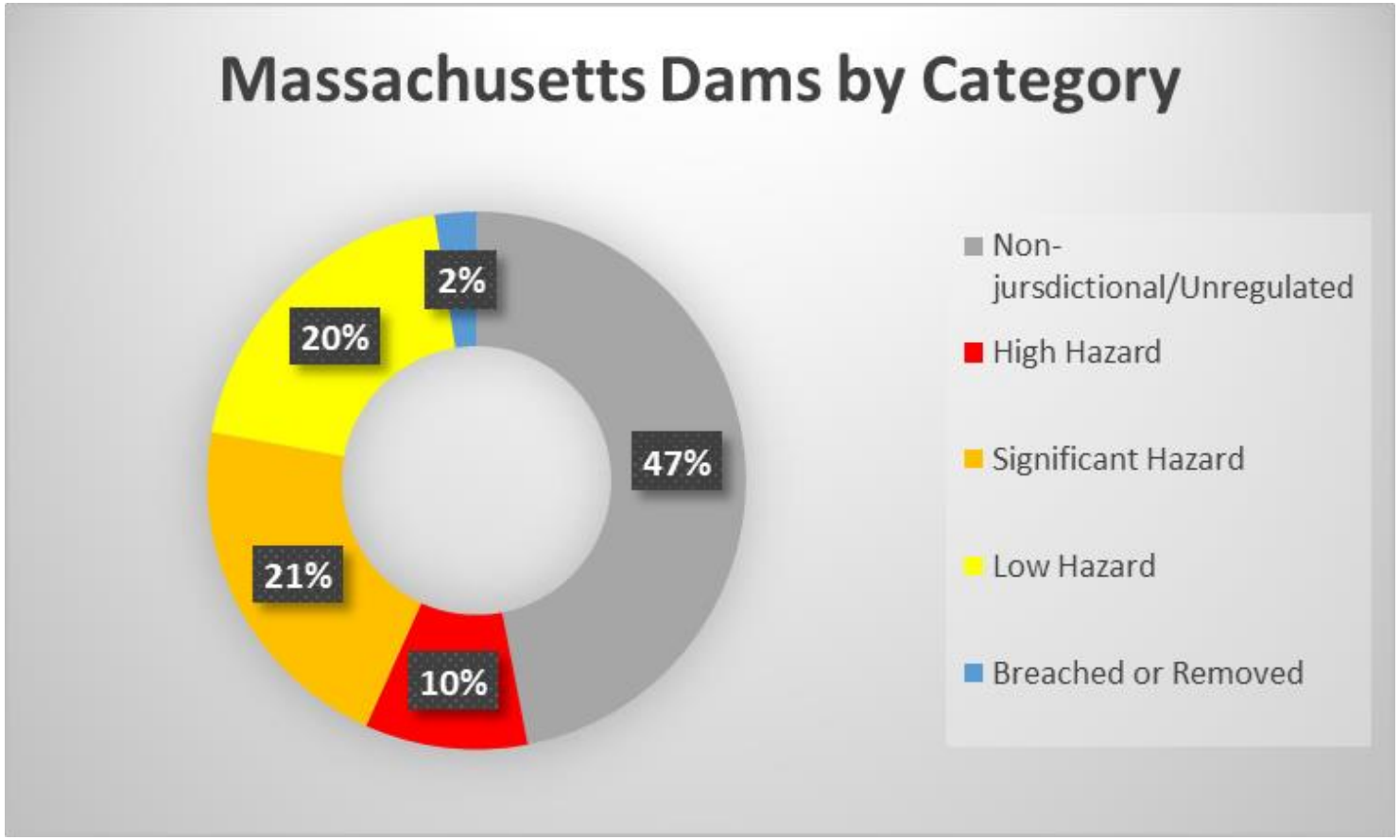
Upper Roberts Meadow – Northampton photo DER

Dam Removal Program Services

Dam Reconnaissance

Priority Projects

The State of Dams in our State



Over 3000 dams in Massachusetts

Many were associated with Mills and Factories that went out of business a long time ago

