Virginia DWR Fish Passage Update CBPFPWG May 23, 2024

Alan Weaver, DWR Fish Passage Coordinator

Baber Mill Dam on Rock Island Creek

- James trib in Buckingham County
- Weyerhaeuser – very willing partner
- “Drivers”: James Spinymussel and fish passage (potential Sea Lamprey)
  - Looking for Sea Lamprey/American Eel and full community
  - May 2023, October 2023, April 2024

Alan Weaver, DWR

- **Project leader: Louise Finger, DWR Stream Restoration Biologist**
- **Mussel investigations: Brian Watson, DWR Malacologist**
- **Pre-removal fish monitoring – DWR FP Project and other Fisheries staff**
- **Funding: SWG (DWR), Weyerhaeuser and anonymous foundation**


Meaghan Marchetti, DWR

Baber Mill Dam removed on April 29, 2024

- **Tier 1 Resident and Tier 2 Diadromous**
- **45 UFN Miles reopened**
- **33 Species documented below so far including Sea Lamprey and American Eel**

One last pre-removal ef sample

Sea Lamprey – native anadromous species

James Spinymussel (T&E) – wild; found 50 m below dam

Photos: Meaghan Marchetti, DWR

Alan Weaver, DWR

Rapidan Mill Dam

- 500, up to possibly 1000, UFN miles to be reopened
- Blueback Herring eDNA and eggs found below dam (SERC)
- Striped Bass caught below dam
- Other anadromous target species: American Shad and Sea Lamprey
- American Eel passage improvement
- DWR conducting pre and post fisheries sampling

Virginia

Second Round

American Climate Partners will remove the Rapidan Mill Dam and restore habitat along the Rapidan River in the lower Chesapeake Bay. Removal of the dam will open more than 500 miles of habitat for American shad, river herring, and other migratory fish. The project will also benefit the local community by increasing recreational and subsistence fishing opportunities, improving public access to the river, reducing the risk of flooding, and removing aging infrastructure. ($1.5 million in first year; up to $7.9 million total over three years)

Last updated by Office of Habitat Conservation on 05/22/2024

Removing Ashland Mill Dam: Monitoring Plans for a Mitigation Banking Project

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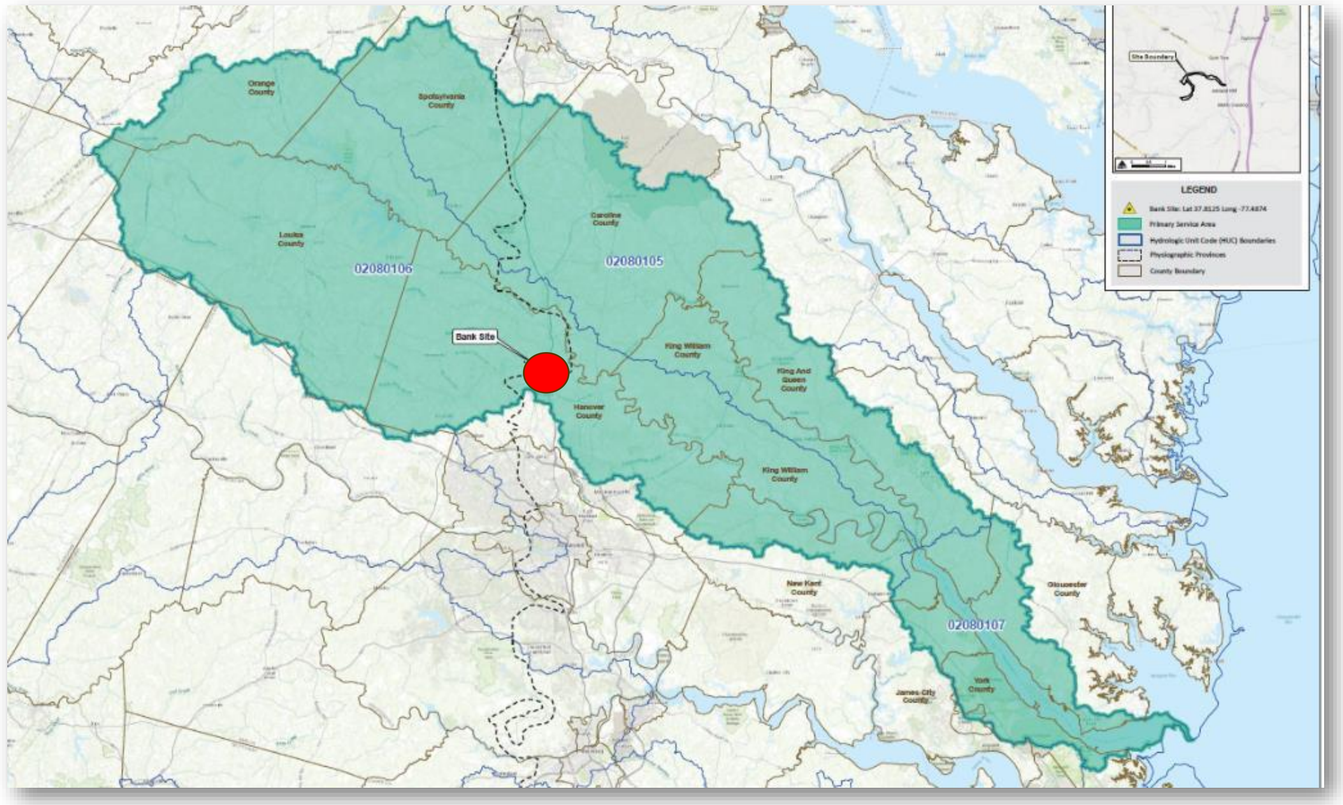
Excerpts from the

