

# Shadbush (Juneberry)

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# Shadbush in Spring



The lacy white flowers of Shadbush are the first to break winter dormancy, signaling the arrival of spring. Early colonists noticed the tree blooming when the shad are running, hence one of its common names. The plant is also known as “serviceberry” since the local ministers could visit winter-bound homes as the roads became passable, performing weddings and funerals and other services.

Shadbush is a multi-stemmed large shrub, reaching 20-25 feet in height. With a native habitat of wet bogs and swamps, it grows best in full sun or light shade on moist, well-drained, acid soil. These plants will rarely require any pruning or fertilizing, except if thinning of the multiple stems is desired. Long-term health is usually not affected by pests.

# Shadbush (Serviceberry)

1. How did it get the name shadbush?
2. How did it get the name serviceberry?
3. Describe the habitat and conditions required?

In early spring, small white flowers are produced in dense, erect spikes, then opening to attractive reddish-purple buds which unfold into small rounded leaves, smooth and dark green. The flowers produce many small, sweet and juicy fruits, often well-hidden by the leaves, which would be popular with people, were they not so quickly consumed by birds and other wildlife.

In autumn, Shadbush is alive with a variety of colorful hues, from yellow and gold to orange and deep red. This plant is striking when placed in a mixed shrubbery border where its brilliant white blooms and fall color stand out nicely against a background of evergreen shrubs. With an open crown, the tree is well-suited for planting as a specimen near the deck or patio.



# Shadbush in Fall and Shadbush Berries



# American Shad



When the buds open on the serviceberry, the shad are in the rivers. This happens around the middle of April each year, when the water temperature begin to exceed 40 degrees fahrenheit.

An ancient and impressive wildlife migration is occurring in our midst. The spring spawning run of American shad is a timeless ritual, one that has taken place in the Delaware River for the past 10,000 years. Historically, the Delaware River had the largest American shad runs of any river on the Atlantic Coast and migrating fish likely numbered in the tens of millions. While much reduced in numbers today, American shad runs on the Delaware are still significant, remain an important food source for numerous species of wildlife, including bald eagles, and underscore the importance of our ocean connection.



Determined fish are now travelling 330 miles or more upriver from the ocean, on this last major river on the Atlantic Coast that is undammed the entire length of its main stem. Some of these 3 to 6 year-old fish have travelled over 12,000-miles at sea, including annual forays to the Gulf of Maine and the Bay of Fundy. They are now nearing their goal, long-remembered spawning waters in their natal Delaware River, in what will be the final journey for some.

Once the eggs have hatched, the Delaware River will provide sustaining nursery habitat for millions of young-of-year shad during the first 5 months of their lives. In the fall, this next generation of American shad will return to the sea. This age-old cycle of biomass, energy, and nutrient exchange with the ocean benefits both systems and represents an important riverine-marine ecological link that is now missing from so many of the nation's other rivers.



What is a Watershed  
It's a land area  
that channels rainfall and  
snowmelt to creeks,  
streams, and rivers, and  
eventually to **outflow**  
**points** such as reservoirs,  
bays, and the ocean.





# Delaware River Basin Watershed

- <https://www.epa.gov/waterdata/surf-your-watershed>
- Find Your Local Watershed

## The upper Delaware River near Barryville, New York



## Canoeing on the river at Hawk's Nest, New York



The middle Delaware viewed from  
Ewing, New Jersey



The lower Delaware as viewed from New  
Castle, Delaware







Lake Wallenpaupack is approximately 5,700 acres in size and has a watershed that encompasses 219 square miles spread over four counties and 14 townships. The lake has approximately 52 miles of shoreline and has an average depth of 29.5 feet.



The Lenni Lenapes were not one single tribe, but made up of three groups. In the northern areas of their territory were the Munsee, “the people of the stoney country.” In the middle, or central area where Philadelphia came to be located was the Unami, or the “people down river.” South of the Unami were the Unalactgio, or the “people near the ocean,” who were also known as the Nanticokes.





Washington's crossing of the Delaware River, which occurred on the night of December 25–26, 1776, during the American Revolutionary War, was the first move in a surprise attack organized by George Washington against the Hessian forces in Trenton, New Jersey on the morning of December 26. Planned in partial secrecy, Washington led a column of Continental Army troops across the icy Delaware River in a logistically challenging and dangerous operation. Washington successfully surprised and defeated the British troops quartered in Trenton. The army crossed the river back to Pennsylvania, this time burdened by prisoners and military stores taken as a result of the battle.



