

**The Sudbury, Assabet  
and Concord  
Wild and Scenic River**

# STORIES AND SUCCESSSES

1999–2018



The Sudbury, Assabet and Concord  
**WILD & SCENIC**  
River Stewardship Council  
[sudbury-assabet-concord.org](http://sudbury-assabet-concord.org)



PHOTOS ON COVER AND THIS PAGE BY DAVE GRIFFIN



## Acknowledgements

Thank you to all who contributed in the gathering and producing this historical document.

A special thanks to Anne Slugg, Chairwoman of the River Stewardship Council in 2018, for her watchful eye and careful attention to our work over many months.

Thank you to those who contributed in the writing: Tom Sciacca, Mary Antes, and our partners at Sudbury Valley Trustees, OARS and CISMA: Alison Field-Juma, Julia Khorana, Sue Flint, Lisa Vernegaard, Christa Collins, Amber Carr and Ryan Brown.

Special thanks also to the people and partners who have shepherded the Council from designation through to today: to the Sudbury Valley Trustees for many years of stewarding the Cooperative Agreement with the National Park Service that makes the River Stewardship Council's work effective, smooth and efficient; to Lee Steppacher, who served as National Park Service coordinator and manager of the Rivers for over a decade; to Cassie Thomas in the early years, and now Jamie Fosburgh at the National Park Service for their leadership over many years.

Thanks as well to the current representatives on the River Stewardship Council for their volunteerism and commitment to caring for the Wild and Scenic River, and their guidance in all of our projects.

The work of the River Stewardship Council across two decades has involved countless organizational partners, Town, State and Federal employees, local volunteers and advocates. To everyone who has been involved with these successes through time, thank you for your dedication and commitment to caring for a nationally unique and locally beloved resource.

### 2018 RIVER STEWARDSHIP COUNCIL REPRESENTATIVES

**Marlies Henderson**  
TOWN OF BILLERICA

**Ralph Hammond**  
TOWN OF BEDFORD

**Christine Dugan**  
TOWN OF LINCOLN

**Jim Meadors**  
TOWN OF LINCOLN

**Elissa Brown**  
TOWN OF CONCORD

**Gail Hires**  
TOWN OF CONCORD

**Anne Slugg**  
TOWN OF SUDBURY,  
CHAIRWOMAN

**Tom Sciacca**  
TOWN OF WAYLAND

**Mary Antes**  
TOWN OF WAYLAND

**Bill Fadden**  
TOWN OF FRAMINGHAM

**Ron Chick**  
TOWN OF FRAMINGHAM

**Alison Field-Juma**  
OARS

**Kate Tyrrell**  
SUDBURY VALLEY TRUSTEES

**Jim Lagerbom**  
SUDBURY VALLEY TRUSTEES

**Eileen McGourty**  
US FISH AND WILDLIFE  
SERVICE

**Karen Peltó**  
COMMONWEALTH OF  
MASSACHUSETTS

**Cindy Delpapa**  
COMMONWEALTH OF  
MASSACHUSETTS



**A Wild & Scenic walk:**

*Conserved lands along the rivers provide miles of hiking opportunities.*

PHOTO BY MARLIES HENDERSON

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**River Stewardship Council:** *First row, left to right:* Cindy Delpapa, Alison Field-Juma, Robin Stuart (MA Audubon), Chris Dugan, Bill Fadden, Sarah Bursky. *Second row:* Kate Tyrrell, Karen Pelto, Ralph Hammond. *Third row:* Jim Meadors, Anne Slugg, Tom Sciacca. *Fourth row:* Marlies Henderson, Lisa Vernegaard (Sudbury Valley Trustees), Libby Herland (USFWS), Jim Lagerbom. *Fifth row:* Elissa Brown, Jamie Fosburgh (NPS).

## Chairwoman's Introduction

A river is a connecting point in an ecosystem, bringing together a range of animals from dragonflies to trout to migrating shorebirds. Rivers are also integral to our communities and families, providing drinking water, recreation, commerce, and linking the histories of generations.

Such is true for the Sudbury, Assabet and Concord rivers, which Congress added to the National Wild and Scenic River System in 1999. Their combined 29 miles represent just one percent of all Wild and Scenic rivers, but they are unique in their place in American literature and history, their proximity to Greater Boston, and as a three-river confluence that connects eight communities.

Since the Wild and Scenic designation, the highly committed volunteers of the SuAsCo River Stewardship Council have worked to protect the system's special resources. Together, the Council explores critical issues, identifies funding projects for the betterment of the system and its communities, and drives outreach and appreciation for all the SuAsCo system offers.

We, members of the Council, are proud of this history of leadership and collaborative care for an unparalleled river system. But we could not have done it alone. In this report, you will read about achievements shared with committed citizens and towns, and private, state and federal organizations. As a result of these partnerships, thousands have participated at annual RiverFest events, hundreds of youth experienced intensive environmental education programs, thousands of acres have been protected, native species have been protected and invasive species removed.

We have more challenges ahead and the solutions will require a renewed commitment to collaboration. Climate change will likely bring with it more intense periods of rain, drought, and storm severity, invasive species will continue to threaten native species and affect water flow, and ongoing regional development will impact water quality and quantity.

We look forward to working with you to address these challenges, and look forward to sharing with you all that the rivers have to offer. We invite you to join us!

Anne Slugg  
RIVER STEWARDSHIP COUNCIL CHAIR, 2015-PRESENT

LEARN MORE AT:

[WWW.SUDBURY-ASSABET-CONCORD.ORG](http://WWW.SUDBURY-ASSABET-CONCORD.ORG)

[WWW.NPS.GOV/WSR](http://WWW.NPS.GOV/WSR)

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**The Assabet River:** *Its name comes through the filter of time from the (spoken) Algonquin word for “the place where materials for making fish nets comes from.” Over time, seven mill dams and two flood control dams changed the character of the river and the nature of human habitation along its banks. Farms gave way to manufacturing plants, towns sprouted up, and the river became an engine of commerce in the 18th and 19th centuries.*

PHOTO AND CAPTION COURTESY OF OARS



# About the Sudbury, Assabet and Concord Wild and Scenic Rivers

*“My house stands in low land, with limited outlook,  
and on the skirt of a village. But I go with my friend to  
the shore of our little river, and with one stroke of the  
paddle I leave the village politics and personalities...and  
pass into a delicate realm of sunset and moonlight...”*

**Ralph Waldo Emerson,**

*19<sup>th</sup> Century American poet, essayist, and philosopher*

**T**HE SUDBURY, ASSABET AND CONCORD RIVERS FLOW ON THEIR course northward just 20 miles outside of Boston. Appreciation for what they provide, and the work of caring for them, began hundreds if not thousands of years ago with the Native American communities that congregated along the river they knew as *Musketaquid*, or “grass-river.” This work was taken up by Emerson and Thoreau and other New Englanders guiding transcendentalism, a philosophy of the divine unity between humans and nature, which encouraged the practice of walks and paddles in nature to experience the fullness of creation.

Centuries later, in the 1980s, growing development pressures led to new efforts to appreciate these river resources, and to protect them from possible diversions to Boston water supplies. A group of committed volunteers spent nearly a decade advocating for Wild and Scenic designation, which they achieved for the SuAsCo system in 1999.

The bends, reaches and wetlands of the Sudbury, Assabet and Concord are covered in pine, maple and oak, and home to painted turtles, fern, muskrat, herons, kingfishers, bald eagles and the state-threatened Blanding’s turtle. The rivers pass through

the Great Meadows National Wildlife Refuge, and under the Old North Bridge in Minute Man National Historical Park, providing an experience of ecological and historical wonders. Within the Wild and Scenic segment, the rivers are remarkably undeveloped, providing a recreational river experience in a natural setting less than one hour from Boston. No wonder that every year, thousands of people boat, fish and find retreat along these waters.

Of the miles included, 14.9 are classified as scenic, and 14.1 as recreational, and all 29 are protected for their scenic, ecological, recreational, historical and —as a first among all Wild and Scenic rivers—literary values. The designation honors the unique impact these rivers had in shaping the philosophies of colonial people, and contributing to a culture of river protection today.