Virginia Alosa Task Force Meeting

January 22, 2024 - plus some updates

Ashland Mill Dam

- South Anna River, 5th order, Pamunkey/York drainage
- Drainage area above dam: 452 mi^2



Wetlands Studies and Solutions

Ashland Mill Dam

- Constructed ca. 1916, 13’ tall
- Ran former grist mill
- Run of river
- Confirmed barrier for seven diadromous fish (DWR spring electrofishing; anglers)
  - American Shad
  - Hickory Shad
  - Blueback Herring
  - Alewife
  - American Eel (reduced passage)
  - Sea Lamprey
  - Striped Bass

How are credits awarded for dam removal?

- USCOE Norfolk/DEQ Unified Stream Methodology (2007) and subsequent guidance (USCOE, September 2018)
- Everything below is preliminary pending IRT approval
- **UPDATE: Per Davey Mitigation and the Corps, the MBI could be approved in the near future and deconstruction could start in September 2024**
- Credits proposed for:
  - Converting 2.3 miles (effective impoundment) from lentic to lotic
  - Adjustment factors
    - State priority (0.3)
    - River order (1.2; it's a 5th order stream that increases credits)
    - Conservation easement at dam site (linear feet protected)
    - Rare, T&E. Three mussels in the York (0.3)
    - Water quality/down river benefits (0.1)
    - Diadromous fish passage (0.1 per each of 7 species)