## Shad Fishing at Gloucester on the Delaware River by Thomas Eakins

This painting's composition was determined by the most distant view from the photographs Eakins had selected. Over the tracing of that image on the canvas, he projected a closer view to replace or add fishermen. He edited out the spectators in the original photograph, and projected his family slightly lower in their place. Between the two painted versions of this subject, Eakins shifted the emphasis to his family, who admire the dedication and skill of the fishermen



# Migratory fishes

**diadromous fishes** travel between salt and fresh water.  
(Greek: 'Dia' is between) There are three types of diadromous fish:

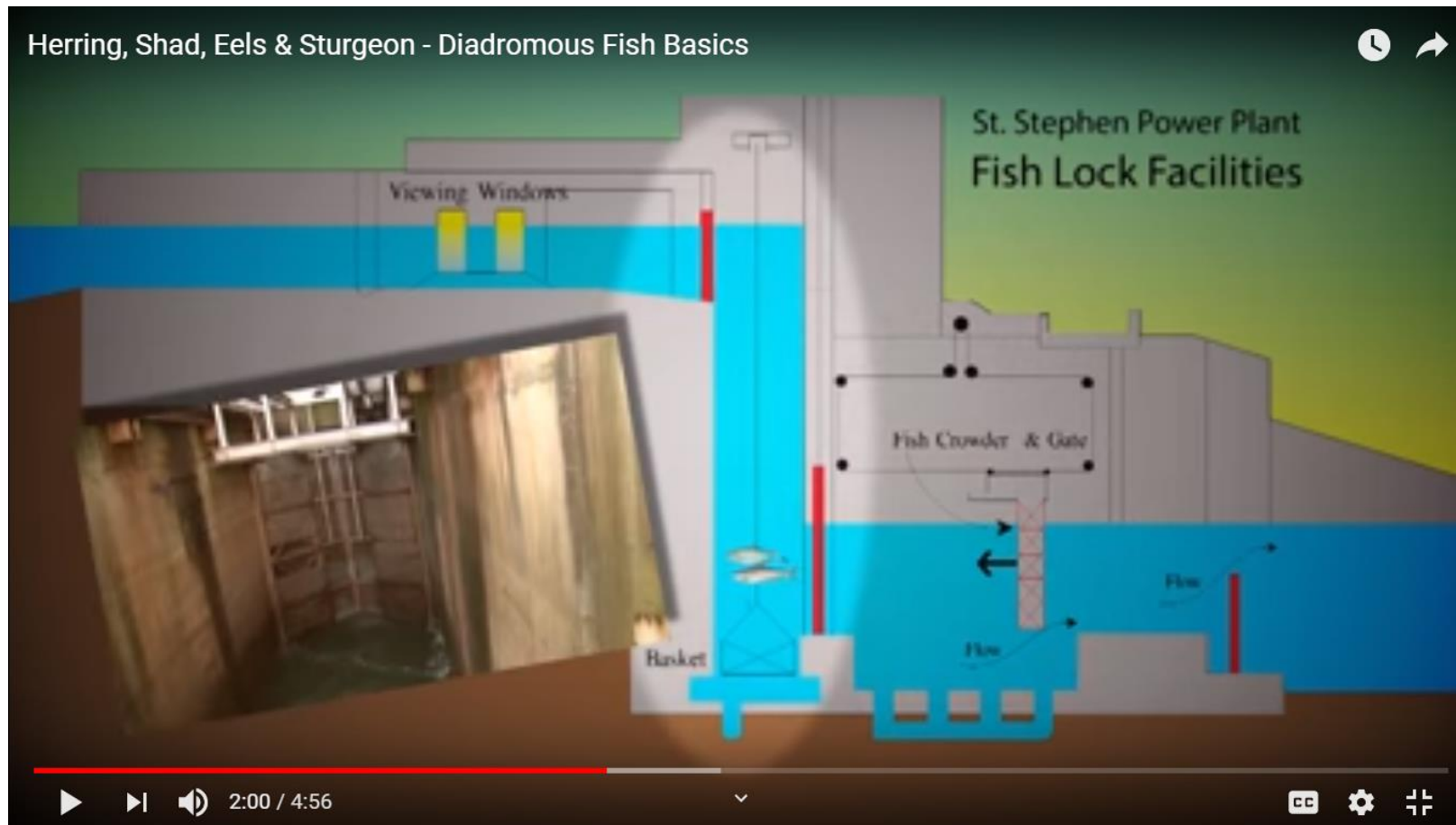
**anadromous fishes** live in the sea mostly, breed in fresh water

**catadromous fishes** live in fresh water, breed in the sea  
(Greek: 'Cata' is down)

**amphidromous fishes** move between fresh and salt water during some part of life cycle, but not for breeding  
(Greek: 'Amphi' is both)

# Herring, Shad, Eels & Sturgeon - Diadromous Fish Basics

<https://www.youtube.com/watch?v=t-lt7uJiEM8>



# Aerial Bowfishing for Asian Carp

<https://www.youtube.com/watch?v=VEyBJC7hlgU>