541 Dams (~18%) are in poor or unsafe condition

Source: ODS Inventory Report 4/14/2022

How Dams Impact Rivers

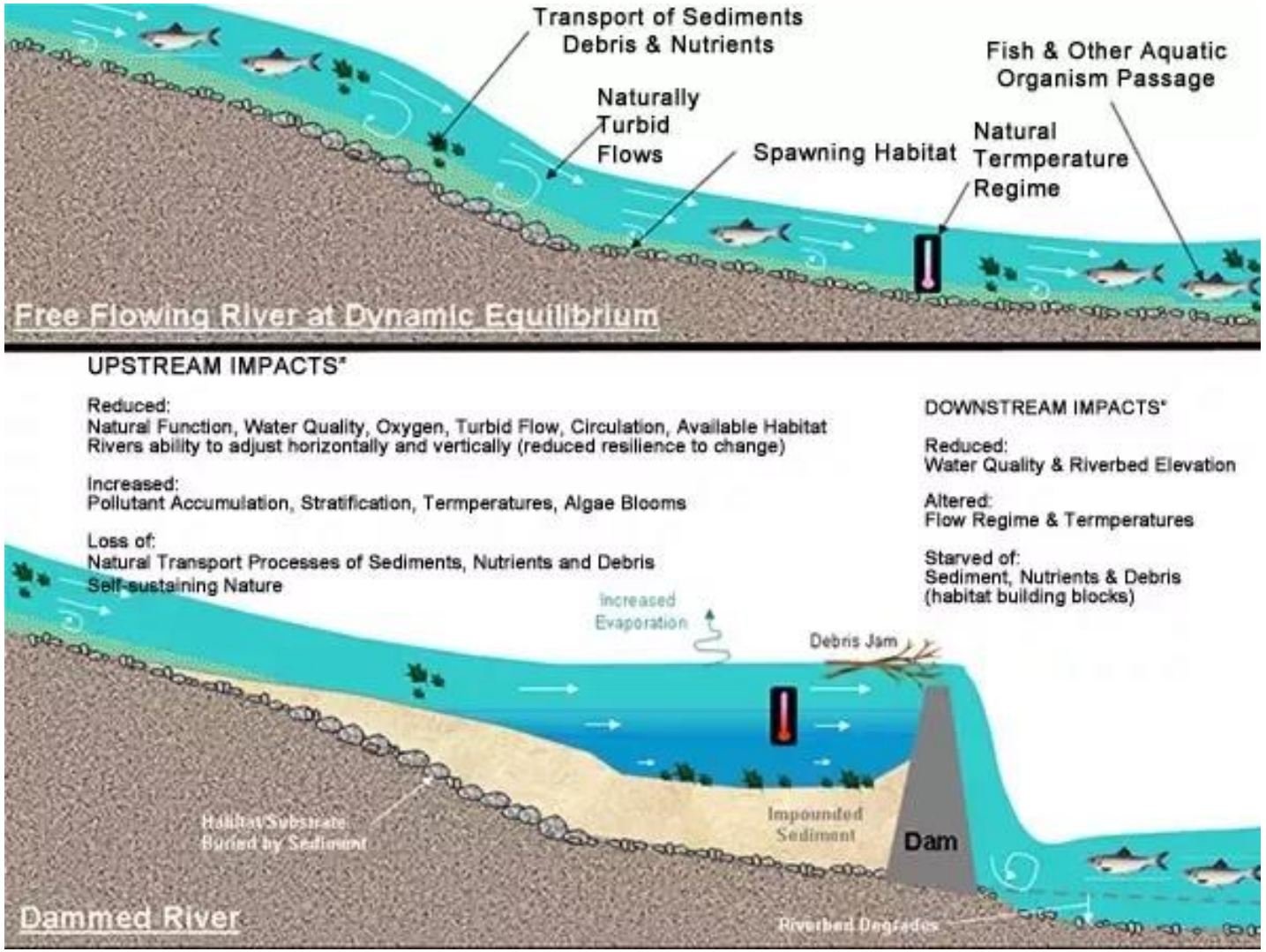


Image Credit : Laura Wildman P.E.