Photo: Melinda Weaver

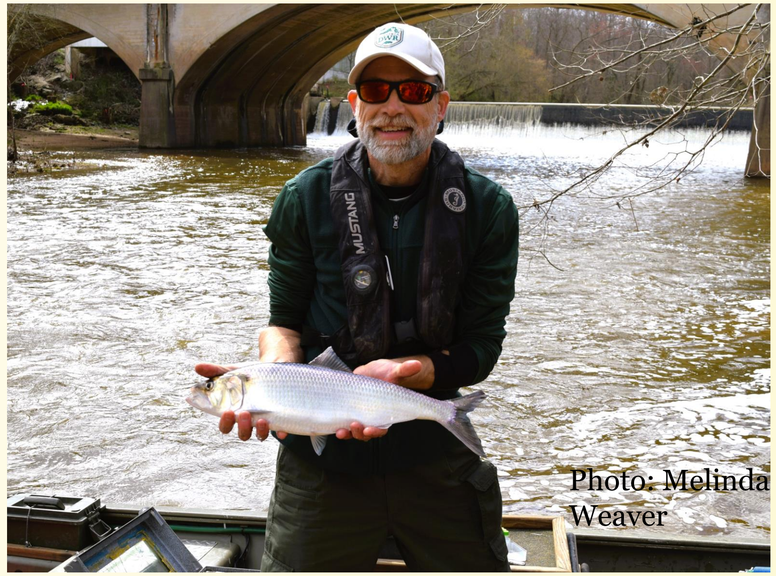
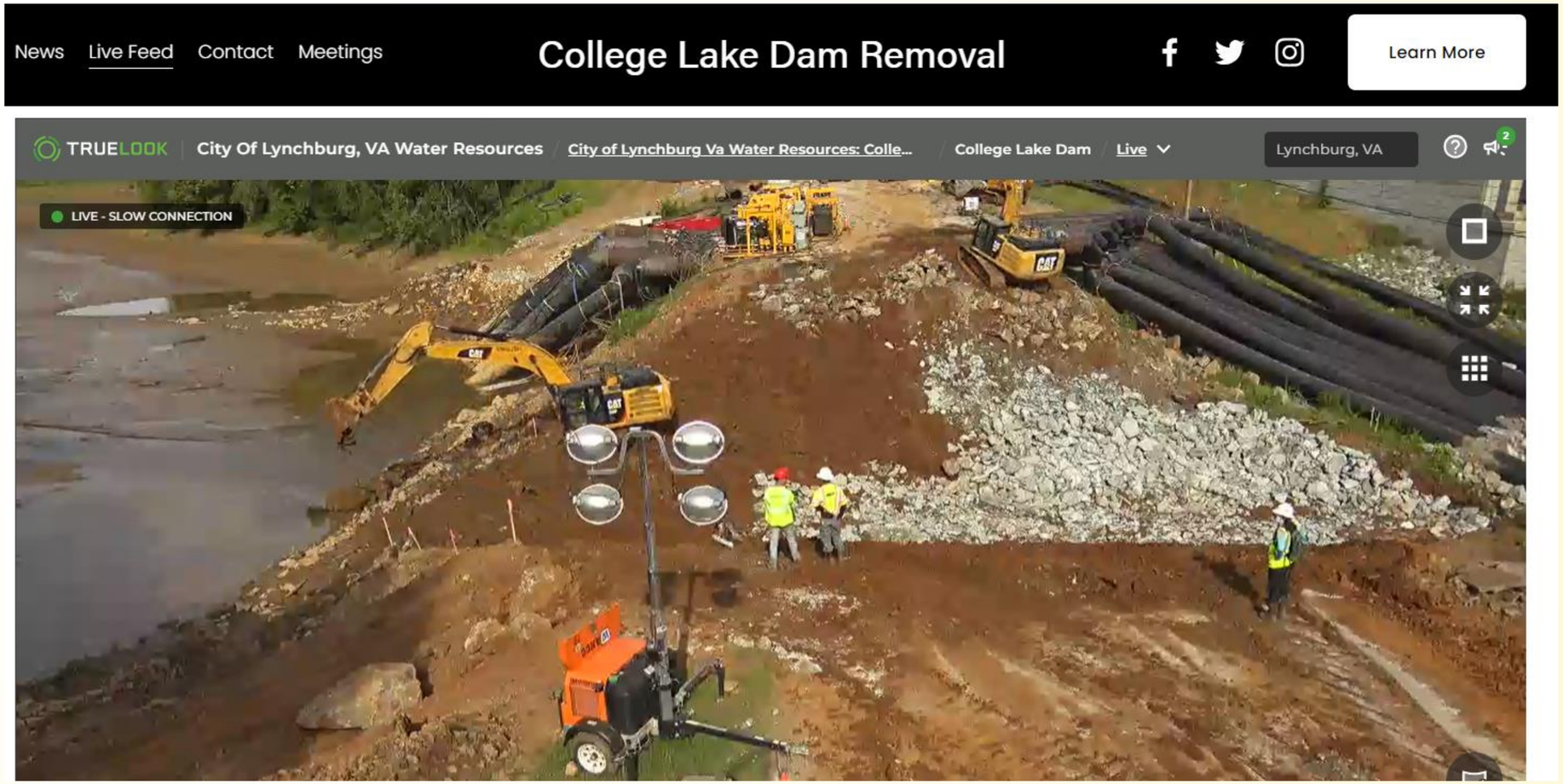


Photo: Melinda Weaver


Photo: Alan Weaver

2024 Spring Sampling: DWR and RMC

- Mid February through May ~ every 2 weeks
- Target species collected this spring
  - Alewife
  - Hickory Shad
  - American Shad
  - Sea Lamprey
  - Striped Bass
  - American Eel



