Highlights of Historic Battles Over Dams, Fish and Flow

Presented By:

LAURA WILDMAN, PE
Director, New England Regional Office
Fisheries & Water Resource Engineer
Princeton Hydro, LLC.
Glastonbury, CT, USA
lwildman@princetonhydro.com
860.652.8911

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We are not the first to battle for dam removal or fish passage at a dam.

These battles extend deep into our past, often initiated the day the dam was proposed.
Early Maps of New England
Rivers as Transportation Corridors
In 1642 John Wakeman established the first trading post in the Naugatuck Valley at the confluence of the Naugatuck and Housatonic rivers.
Indian Settlements
Transition to Colonial Villages

1625
- Naugatuck
- Capage
- Mattatuck

1811
- Waterbury
- Naugatuck (Salem)
- Seymour (Humpreyville)
Significance of Site: American Indian river names, emphasizing fishing, falls or type of flow

The Name Often Describes The Rivers Past While Foreshadowing The River’s Future

Androscoggin: "the high fish place"

Cobbosseecontee: “the place where sturgeon abound”

Penobscot: “the rocky part”, the “descending ledge place” or a place "where the white rocks are"

Presumpscot: the “river of many falls.”

Neversink: “continuously flowing” or “mad river” or “place of big rock”; also name of town submerged by the Neversink Reservoir

Naugatuck: "lone tree by the fishing place" a significant seasonal tribal gathering place

Seymour was formerly Amaugsuck: “the fishing place where the waters pour down"
Dam’s Canal Carries Water to Multiple Mills
UNION CITY DAM – NAUGATUCK, CT
The Dam Building Era

- Mill – Mechanical Power
  - Paper Mill in Lee, MA on the Housatonic
- Diversion & Navigation Canals
  - 1858 Canal paralleling the Naugatuck
- Industrial Sewer
- Tingue Dam
- Stevenson Dam
- Thomaston Flood Control Dam
- Industrial
- Hydroelectric
- Flood Control
National Inventory of Dams

- 85,000 Dams >25 ft w/ 15ac-ft capacity or >6ft w/ 50ac-ft capacity
- ~99,000 Dams regulated by states & in the USFWS Barrier Database
- Several Million Dams Status Report on the Nation’s Floodplain Management Activity, 1989 (includes an estimated 2.5 million NRCS dams built as of 1977)

Habitat Fragmentation at a very large scale!
Cumulative Impacts of Multiple Dams

Roaring Brook, Glastonbury, CT

~27 Dams on Roaring Brook and its Tributaries (8 main stem dams)
The Conflict Between Dams and Fish Begins!

In New England:

**Farmers:** public rights to fisheries and property rights relating to flooded land

- **Colonial fish weir**
- **“Herring Run” Artist: Robi Smith**

**Dam Owners:** economic individualism and the start of the Industrial Revolution

- **Shasta Dam rises; house submerged**
- **Mill dams in Lowell, MA on the Merrimack River**
- **The Upper Falls - Charles River - Newton, MA**
  - Algonquian tribe’s “favorite fishing grounds” with fish weirs from bank to bank. Dam built in 1688
Elijah Boardman, future Senator, lead angry citizens to remove a dam in New Milford on the Housatonic River by force in 1799, convinced the dam was causing the repeated fever outbreaks in town. (Gordon & Raber)

Some Reasons Dams were Removed:

- Dam flooded property
- Dam blocked fish runs
- Make way for a new dam
- Eliminate liability & repair cost
- Because the dam no longer served a purpose
Coonamesset Dams, Falmouth, MA
The Herring War of 1798

- **3 mill dams** built on Coonamesset River
- Decline of the anadromous populations
- Bylaw giving elected Herring Constables the **right to remove any obstructions** to restore fish passage
- Conflict: rights of property (dam) owners vs. public rights to common fisheries resource
- Created 2 local political parties: **Pro-herring party vs. Anti-herring party**
Coonamesset Dams, Falmouth, MA
The Herring War of 1798

Anti-herring party filled a cannon on the town green with alewife in an act of protest and lit the fuse

- The gunner died
- Town records show that the debate over dam removal was still active in 1865
- Mill impoundments were later turned into cranberry bogs
- Currently: Town studying removal of 4 dams and restore wetlands and fisheries
The Billerica Dam
Concord River, Billerica, MA

• Constructed in 1710
• Controversy since day one
• 1st Law Suit in 1711
• Followed by multiple law suites, dam removals, different uses, repairs, reconstructions, raising, lowering, and fishways

Henry French pleads with the Massachusetts Legislature, 1861:

"For generations, a painful and expensive controversy has existed in relation to [the Billerica Dam], and if [not removed now], the children and children's children of these parties will be cursed with strife and contention"
Henry David Thoreau in 1839 at the Billerica Dam:

“Salmon, shad and alewife were formerly abundant here until the dam ... and the factories at Lowell put an end to their migration ...”