Benefits of Dam Removal - Ecological

RESTORES NATURAL SEDIMENT TRANSPORT REGIME

RESTORES NATURAL THERMO-REGULATION

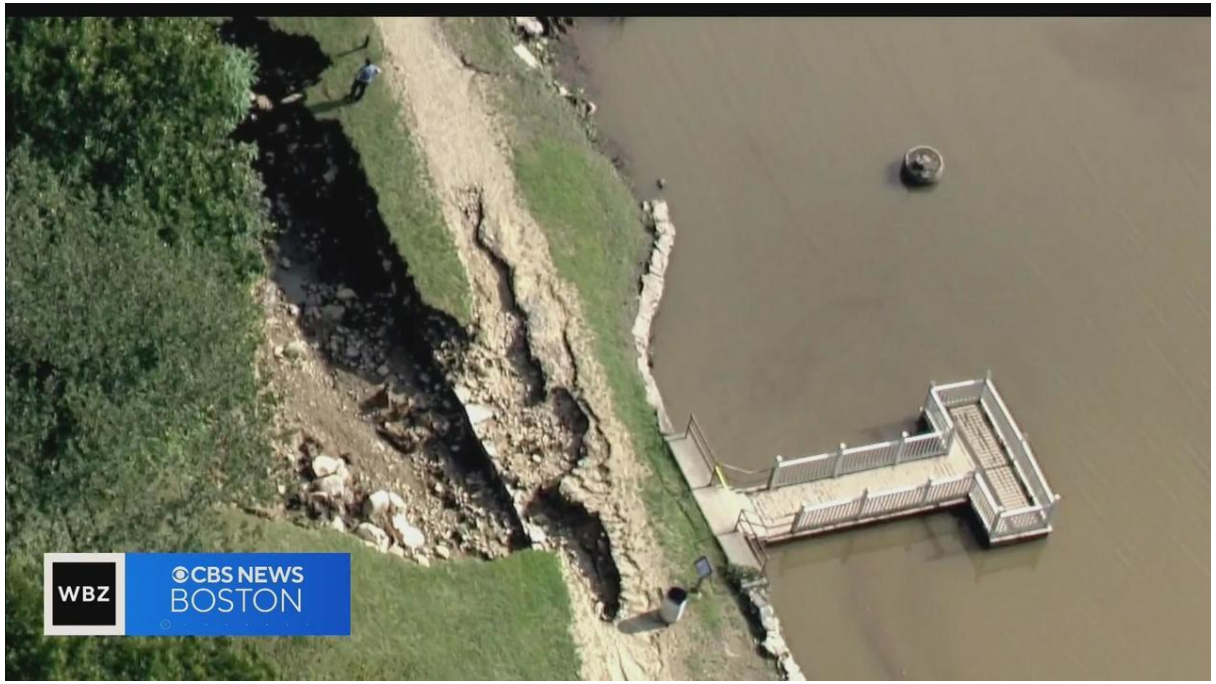
INCREASES BENTHIC BIODIVERSITY IN THE IMPOUNDMENT

INCREASES HABITAT CONNECTIVITY

IMPROVES WATER QUALITY AND DISSOLVED OXYGEN

Benefits of Dam Removal – Public Safety

- Reduce Flood Elevations up stream
- Reduce flooding risk downstream
- Protects nearby infrastructure



Barrett Park Pond Dam near breach in Leominster Image credit:WBZ Boston

Dam Breach flooded road downstream in Bridgewater Image Credit: WBZ Boston

Benefits of Dam Removal - Owner

- Elimination of Flood Damage Liability
- Elimination of Attractive Nuisance Liability
- Elimination of Inspection and Maintenance Burden
- Saves money in the long term

Image credit: Rob Goebel, Indianapolis Star

Dam Breach flooded back yards in Bridgewater-Image Credit WBZ Boston

Drawbacks of Dam Removal

- Unintended Consequences (Upper Clark Fork)
- Loss of a place (Elm Street Dam)

