



*Salmon Falls River*

# Greenbelt Plan ~

July, 2009

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In 1991, the South Berwick Planning Department, the Great Works Regional Land Trust, and the South Berwick Conservation Commission created the first Salmon Falls River Greenbelt Plan. That plan was funded in part by the Maine Department of Economic and Community Development, the Maine State Planning Office, and the Maine Coastal Program. In 2005, the South Berwick Conservation Commission began to develop a new plan to reflect changes to the Salmon Falls River that happened after the first plan was published. The result is this document, which is intended to support efforts to protect the open natural spaces that trace the path of the Salmon Falls River.



## Introduction

The Salmon Falls River meanders nearly 40 miles from its headwaters at Great East Lake in Acton, Maine, to its confluence with the Cocheco River, near the town line of Eliot and South Berwick. There, the two waterways combine to create the Piscataqua River, which passes by Portsmouth and into the Gulf of Maine. The Piscataqua forms the boundary between southern Maine and New Hampshire, increasing the river's jurisdictional oversight.

Over its course, the Salmon Falls passes through farmlands, woodlands, and densely populated urban areas. The surrounding communities rely on the river for drinking water, irrigation, and as a place to discharge wastewater from sewer treatment facilities. Its flow generates electrical power through small hydroelectric dams. The river also provides recreational opportunities, including fishing, hunting, and boating.

The town of South Berwick occupies approximately six miles of frontage on the Salmon Falls, five of which are tidal. Travelling downstream, one still can imagine the way life was three hundred years ago. Substantial land conservation has yielded a remarkably undeveloped shoreline that has preserved the river's quiet character. Wildlife is abundant—from bald eagles to seals, Atlantic sturgeon to snapping turtles. Rare and endangered plants and animals find safe haven along its shores and within its banks. The town's shoreline access points offer several opportunities to enjoy this remarkable river.

Today, this stretch of river represents an important turning point between increasing urbanization pressure and a desire to preserve rural character. The town has taken significant steps to conserve this river through resource protection, shoreland zoning, and the upgrade of its sewage treatment plant. These efforts are complemented by the Great Works Regional Land Trust and its continued work with private land owners to conserve land along the river.

Despite this progress, the future of this resource is uncertain. Pressure from development and recreational usage will continue to grow, and as it does, there will be undesirable impacts on the Salmon Falls' capacity to sustain the very services that make it so valuable to South Berwick.

The South Berwick Conservation Commission created a second Salmon Falls River Greenbelt Plan to provide a snapshot of the river in 2009, one that can be used to support well-informed, balanced decisions about future land use with the potential to impact the essential services the river provides—clean water, boating, hunting, fishing, and healthy habitats where wildlife thrives.

The plan is intended to serve as an educational tool for the public, a planning tool to direct future use of the river's corridor, and a means to enhance recognition of the river as a unique environmental and cultural resource.

It is difficult to quantify how a community benefits from a greenbelt plan. How does one measure the enjoyment one gets from canoeing down an undeveloped river, or the excitement of a child catching their first fish? Here are some advantages of developing and acting on a greenbelt plan, cited by the National Parks Service:

- \* Property values increase in those areas adjacent to a park or greenbelt.
- \* A natural attraction brings in visitors who may spend more money locally.
- \* A greenbelt helps to control nonpoint source pollution and increase wildlife.
- \* Open space along the river costs the town less to service than residential development.
- \* Corporations and businesses are attracted to areas with a high quality of life; open space and opportunities for recreation are key contributors to this.

This last item is particularly important to South Berwick as it tries to attract industry and business. The mix of business, residential development, natural beauty, historical culture, and recreation that this plan encourages can only encourage positive economic growth. Maintaining the natural and historic value of the Salmon Falls will help South Berwick achieve that goal.

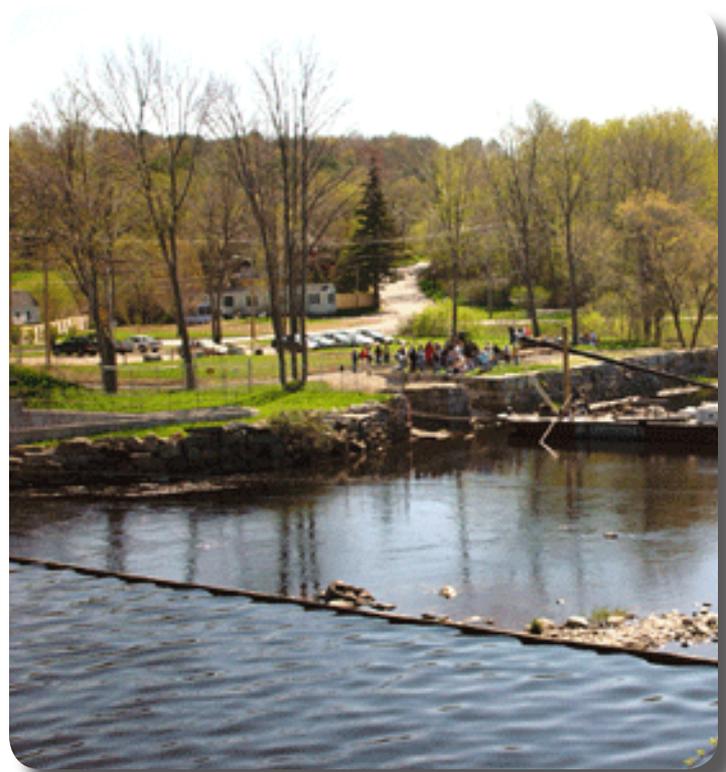
## About the Project Area

The Salmon Falls River Greenbelt Plan focuses on the tidally influenced portion of the river flowing between the Route 4 Hydroelectric Dam and the Eliot Town line (See map at right). This nearly five-mile stretch of river abuts the towns of South Berwick, Maine, and Rollinsford and Dover, New Hampshire. To enhance the plan's ability to protect water quality and natural habitats, it includes watersheds of tributaries that join the river within South Berwick. As a result, the plan's upland border runs along Liberty Street, Vine Street, and Old Fields Road until it reaches Route 101, where Shorey's Brook crosses the road. Should Eliot and other downstream towns decide to pursue a greenbelt plan, this one would easily dovetail with a broader effort.

A major reason to support a greenbelt in this area is that it will leverage the positive impact of the large amount of land that has already been protected on both sides of the river corridor. (See page 13.) Other qualities of this area include its diverse estuarine environment, the undeveloped nature of the shore, and the public access points from which people can enjoy the Salmon Falls.

River access is a priority for the town. In 1982, the Southern Maine Regional Planning Commission prepared the Salmon Falls River Accessibility Study. Subsequently, the town created Bray Memorial Park and boat launch at the Route 101 bridge. This launch is accessible for three hours at either side of high tide and is used frequently for recreational boating. More recently, the town established Counting House Park beneath the Route 4 Hydroelectric Dam. The land was donated by Consolidated Hydro Corporation, now known as Enel Hydro Corporation, as part of their Federal Energy Regulation Commission licensing renewal. The park offers limited water access and a dock. These public access points are complemented by shoreline access from the grounds of Historic New England's Hamilton House and Vaughan Woods.

