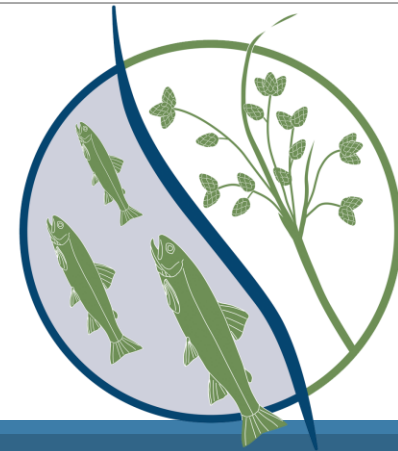


DER Dam Removal Program Overview

CHRIS HIRSCH – DAM REMOVAL PROGRAM MANAGER

11/09/2023



Massachusetts Department of Fish and Game

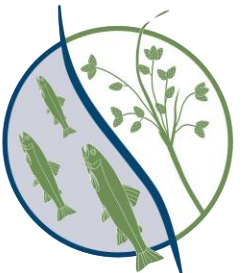
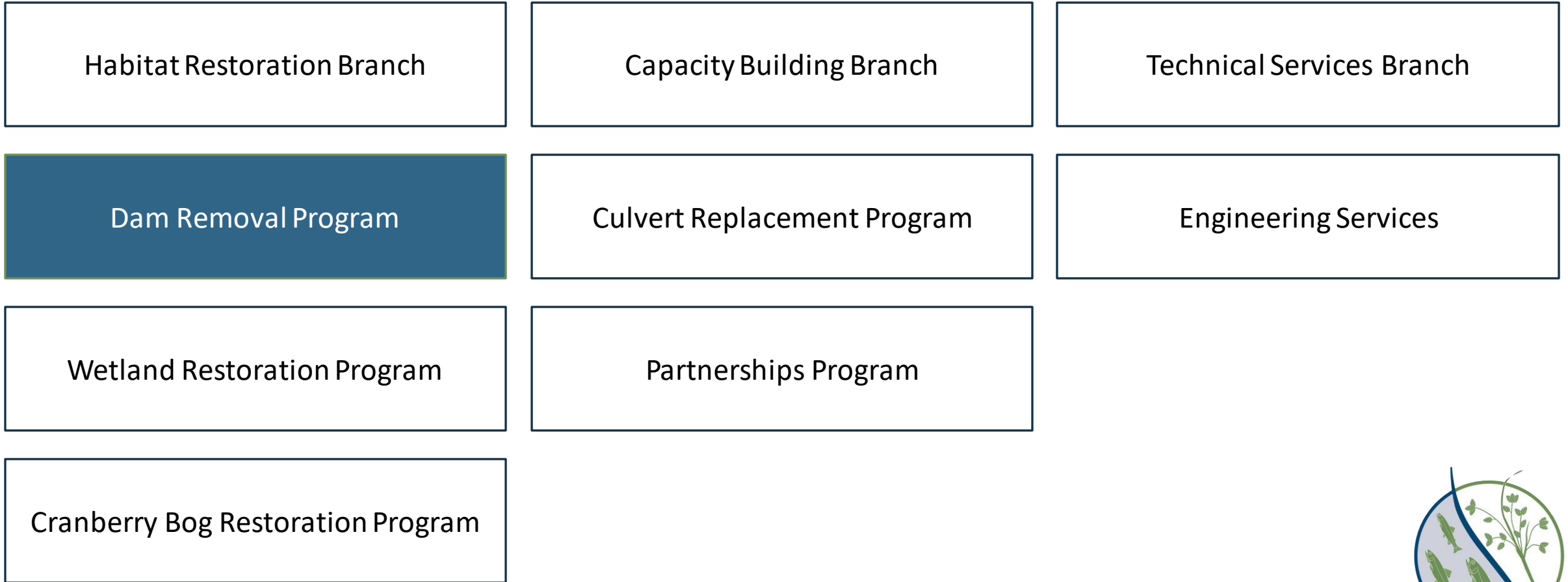
Division of
Ecological
Restoration