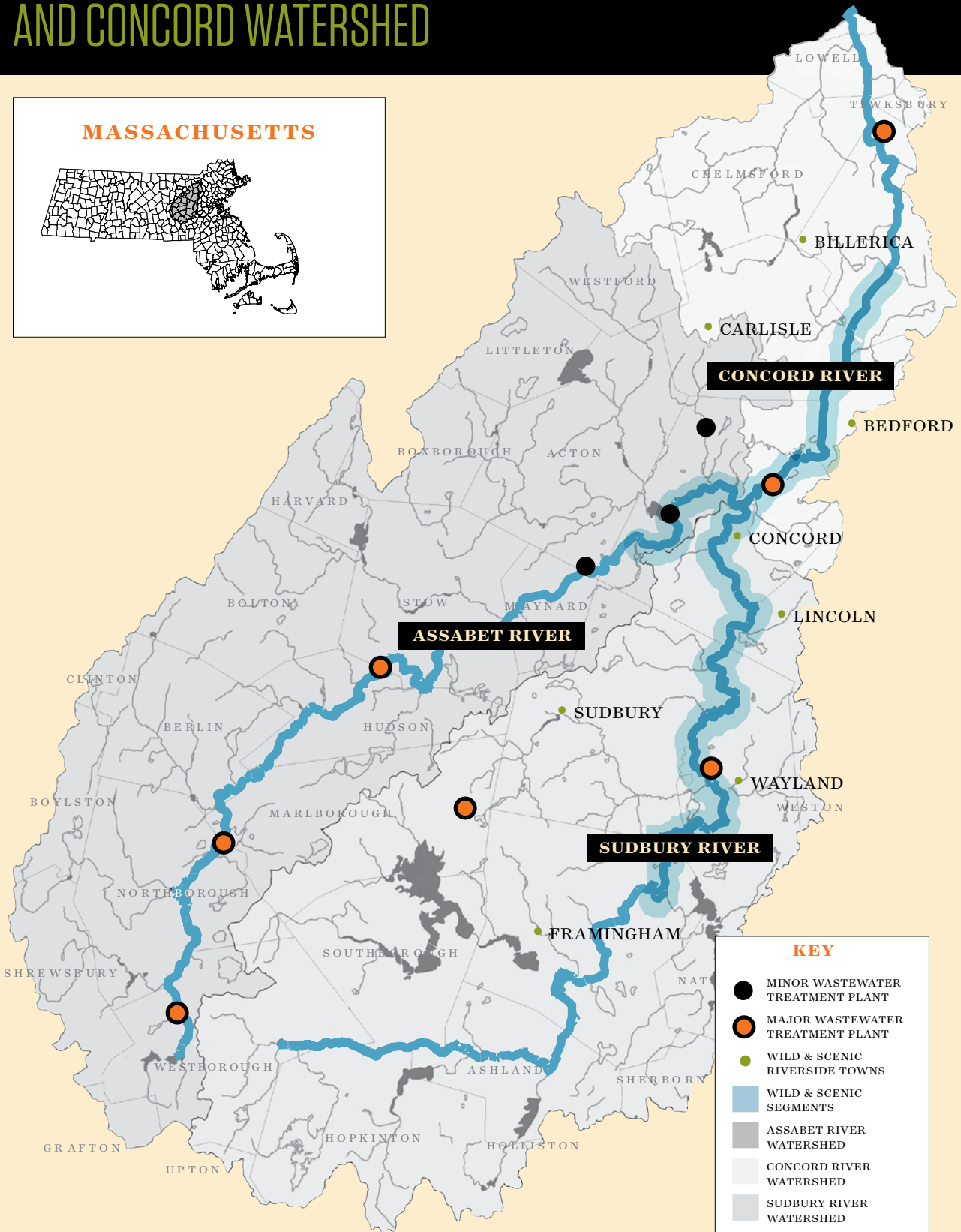
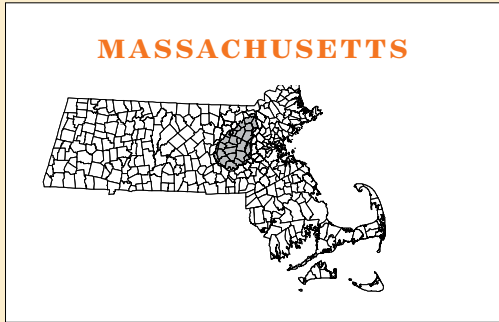
Designated as a partnership river, and passing through private, state and federal land, the Sudbury, Assabet and Concord flows through one of the most densely populated regions of all Wild and Scenic Rivers. The strong local support and commitment for preservation as expressed by the communities along the system is a fundamental element of the story. The eight towns directly along the Wild and Scenic segment voted their unanimous support for conservation study and the designation, and continue to be critical partners in its long term protection.



**Rivers for all seasons:** *Improving boat access areas and providing opportunities for paddling and hiking has been a priority of the River Stewardship Council.*

PHOTO BY DAVE GRIFFIN

# SUDBURY, ASSABET, AND CONCORD WATERSHED



**KEY**

- MINOR WASTEWATER TREATMENT PLANT
- MAJOR WASTEWATER TREATMENT PLANT
- WILD & SCENIC RIVERSIDE TOWNS
- WILD & SCENIC SEGMENTS
- ASSABET RIVER WATERSHED
- CONCORD RIVER WATERSHED
- SUDBURY RIVER WATERSHED

10 MILES



**Honoring a national treasure:** *Senators Edward Kennedy and John Kerry were among the guests who gathered on the banks of the Concord River in 1999 to celebrate the SuAsCo's Wild & Scenic designation.*

PHOTO BY PETER ALDEN

## Preface

# Local Leadership Drives Designation

*“The importance of the legislation, if you read it, is not so much in what it does in the protection that it provides for the watershed but rather in... the mechanism to bring people together to think about the rivers and to think about their role in our communities and to think about how we use them and to move and work together around that. There were all kinds of small victories that came out of that and were helped in ways that sort of changed the way people looked at how we used the river.”*

—Congressman Chet Atkins

T

HE STORY OF THE SUDBURY, ASSABET AND CONCORD WILD and Scenic River begins in the 1980s, when Julia Blatt, an aide to Congressman Chet Atkins, was polling environmental interests in the district. One man, Allen Morgan, proposed a Wild and Scenic designation for the Subury River. Morgan, who later co-founded the Subury Valley Trustees (SVT), feared further damage to the rivers if they became a source of Boston’s drinking water.

Decades of industry had already loaded the river with effluents. Other problems included wastewater treatment plants in each town as well the runoff of silt and chemicals from lawns, pavements and golf courses. The Clean Water Act of 1965, the Massachusetts Wetlands Protection Act in the early 1970s and the state’s Rivers Protection Act of 1996 had helped considerably, as did land protection in the region. But land development, mercury and other contaminants persisted.

Following Morgan's suggestion, Blatt—who would later serve as executive director of the Organization for the Assabet River (OAR) and the Massachusetts Rivers Alliance—assembled a committee to study whether the Sudbury, Assabet and Concord were *eligible* and *suitable* to be added to the National Wild and Scenic Rivers System. Other committee members included Sudbury Valley Trustees' Ron McAdow and OAR's Betsy Stokey. Representing the Commonwealth was Joan Kimball, who had been a member of the Sudbury River Advisory Committee that was formed to oppose diverting water to Boston. She facilitated meetings with the towns and won support from selectmen and conservation commissioners.

The study detailed the river's features and political realities, determining whether the towns and organizations involved would be able to provide lasting protection for the river's "Outstanding Resource Values" (or ORVs, as termed in the legislation) and its free-flowing character—albeit through mostly private lands. The committee also had to determine what made the river unique or exemplary. Although only one ORV is required for Wild and Scenic designation, the committee identified five:

- **Ecology:** extensive aquatic and riparian habitat for abundant and diverse plants and animals, 15 state-certified vernal pools, 32 state-listed rare plants and birds, migratory waterfowl
- **Archeology and History:** one of the highest densities of known prehistoric Native American archaeological sites, the first successful armed resistance of the American Revolution, and high concentration of Revolutionary-era sites
- **Culture and Literature:** Important role in the development of both 19th-century transcendentalism (Emerson) and modern environmental ethic (Thoreau).
- **Recreation:** birdwatching, fishing, ease of boating, and proximity to both historic sites and densely populated areas
- **Scenery:** varied, beautiful, and natural scenery, again close to densely populated areas

The committee also engaged local communities along the proposed Wild and Scenic River. They assured residents that no new federal land would ever be acquired under the Partnership Wild and Scenic River Program, that the rivers would not become units of the National Park System, and that there would be no federal management of non-federal lands. Ultimately voters trusted the information provided by the study committee and the National Park Service.

In early 1995, the committee completed the Conservation Plan and requested support from the eight riverfront towns. At their annual town meetings that spring, all eight voted—and several unanimously—to seek Congressional designation in accordance with the Plan. The request then passed through 17 approval layers in the Department of the Interior, and in 1999, Congress designated the Sudbury, Assabet and Concord Rivers as a National Wild and Scenic River, noting:



**Vital support:** *Community members were pivotal to the Wild and Scenic designation, which all eight riverside towns voted to endorse.* PHOTO BY PETER ALDEN

*“This act recognizes 29 free-flowing miles of these three rivers for their outstanding ecology, history, scenery, recreation values, and place in American literature. Located about 25 miles west of Boston, the rivers are remarkably undeveloped and provide recreational opportunities in a natural setting to several million people living in the greater Boston metropolitan area. Ten of the river miles lie within the boundary of the Great Meadows National Wildlife Refuge, established to protect the outstanding waterfowl habitat associated with extensive riparian wetlands. Historic sites of national importance, including many in the Minute Man National Historical Park, are located near the rivers in the Town of Concord. Among these is the Old North Bridge, site of the revolutionary “Shot Heard Round the World.” The rivers are featured prominently in the works of nineteenth century authors Hawthorne, Emerson and Thoreau and have been the subject of ornithological studies since early days of field observation techniques.”*

All four members of the study committee later became the early members of the River Stewardship Council, along with Ralph Bacon of Billerica. Shortly upon designation, the Council put the Conservation Plan into action, to protect and enhance the Sudbury, Assabet and Concord Wild and Scenic River.