College Lake Dam Removal

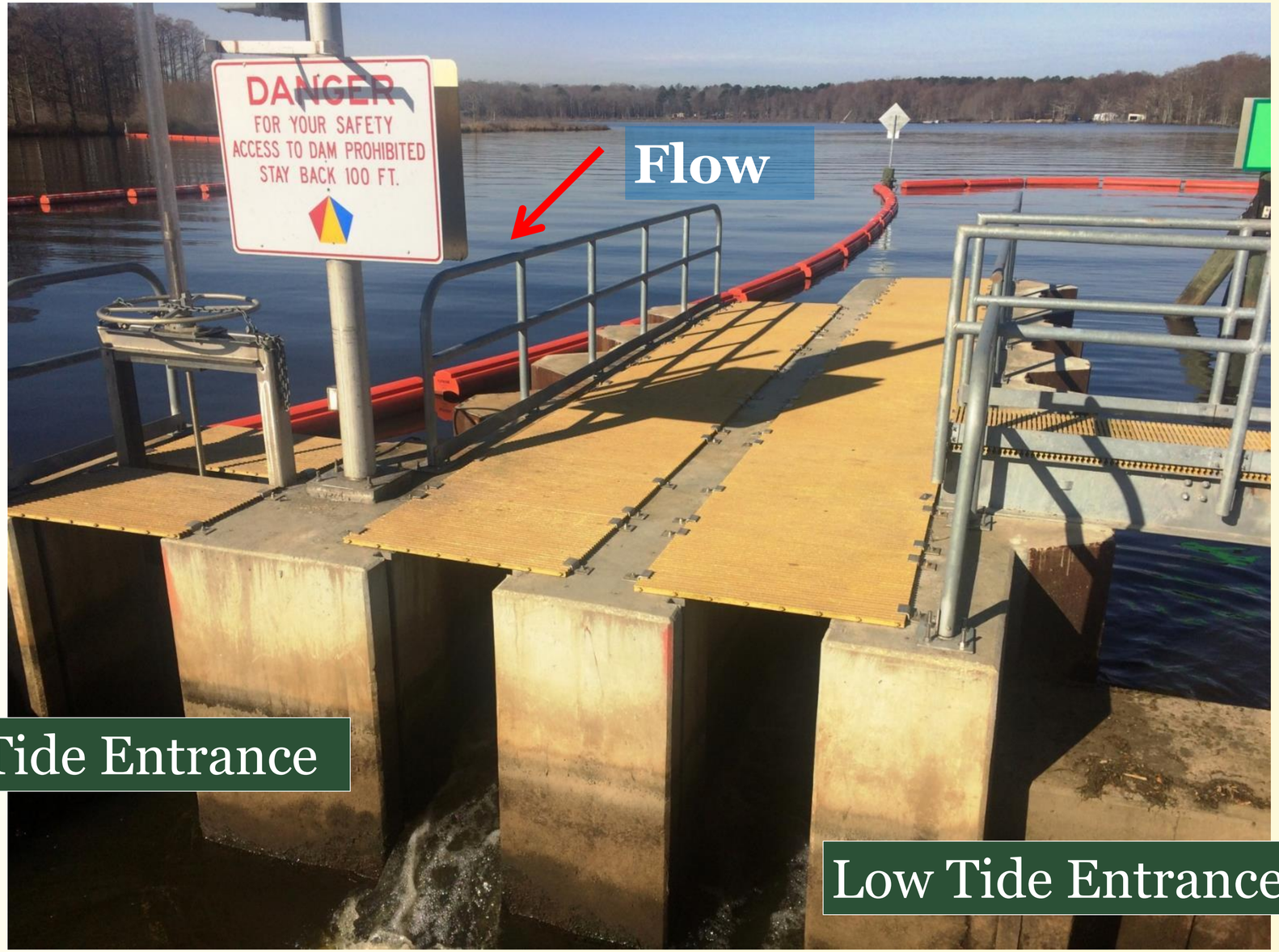
- City of Lynchburg and U. of Lynchburg partnering
- RES (Kathy Hoverman)
- Blackwater Creek (James trib in Lynchburg)
- High hazard dam
- 1 dam downstream (Hollins Mill)
- Filled in with sediment
- Major road flooding problems

https://www.collegelakedamremoval.org/live-feed

Road Crossing AOP Projects

- Mud Creek at Montague Road
  - VDOT received Federal Highway Culvert AOP grant
  - Road flooding reduction
  - Potential herring passage
  - 2024 monitoring
- Cornelius Creek at Mill Road in Henrico County
  - James tributary
  - DWR confirmed Alewife within ¼ miles of significant barrier crossing
  - Both VCU and USFWS got positive eDNA hits below crossing
  - Site visit with Jessica Pica (USFWS FP engineer)
  - In discussions with Henrico County and consultant
  - Potential use of HRBT mitigation funding toward solution
  - Potential application to Federal Highways Culvert AOP opportunity