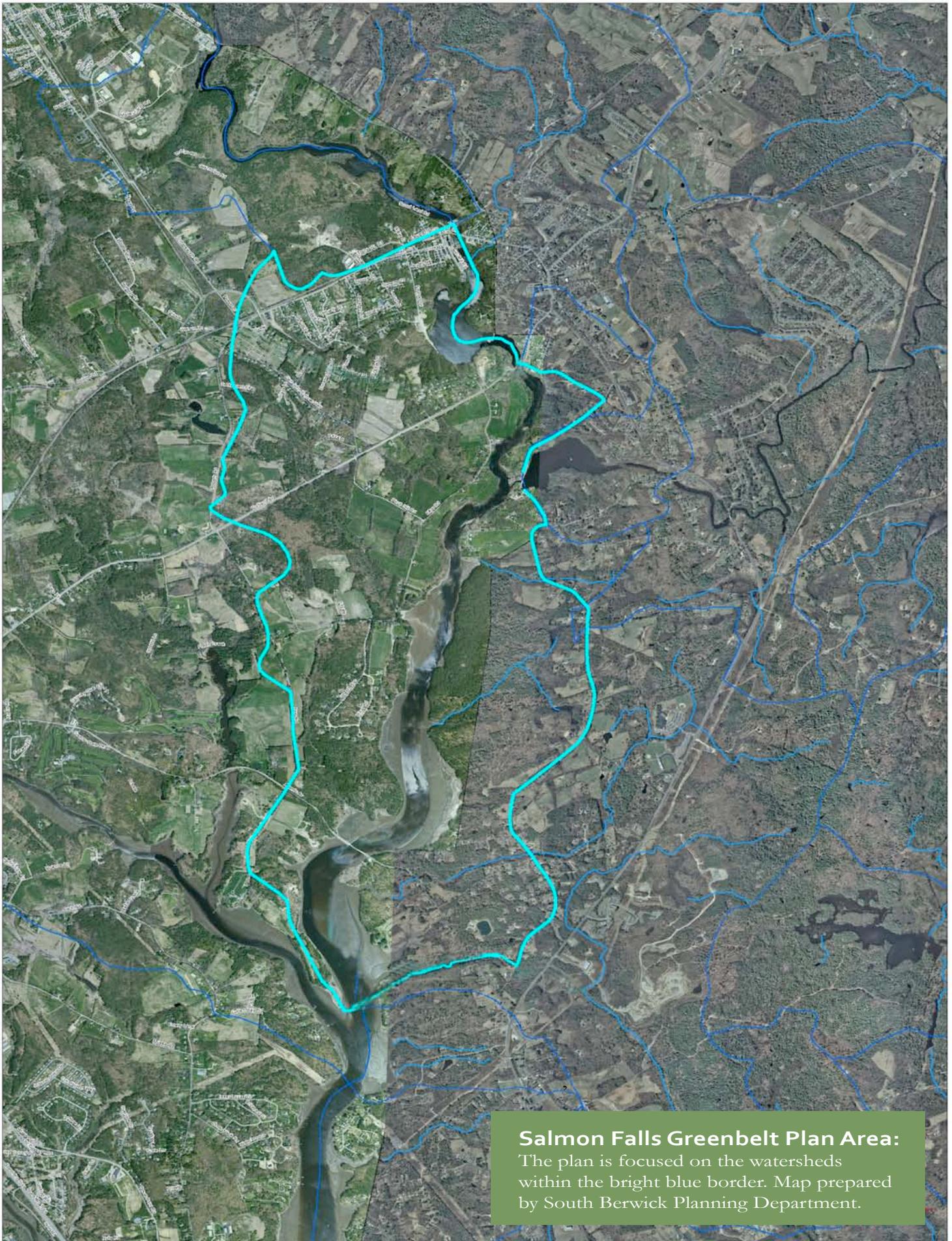
Since the 1980s, growth in South Berwick and the region has made the stretch of river within the focus area of this plan more valuable, and therefore vulnerable. Protection of the river corridor and its contributions to water quality, wildlife, and recreation continue to be a challenge. Aesthetic and regulatory issues are combining to drive the future protection of this corridor. Point



*A view of Counting House Park, where locals fish and launch boats to enjoy the Salmon Falls. The site was also a platform for a local school program that allowed students to explore a visiting replica of an historic gundalow.*

sources of pollution, such as factories or wastewater treatment plants, have long been regulated by state and federal law. In 1999, the Maine Department of Environmental Protection produced a phased TMDL (total maximum daily load) for the Salmon Falls River watershed and attainability analysis for the lower Salmon Falls River. A major outcome of this was that the Maine Department of Environmental Protection downgraded this stretch of river from class SB to class SC.

In 2003, South Berwick fell under the MS4 regulatory rule managing nonpoint discharge sources of water from its urban area to protect water quality. Nonpoint source pollution carried by stormwater is the greatest threat to water quality nationwide. In 2006, the Town Council passed a Non-Stormwater Discharge Ordinance prohibiting wastewater discharge into the town's stormwater system. Though the final stormwater ordinance wording has yet to be passed, its intent is to reduce the stormwater flowing into the river's tributary systems, and encourage instead the natural filtration of nutrients and other pollutants from stormwater before they can enter the river and degrade water quality.



**Salmon Falls Greenbelt Plan Area:**

The plan is focused on the watersheds within the bright blue border. Map prepared by South Berwick Planning Department.

## Local History

The natural beauty of the Salmon Falls River is complemented by a rich local history. The river originally went by the Abenaki name *Newichawannock*, traditionally thought to mean “My Place of Wigwams.” Native Americans lived along the banks, gardened in burned-off fields, fished and traded on the river, and hunted the shoreline for thousands of years. Atlantic salmon were abundant as they migrated upstream to tributaries in Berwick, Lebanon, and beyond. Near the grounds of the Hamilton House, the Maine Historic Preservation Commission identified a pre-historic archeological site which may be as many as 5,000 years old.

It is generally agreed that early 17th century Europeans made exploratory excursions up the Salmon Falls. According to the Old Berwick Historical Society website: “In July 1634, William Chadbourne, James Wall and John Goddard, three English carpenters under contract with Capt. John Mason’s Laconia Company, arrived in present-day South Berwick, Maine, from England aboard the vessel *Pied Cow*. Their contract called for them to build a saw mill and grist mill on what was then called the ‘Asbenbedick’ or ‘Little Newichawannock’ River, known today as the Great Works River.”

Their project, traditionally thought to be located at the Great Works Falls at Brattle Street, was one of the earliest water-powered mills in North America. The settlers’ inventory in 1635 listed 24 cows, two bulls, 22 steers and heifers, and 10 calves, as well as sheep, horses, and hogs. Local legend says these animals were landed at Cow Cove, as there were fields already in existence for them to pasture on and regain health and weight from the long sea voyage. This site is recognized by a sign in Vaughan Woods Memorial State Park, but Cow Cove’s exact location is subject to debate.

Around 1650, William Chadbourne’s son, Humphrey, built a large house on the knoll overlooking the confluence of the Salmon Falls and Great Works rivers, on land he had bought from the Native Americans. His mill, later called Leigh’s Mill, made him one of the wealthiest residents in the English colonies. The house was destroyed by fire around 1690 during King William’s War, in what was likely a raid by Native Americans. This site was part of a multi-year archeological dig overseen by the Old Berwick Historical Society.



The Salmon Falls has provided energy for locals for more than 300 years. The Route 4 Dam, shown here providing electricity in 1917 (top), still does so today. Bottom: The site of the old Portsmouth Manufacturing Company, now Counting House Park, was the backdrop for the living history presentation in July 2009. Images courtesy of the Old Berwick Historical Society.

It is likely that the first mill on the Salmon Falls was built around 1650, at or near today’s Route 4 dam. Sawmills, there and upstream, brought an end to the salmon runs for which the river was named.

In the 1700s, shipbuilding took hold along the river as a result of the easy access to inland forests. Sawmills processed timber for the English navy and for merchant vessels. A byproduct was a large quantity of wood that could be turned into barrel or “pipe” staves for packing and shipping West Indies cargo. David Moore became a wealthy merchant, exporting pipe staves from the landing next to his home at the farthest reach of deep water navigation on the river. This use gave the site the name “Pipe Stave Landing.”

In 1785, Jonathan Hamilton built his estate on 200 acres overlooking the river at the former Moore property. Although “Hamilton sprang from humble beginnings and had little formal education,” in the words of local historian Marie Donahue, “he had a shrewd business

head and an eye for a sharp deal.” Starting out as a trader in salt fish in the 1760s, soon he owned forests in Lebanon, part of the century-old Chadbourne mill, and the shipyard and store at Pipe Stave Landing. He produced masts, spars, planks, and shingles, built ships to carry them, and exported them—along with lumber, fish, beef, and farm products—all over the world. His warehouse was well stocked with tea, sugar, coffee, molasses, rum, timber, and shipbuilding tools.