**Teaching moments:** *Local grant funding through the National Park Service and the River Stewardship Council has supported numerous community education efforts and landscape restoration projects.*

PHOTO BY MARLIES HENDERSON



## **20 Years of Impact:** Enduring Partnerships and Funding for Local Initiatives



**T**HE HISTORY OF THE SUDBURY, ASSABET AND CONCORD WILD AND Scenic River is full of stories of partnership and local leadership. In fact, as a Partnership Wild and Scenic River, protection and enhancement through community partnerships is at the core of the program. The River Stewardship Council —made up of volunteers from eight towns, and representatives from two federal and state agencies and two nonprofits—continues to be the leadership that manages the Conservation Plan. All decisions are made through the Council, and its members are vital links to local towns. These local leaders have been champions for local stewardship and community engagement over the years in their towns and beyond.

Organizational partnerships have also been at the core of the Council's work. Two non-profit organizations were named in the legislation: Sudbury Valley Trustees and OARS. Sudbury Valley Trustees has been pivotal to understanding and conserving land along the Wild and Scenic corridor. OAR, renamed OARS when it added the Sudbury and Concord Rivers to its mission in 2011, has been the advocacy and scientific arm of the Council, providing expertise and leadership for decades on the water quality of the rivers. The Massachusetts Department of Ecological Restoration has been the link to river restoration work in the state. And representatives of the U.S. Fish and Wildlife Service (USFWS), as stewards of the Great Meadows National Wildlife Refuge, have been leaders at the table on wildlife, marsh ecology, invasive species and land protection.

## Local Initiative Funding

THE RIVER STEWARDSHIP COUNCIL HAS ALSO SUPPORTED AND INVESTED IN SMALL community group efforts to lead on issues of river protection through its small community grant program. Beginning as early as 2006, this program has provided more than \$20,000 per year in federal funds to groups not represented on the Council to accomplish meaningful work. From programs in visual art, music and storytelling to invasive species management, conservation workshops and scientific studies, the work has run the gamut over the last 20 years, and has built capacity and effected change at ground level along the rivers.

With an annual funding budget of roughly \$100,000, the Council has contributed more than \$1 million to community initiatives since the Wild and Scenic designation. Since 2006, the Council has funded more than 50 smaller, locally-led projects, directing more than \$200,00 in federal funds to community organizations for their specifically proposed projects. The following are but a sample of the good work performed, and the SuAsCo resources that they serve:

### ECOLOGY

#### **Wayland High School Environmental Science Class, MassDOT, USFWS, Sudbury Valley Trustees**

Wayland students helped design, place, and evaluate a fence system to save turtles from crossing Old Sudbury Road (Rt. 27)

#### **Sudbury Weed Eradication and Education Team (SWEET)**

The all-volunteer SWEET identified priority battlegrounds in Sudbury against invasive plant species, including the high school and King Philip Conservation area.

#### **Baystate Roads, Massachusetts Rivers Alliance**

The partners hosted three regional workshops, including one in the SuAsCo watershed, on improving roadway stream crossings for wildlife habitat and public safety.

## CULTURAL AND LITERARY HISTORY

### **Carlisle Library**

The grant supported the purchase of books, digital resources, and media to educate adults about the SuAsCo rivers.

### **Town of Framingham Mural Project**

Artist Yetti Frankl collaborated with students to create a mural, inspired by river writings and poetry, on an outside wall of Stapleton School

## CLEAN WATER

### **Concord Department of Public Works**

With this grant, Concord developed a protocol for the collection of unused pharmaceuticals—a large, unregulated threat to water quality and ecology. The innovative project helped set the standard for what is now commonplace throughout the state.

## THE SCENIC EXPERIENCE

### **Town of Wayland Historical Society**

Wayland Historical Society led an effort to remove debris and vegetation around Old Stone Bridge and repair the bridge fence. This increased visibility of the bridge and helped to motivate the town's appropriation of funds for restoration, underway as of 2018.

## ACCESS AND RECREATION

### **Framingham Conservation Commission**

The commission developed an interpretive section of the Carol Getchell Trail to help residents appreciate the hydrology, flora, and fauna of the Sudbury River and wetlands—as well as some of the regulatory restrictions that protect them.

### **Wayland Conservation Commission**

The commission improved the Route 20 boat launch, making it more accessible to trailered boats while protecting the river and wetland resources of the site. While currently in progress, the project has already provided conditions for safe trailer turnaround at the launch.

## EDUCATION AND OUTREACH

### **Mass Audubon's Drumlin Farm**

Drumlin Farm subject experts and the River Stewards teamed with middle school and high school students to develop a program for teaching hands-on environmental science.

### **Hudson Public Schools, Mass Audubon River Schools**

Working with 14 teachers and 220 third-graders, Mass Audubon staff taught Hudson schools an ecology program that they can develop into the future. The watershed-based curriculum involved river site visits as well as in-class exercises.

## BY THE NUMBERS

### PARTNERSHIPS AND GRANTS

River Stewardship  
Council grant total

**\$134,000**

Community dollars  
leveraged

**\$300,000+**

Community projects

**59**

Organization and  
community partner  
groups

**45**

Town partners

**Framingham,  
Wayland,  
Sudbury,  
Concord,  
Carlisle,  
Bedford,  
Billerica,  
Lincoln,  
Hudson,  
Lowell,  
Marlborough,  
Boston**

Individual volunteers

**600**  
(est.)

## Celebrating Local leadership: The River Steward Award

In 2007, the League of Women Voters and the River Stewardship Council inaugurated the River Steward Award to recognize those who have made long-lasting efforts to preserve and protect the SuAsCo Wild and Scenic River. Since then, more than 67 individuals, groups and organizations—totaling over 250 people—have been honored. They include...

### FRAMINGHAM

#### **Michele Grzenda**

While writing Framingham's first wetland protection bylaw regulations in 2005, Michele included protective language specific to the Wild and Scenic River. To date, this clause has already been applied to a large and complex project, requiring detailed consideration of river impacts. Michele remains a dedicated river advocate and the Conservation Administrator at Weston.

### SUDBURY

#### **Susan Crane**

Susan's far-reaching work has served Sudbury's Community Preservation Act, the Sudbury Valley Trustee Board, and the protection of Hop Brook. She has provided *pro bono* legal counsel at the local and state levels, and with her assistance many environmental groups have been able to navigate complicated legal and regulatory requirements.

### LINCOLN

#### **Joan C. Kimball**

As Director of the Massachusetts Riverways Program, Joan made many long-term contributions to the state's rivers. Among them, she created a first-in-the-nation volunteer streamflow monitoring network and oversaw the first proactive dam removal in the state. In addition to her statewide work, Kimball has been a valuable and devoted advocate for her home watershed, the SuAsCo.

BILLERICA

**Ralph Bacon**

As the town engineer for Billerica, which straddles the Concord and Shawshen watersheds, Ralph was studying and advocating watershed management long before it was the accepted approach to river protection. Ralph represented Billerica in all discussions related to the Wild and Scenic River designation and continued to serve on the RSC until shortly before his passing in 2017.

CARLISLE

**Dr. Sally A. Zielinski**

For 20 years, Sally almost single-handedly protected the Britton's Violet, a threatened floodplain wildflower found along the Concord River. She has studied the species, monitored known sites, written papers, and worked with local conservation commissions to ensure its protection in their plans and activities. Her work has increased awareness of open space protection as well as the ecological value of plant diversity.

BEDFORD

**Andrew Colgan**

An Eagle Scout, Andrew led the fund-raising, planning and construction of the Bog Bridge Project. The bridge makes the trail system in Billerica and Bedford a nearly continuous corridor from Great Meadows National Wildlife Refuge to Minute Man National Historical Park.

WAYLAND

**Sherre Greenbaum,  
Jennifer Riley,  
Tom Sciacca,  
Linda Segal, and  
Kurt Tramosch**

This group of volunteers was appointed by the Wayland Board of Water Commissioners to create and implement wellhead protection areas. From the start, the Committee recognized that the wells and the river were part of the same hydrologic system and protecting one helped the other. Through an extensive public outreach campaign, including over 100 public meetings and forums, they advised local committees and boards, co-sponsored town meeting articles, and advocated for water resource protection. The Wellhead

Protection Committee was recognized by EPA's Watersense Program for promoting conservation.

CONCORD

**Peter Alden**

A world-renowned naturalist, Peter has led countless walks along the river, helping young and old discover the wonders of the natural world. He has led many homeschooled children through the muck to learn hands-on science, and told the stories of invasive plants to many garden club members. As an engaging force beyond the SuAsCo watershed, Peter created the first Bioblitz, which was adopted by communities all over the country to raise awareness of biodiversity.

## 20 Years of Impact: Land Protection and Investment

*“A more lovely stream than this, for a mile above its junction with the Concord, has never flowed on earth.”*

– **Nathaniel Hawthorne,**  
*Referring to the Assabet*

**F**LOWING THROUGH SUBURBAN METROWEST BOSTON, THE Sudbury, Assabet and Concord Wild and Scenic River provides surprisingly quiet and remote stretches that present a sense of wilderness. These stretches inspired Henry David Thoreau, Ralph Waldo Emerson and other transcendentalist writers of the 19<sup>th</sup> Century. Today, much of that same natural beauty still remains, thanks in part to active conservation work in the watershed.