Double-Denil Fishway High and Low Tide Channels



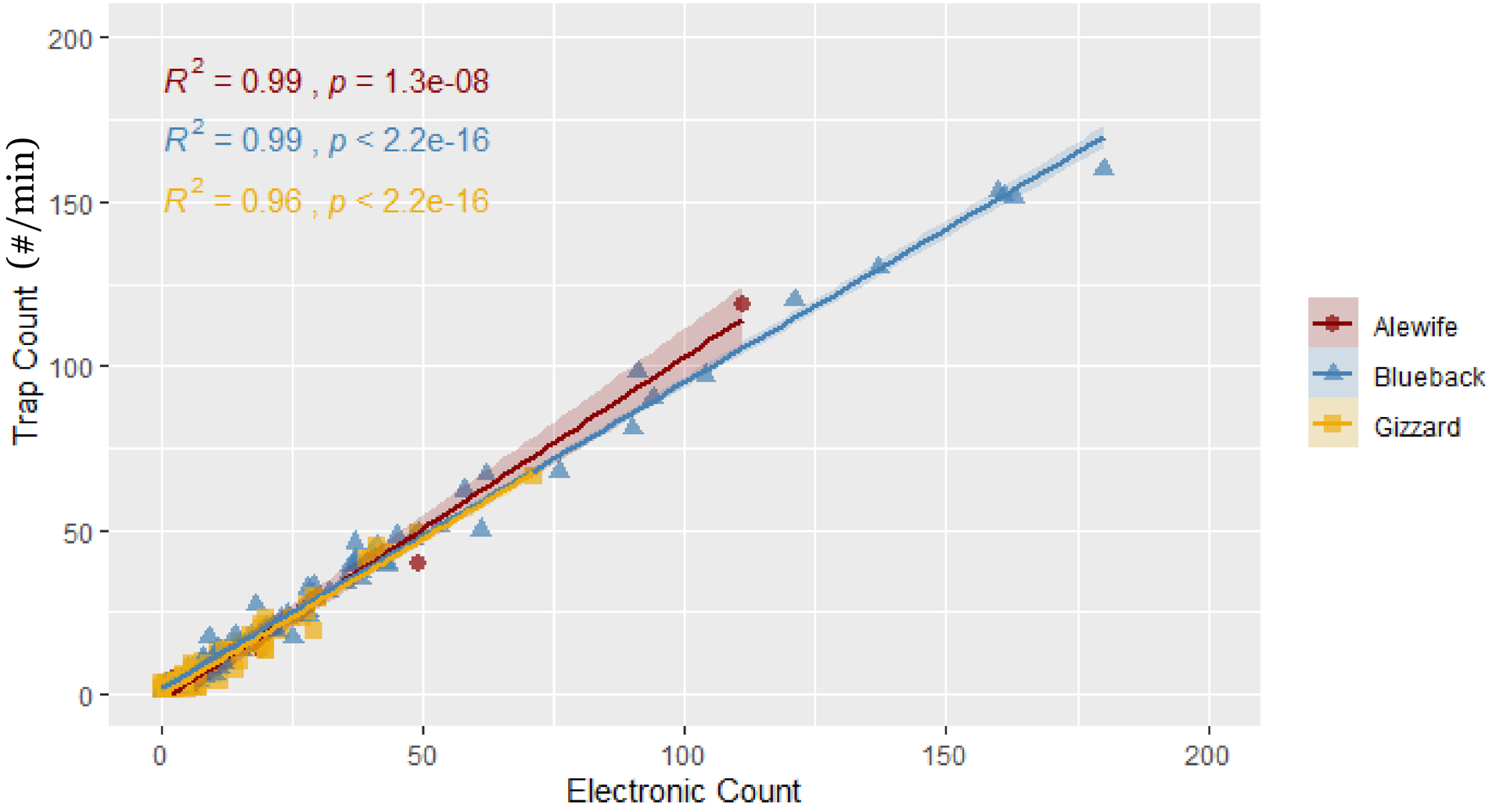