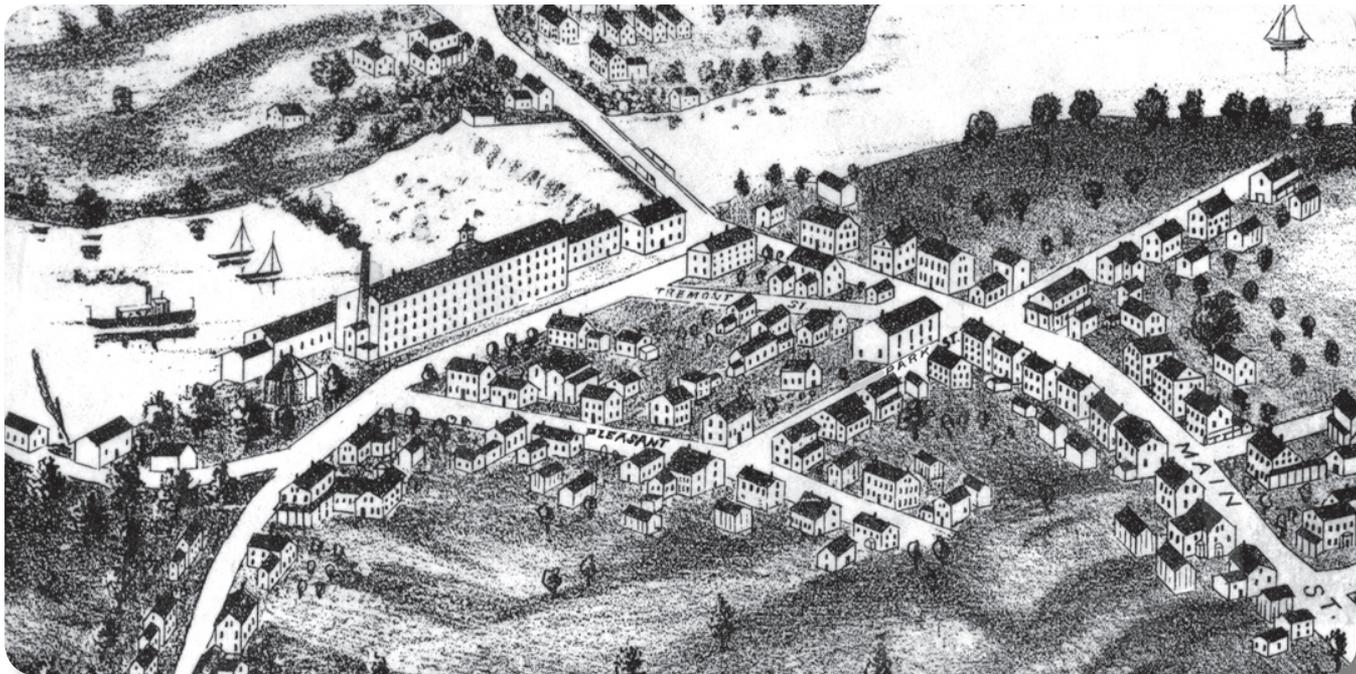
Between 1789 and 1839, dozens of ships were built along this section of the river. Shipyards, including one belonging to the family of Sarah Orne Jewett, dotted the shoreline south from the small rapids known as Little John Falls, below the mouth of the Great Works River.

Because most of the Salmon Falls was shallow and tidal, gundalows were the the major form of transportation. These flat bottom barges traveled by oar and sail, with the tide. They brought imports from Portsmouth and moved bricks, wood, and farm products back downstream. The industrial revolution changed their cargo. In 1831, Samuel Hale gathered a group of investors to purchase the water rights for the 275-foot dam at Quamphegan Falls, the head of navigation (now the site of the Route 4 Bridge) on the river. The 19-foot drop had the power to drive new machinery that would

manufacture cotton cloth. Gundalows brought bales of cotton upstream to the Portsmouth Manufacturing Company’s four-story brick mill. By 1868, the mill was processing 1,300 bales of cotton annually. The corporate office was the Counting House, now a museum containing many treasures, including one of the last textile mill ballrooms.

By the Civil War, farmland had replaced woodlands, and rail transport had replaced water transportation. A few gundalows continued to provide local transportation until the early 20<sup>th</sup> century, but in 1893, the Portsmouth Manufacturing Company closed, and the river ceased to be the center of economic activity for the town. Counting House Park includes stone foundations and brick retaining walls from the old four-story mill.

In 1898, Hamilton House was purchased and restored by Emily Tyson, and her step-daughter Elise Vaughan. Vaughan later left the house to the Society for the Protection of New England Antiquities, now Historic New England. The property is open to the public from May through October. Abutting this resource is 135 acres of land with three-quarters of a mile of river frontage, left by Vaughan for Maine to maintain a public park. Today, Vaughan Woods Memorial State Park is a popular spot to enjoy the quiet of the woods and the river.



Quamphegan Landing, South Berwick, and the Portsmouth Manufacturing Company cotton mill, 1877, excerpt from lithograph by Ruger and Stoner, Old Berwick Historical Society Collection. For a wealth of information about the history of the Salmon Falls and of South Berwick, visit the Old Berwick Historical Society website at [www.obhs.net](http://www.obhs.net).

## Natural Resources

### Salmon Falls Estuary

Estuaries are places where rivers meet the sea. The stretch of the Salmon Falls flowing through the focus area of this plan is a tidally influenced estuary. Fresh waters flow from above head tide at Counting House Park to mix with the cold, denser salt water of the Atlantic Ocean. This mixing happens in varying degrees over the run of the estuary. At head tide, the water's salinity may be as low as 0.5 parts per million (ppm), while at the Eliot town line it can be as high as 30 ppm during high spring tides. (Ocean water salinity is usually between 30 and 35 ppm.) Animals and plants that live in such an environment must be able to adapt to extreme changes in salinity and fluctuations in tidal water level and temperature changes.

Cord grass (*Spartina alterniflora*) is a native species that predominantly grows in marsh areas, forming the familiar green waves of grasses that bend in summer breezes. Twice a day, the river's cord grass marshes are inundated during high tide. Plants that are less salt tolerant, such as cattails, wild rice, and arrow arum, form marshes in pockets of mostly fresh water along tributary inlets and shoreline drainages.

Marshes play an essential role in protecting water quality and stabilizing the shore. During floods, the dense stems of the grasses slow water flow and allow excess nutrients, sediment, and other pollutants to settle out. Bacteria and tidal action increases their decomposition. When these dense root mats are exposed during low tide, they release the distinctive rotten-egg smell of the anaerobic bacterial breakdown of this matter.

Tidal action helps flush these decomposed nutrients back into the river, where they provide an essential foundation for the food chain of the estuary and that of the Gulf of Maine into which it flows. This nutrient base allows the estuary to serve as an important nursery for many species of fish and mollusks at the base of the larger animal food chain.

On the Maine side of the Route 101 bridge, there are two coastal wetlands with salt marsh vegetation that have been designated as high value wildlife habitat by Maine Department of Inland Fisheries and Wildlife. On the New Hampshire shore, the Strafford Rivers Conservancy has noted 44 acres of tidal marsh. Fresh



*Marshes, such as those found along the Salmon Falls, play an essential role in protecting water quality and stabilizing shorelines against erosion.*

water wetlands are found along tributary corridors, as are vernal pools. The National Wetlands Inventory Map indicates that in Maine they lie predominantly along Quamphegan and Shorey's Brook tributary systems, while some small spring-fed pocket wetlands can be found isolated in uplands away from the river corridor.

### Topography

The Salmon Falls River Greenbelt Plan area is characterized by steep slopes and bluffs with slopes of 25 percent grade running up from the shoreline to as high as 60 or 100 feet of elevation. Toward the Route 101 bridge, the topography tends to level off and gently roll into wetland marsh areas. The variable topography along the river suggests an explanation for the noted landing places for the early settlers. These slopes also present challenges for development. Such topography might encourage erosion if developed.

In 1990, South Berwick placed the river's estuarine section in resource protection, requiring that all structures maintain a 250-foot setback from the upland high water level on the shoreline. The tributaries to the Salmon Falls include the Great Works River, Hamilton Brook, Quamphegan Brook, and Shorey's Brook on the Maine side, and Sligo and Garvin brooks in Rollinsford and Dover. There are smaller, unnamed brooks and drainages that flow into the river as well.

### Soils

Based on the York County Medium Intensity Soil Survey maps, Scio series soils predominate along the bluffs of the river's edge; Buxton, Hermon, Skerry, and Adams soils occur inland toward the boundary area for this plan. Such soils are found on marine plains and the

terraces of foot slopes of glacial moraines. The other soils types in this area are of a fine sandy loam quality—significant farmland soil. At periods of low tide, the river may appear to be one mud flat.