The Wild and Scenic designation connects local land conservation efforts to the SuAsCo’s other Outstanding Resource Values. Every acre of natural-state land allows rainwater into aquifers and clean runoff into streams and rivers, where rich, muddy soils filter water and naturally manage flooding. Meanwhile, wetlands provide invaluable habitats for birds, fish and mammals to thrive.

As an ongoing strategy, land conservation efforts are focused at the headwaters and tributaries of the watershed, with the goal of continuing to improve water quality, habitat, and the life of the SuAsCo. The Council works with a range of land conservation partners, both large and small, including municipalities, town land trusts, USFWS, and others.

Sudbury Valley Trustees (SVT) has played a vital role since the very beginning of the Wild and Scenic designation process. SVT has served as the regional land trust since 1953, serving 36 municipalities within the watersheds of the three rivers. Its very mission recognizes the nexus between land, water, and the health of local com-



**Decades-long partnerships** with *Sudbury Valley Trustees* and other local, state and federal land conservation partners has allowed for protection of beloved lands along the rivers to be enjoyed by people and wildlife. PHOTO COURTESY OF OARS

munities. The founding trustees, concerned about increasing development pressure, were a driving force behind the Wild and Scenic study and designation. With deep local roots and strong operations, including a partnership with U.S. Fish and Wildlife Service dating back to the 1970s, SVT has also served as the River Stewardship Council's fiscal agent since designation.

To little surprise, real estate values have increased on pace with SVT's work to improve water quality and land conservation. Local residents reflect that 20 years ago, the river's smell slowed home sales. Now, riverside land is highly prized. While this has many reasons, including growth in Metro Boston, the desirability of land along the river correlates to improved water quality and river experience.

SVT Executive Director Lisa Vernegaard notes that ongoing support by the RSC has provided the trustees leeway to explore potential projects, build new partnerships, and consider new directions. Additionally, "we have been able to tell foundations that we have another funder supporting operating dollars, which helps us leverage additional funding." In addition, she says, the partnership between SVT and the Council has influenced a more subtle, long-term impact toward deeper understanding of the relationship between communities and rivers.

SVT's contributions to the Council's mission extend well beyond land conservation. As early as 2000, only one year after designation, the Council's funding supported SVT's Greenways Plan for the SuAsCo Watershed to guide conservation efforts on riparian and upland corridors. Today, with 30 percent of critical riparian areas conserved, SVT has turned its attention to vulnerable headwaters. More recently, RSC funding has supported SVT's creation of a land protection prioritization map, using newly available GIS data. The information is open to the public and will help regional towns' long-term open space and recreation planning.

## Land Conservation Highlights

THE WORK OF SVT AND THE RIVER STEWARDSHIP COUNCIL DEPEND ON CONSERVATION partners who are often volunteers for their local land trusts or volunteers on town boards and committees. Of the eight towns along the Wild & Scenic rivers, three have very active all-volunteer land trusts.



### SUDBURY

#### **Pantry Brook Farm**

With an appealing location along Concord Road, the Pantry Brook Farm could have become 34 residential lots. Instead, a 2008 Sudbury referendum claimed its historic value as a Heritage Landscape. By 2012, the farm was one of the Sudbury's few remaining parcels of active agriculture, and the town voted to secure its permanent protection for \$7.9 million. Today, the 98-acre property remains an active farm, abutting the approximately 2,000 acres of protected open space to the north, east and west. Pantry Brook, an important tributary of the Sudbury River, forms the farm's northern boundary.

#### **Landham Brook Marsh**

The 37-acre Landham Brook Marsh property contributes to a significant and complex ecological system that includes important hydrological connections, vernal pools, upland and wetland habitat, and wildlife corridors. The property supports several species at risk, including Least Bittern, American Bittern, Common moorhen, and blue spotted salamander. Because of its location adjacent SVT's Lyons-Cutler reservation and Hop Brook, an important tributary of the Sudbury River, Landham Brook Marsh had long been a priority for protection by SVT and the Town of Sudbury. When the owner's heirs agreed to sell the property for a very large development, SVT and neighbors mobilized. In the end, plans were scaled back considerably and SVT negotiated for the land's purchase at \$2,900,000. SVT raised approximately \$66,000 toward the purchase price, and will hold a conservation restriction on the property.



PHOTO: DAN STIMSON



## BY THE NUMBERS

### LAND CONSERVATION

RSC funds for SVT  
Conservation Program

**\$211,271**

Total SVT budget  
percentage

**20%**

### WILD & SCENIC TOWNS

Projects

**13**

Acres conserved

**104**

Conservation  
restrictions

**26**

CR acreage

**947**

### OTHER WATERSHED TOWNS

Projects

**12**

Acres conserved

**249**

Conservation  
restrictions

**32**

CR acreage

**1,129**



PHOTO: LIZ PLATAIS

## CARLISLE

### Elliott Concord River Preserve

The Elliott property, a 40+ acre farm on the Concord River, had been approved for a six lot subdivision. Working with the Elliott family, the Carlisle Conservation Foundation and the Town of Carlisle, Sudbury Valley Trustees negotiated an option to purchase nine acres for \$650,000. This strategically chosen area protects a critical 1,000 feet of riverfront and habitat for state-listed species as identified by the Natural Heritage and Endangered Species Program. The project included a small parking area off Skelton Road as well as a canoe landing and easement leading to a loop of trails along the riverfront. Sudbury Valley Trustees now hold the title to the property and the Carlisle Conservation Commission holds the conservation restriction.



PHOTO: BILL SHELLEY

## NORTHBOROUGH

### Schunder Property

In addition to land directly on or near the Wild & Scenic SuAsCo, SVT works to protect natural areas around the headwaters and important tributaries of the three rivers. In June, 2014, the Town of Northborough granted Sudbury Valley Trustees a conservation restriction (CR) over 55 acres of open meadows and upland forest on Green Street, which the Town had purchased in 2012 using Community Preservation Funds. The CR forever protects a forested slope, a sweeping grassland meadow, and a portion of Howard Brook, a habitat for native brook trout. The Northborough Trails Committee has created trails and a parking area at the property, and abutting protected spaces offer potential to add to an extensive trails system and wildlife corridor in the town.



**Countless volunteers and partner organizations** contribute to ongoing efforts such as removing water chestnuts. OARS, the regional watershed association, has worked hard to battle invasive species from taking over the rivers, with funding from the the Wild and Scenic River Stewardship Council. The result over many years of work is cleaner water for public use and recreation. PHOTO COURTESY OF OARS

## 20 Years of Impact: Cleaner Water, Healthier Communities

**T**WENTY YEARS AGO, REAL ESTATE AGENTS WOULD AVOID driving clients near the river in the summer. Now, riverfront properties are being renovated to add large picture windows facing the river. Former mill towns are sprouting riverfront breweries, restaurants and parks as part of their downtown revitalization. Suffice to say, little of this activity would be possible without progress to clean the rivers.

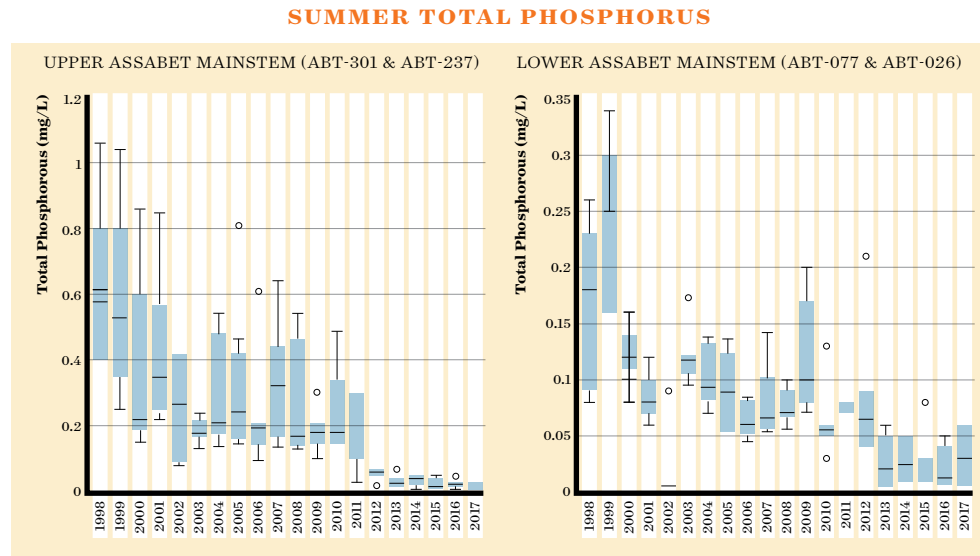
At the time of the SuAsCo's Wild and Scenic designation in 1999, the Assabet River was known as "the Cesspool of Massachusetts" due to the inadequately treated wastewater discharged by local municipalities. This wastewater flowed into the Concord River, which itself had two municipal wastewater treatment plant discharges.