Counter tunnel array

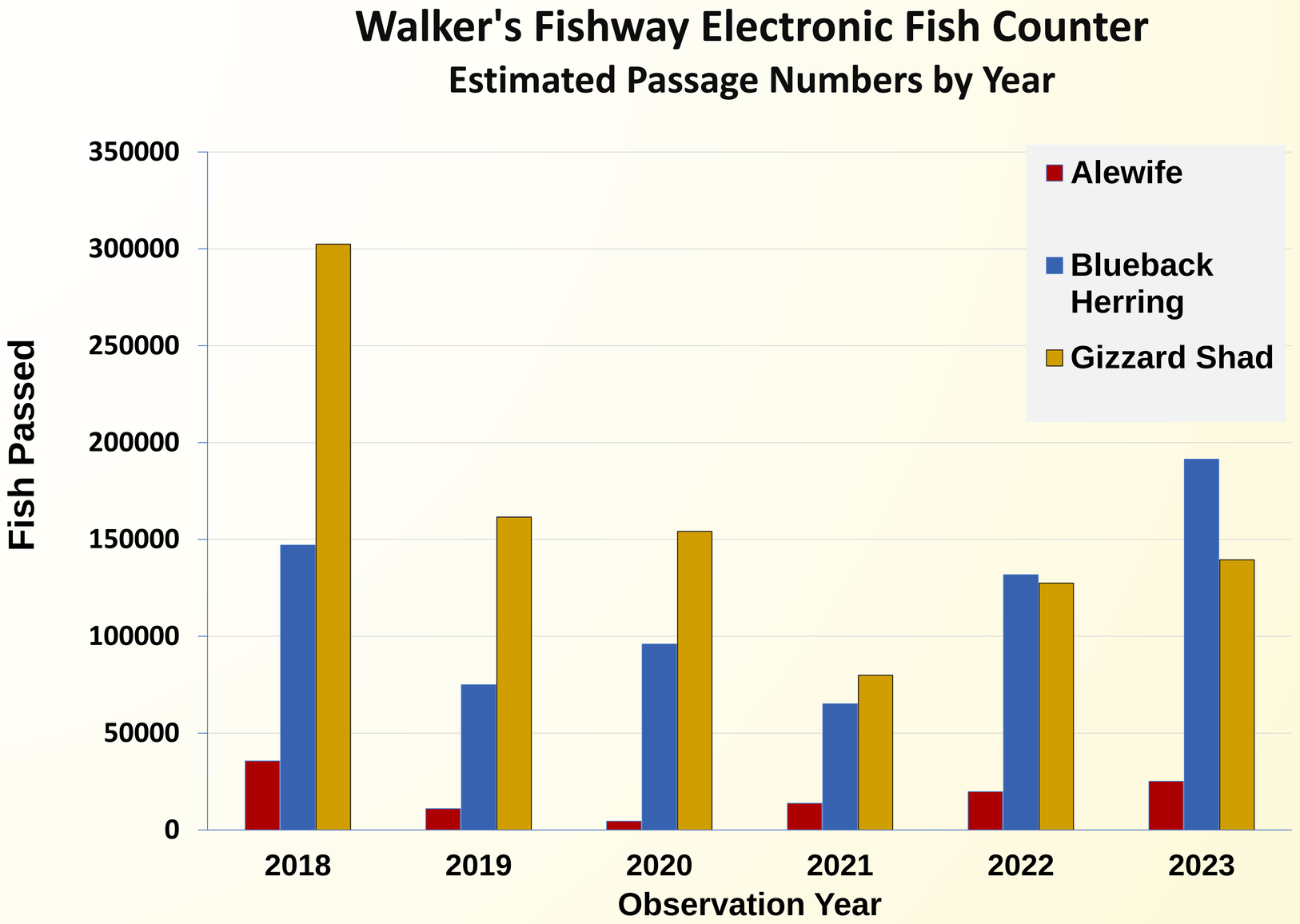
3/4” (19 mm) mesh exit trap (low tide side)