### Vegetation

The predominant forest cover along the river corridor is white pine and hemlock. Where the soils are richer with loam, oak and hickory hardwood species intermingle. Upstream from Vaughan Woods, farm fields break the forest cover, providing large patches of grassland habitat. Many of these fields are still in production for hay and forage crops. They flare out from the river’s edge to touch Old Fields Road in South Berwick and Sligo Road in Rollinsford. Forestry is still practiced on some riverside parcels, though most logging is related to conversion to residential usage.

The Salmon Falls River is host to a number of rare and endangered plants. This has prompted the State of Maine to designate three shoreline areas as Rare Plant Communities of “mixed salt marsh and salt-hay salt marsh.” The presence of rare plants helps us to measure an ecosystem’s health, while the gradual or sudden loss of these species can indicate environmental problems, ranging from pollution to competition from invasive species. The loss of any species, not matter how small, may have unknown impacts in other areas of the plant and animal community. The following is a table of rare plants identified in the focus area of this plan:

Plant	Locations	Year
<i>Lilaeopsis</i>	4	1985
Water Pimpernel	8	1982
Mudwort	5	1982
Horned Pondweed	5	1982
Small Salt Marsh Aster	> 5	1982
Spicebush	16 to 20	1985
Sea Beach Sedge	20 to 50	1990

Within Vaughan Woods Sate Park is an oak-hickory forest that contains chestnut oak—a species at the northern edge of its range—which has been designated as critically imperiled because of its extreme rarity in Maine. In addition, the New Hampshire Heritage Program has noted six occurrences of rare plants on that side of the river. These include *Lilaeopsis*, water



Lovely to look at, but lethal for cattail marsh ecosystems, purple loosestrife is an invasive plant of increasing concern.

pimpernell, salt loving spike rush, pygmy weed, small spike rush, and large burr reed.

Of increasing concern is the introduction of invasive species that crowd out native plants and animals. With neither predators nor competitors to keep them in check, these animals and plants often damage the ecosystem. Gypsy moth caterpillars and hemlock woolly adelgid are insect invasives with the potential to significantly weaken trees and increase their mortality.

Invasives plants now found within the project area include buckthorn, *Phragmites*, purple loosestrife, autumn olive, and bittersweet. As a control measure, the U.S. Fish and Wildlife Service selected the area at the confluence of the Great Works and the Salmon Falls rivers to release beetles that feed exclusively on purple loosestrife. A stand of *Phragmites* is taking hold north of the Route 101 bridge on the New Hampshire side.

## Wildlife

The Salmon Falls flows within the Great Bay Estuary system, parts of which have been given National Estuarine Reserve status by the National Oceanic and Atmospheric Administration. The U.S. Fish and Wildlife also recognizes the estuary, the immediate shoreline forested buffer, and adjacent grasslands as important habitat for “Priority Trust” species. Bald eagles, osprey, American bittern, killdeer, eastern meadowlark, northern flicker, northern goshawk, wood thrush, alewife, American eel, Atlantic sturgeon, blueback herring, and bluefish—all of these are found seasonally within the project area.

The Maine Department of Inland Fisheries and Wildlife (MEDIF&W) has classified the Salmon Falls as a Class “B” Coastal Wildlife Concentration Area. The area is considered unique for the abundance and diversity of its wildlife and its importance for rare species. The Class “B” rating identifies the river as a significant habitat resource along the Maine coast. (A Class “A” rating would indicate unique significance on a national level.)

The undeveloped nature of the shoreline in the project area and its uplands is uncommon. It provides safe habitat for many animals. Bald eagles, which used to be exceedingly rare, now feed and roost along the river year round. Kingfishers hunt from perches on pine branches overhanging the water’s edge. Ospreys, which nest at Bartlett Mill Pond, upstream on the Salmon Falls, and in the wetlands around Mount Agamenticus, also feed here.

Wading birds, such as great blue herons, black-crowned night herons, snowy egrets, and green heron feed on fry fish and invertebrates. Smaller waders such as sandpipers, curlews, and plovers also work exposed mud flats for invertebrates. Migrating Canada geese and a variety of ducks take shelter in the marshes. Winter visitors, rafts of eider ducks and mergansers, fish at the edge of the river. Cormorants are year round residents

that use snags and blow downs in the river channel to perch on and dry their feathers. Scarlet tanagers, pileated woodpeckers, hermit thrushes, woodcock, barred owls, bobolinks and turkeys all nest here.

Large snapping turtles lumber across the expanse of mud flats at low tide. Harbor seals follow the smelt and alewives upstream on their runs in the winter and spring. Moose, bobcat, fisher cat, and black bear wander through on occasion. New England cottontail rabbits have been spotted in field edge habitat. Other, more common resident mammals include river otters, coyotes, foxes, white-tailed deer, muskrat, raccoons, and skunks. The variety and extent of wildlife found in the project area is indicative of a very productive ecosystem.

## Fish

The Salmon Falls hosts diverse and abundant fisheries. It is frequented by anadromous fish—those that migrate from the ocean to fresh water to spawn—as well as other marine fish in search of food. Historically, sea run brook trout and Atlantic salmon were abundant in the river. Today, dams have made passage for spawning upstream impossible. A fish ladder installed at the Route 4 dam was designed to assist alewives and American shad to spawning grounds further upstream. It has had moderate success with alewives, but to date, no American shad have been identified as using it.

Other anadromous fish species found in the river include blueback herring, rainbow smelt, Atlantic sturgeon, striped bass and Atlantic salmon. These fisheries are under the jurisdiction of the Maine Department of Marine Resources (MEDMR). South Berwick was granted the right to harvest alewives in 1973 by the Maine Legislature. The Town annually provides for conservation and harvesting regulations that are approved by MEDMR. Sea run brown trout are stocked in the estuary for sport fishing. Striped bass fishing also has become a popular. MEDMR regulates



The once common, now elusive, Atlantic sturgeon. In 1990, a recreational fisherman landed and killed a 300-pound female laden with eggs near the Counting House Park.

size restrictions for keeping catch. In recent years, population declines of bluebacked herring and alewives have led to closure of these fisheries, but rainbow smelt dipping is still popular at Little John Falls. In the spring of 1990, a 300-pound Atlantic sturgeon, laden with eggs was caught in herring nets near the Counting House Park and killed. Some years, blue fish will chase schools of menhaden up to the Route 4 Dam at head tide.

The project area also hosts an American oyster (*Crassastrea virginica*) bed extending from several hundred yards north of the Route 101 bridge and south into Eliot. Though it was harvested commercially at one time, polluted stormwater runoff along the Salmon Falls has made oyster sites in Great Bay more commercially viable. Soft shell clams are also found in this region of the river. Though upgrades at the South Berwick Sewer treatment plant have dramatically improved the river's water quality, there is no harvesting of these shellfish for human consumption due to *E. coli* pollution in runoff. Remnants of past shell fishery use can be seen along the edge of Leigh's Mill Pond, where oyster shells were used as a paving surface for the old road and bridge that crossed the Great Works River.

### Water Quality

In 1994, the Maine Department of Environmental Protection (DEP) began an in depth study of water quality on the entire Salmon Falls River to determine the Total Maximum Daily Load (TMDL) of nutrients that would be allowed as discharge from all point sources. In 1999, their results were accepted and published. River flow at all dam sites is regulated in a steady mode at summer low water flow conditions so its impoundment does not exacerbate water quality problems.

The discharges from five wastewater treatment plants collectively comprise 20 percent of the river's summer flow volume. Combined with slow flowing (low aeration) impoundments, this contributes to the decrease in dissolved oxygen and subsequent algae blooms. The study found that lower dissolved oxygen levels are also related to nonpoint source nutrient pollution. A major contributor of Nonpoint Source Pollution (NPS) is the Great Works River. The most impacted section of the river within the project area is the basin at Counting House Park and the basin in front of the Hamilton House.

The Salmon Falls River in the area of the project plan

is of a reasonably good quality. However, its recent reclassification as an "SB" and an "SC" river in the area of this plan reflects how that water quality could degrade due to natural or human-caused events.