Invested in Nature and Community

DFG- Division of Ecological Restoration



DER Programmatic Structure



Mission Statement and Approach

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

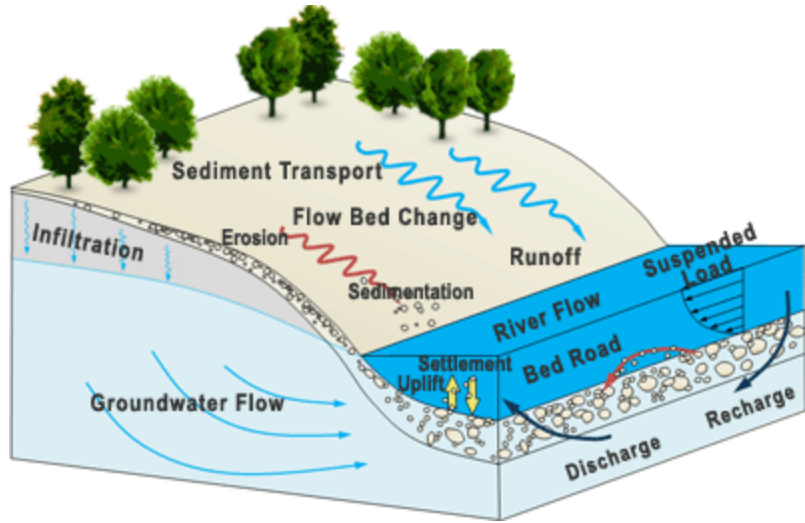
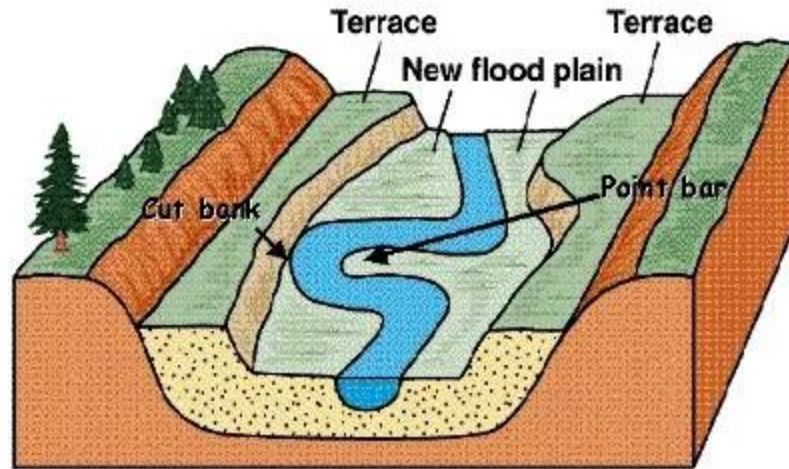


Image Credit: USGS



C Image Credit: Kent.edu

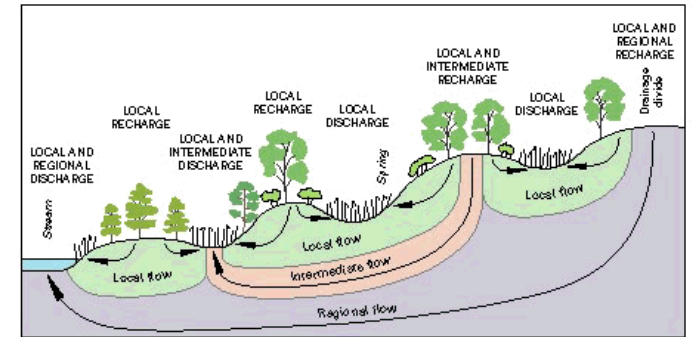
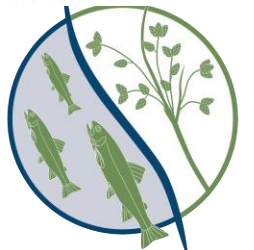


Figure 22. Ground-water flow systems. Local ground-water flow systems are recharged at topographic highs and discharged at immediately adjacent lows. Regional ground-water flow systems are recharged at the major regional topographic highs and discharged at the major regional topographic lows. Intermediate 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