The issue of clean water had long been a primary concern for the local watershed association, OARS (known as OAR until 2011, when it added the Sudbury and Concord rivers to its mission). In the late 1980s, OAR hired professional staff to develop a water quality monitoring program when the state considered delisting the Assabet's threatened status. OAR later became a major partner in the designation study process, and signed the first cooperative agreement with the National Park Service for implementation of the Wild & Scenic River's Conservation Plan.

This Wild & Scenic partnership provided funds to support OARS' water quality monitoring program, as well as to participate as the only environmental stakeholder in the comprehensive wastewater management planning process. The financial support, along with dedicated volunteer efforts, eventually enabled a three-year, \$1 million pollutant study of the Assabet by the MassDEP. Study results confirmed high levels of phosphorous discharge, and the aging wastewater treatment plants were subsequently required to implement new phosphorous-removal technology (*See Figure 1, page 28*). Average summer total phosphorus concentrations are now lower than the EPA Gold Book standard of 0.05 mg/L, almost meeting the EPA Ecoregion recommended 0.025mg/L.

**Figure 1:**

*Studies indicate a significant reduction in the Assabet's phosphorous levels over 20 years, thanks to diligent water quality monitoring and work by all parties to improve waste-water treatment.*



Discharge limits on the Assabet set precedent for four other treatment plants on the Sudbury and Concord rivers, and remediation has already led to a proposed delisting of the Concord. If approved, this will be the first official recognition of the progress that has been made.

In addition to a monitoring program, RSC funds helped OARS develop a Quality Assurance Project Plan (QAPP) for EPA approval, and later add biomass monitoring to quantify the eutrophication of three impoundments on the river. OARS' volunteer-based water quality monitoring program began in 1999, with an average of 25 trained volunteers participating per year. This "citizen science" approach engages watershed residents in hands-on data collection which is essential for decision-making at every level of government, from municipal to federal. The Wild and Scenic funds that support the program are matched approximately two-to-one by contributions from municipalities, other grants, and OARS member donations.

RSC funding also helped to support OARS' policy work which included pressing for the pollutant study, providing technical review and comments on that study, and many regulatory and project proposals that would impact the rivers' flow and water quality. RSC funding also supported OARS research and comment on water withdrawals from the rivers under the state's Water Management Act due to the importance of protecting river and stream baseflows.

The RSC and OARS have also consistently commented on municipal wastewater discharge permits under the Clean Water Act. One major success was in the Town of Wayland on the Sudbury River, making a case for the reduction of phosphorus discharge and leading the town to revamp its wastewater management plan. This represented a major success for the Rivers, and a significant action for the River Stewardship Council, leveraging the Wild and Scenic designation to "protect and enhance" water quality in the Sudbury, Assabet and Concord.

With cleaner water, the Assabet River has become a major recreational resource for boating, wildlife viewing, fishing and biking. To accommodate SuAsCo's increasing popularity, the RSC has funded OARS efforts to produce paper-based and online maps that illustrate the area's many trails, waterways and featured sites.



## BY THE NUMBERS

### CLEAN WATER

RSC funding for  
water quality  
**\$400,000**

Leveraged funds  
**\$800,000**

Water quality samples  
taken 1999 - 2017  
**2,600+**

Sampling sites  
(three rivers and six  
tributaries)

**24**

Sampling volunteers  
per year

**25**

Annual  
volunteer hours

**245**

Volunteer hours  
since 1999

**4,500+**

Reduction in  
Assabet  
phosphorous  
concentrations,  
1999-2017

**92%**

**Two photos say it all:** *The Assabet River suffering from wastewater-induced eutrophication in 2007 (above), and the same place in 2017 being launched as a prime recreation area (below). Since 1999 the National Park Service, through the River Stewardship Council (RSC), has supported work that most funders shy away from—long-term monitoring. This progress is one of the results of RSC funding.* PHOTOS BY SUE FLINT

## **20 Years of Impact:** Protecting and Enhancing Special Places



*“...but the stream I love, flows in thy water, and flows through rocks and through the air and through the rays of light as well, and through darkness, and through men and women. I hear and see the inundation and eternal spending of the stream in winter and in summer in men and animals, in passion and thought. Happy are they who can hear it.”*

—Ralph Waldo Emerson, 1856

### **THE SCENIC EXPERIENCE**

THE SUDBURY, ASSABET AND CONCORD RIVERS HAVE LONG BEEN CHERISHED FOR the experience they provide, first by Native Americans, and later by writers such as Thoreau and Emerson, and certainly beloved by local paddlers today. With gentle and calm waters resulting from minimal drops in elevation, and fish, mammal, and birdlife congregating along the river—particularly amid the Great Meadows National Wildlife Refuge—the rivers offer a paddler the opportunity to forget that they are merely miles from greater Metro Boston.

Such an experience is why “scenic” is an Outstanding Resource Value (ORV) of the Wild and Scenic designation and a priority for the River Stewardship Council. Land conservation represents one strategy, but where land can’t be protected, the Council can work with government agencies and private organizations to minimize impacts of development. Furthermore, the Wild and Scenic designation allows the Council an



*The Council has been involved in numerous projects to help preserve and enhance the historic and scenic bridges in the region.* PHOTO COURTESY OF OARS

official comment role on projects involving the Army Corps of Engineers—a role that has repeatedly served all 29 Wild & Scenic miles and all eight towns that they touch.

Among the earliest projects to come before the new Council were several bridge renovations, of both historical and scenic significance. The Council set to work to protect that experience through involvement in these renovations. Later work would grow to include improving boat access areas, developing kiosks and signage, and providing guide maps and literature to share the experience.

## **BRIDGES AND HISTORIC STRUCTURES**

FROM ITS INCEPTION AND FOR MANY YEARS THEREAFTER, MUCH OF THE COUNCIL'S work emphasized the reconstruction of bridges over the Sudbury and Concord Rivers. Only weeks before the first Council meeting in December 1999, a truck nearly fell into the Sudbury River from Lee's Bridge as the deck gave way underneath. The bridge was immediately closed and demolished. At its initial meeting, the Council discussed the historic and scenic value of the bridge and the importance of restoring it appropriately. The Concord representative agreed to ask MassDOT and local Concord and Lincoln officials, as a first step, to preserve and store all of the demolished historic stones from the stone arch bridge. Unfortunately, many of the materials were soon stolen. However, in the spirit of partnership with the Council, MassDOT went to great lengths to find appropriate replacements and restore the original character and appearance.

Shortly afterward, the Council met with MassDOT and Army Corps personnel to discuss the impending reconstruction of the Route 3 bridge over the Concord River. The Council requested a design that was aesthetically pleasing from the river's view, and the engineers countered that they were not artists but engineers. In response,

Jamie Fosburgh of the National Park Service quickly sketched an arch facade that appealed to the Council's vision. The engineers responded that they could implement such an arch, and the Route 3 bridge now reflects Fosburgh's sketch.

The Lee's Bridge incident prompted state inspection of all river crossings, and the Pelham Island Road bridge in Wayland was found to be unsafe. The Council influenced the new structure's design to also be a concrete arch structure—rather than a steel and concrete slab—and then helped select the guardrail design to enhance views of the river from the bridge. The clearance under the bridge for boat passage at high water was also raised at the behest of the Council.

One of the Council's most significant bridge accomplishments involved the reconstruction of the Route 20 crossing over the Sudbury River. As part of the process, MassDOT had to erect a temporary bridge in place of a long-used informal boat launch. When the new bridge was finished, MassDOT restored the launch at the Council's request to accommodate trailered boats. It is now among the best of its type anywhere upstream of Concord. In addition, the Council influenced native plantings on the site and persuaded Raytheon Corporation to donate a parcel of land at that location to the Great Meadows National Wildlife Refuge.

## VISIBILITY AND SIGNAGE

ONCE THE SUASCO RECEIVED A WILD AND SCENIC DESIGNATION, THE RIVER STEWARDSHIP Council was eager to promote its new status. The Council bought Wild and Scenic River crossing signs for all eight participating towns, who matched Council funding with labor and installation costs. Now, all residents and visitors who cross a SuAsCo segment know that it's a special place.

Billerica representative Marlies Henderson says this of the new signage in her town: "Signage grows environmental awareness. Wayside exhibits, interpretive signage, even the simplest indication of a name directs. How many driving on a bridge will wonder about the unnamed notch or stream below? Regardless of the mode of transportation, an unnamed waterbody disorients. Proclaim its name, its watershed, and allow the introduction to trigger recognition and a wish to explore - and spark subsequent care for it. A sign says: This river has a name and a community loves it enough to tag it!"

Each hiker, paddler, boater, or angler who travels the SuAsCo represents an individual and shared experience. Working with regional partners, the Council seeks to serve visitor experiences and understanding through informational touchpoints such as interpretive kiosks at key sites and both print and digital maps.