In 1960, the South Berwick Sewer District was formed to be responsible for the collection and treatment of wastewater flows. At that time, the existing system of discharges were intercepted and conveyed to a primary treatment facility constructed along the river just south of the Counting House, off Liberty Street. Over the next 30 years, improvements were made to include additional discharges and to exclude storm water flows. In 1995, the South Berwick Sewer District completed an upgrade that allowed its wastewater facility to provide tertiary treatment, which removes 98 to 99 percent of contaminants. Additional improvements have increased the efficiency of the plant and reduced storm and ground water inflow.

The plant operates under a Maine DEP Discharge Permit that requires specific treatment limits to be met. Though no intensive study has been done on water quality since the TMDL study, there is anecdotal evidence that water quality has improved based on wildlife changes. There are still issues related to nonpoint source pollution input from the Great Works River. A watershed study of the Great Works done in 2003 points to a number of places within the watershed which could be remediated to reduce erosion. Water quality monitoring programs were taking place through Great Bay Watch, but they have been discontinued for lack of support. The Great Works River Watershed Coalition continues to monitor the Great Works River.

### Archaeological Resources

The Maine Historical Preservation Commission has mapped the Salmon Falls River corridor as a potential archaeological resource area. This designation reflects the value of the corridor's natural resources, its easy regional access, and the fact Hamilton House has been proven to contain archeological resources. Discoveries at Hamilton House (stone tools estimated to be circa 5,000 years old) infer there are other sites of archaeological importance along the river. The Chadbourne archeological site has been added to the list of attributes of the river corridor. More than 40,000 artifacts have been found and catalogued, making this one of the richest early colonial archeological sites in Maine.

## Recreational Resources

The river has a number of public access points, including Counting House Park, Leigh's Mills Pond on Vine Street, Hamilton House, Vaughan Woods Memorial State Park, and William Bray Park. Historical houses and agricultural fields lining the river have been designated as scenic by the 1990 South Berwick Comprehensive Plan and iterated in the current draft of that plan's update.

A boat trip down river is an opportunity to view an undeveloped, dynamic shoreline. Changing tides and seasons combine to provide highly scenic, and increasingly rare vistas—from heavily forested shores to rolling hay fields and historic houses. At Leigh's Mill, the Great Works culminates in a waterfall that roars over a bed of boulders and snags to join the Salmon Falls.

Many recreational opportunities along the river depend on the integrity of land cover, wildlife, and water quality. Old Fields Road and Vine Street are part of the Eastern Trail Greenway, which brings hundreds of cyclists annually through our village. (The recent closure of the Vine Street Bridge interrupted this route.) Along the river, fishermen wait for stripped bass or rainbow smelt, and hunters watch for migrating ducks and geese. Paddlers float with the current, enjoying summer breezes between the boat launches at Counting House and William Bray parks. Hikers wander the trails in Vaughan

Woods, catching occasional glimpses of wild turkeys, pileated woodpeckers, or white tailed deer, or sometimes hearing the hoots of owls. Musicians play to audiences in Hamilton House's gardens.

As the local population increases, so does the number of people who take advantage of these opportunities. The ability of the Salmon Falls to continue to provide these services will depend upon careful planning. Most on-river uses are sustainable at current levels, and could absorb moderate increases in activity. Conflicts between motorized boats, including jet-skis and non-motorized users, have arisen occasionally over the section of river between the Route 101 bridge and head tide. Most concerns have focused on safety and wake issues, but there have also been complaints from strollers and hikers in Vaughan Woods and on the Hamilton House grounds about the impact of jet-skis on the aesthetics of the river. The lack of access at low tide balances this, and allows wildlife time to recover. Parking spaces at both parks are often occupied by fishermen at high tide times in the summer. As a result of the first plan in 1990, the Planning Office produced a self guided river tour brochure. This was recently updated by the Conservation Commission and is available at Town Hall, the Library, and in businesses and other public places.



A kayaker's view of the shoreline around historic Hamilton House.



Looking out from the shore.

## Land Use Along the River

The river corridor has seen extreme changes in its land use since pre-colonial times. When the land was settled by local Native Americans, resources were managed and used, but not owned. The river was their highway for trade with other native people. They used slash and burn methods to prepare gardens, which would be left to regenerate into new forest when depleted. Fish, game, and vegetables were the products of an ecosystem that sustained thousands of people in the Great Bay region.

Colonial times brought exploitation of the local resources for commercial use. Damming the rivers for water power ended anadromous fish runs. Extraction and milling of wood for shipbuilding depleted old growth forests and choked streambeds with sawdust. Shorelines grew busy with boat yards and became denuded of vegetation. Land ownership patterns divided resources and exhausted soils. Forests were replaced by farm fields, which were eventually replaced by pastures.

In the early 19<sup>th</sup> century, the farm parcels were consolidated. Houses were situated closer to the road and the shoreline forests began to regenerate as pine, and then later hardwoods, pushed up in the fields. Pine held sway on colder north facing slopes along the river, while hardwoods thrived on south facing slopes with deeper soils. The flushing action of the sea helped revive water quality degraded by industry and agriculture. That is, until dams that powered saw and grist mills were converted to power cotton or wool carding and weaving machines, employing thousands of people in South Berwick, Rollinsford, Dover, and Somersworth. The mill workers lived near to where they worked. The river became a dumping ground for human waste and other by-products of human life. When the mills shut down around 1900, the river was not a cherished resource.

Village life turned away from the river with the foundation of the Cummings Shoe Factory. Health issues related to the use of the river as an open sewer persisted through the 20<sup>th</sup> century and resulted in wastewater initially being piped to the tidal portion of the river, then to the newly formed South Berwick Sewer District Plant. With passage and enforcement of the Clean Water Act, more point sources came under regulation and treatment improved.



Once rare and now a year round resident, bald eagles are one of the many birds of prey that hunt along the Salmon Falls.

Today, woods have reestablished themselves as sentries in some places on the Salmon Falls shoreline. Towering pines, hemlocks, maples, and oaks, though not the magnificent size of their predecessors, have matured in the shoreline forests. The river is a much healthier body of water, intensively managed for its water power flow and as a discharge point for wastewater treatment facilities in Somersworth, Berwick, Rollinsford, and South Berwick. Some farms remain active along the shore, but new pressure comes chiefly from residential development. Rollinsford and South Berwick have tried to preserve the appearance of the shore through the subdivision review process and local zoning.

The preservation of a vegetated buffer has helped preserve water quality and the integrity of the marshlands. Buffers are essential to slow runoff and prevent the pollutants it carries from entering the river. Buffers filter and absorb road sands and salts, oils, yard fertilizers, and pesticides that have detrimental impacts on water quality, and they provide feeding areas and resting spots for wildlife.

On the following pages is an inventory of land use and ownership along the river. There is a large percentage of parcels of considerable acreage, and ownership is not tremendously fragmented.