Image credit: Solare Photography

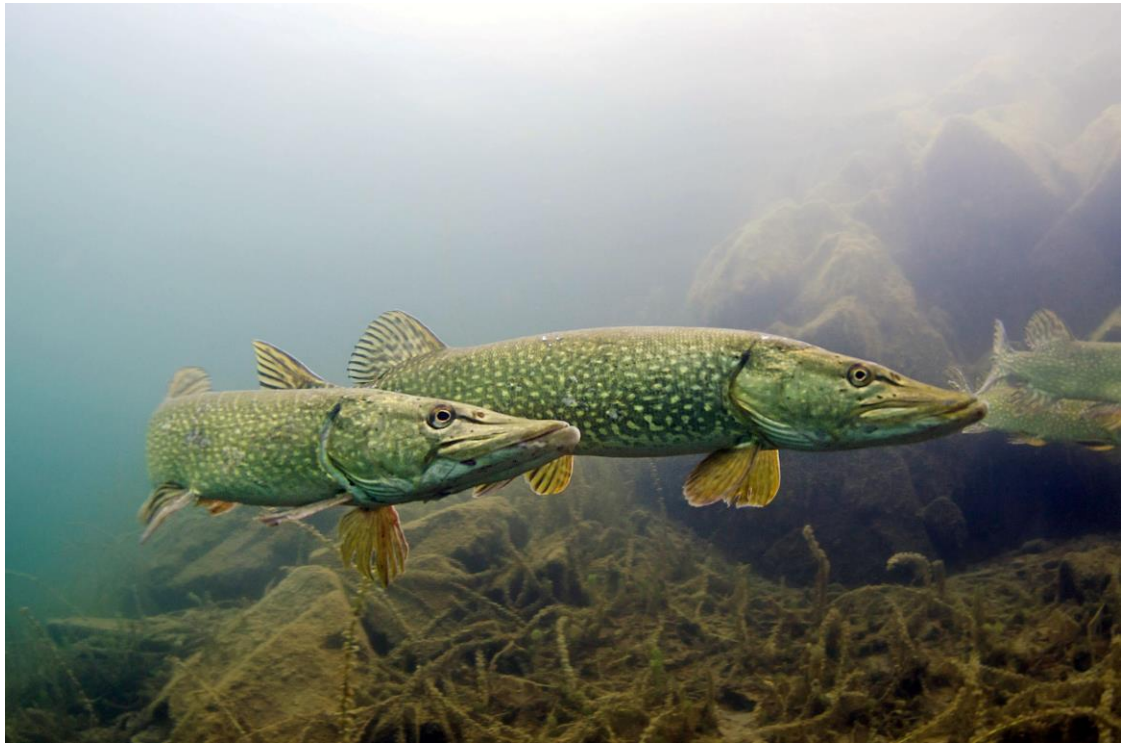
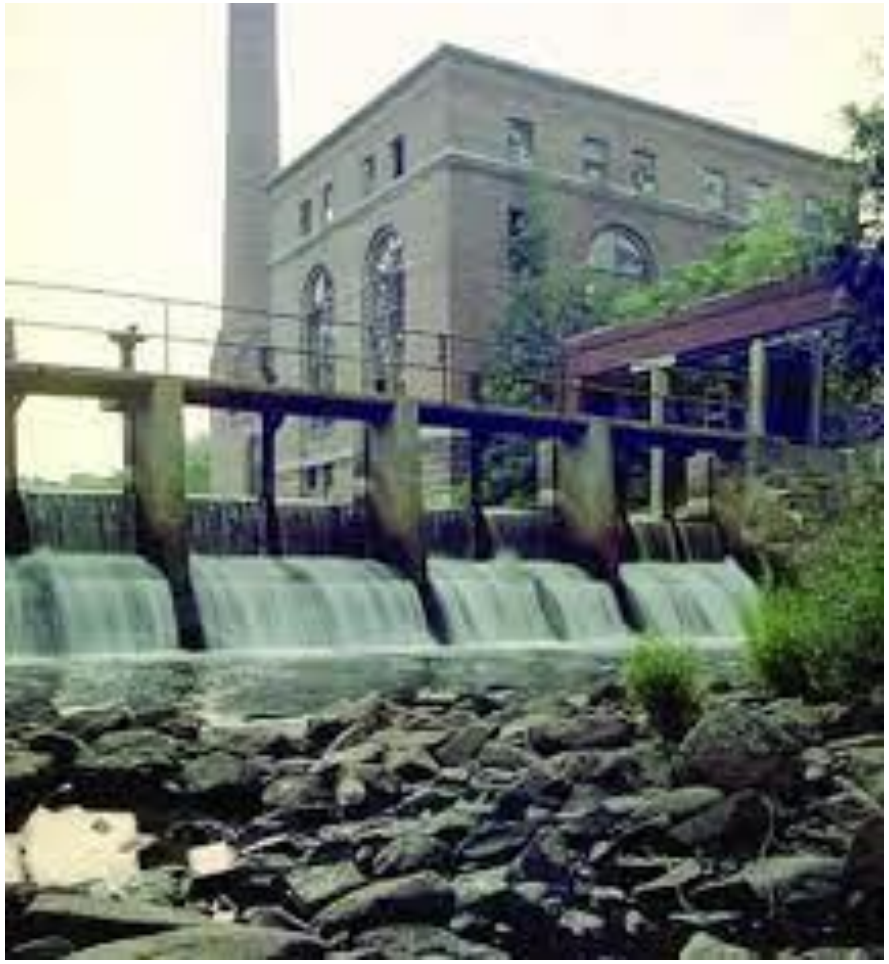


Image Credit: Jack Perks, Solent news

Lower Neponset Dam Removals



Baker Chocolate Factory Dam – Boston

Tileston and Hollingsworth Dam –Boston

Malden Brook Restoration

Photos Credit DER

Quinapoxet Dam Removal

Photo Credit DER

Thank you!

Questions?

Photo Credit DER