Tel-Electric Dam – Pittsfield photo DER



Upper Roberts Meadow – Northampton photo DER

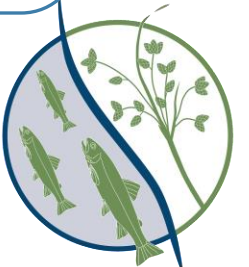


Armstrong Dam – Braintree
Photos DER

Dam Removal Program Services

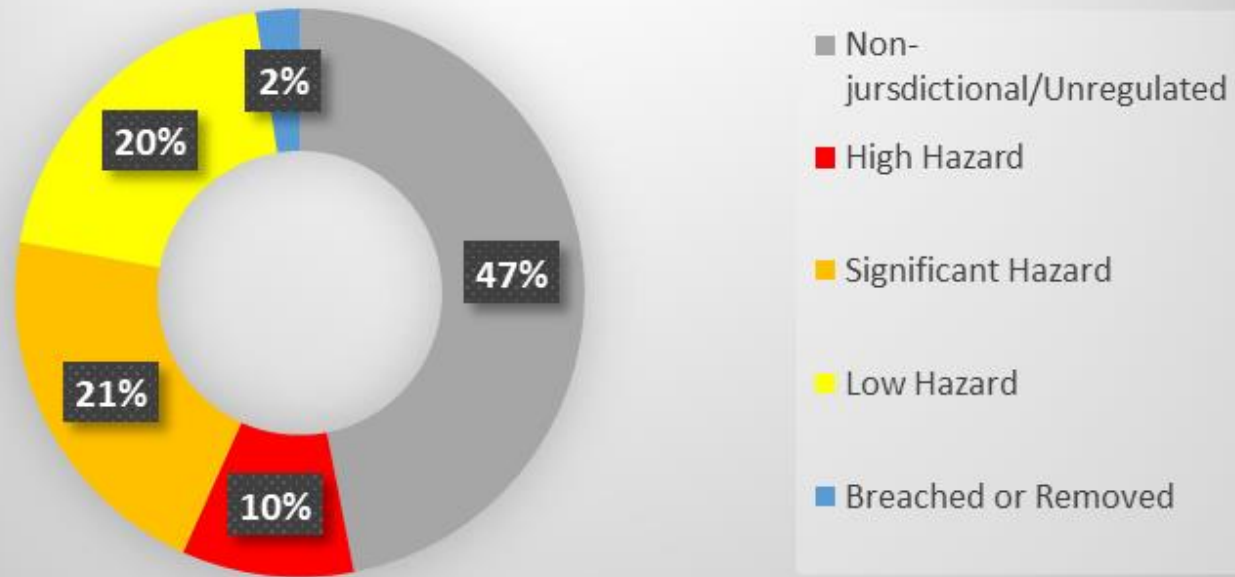
**Dam
Reconnaissance**

Priority Projects



The State of Dams in Massachusetts

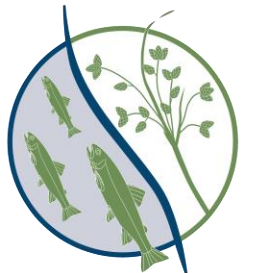
Massachusetts Dams by Category



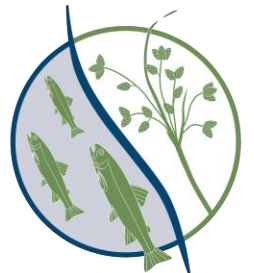
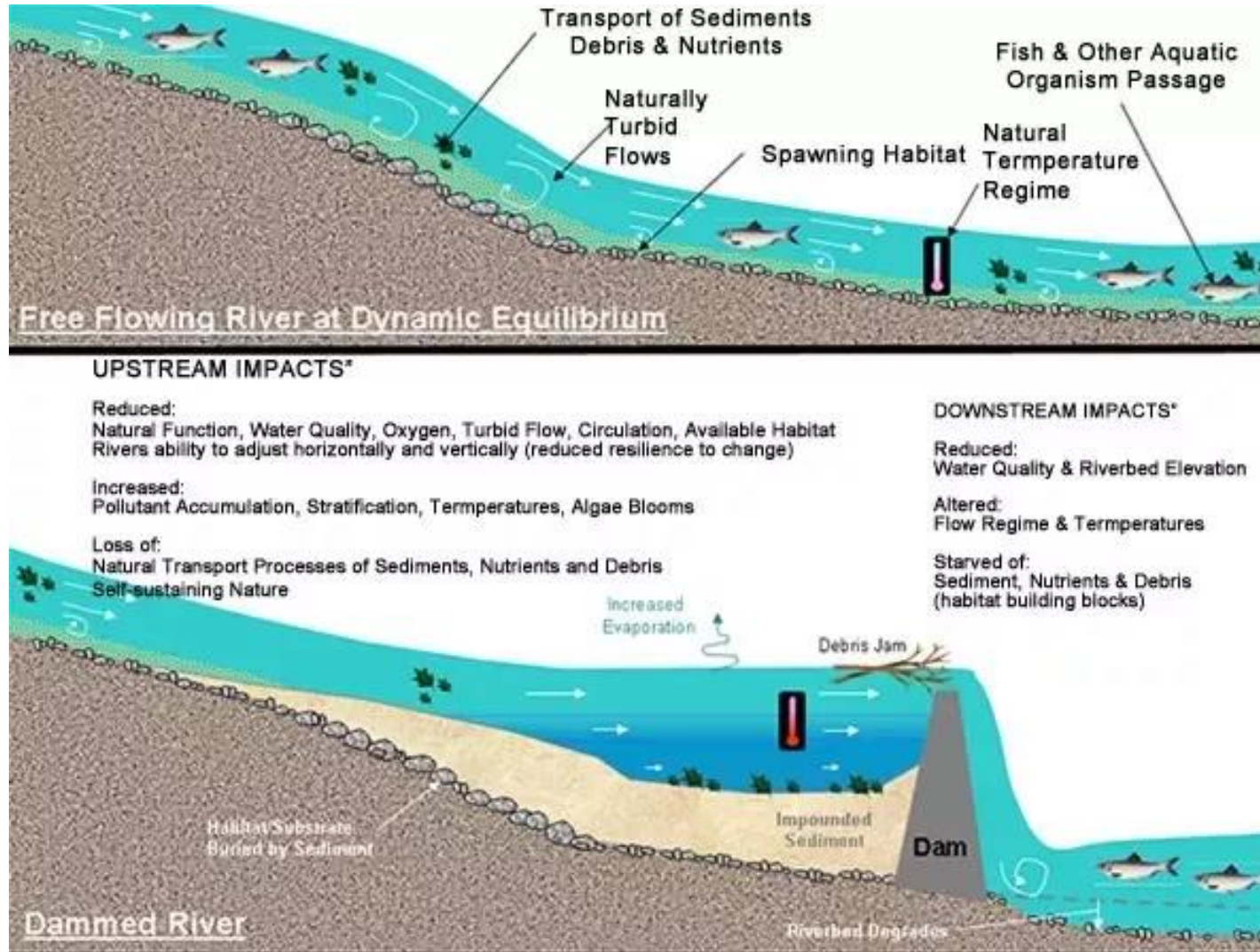
Over 3000 dams in Massachusetts