## South Berwick Parcels South from the Route 4 Dam

Tax Map /Lot	Acreage	Tidal River Frontage (ft.)	Owner	Landuse/type
25 / 5	.34	190	Enel Corporation	Hydropower dam site and fishladder
25 / 4	.9	0	Old Berwick Historical Society	Counting House Museum
25 / 5A	3.00	510	Town of South Berwick	Counting House Park and dock
25 / 2	5.66	450	South Berwick Sewer District	Sewer treatment facility
23 / 7	12.00	354	Liberty St. Homeowners Assoc.	*Dedicated open space, subdivision approval
22 / 9	24.12	2,560	Marion Aikman	Farm field, woodlot in permanent conservation
22 / 7	.19	200	Ridgewood Power Management	Island and spillway
22 / 6	.5	140	Ridgewood Power Management	Hydropower Dam
22 / 5	.91	170	Ralph & Marilyn Fowler	Residential, historical Georgian style home
22 / 4	6.6	879	Mark Zimmer	Residential, historical Georgian style home
22 / 4 A	4.0	400	Ed & Barbara Hopkins	Residential, Colonial reproduction
22 / 1	7.6	580	Historic New England	Vacant, Regenerated forest
6 / 1	.7	100	Eric & Ryan Anderson	Residential, Antique cape
6 / 2	35	1,000	Historic New England	Hamilton House historical site and farm fields
6 / 3	135	4,200	Maine Dept of Conservation	VWMSP: woodland, recreational trails
6 / 10	58.83	1,080	Philip & Lynne Anderson	Residential, woodlands & fields
6 / 13	28.00	350	Mary Rose Lord	Camp, woodlands
6 / 14A	12.69	400	John Rudolph & Kathy Gunst	Vacant, woodlands
6 / 14	12.31	500	Sarah Cullen	Vacant, woodlot
6 / 29 A	46.37	600	Sarah Cullen	Vacant, woodlot
6 / 30	21.14	600	Christopher Cullen	Vacant, woodlot, field
15 / 45	6.14	450	Ralph Holmes	Residential, woodland
15 / 46	.27	54	Carleton & Margaret Holmes	Residential
15 / 42	2.0	90	Ernest & Janis Dickson	Vacant
15 / 17 A	1.0	200	Deborah Cotter	Residential
15 / 17	13.00	900	Mary Francis Richardson	Residential, woodlot
15 / 16	2.4	1,000	Town of South Berwick	William Bray Park, boatlaunch & marshland
15 / 15 A	4.25	500	Patricia Richardson	Residential, woodlot
15 / 15	16.75	700 on QB	Mary Francis Richardson	Woodlot
15 / 9	8.12	300 on QB	Brianne M and Alan H. Dickinson	Residential, woodland
15 / 10	11	1,000	Ourania Marshman	Residential, woodland
15 / 11	.92	225 on SF/QB	Great Works Regional Land Trust	Woodland permanently conserved
15 / 5	31	400	Alan & Brianne Dickinson	Camp set back from river, field
15 / 7	1.3	300	Alan & Brianne Dickinson	Residential
15 / 6	1.16	150	Harold & Roseline Buckless	Residential
15 / 1	26	1,300 on SF/SB	Great Works Regional Land Trust	**Residential, woodlot/wildlife permanently conserved

QB = Qhamphegan Brook  
 SB = Shorey Brook  
 VWMSP = Vaughan Woods Memorial State Park

\*Contains public access easement extending 100 feet inland.  
 \*\* Has impoundment on Shorey's Brook.

# Maine Conservation Lands South from the Route 4 Dam

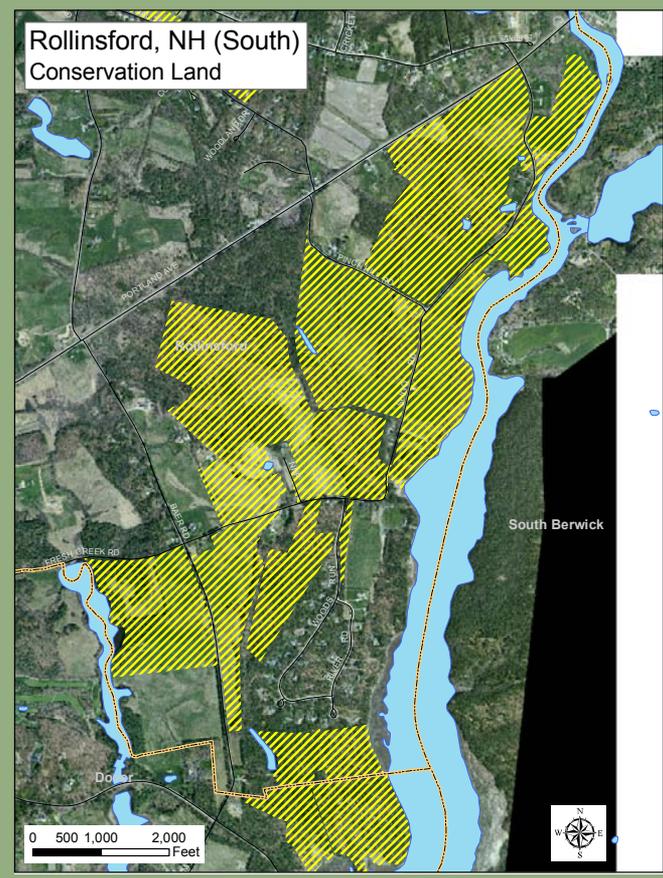
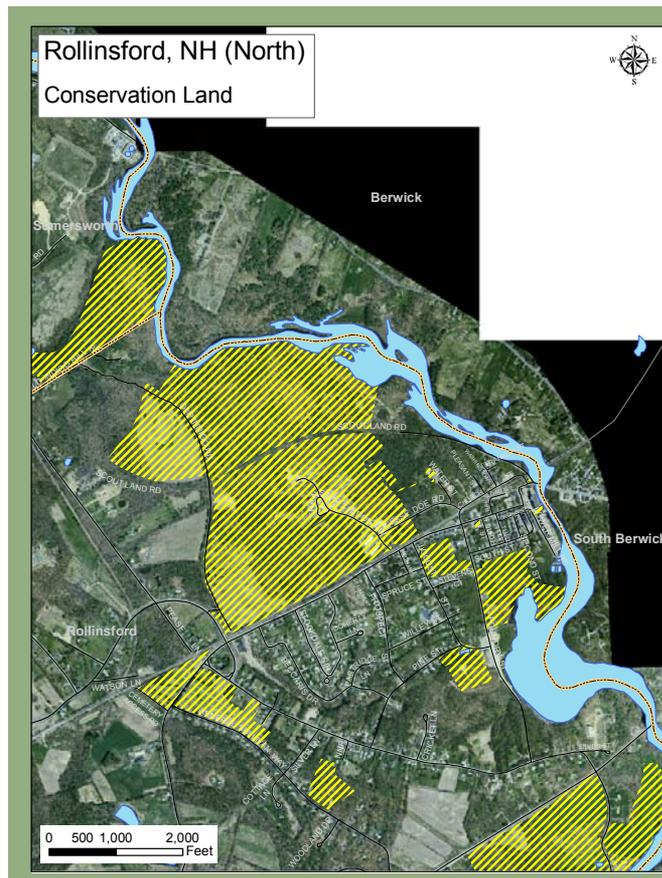
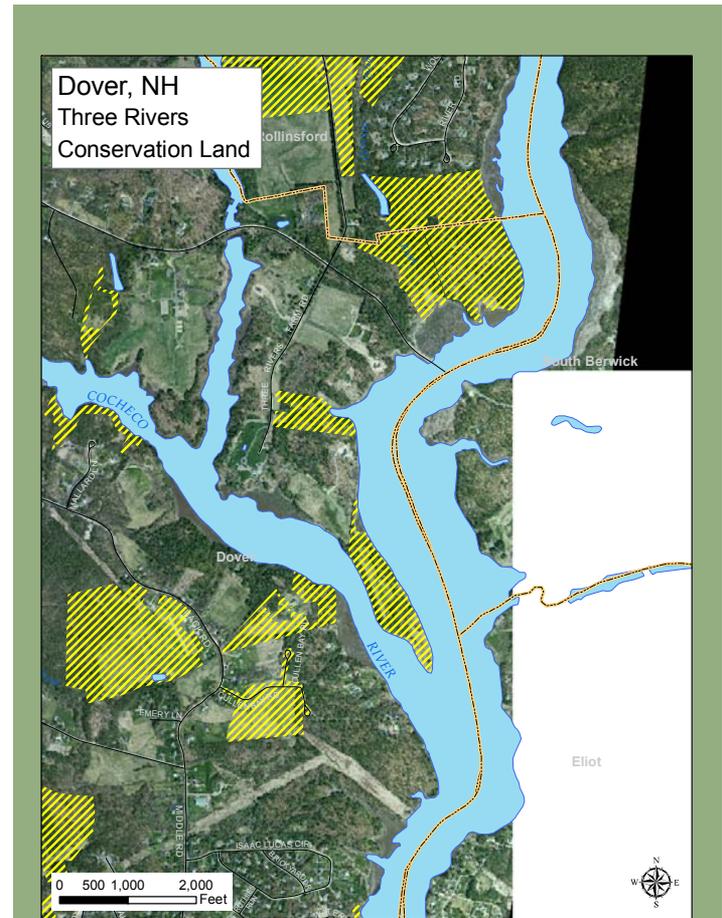


The light green parcels on the Maine side of the Salmon Falls River represent land that is already in conservation.