In 2004, where the Old Danforth Street Bridge serves as the Sudbury's Wild and Scenic gateway, the Friends of Saxonville volunteer group were working with the Town of Framingham and the U.S. Geological Survey to build a park that would enhance the site. The Council joined in to design a kiosk with attractive and informative content highlighting the river's many qualities. The Council also installed kiosks at the boat launches on Route 20 in Wayland and Route 225 in Bedford, which was later upgraded by a volunteer Eagle Scout. In 2016, the Council and Town of Con-



cord began collaborating on the design of the Bruce Freeman Rail Trail. A Wild & Scenic River informational kiosk will be installed where the trail crosses the Assabet.

The Council will continue to work with local communities to place kiosks in popular river-side spots. With maps illustrating the reaches of the rivers, explanations of the Wild and Scenic designation, and descriptions of the wildlife they may find, the kiosks along the River have been developed in partnership with the communities who know the rivers best.

The River Stewardship Council has also supported successful efforts by its partner organization, OARS, to develop recreation maps of the SuAsCo. Available in paper and online, the maps detail the natural features, ecological areas, landing sites, walking and biking trails, and points of interest that tell the rivers' rich stories.

## A VOICE FOR THE WATERSHED

UNDER SECTION 7 OF THE U.S. WILD AND SCENIC RIVERS ACT, THE NATIONAL PARK Service holds the right to comment on certain development projects that might impact the river system. The importance of this role cannot be underestimated, as it provides a strong, continuous, and evidence-based perspective of the long-term care of the rivers. The Council has also reviewed and commented on more than 50 projects in the region. Projects have included:

Wastewater treatment discharge permits for 10 towns in the watershed area (NPDES)

Old Manse Canoe Landing

Starmet Superfund Site

Assabet Consortium Comprehensive Wastewater Plan – Phase II MEPA review

FERC license exemption surrender: Clock Tower Place, Maynard

Sanctuary Golf Course MEPA review

Route 2 Median project in Concord

Route 2 Rotary Project in Concord

Assabet Ave., Concord, stormwater discharge ACOE permit

Bridge design: Lee's Bridge, Pelham Island, Route 3, Route 4, Sudbury Road, Bruce Freeman Rail Trail

MEPA Review of Framingham Birch Road Wells Activation

Hanscom Field Final ESPR

Comprehensive Conservation Plan for Great Meadows National Wildlife Refuge

Danforth Farm in Framingham

Raytheon Wetlands Remediation in Wayland

Sudbury Earth Removal on Lincoln Lane: Environmental Assessment of MIMA North Bridge Unit Rehabilitation Project

Potential ACOE permit on urban property in Concord

Council responded to a Freedom of Information Act request on urban property

## BY THE NUMBERS

### SPECIAL PLACES

Investments in signage, kiosks and maps  
**\$25,000**

Informational Kiosks

**4**

Bridge projects involving Council partnership

**8**

Wild and Scenic River Crossing Signs

**15+**

Projects receiving Council comments

**50+**

Investment in River Recreation Maps  
**\$10,514**

Dollars leveraged in production of maps  
**\$24,000**

Maps distributed  
**4,000+**

Unique visitors to online maps  
**1,560**



**A thriving habitat for flora and fauna:** *The SuAsCo's freshwater habitat and surrounding wetlands provide feeding and breeding grounds for a rich diversity of plants and animals.* PHOTO BY DAVE GRIFFIN

# Protecting the Ecology

**T**HE SUDBURY, ASSABET AND CONCORD RIVERS REPRESENT A confluence of life for humans, animals and plants. The transcendentalist writers of the 19<sup>th</sup> century—our society’s early naturalists—recognized the intricate ecological connections that the rivers provided, and made them a fundamental part of their philosophy for life and work. For similar reasons, ecology was identified as a primary “outstandingly remarkable value” (ORV) in the Wild and Scenic River study, which noted the nationally exemplary freshwater habitat and the rare plants and animals found along the rivers. The study also detailed the extent of wetland complexes for feeding and breeding grounds of migratory birds, which were a driving factor for the creation of the 3,800-acre Great Meadows National Wildlife Refuge at the center of the SuAsCo Wild and Scenic area. Furthermore, the study recognized 15 state-certified vernal pools, and 32 state-listed rare plants and animals that rely on the rivers.

The Wild and Scenic designation has helped raise public awareness of the plants and wildlife of the river channel and leveraged ongoing protection of the ecology. The River Stewardship Council set an early focus on issues such as development pressure, construction projects, runoff, low stream flows, and invasive species, and has engaged in a range of activities to protect and enhance the ecology.

## **THE IMPORTANCE OF A FREE-FLOWING RIVER**

THE 1968 WILD AND SCENIC ACT WAS INTENDED TO PROTECT FREE-FLOWING RIVERS, which is one reason why portions of the SuAsCo qualified for the designation. Nonetheless, the SuAsCo’s flow has inevitably been affected over time by development, water withdrawals, drought, and other conditions that in turn affect the health and integrity of the river’s ecology. Even a decade ago, the Sudbury and Assabet and their tributaries were known to get very low in the summer due to changes in precipitation, increases in water use for consumption and irrigation, and increases in impervious cover (that is, the expanses of pavement and other rain-resistant surfaces that accompany shopping centers, neighborhoods, and other new development).

The Council therefore committed to studying the flow of the SuAsCo as early as 2005, and formed a public strategy to address the concern. It researched existing

## BY THE NUMBERS

### ECOLOGY PROTECTION

Seed research funding by  
Council

**\$27,000**

Matched research  
funding

**\$288,000**

Wild and Scenic  
investment in the  
SuAsCo CISMA, 2016-17

**\$26,500**

Matched CISMA/  
Invasive funding

**\$1,000,000+**

Volunteers

**139**

Volunteer hours

**1,600**

Managed field sites

**100+**

CISMA partner  
organizations

**46**

Community groups  
battling invasives

**75+**

Community funding for  
invasive removal

**\$23,000+**

water conservation efforts in Wild and Scenic shoreline communities, and reported the issue through a series of articles in local papers. The Council further explored how to reach out to individuals and municipalities. It highlighted water conservation at RiverFest activities and promoted low-impact development at local workshops such as the early River Visions conference. In 2015, the Council once again turned its attention to flow, reinvigorating a committee to look at the issue of possible reactivation by the Town of Framingham of unused wells, which would further deplete river water, as well as determining a policy for appropriate removal of downed trees from the river, so as to ensure safe recreation but also protect river ecology.

## SCIENCE-BASED MANAGEMENT

WHICH SPECIES CAN BE FOUND DIRECTLY WITHIN THE WILD AND SCENIC PORTION of the River? What base flow is needed to support life? Are there endocrine disrupters within the Wild and Scenic River? The Council has funded pursuit of these questions and more with the help of strong partners, seeking to inform good management with good data.

One major impetus for scientific study was a proposal to reactivate municipal wells on Birch Road in Framingham. A Council member studied the historical flow record from the Saxonville gauge, and determined that the Sudbury River could not support the proposed withdrawals. The Council brought this to the attention of NPS and EPA, and supported USGS design studies that would measure the withdrawal impact on biological communities. The scope was framed by NPS, FWS, and EPA in collaboration with researchers at the University of Massachusetts. Two subsequent USGS studies required by the state confirmed the Council's assertion that the well-field would diminish flows in the Sudbury River.

A separate 2016 study by UMass Amherst/USGS, commissioned by the River Stewardship Council, determined the biota present in the river at various flows, including fish, mussels and some macroinvertebrates. Understanding which species were present and in what numbers would help the Council and scientists understand future impacts of low flows on these species. To dig deeper into potential impacts of municipal water withdrawals on the Sudbury river biota, the Council contracted in 2017 with researcher Ethan Nadeau to study the river's freshwater mussels, which are highly impacted by the water's flow, level and quality. Thus far, the study has identified two prevalent species, with some occurrence of the Eastern pondmussel, a state-listed species of concern. Further results will be released in 2018, and should inform management decisions along the Sudbury corridor.

## THE FIGHT AGAINST INVASIVE SPECIES

INVASIVE SPECIES CAN WREAK HAVOC ON A REGION'S NATIVE ECOSYSTEM. IN VARIOUS ways, they present competitive advantages that natives cannot combat. As invasives thrive, they disrupt native ecosystem functions, resulting in economic, aesthetic, and ecological costs. In response to this threat, the Council and regional orga-

nizations pursued several years of planning and grant-writing to form the SuAsCo Cooperative Invasive Species Management Area (CISMA) in 2009, with financial backing from the National Fish and Wildlife Foundation.

The original 22 member organizations of the CISMA—resource management organizations, towns, government agencies, and non-profit groups—came together knowing that they could combat invasive species more effectively as a group. The SuAsCo CISMA has since grown to 46 organizations within the watershed, working together to manage invasive species across jurisdictional boundaries.

Over the past eight years, the SuAsCo CISMA has produced a healthier watershed ecosystem. Now recognized as New England’s leading partnership, the CISMA manages full membership biannual meetings, numerous subcommittees, a small grant program for local groups, and a focus on early detection and rapid response for invasive species. The River Stewardship Council has been a fundamental supporter of the SuAsCo CISMA, contributing time and financial resources to the organization since its inception.