"...mere Shad, armed only with innocence and a just cause ... I for one am with thee, and who knows what may avail a crow-bar against that Billerica dam?"

“At length it would seem that the interests, not of the fishes only, but of the men [in the towns upstream] ... demand the leveling of that dam.”

He was later the surveyor for the farmers for the 1861 court case.
The Concord River evolves over 1,000’s of years post glaciation without a dam

The site is an American Indian encampment and fishing grounds with exposed falls

Pre-dam colonial use of river’s fisheries

Dam Constructed in 1710

~ 9000 BC 1653 1710
The legacy dam was the 4th Billerica Dam and is shown on this 1829 detail just upstream of the 5th Billerica Dam (Source: Ingraham 2009)
Pawtucket Falls Dam, Photo Source: Accession: 2009-11, Rhode Island State Archives

**Slater Mill and Main Street Dams, Blackstone River, RI**

1714: Furnace dam built at the falls between 1714-1748. Sergeant’s Trench Fishway built

1748: Judge orders that “dam should be broken and a way made through the same”, Petition allows dam to stay.

1750s: Furnace dam exempted from the Fish Act.

1760: Place dams on Sargeant’s Trench, turn fishway into a power canal.

1761: Farmers petition for a new fishway

1773: Ineffective fishway leads to “An act making it **lawful to break down and blow up Rocks at Pawtucket Falls ... that obstruct fish passage ... the said river being herby declared a public river.**”

1773: New fishways both sides of the dam.

1786: New fishway petition denied; Ex. Fishway improved; Commercial net fishing below dam is prohibited.

Source: “Dam, Fish, and Farmers: The Defense of Public Rights in Eighteenth Century, RI by Gary Kulik
**1792**: Slater Mill Dam (cotton mill) constructed upstream of falls. No fishway.

**1792**: Downstream dam owners “did...utterly subvert, pull down and destroy” the Slater Mill Dam and freely admit to destroying the dam under their common law rights. Downstream dam owners win case but upstream dam is already rebuilt.

**1792**: Committee appointed with power to remove all obstructions (at farmers request) but cotton mill is omitted, this dam never gets a fishway.

**1805**: Commercial fisherman regained the right to net fish below the dams/falls.

**1829**: Fish Act taken off the books.

**1829**: ~100 years after the 1st dam is built, Cotton Mill owners argued that the need for waterpower should take precedence over “a trifling shad and alewife fishery that does not pay for the grog expended in taking the fish”. *Pawtucket Chronicle*

**Current**: Slater Mill Dam no use but considered historic; Main Street Dam is a hydropower dam, but unclear if it is active. Both under consideration for fishways with multiple dams upstream under consideration for removal.

Source: “Dam, Fish, and Farmers: The Defense of Public Rights in Eighteenth Century, RI by Gary Kullik
Examples of Other Dam Battles

Hetch Hetchy Dam, CA: 1882-1923, the dam controversy that reportedly caused John Muir to die of a broken heart; “... no holier temple has ever been consecrated by the heart of man.” - John Muir

East Dam, CT: 1856, shad fishermen attempted to blow up the East Dam on the Connecticut River in Windsor Locks, CT (Kulik 1985)

Smelt Hill Dam, ME: 1736, Chief Polin protested the dam at Presumpscot Falls on the Presumpscot River and is later killed in a protest raid on a riverfront settlement in 1756.

Hadley Falls, MA: Multiple dams at site; 1794 to 1824 series of legal battles, dam modifications, and breaches to pass fish; 1873 to 1955 a series of ineffective fishways leads to the nations first successful fish lift.

First Fishways: Written reports of rough fishways date to 17th-century France, where bundles of branches were used to create steps in steep channels to bypass obstructions. (Clay, Design of Fishways)
We Have Been Removing Dams for a Long Time

Hartford Manufacturing Co. Dam
Blown Up on May 10, 1904
Glastonbury, CT

A new 100-ft high dam is proposed the next year but not built.

One of the earliest-documented series of deliberate dam removals occurred on 331 B.C.;

“Alexander the Great led his forces into the Valley of the Tigris ... dams on the river had to be partially removed to permit passage of his fleet.” (Jansen 1980)
Children's Children
Cursed with Strife and Contention

Winnemem Wintu Tribe war
dance to protest Shasta Dam