### Land Use on the New Hampshire Side

The mile that extends from head tide to Sligo Brook is under the ownership of Marion Aikman. Much of this 2,200 feet of frontage has been conserved permanently. It consists of a working dairy farm, residential and farm structures, fields, and woodlands. The woodland to the south is a 33-lot subdivision that contains a 100-foot wooded buffer easement along 1,400 feet of river frontage. There are stormwater detention structures to slow and filter runoff entering the river. Some landowners have limbed trees to enhance their views, but there is little visual impact overall.

The next 3,000 feet of frontage belong to a 47-acre tract that has been donated to the Strafford Rivers Conservancy by Mabel Franklin. This parcel has some marshland and bird perching and nesting sites and is considered to be of high wildlife value. Immediately north of the Route 101 bridge, two estate lots have been created. At this time, the vegetative buffer is intact. South of the Route 101 Bridge on the peninsula—bounded by Fresh Creek, the Cocheco, and the Salmon Falls—is the remnant of Three Rivers Farm. This former estate is protected by a conservation easement that limits development to 10-acre tracts. The result has been estate lots with limited agricultural values, many of which have cut buffers to enhance views.

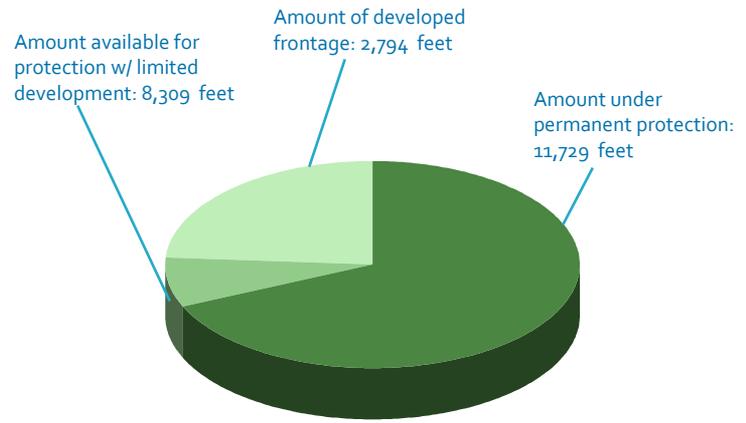


## Land Use Analysis

This plan is focused on the land adjacent to the river corridor. Appropriate use of this land can buffer the detrimental impacts of development on local wildlife and migratory birds and broad ranging species. Agricultural lands can enhance wildlife by providing food sources and grassland habitat. Agricultural runoff can be minimized through nutrient management plans and best management practices. The negative impacts of urban and suburban development can be mitigated through the maintenance of vegetative buffers that slow and filter stormwater runoff containing oils, lawn fertilizers, and household septic wastes.

Clearly, the best way to conserve the scenic character, water quality, and wildlife of the river would be to have the land uses adjacent to the river remain as natural as possible. At the time of the writing of the first plan, 7,134 feet of river frontage in South Berwick was in some form of conservation through public ownership or deed restriction. Since that time another 4,595 feet have been permanently protected through transfer of ownership or conservation easement. Though not all these acres permit unrestricted public access, all help to protect the recognized values of the river. Undeveloped tracts still remain along the river.

Lands away from the river corridor but within the boundary of this plan are also significant in their impact on wildlife and water quality, as they provide upland habitat and contribute runoff to the watershed through smaller tributaries. The majority of these acres are woodland and hay fields located along Old Fields Road. Open lands extending to Route 236 in the proximity of



## Tidal River and Brook Frontage in the Project Area

*Of the 28,832 feet of frontage, more than 50 percent are in conservation. Conservation of parcels that could yet be developed requires voluntary commitment of landowners through fee easement sales and donations.*

Fife's and Lord's lanes provide a corridor linking the deer yard and large habitat block associated with York and Rookery Pond. Great blue herons and osprey nest there, and fisher cats, bobcats, coyotes and deer wander between these areas.

That there has been considerable success in preserving land along the river without a concerted plan speaks to the interest and commitment of those landowners who have pursued conservation options for their lands. It also suggests that there are organizations willing and able to work with these landowners. The amount of land available for protection is still substantial, especially considering the development pressure for water front property in Southern York County.



*Enjoying a kayak along the Salmon Falls.*

## Goals, Objectives, & Projects Completed

The following goals and objectives are based on the original greenbelt plan. That plan was reviewed by landowners along the river, the Town Council, Planning Board, and Great Works Regional Land Trust (GWRLT) board members in November of 1991. Their comments were incorporated into that document and have been included with the goals of this document. A second review and revision was accomplished in 2008.

It is the hope of the South Berwick Conservation Commission that these goals and objectives will encourage all stakeholders to work together to ensure a healthy accessible greenbelt surrounding the Salmon Falls River. Stakeholders include municipal staff, Planning Board, Town Council, nonprofit organizations such as the GWRLT, citizen groups such as Green Up South Berwick, and private landowners along the river and its tributaries.

### Ongoing Goals

The following goals for the river have been established and reviewed by South Berwick's Conservation Commission:

- \* Protect and enhance the wildlife habitat of the river and adjacent uplands;
- \* Conserve the scenic vistas of the river corridor;
- \* Monitor, maintain, and improve, where possible, the water quality of the Salmon Falls River;
- \* Preserve historic resources along the river corridor;
- \* Create limited public access for passive recreational activities;
- \* Further the objectives of South Berwick's Comprehensive Plan, including protection of wildlife, scenic views, access, and provision of passive recreation;
- \* Provide educational opportunities and information to increase understanding that will assist in making land use decisions that protect resources;
- \* Maintain the current zoning ordinance along the Salmon Falls River.

### Ongoing Objectives

- \* Better identify existing and historical assets;
- \* Develop additional points of access to the river on existing or proposed public lands;
- \* Identify and work with willing landowners on conservation easements along the river bank;
- \* Identify wildlife resources along the river and, in particular, the extent of rare and endangered plant and animal life and notify landowners of these species;
- \* Establish an interstate planning effort for the river corridor with the towns of Rollinsford and Dover;
- \* Raise public awareness of the importance of the Salmon Falls and estuaries in general;
- \* Through grants, donations, and—if needed—town expenditures, seek to purchase critical parcels as opportunities arise;
- \* Work with local sewer districts on appropriate sewerage treatment upgrades while attempting to achieve Class SB status (ME DEP lowered the classification of the estuary to SC status in 1999);
- \* Work with river front landowners on appropriate land use activities and conservation related safeguards within the river corridor;
- \* Work on child-based educational programs.

### Projects Completed

- \* Fish ladder installed by Enel (2002);
- \* Rezoned the Salmon Falls River corridor into a Resource Protection District, providing a 250 foot buffer strip from development;
- \* Creation of Counting House Park, including a plaque and a boat launch (2004);
- \* Permanent conservation of land at Leigh's Mill by the GWRLT (2001);
- \* Assisted Maine DEP with the Salmon Falls River Study to determine Total Maximum Daily Load for point sources (1991);

- \* Upgraded the South Berwick Sewer treatment plant to Tertiary Treatment (1995);
- \* Conserved the Chadbourne archeological site by conservation easement held by GWRLT;
- \* Sponsored two Salmon Falls River Days to highlight the public values of the River. (Early 1990's);
- \* Installed a kiosk at the Route 101 boat launch (mid 1990s);
- \* Worked with GWRLT to sponsor a teacher education outreach (2005);
- \* Developed an educational, recreational and natural resource oriented guide for use on the river (1990, Revised 2008);
- \* Examined opportunities for a limited access trail/path along the river—slopes and landowner considerations make it unfeasible (1990s);
- \* Landowner Meeting Seminar to review Salmon Falls Greenbelt Plan (1991);
- \* Simone Savage parcel donated to GWRLT as a wildlife preserve (2008).

## Recreational Demand

This plan proposes to promote greater recreational use of the river. In undertaking this effort, one needs to ask if this additional access and demand for river based recreation is justified. Will the new facilities be used and will this use be compatible with sustaining the natural resource values of the river?

The State's 1988 State Comprehensive Outdoor Recreation Plan (SCORP) justified the creation of additional access. The boat ramp at William Bray Park has parking for 14 vehicles (half with boat trailers). The usage of the park depends to a degree on the tides, the days of the week, and the type of fish running. A great number of people use the parking area for fishing access. There have been inquiries for moorings off the ramp. The placement of a bench and picnic table also accommodates picnickers and birdwatchers. Duck hunters access the water here during hunting season.