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



How Dams Impact Rivers



Benefits of Dam Removal - Ecological



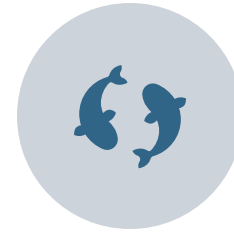
RESTORES NATURAL
SEDIMENT
TRANSPORT REGIME



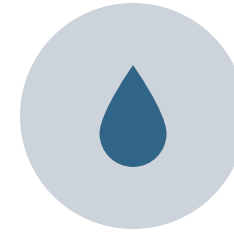
RESTORES NATURAL
THERMO-REGULATION



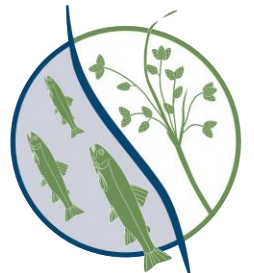
INCREASES BENTHIC
BIODIVERSITY IN THE
IMPOUNDMENT



INCREASES HABITAT
CONNECTIVITY



IMPROVES WATER
QUALITY AND
DISSOLVED OXYGEN



Benefits of Dam Removal – Public Safety

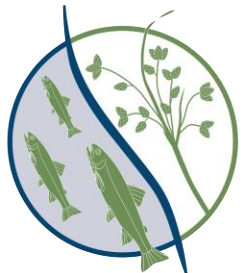
- Reduce Flood Elevations up stream
- Reduce flooding risk downstream
- Protects nearby infrastructure



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



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



Benefits of Dam Removal - Owner

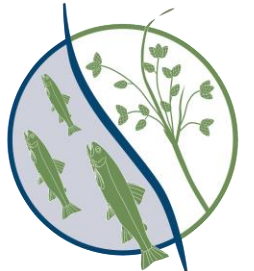
- Elimination of Flood Damage Liability
- Elimination of Attractive Nuisance Liability
- Elimination of Inspection and Maintenance Burden
- Saves money in the long term



Image credit: Rob Goebel, Indianapolis Star



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



Drawbacks of Dam Removal

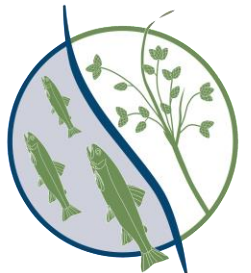
- Unintended Consequences (Upper Clark Fork)
- Loss of a place (Elm Street Dam)



Image credit: Solare Photography



Image Credit: Jack Perks, Solent news



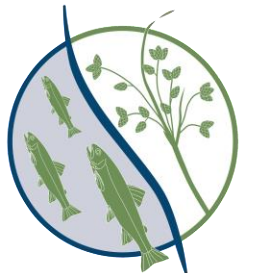
Lower Neponset Dam Removals



Baker Chocolate Factory Dam – Boston



Tileston and Hollingsworth Dam – Boston



Watertown Dam Removal

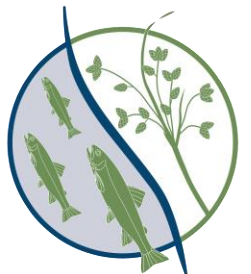
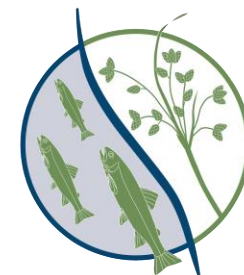
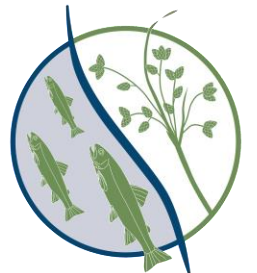


Photo Credit: DER

Malden Brook Restoration



Quinapoxet Dam Removal



Thank you!



Questions?