Just some of the CISMA’s many accomplishments include:

- In 2010, an early detection and rapid removal project by New England Wild Flower Society targeted four species. Over 100 volunteers met in four workshops to be trained in identification and documentation. These volunteers surveyed 92 sites and logged 1,300 hours in the field.
- The network has identified the “Sour 16,” the most prevalent problematic species in the watershed.
- As part of the Nyanza Natural Resource Damages Superfund site settlement, the Nyanza Trustees asked the CISMA to manage and utilize \$1,047,500 to control aquatic weeds in the Sudbury River watershed. Funding from the settlement supported mapping, monitoring, and bio-control of purple loosestrife in the Sudbury River from Ashland to Concord; mapping of water chestnut in the three rivers and across 130 acres of ponds in the Hop Brook Watershed; and focused water chestnut control efforts on the main stem of the Sudbury River.
- OARS mapped the water chestnut across 2,133 river acres and developed a five-year management plan to combat the species.
- The CISMA has a small grants program with River Stewardship Council funding to support small projects across the region. This has been a wildly successful endeavor that supports everything. With funding from the River Stewardship Council, the CISMA manages a small grants program to support, among other efforts, purple loosestrife mapping, high school internships, and volunteer invasive removal field days.
- In partnership with the Fish and Wildlife Service, National Park Service, and Student Conservation Association, the SuAsCo CISMA introduced an estimated 33,000 *Galerucella* beetles to the SuAsCo river system to manage invasive purple loosestrife, which has met with marked success.



**The Wild & Scenic classroom:** *The RiverSchools program has connected thousands of youth to the SuAsCo through discovery in both the classroom and their local rivers.* PHOTO COURTESY OF MASS AUDUBON SOCIETY

## 20 Years of Impact: Investing in Education and River Experiences

**A**MONG THE FIVE OUTSTANDING REMARKABLE VALUES identified in the SuAsCo's Wild and Scenic designation, recreation represents the rivers' appeal to thousands of visitors each year from across the Greater Boston area. Therefore, the River Stewardship Council has leveraged recreational pursuits to foster awareness, access, and a sense of connection to the rivers by funding a range of locally-organized events and programs—most notably the Massachusetts Audubon Society RiverSchools program and the Council's annual celebration event, RiverFest.

### **MASS AUDUBON RIVER SCHOOLS PROGRAM**

EARLY IN ITS FORMATION, THE RIVER STEWARDSHIP COUNCIL RECOGNIZED THE need for river-focused educational opportunities among children in the SuAsCo watershed. In 2003, the Council partnered with Mass Audubon's Drumlin Farm Wildlife Sanctuary and Musketaquid Arts and Environment to help students appreciate the river system. Three schools participated in these early years and were very enthusiastic about their visits to the river. The program took life from there. Developed by the staff at Mass Audubon, educators and naturalists at Drumlin Farm partnered with classroom and after-school teachers to create a program, partly in the classroom, and also in the field to introduce elementary and middle school students to the rivers and their ecosystems.

With enthusiastic cooperation from schools and teachers, the RiverSchools program has connected thousands of youth to the SuAsCo through discovery in both the classroom and their local rivers. The program features a comprehensive river study curriculum, but is customized to the particular river dynamics for each school. Audubon has worked with youth, teachers and community members in the towns of Lowell, Framingham, Hudson, Billerica, Maynard, Concord, Lincoln, Sudbury, Marlborough, Chelmsford, Boxborough, Bedford, and Wayland. Each program with each school was individually designed to meet the needs of the community and participating schools.

The thriving RiverSchools program includes preparatory visits, hands-on study at river sites, and reflective exercises to build appreciation and inspire action to protect local rivers. In the classroom, preparatory visits orient students and teachers to their river and watershed, as well as the wildlife dependent on the system. Classroom sessions also prepare students to use field equipment and data collection tools. Next, hands-on field work at the river brings to life classroom lessons about habitat, food webs, interdependence, and stewardship. As they study insects, fish, and wildlife, students are asked about their own interdependence with the river habitat and their responsibility for the health of the watershed.

Today, each local focus is enhanced by a regional view, thanks to the RiverSchools Teacher Network launched by Drumlin Farm staff and Susan Erickson, a teacher at Concord Public Schools. Through this network, students use digital technology to share the collection, analysis, and communication of data, photographs, and general fieldwork along the SuAsCo rivers. Participating teachers are key to the network's success. They provide feedback on what works well, suggest refinements, and share how they are integrating the watershed into the curricula at their own schools. Through the RiverSchools Teacher Network, educational outreach has gained a firm and sustainable foothold in regional schools and a deep impact on the children who participate.

### **RIVERFEST – AN ANNUAL CELEBRATION**

IN 2001, JUST TWO YEARS AFTER WILD AND SCENIC DESIGNATION, THE RIVER Stewardship Council and National Park Service hosted the first RiverFest – a celebration of the SuAsCo that stretched along the eight shoreline towns. The vision for the event was simple – work with partners across the region to build local opportunities for connection to the Rivers that would be free and, in the spirit of true collaboration, partner led but supported centrally through NPS and the Council. With cooperation with local partners, RiverFest has since nearly doubled to more than 40 events that highlight the SuAsCo's unique resources and relationship with its communities. Today, 17 years later, RiverFest draws local crowds as well as recreationalists, historians, wildlife and history buffs and features pontoon boat rides, narrated canoe and kayak trips, history walks, fishing classes for kids, art exhibits, music, dramatic re-enactments, races, bike rides, birding trips, lectures, picnics, treasure hunts, wildlife exhibits and shows. Each RiverFest kicks off with the River Stewards Award ceremony, recognizing the contributions of local leaders, and concludes with the Solstice Celebration at the Old Manse in Concord, when lights and song offer tribute to all that SuAsCo offers and represents. Local communities plan on it, and look forward to it, and it draws regional attention each year.

The River Stewardship Council members can be credited for launching the event and representing their respective communities, but credit is also due to local organizations that have taken the lead in many aspects. Meanwhile, the \$5,000 that the Council invests in each RiverFest is dwarfed in scale by the event's outreach and impact. With enthusiastic local support, RiverFest will continue to thrive and evolve into the future.



## BY THE NUMBERS

### EDUCATION AND EXPERIENCE

## HIGHLIGHTS IN EDUCATION AND EXPERIENCE

### River Visions Conference

In 2001, the Council launched the annual River Visions Conference. The forum ran each year until 2007 and attracted over 150 registrants each year (almost 200 people in 2003), bringing together businesses, environmental organizations, regulators, concerned citizens, and the 36 watershed municipalities as one community to better understand, steward, and protect the resources of the SuAsCo Watershed. The River Visions Forum effectively furthered the river conservation plan goals for the Wild and Scenic portion of the watershed.

### Junior River Rangers

Modeled after the Junior Rangers of many national parks, the SuAsCo was the first Wild and Scenic river to host a Junior River Rangers program. Through hands-on activities and a corresponding booklet, children learn about the rivers' special qualities, and how to care for them. Once the booklet is completed and reviewed by a National Park Service ranger, a special badge is presented to the new Junior River Ranger. Booklets are available at OARS' Water Wise Workshops and OARS office, Minute Man National Historical Park Visitor Centers in Concord, Great Meadows National Wildlife Refuge office in Sudbury, and Mass Audubon's Drumlin Farm in Lincoln, reaching hundreds of children each season.

### Stormwater Education

With Council funding, the SuAsCo Watershed Community Council hosted stormwater management workshops for municipal officials in the watershed, focusing on stormwater management strategies, municipal housekeeping, erosion prevention requirements, and highway. Such actions require money and commitment, so the workshops also taught local officials how stormwater impacts water quality and water quantity, how it is far more cost-effective to stop pollution before it enters a water body than to clean it up after the fact, and updates on federal and state regulations. Now, the Council primarily works with OARS and Massachusetts Rivers Alliance as key advocates on issues related to stormwater, and more generally, water quality and water quantity.

### Wayland Demonstration Lawn

The Wayland Demonstration Organic Lawn project was initiated in early 2002 in response to the drought that plagued New England at the time. The Council recognized that lawn watering and fertilizing posed an enduring threat to our Wild and Scenic rivers, so it partnered with the Town of Wayland to demonstrate an organic approach to its Mellen Common. Although full of weeds and bare spots, the soil was fundamentally healthy and free of pesticides. With seed money from the Council, Organic Soil Solutions in Woburn prepared the lawn in May 2002. Organic lawns typically require five years to establish, but improvements were evident by the following spring. The scruffy weed patch had become respectable lawn! With minimal maintenance, the Mellen Common lawn thrives today as an example of how attractive lawns can be maintained with far less watering, fertilizer, or mowing than usual.

Council investment in River Schools over 15 years

**\$75,000**

Individual River School experiences

**15,000+**

Participating schools

**15**

Adult river experiences

**90**

River Vision Conference participants

**900**

RiverFest community events since 2002

**800+**

RiverFest participants since 2002

**16,000+**

Participating RiverFest communities

**12**

Average annual RiverFest volunteers

**200**

Average RiverFest volunteer hours

**900**

## Going Forward

The Sudbury, Assabet, and Concord Wild and Scenic designation was a tremendous achievement for the rivers and for the region. Leveraging that designation over time, the River Stewardship Council has tirelessly advanced the River Conservation Plan to protect and enhance the “outstanding remarkable values” of the River, build local capacity with federal support, and foster partnerships to address the many challenges to the river system.