Frequent, periodic trapping

Walker's Fishway Electric Fish Counter

Confidence of Estimate by Migrating Species: 2023



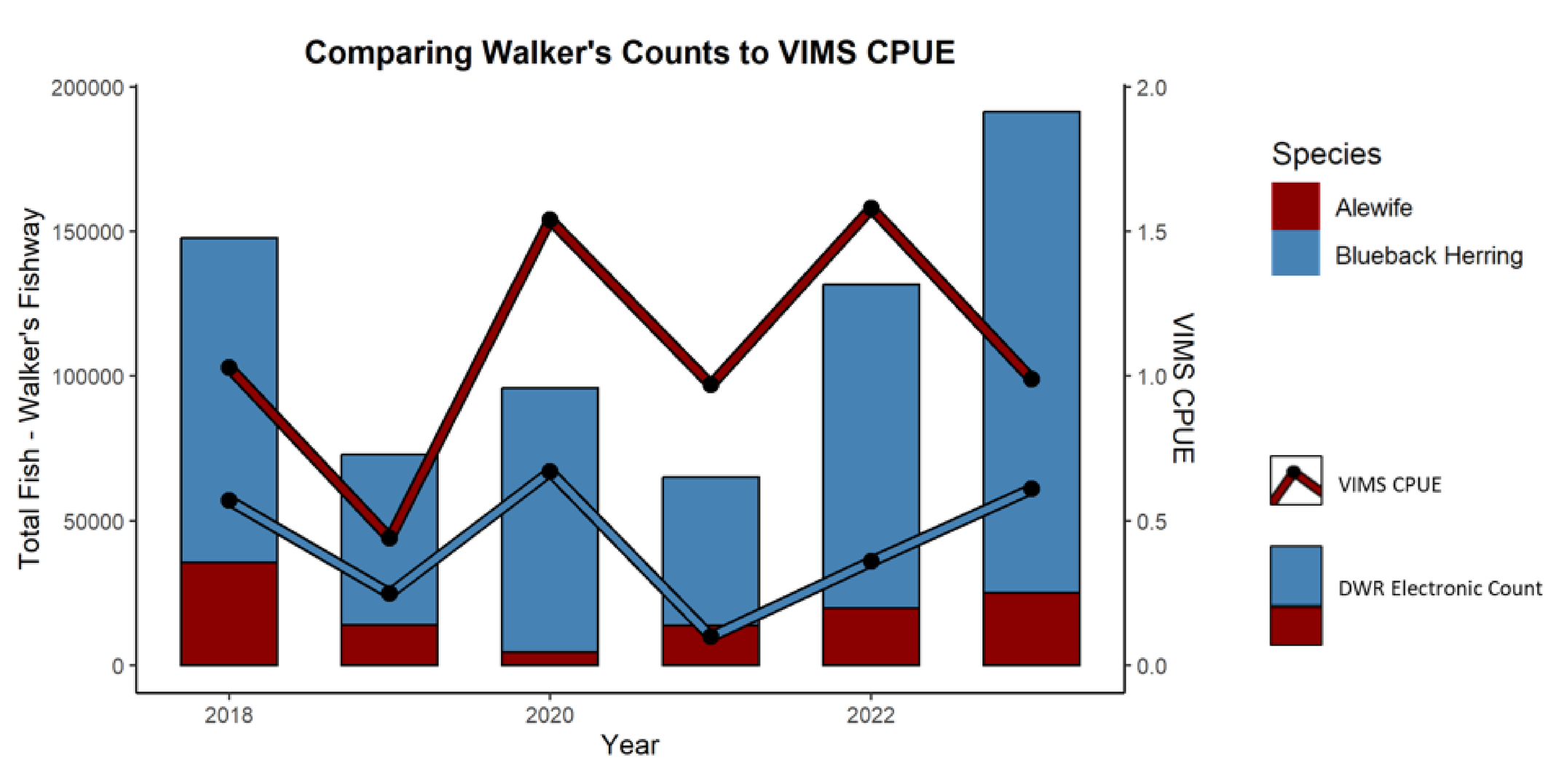


2024 Update:

- < 200,000 total fish counted to date
- River herring passage will be lower compared to previous years
- Lots of high tide passage over the dam in 2024

Total Fish Counted through 2023

1,819,523


Comparing Walker's Counts to VIMS CPUE
Total Fish - Walker's Fishway
200000
150000
100000
50000
0
2.0
1.5
1.0
0.5
0.0
VIMS CPUE
2018
2020
2022
Year
Species
Alewife
Blueback Herring
VIMS CPUE
DWR Electronic Count

ASMFC River Herring Benchmark Assessment

- **We submitted first 5 years of count to ASMFC for benchmark river herring stock assessment**
  - **Update: Our count data is presented in the assessment. ASMFC did not run formal trend analysis on the data because 10 years is required, but they recommend continuation of this time series.**

Questions ???