The Council and the eight shoreline communities will continue to face challenges going forward. Water quality will be challenged by nutrients entering the rivers from point sources such as wastewater treatment plants, and nonpoint sources from stormwater runoff. As the nutrients become embedded in sediment, they invite additional challenges of invasive species.

Meanwhile, continuing development strains freshwater for drinking and other uses while more and more pavement increases runoff and raises water temperatures. As storm severity increases and natural systems shift to respond to a changing climate, we will need to find new ways to manage and support ecological systems.

These challenges, and more, will require the collaboration of volunteers, municipalities, businesses, and organizations that have cared for the Sudbury, Assabet, and Concord rivers over the last twenty years. The River Stewardship Council looks forward to working with you and our range of partners to address these issues over the next twenty years and beyond.





PHOTO BY ART ILMAN, COURTESY OF METROWEST DAILY NEWS

## River Protection Milestones

Today's Wild & Scenic Sudbury, Assabet and Concord River can be attributed to no single event, person or group. Rather, it is the product of 50 years of achievements in water quality, land protection, ecological preservation and the leadership of many dedicated people.

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1968

National Wild and Scenic Rivers Act is passed by Congress.



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1982

Two segments of the Sudbury and Concord rivers are identified on the 1982 Nationwide Rivers Inventory as being eligible for further study and potential W&S designation.

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1988

Congressman Chet Atkins files legislation to study six segments of the Sudbury, Concord and Assabet rivers.

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1988 - 1990

SVT, OAR and other local conservation interests conduct an informal study, heighten awareness of the rivers, and acquire votes in eight communities in favor of a W&S study.

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1990

Congressman Atkins files a bill to authorize the study of a 29-mile segment of the three rivers

and establish a federal advisory committee.

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1995

River Conservation Plan is completed and approved.

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1995

Eight towns along the study segments vote to request federal designation.

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1996

State legislature demonstrates a commitment to rivers, passing the Massachusetts Rivers Protection Act.

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## MAY 7, 1996

Congressman Martin Meehan introduces the Sudbury, Assabet and Concord Wild and Scenic Rivers Act.

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## APRIL 9, 1999

After passing through the House and the Senate, President Clinton signed the bill into law.

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## 2001

First projects included Lee's Bridge, Rt 20 Bridge, Rt 3, Pelham Island Bridge.

Council drafts its first bylaws for how to operate.

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## 2002

Sustainable lawns grant project in Wayland: A parcel of town land near the center of Wayland is cultivated with organic fertilizer and managed to conserve water. Over the



**Class in Session:** *Small grants increased river awareness and participation among area schools.*



**Celebration for a Cause:** *Since the inaugural 2001 RiverFest, the annual event has consistently drawn crowds of volunteers and participants from 12 watershed communities to celebrate the Sudbury, Assabet and Concord Wild & Scenic River.*

next few years, promotional materials publicize how lawns can be managed in an environmentally sensitive manner.

Support for OAR's efforts on water management permits in the Assabet watershed begins.

OAR prepares and submits comments on the Phase 2 Comprehensive Wastewater Management Plan, helping with development of a TMDL for the Assabet River.

Review of U.S. Geological Service groundwater modeling report.

First Wild and Scenic signage goes up along the River.

First RiverFest happens on June 1, featuring 27 events hosted by 29 local organizations. RiverFest highlights river resources and raises public awareness of the rivers. It continues every year to the present with up to 45 events along the rivers.

Change in MEPA regulations to recognize wild and scenic designation.

Sudbury, Assabet and Concord Wild and Scenic website developed.

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## 2003

Private Land Protection Collaboration Project: SVT coordinates meetings in each of the shoreline communities to bring together all organizations that are working to protect land in the town.

A working committee focuses on impacts on streams. Funds provide for a consultant to work in communities along the upper Sudbury River and tributaries.

U.S. Geological Survey initiates a flow study in the upper Sudbury River, working with volunteers to help collect data.

RiverFest School Project begins. The Council provides small grants to Massachusetts Audubon Society and Musketquid Arts and Environment to work with school children to increase awareness for the rivers, and to increase their participation in RiverFest. Three schools participate.

## 2004

OAR hosts water quality roundtable for river, lake and stream activities in Sudbury, Assabet and Concord watersheds as part of TMDL process. Watershed Roundtables have been held biennially since then to the present. TMDL finished and approved by EPA in September.

RSC hires an intern to gather field data on watercraft use on the River. The report highlights use and condition of access points as well as river users opinions.

## 2005

Invasive Species Management ramps up: Intern hired to host interviews and a forum, leading to an invasive species task force for the watershed.

RiverFest brings together 60 organizations to host 40 events in 12 communities celebrating the rivers.

Council participates in development of Route 20 landscaping and enhancement of boat access site in Wayland.

Council representatives meet with Selectmen from each shoreline community to update them on the work of the Council and receive feedback on issues of concern to the town.

OAR/Council makes strides with water quality. Permits are issued for the four consortium towns with marked improvements—Westborough, Marlborough, Maynard and Hudson.

2005-2006: Council works with Friends of Saxonville, US Geological Survey and Framingham Conservation Commission to site, design and build an informational kiosk/gazebo at the newly renovated Danforth Street Bridge, the beginning of the Wild & Scenic segment.

## 2007

Flow Subcommittee forms to address flow in the rivers.

Council funds the seed money for SuAsCo CISMA, a network to address the spread and impact of invasive species

2007- 2010: Council comments on state's proposed list of integrated waters and on new draft storm-water regulations and on proposed MA Surface Water Quality standards

## 2009

SuAsCo CISMA officially established through a Memorandum of Agreement with 22 partner organizations.

## 2011

As part of the Town's celebration of 375 years, "Wayland Walks" identifies and maps trails within town; Council funds a small grant to connect trails to river resources.

## 2012

Funds to Wayland Historical Commission support a cooperative effort between Wayland and Framingham to remove debris behind Old Stone Bridge, remove vegetation from the bridge structure and repair the bridge fence.

Council and Friends of Saxonville, in partnership with OARS, create a new sign for the kiosk at Danforth Street Bridge.

CISMA is now a 39-member strong organization dedicated to managing invasive species within



**A name says it all:** *Roadside signs communicate the special nature of the rivers.*

PHOTO BY MARLIES HENDERSON



**The battle against invasives:** *A mechanical harvester, operated by the U.S. Fish and Wildlife Service, removes water chestnuts. The invasive species forms an adense mat that blocks sunlight and recreational use.* PHOTO COURTESY OF OARS

the watershed. CISMA continues to grow, with a new website, new partners and new grant funds.

## 2013

Funds to the Wayland Conservation Commission to support a project to improve the Route 20 boat launch, making it more easily accessible to trailered boats while protecting the river and wetland resources of the site.

A flow study for the Middle Sudbury is funded to look at the aquatic biology of the river and research the flow dependent nature of that biology.

Council supports Mass Rivers Alliance work with Baystate Roads to host three workshops in eastern MA on improving road stream crossings to provide better wildlife habitat and improve public safety.

## 2014

Small grant provided to Mass Audubon and Thoreau School for development of SuAsCo Riverschools Network to involve schools in the study and sharing of data about the Sudbury, Assabet, and Concord rivers.

Boston Pops receives Council small grant to develop a multi-media presentation (photos and performance) about the Sudbury River piece as part of their 2014 Holiday program.

Advocacy continues on wastewater treatment plant and water withdrawal permits. Significant work on Concord Permit Appeal reaches settlement.

## 2015

The Sudbury Conservation Commission removes invasive species and rehabilitates trails and signage at the King

Philips Wood, one of the “remarkably outstanding” historical places along the Sudbury River.

## 2016

The Places For Pollinators project, overseen by Sudbury Valley Trustees, partially funds the purchase of native plants from local nurseries, educational brochures, and materials for a “bee hotel.” This project will aid native pollinators by increasing the abundance of quality foraging plants and bee-nesting habitat along the Sudbury River.

Council works with Army Corps of Engineers to reduce impacts from Assabet Road stormwater outlet project, which would discharge into the Assabet River in the Town of Concord.

RSC supports OARS work on National Pollutant Discharge Elimination System delegation policies.

Develops interpretative panel about the W&S River for the Bruce Freeman Rail Trail.

Support for OARS produces new Sudbury River Recreation Maps, highlighting river access and walking trails.

15<sup>th</sup> annual RiverFest celebrated, with over 40 events, 100 volunteers, and 1000 participants in activities throughout the watershed.

Updates to Wild and Scenic signage, with new signs in Wayland, Bedford, Lincoln, Sudbury and Billerica

Council funds Sudbury River Mussel study to identify critical habitat for the State listed Eastern Pond Mussel

## 2017/2018

Update to the River Conservation Plan begins, with presentations to Boards of Selectmen at all eight river towns.

## 2018

Celebration of the 50<sup>th</sup> anniversary of the National Wild and Scenic Rivers Act.





The Sudbury, Assabet and Concord

WILD & SCENIC

River Stewardship Council

[sudbury-assabet-concord.org](http://sudbury-assabet-concord.org)