The creation of Counting House Park established a trail that complements the William Bray Park and is outlined in the Salmon Falls River Brochure. Canoers and other paddlers can put in at either access point depending on the tides and go up or downstream with the tide. This park is also used heavily by fishermen angling for striped bass that have followed the alewives upstream. Benches and an informational kiosk provide access to the scenic and historical significance of the area.

## River Access & Corridor Preservation

The Town of South Berwick, as well as private groups and land owners have an array of options to consider when looking at ways to preserve the river corridor. These include regulatory and non-regulatory methods, as well as voluntary methods. All have a significant role to play in preserving the future of the river.

### Private Ownership and Stewardship

The river corridor is still primarily in private ownership and most areas are undeveloped. There is strong support in South Berwick for leaving undeveloped lands in the hands of conscientious private landowners as the best option for conservation. Such a system discourages traffic, litter, overuse of the river, and potential unsustainable uses of the river. Though this option has merit, it carries considerable risk. Ownership by any person is temporary. As land values escalate, pressure to develop also increases, and as ownership passes hands, access is increasingly denied. To make this option the only strategy for protection is unwise.

### Conservation Easements

As demonstrated on the New Hampshire side of the river, conservation easements can be a particularly effective tool for conserving open space. Conservation easements may be donated or purchased. These require the legal owner of the property to give up development rights in the form of a permanent deed restriction. Easements can be very flexible in their construction; allowing timber harvesting, agriculture, the right to restrict or allow public access, even allowing the retention of limited building rights. Land subject to conservation easement is not taken off the tax roles, though the landowner might receive an income tax deduction for the donated value of the easement. The landowner retains the ability to sell, lease, or bequeath

their property. One parcel along the river corridor has been protected by a donated conservation easement. Other landowners have expressed interest in this option or the possibility of selling their development rights. Most conservation eased parcels in Maine do qualify for open space taxation under Maine's use taxation laws.

### **Fee Donation or Purchase**

In the past two years, the Great Works Regional Land Trust has received donations of two parcels along the river. These donations qualify as charitable contributions and are tax deductible when the value is supported with a qualified appraisal. The town can also receive donations of land as it did with Counting House Park.

Purchase of land is another option available for both the town and the Great Works Regional Land Trust. Recent changes in the Land for Maine's Future Program allow for entities to apply for funds to acquire lands of local significance. This could provide a source of funding which would need to be matched from local sources. The presence of extensive conservation and historical holdings along the river corridor make this funding source a viable option. Possible stakeholders should be identified if an opportunity should arise for land purchases. These transactions require voluntary involvement with landowners. There is no eminent domain proceeding envisioned or promoted by this plan.

### **Impact Fees**

The town is due to consider impact fees as a way of financing capital expenditures. Although many issues are involved, impact fees could play a role in helping with land preservation along the river.

### **State and Federal Grant Programs**

There are public offices and nonprofit programs with funding to support initiatives designed to protect water quality and habitats along rivers like the Salmon Falls. These include the Land for Maine's Future Program, the Bureau of Parks and Recreation, Maine Coastal Program, and the Maine Outdoor Heritage Fund. There is potential for federal funding through the Natural Resource Conservation Service and the North American Wildlife Conservation Act. The Piscataqua Region Estuaries Partnership (PREP) has an annual program that provides funding for municipal planning projects that protect the watershed and water quality concerns. Grants can be up to about \$8,000.

### **Bargain Sale**

The sale of a parcel for less than fair market value by a landowner qualifies that landowner for an income tax deduction against the capital gains on the property. The fair market value of the property must be determined by a qualified appraisal.

### **Zoning**

In 1993, the Town rezoned the Salmon Falls Estuary into Resource Protection providing a 250-foot setback from the river for all future structures and limiting the expansion of existing structures. This limits impervious surfaces from development within the immediate watershed and maximizes the filtration capacity of a buffer. It also limits timber harvest and other soil disturbances which could lead to increased erosion in this buffer area. Zoning is not definitive protection. It is a political decision which could be reversed or altered by a future council. It only covers 250 feet within the shoreline area. It will not protect many of the values whose needs extend beyond the buffer area. It does not provide access nor is it intended to.

### **Cluster Development Requirements**

For parcels going through the subdivision process, the local ordinance allows the South Berwick Planning Board to require an alternate cluster plan that concentrates development away from critical resources. The density of this plan may not exceed the density allowed under a conventional plan. The current ordinance requires that the land be held by the town, the Great Works Regional Land Trust, or a homeowners association as a separate parcel. The subdivision ordinance also requires that 10 percent of the original parcel be reserved for passive recreational use.

### **Transfer of Development Rights**

Transfer of development rights (TDR) is a concept that has not been widely used in Maine to date. For the purpose of preserving a greenbelt corridor around the Salmon Falls, a TDR would seem ideal. Basically, a TDR is the removal of the right to develop or build from one area (expressed in dwelling units per acre), from land in one zoning district to land in another zoning district where transfer is permitted. This right increases the density allowed in the receiving zone.

The TDR system has the potential to preserve stretches of land along the Salmon Falls, though issues in receiving zones still remain to be worked out.

## Tree Growth and Open Space Assessment

The Maine Tree Growth Tax Law (Title 36 MRSA Section 571-584A) provides for the valuation of land that has been classified as forest on the basis of productivity value rather than fair market value. This results in a significant reduction in local property taxes to be paid by a landowner.

Tree growth taxation has been used by some of the landowners along the river. The parcel size must be 10 or more acres. It must be managed for commercial timber harvest and have a current forest management plan written by a certified forester.

The Farmland and Open Space Tax Law provides for the valuation of land that has been classified as farmland or open space, rather than its fair market value for more intensive uses. Parcels for agriculture must provide an annual income of \$2,500 to the landowner in commercial or home-used products.

Parcels in open space must provide a public benefit through their enrollment in the program either through protecting valuable open space, providing public access, or being permanently conserved.

Both Tree Growth and Open Space Assessments have potential for future use to protect the river corridor. The acceptance of the original Salmon Falls River Greenbelt Plan by the Town Council recognized the public values of this resource, thus qualifies landowners along the River for open space.

This classification however, is not permanent. Penalties for withdrawal from these programs can be offset by increased property values. Requirements for the programs must be maintained by the landowner. As a short term measure to preserve open space, these programs work very well.

## Revenues from Tax Foreclosures or Removal from Tree Growth & Open Space Programs

The current comprehensive plan (1990) recommends that revenues generated from the sale of tax foreclosed property be used to assist with conservation purchases. It also recommends that penalty monies received from withdrawal from Open Space and Tree Growth taxation programs should be used for conservation purposes.

## Action Plan

A great deal of progress has been made since the first Salmon Falls River Plan was created. This plan acknowledges those accomplishments and proposes to build on them. Action steps are organized according geographical areas of importance. The idea is to identify resources that link open spaces (not only physically, but visually) and look as far into the future as possible in regard to providing public access.

### Priority Areas

- \* The upper landing at Counting House Park has been identified as a critical link between the Village and areas downstream.

- \* The last unprotected parcel junction of Salmon Falls and Great Works River had a conservation easement placed on it in 2006. While close to town, this parcel has tremendous wildlife values as a roosting area for bald eagles, grassland bird, river otter and deer habitat.

- \* South of Vaughan Woods State Park is almost entirely undeveloped along the river. It is comprised of undisturbed views (from both the Hamilton House and the Route 101 bridge), high value marshlands, rare plants, valuable bird perching sites, and important upland habitat. Topographically, the high bluffs mean that development of these parcels will effect the view shed along the entire river corridor.

- \* At Route 101 South, where the Quamphegan and Shorey brooks enter the river, the American oyster is found just offshore. High value wetlands and marsh are also found here. While developed to a limited extent, the area provides both forest and field to the river's edge. The Savage parcel abutting Shorey's Brook was donated to Great Works Regional Land Trust in 2007 and has become known as the Raymond and Simone Savage Wildlife Preserve. The New Hampshire side shows estate development of the shoreline.

### Priority Ongoing Activities

- \* Engagement of the towns of Rollinsford and Dover on mutual planning along the river;

- \* Great Works Regional Land Trust is always investigating opportunities to work with landowners on parcels south of Vaughan Woods;

\* If parcels are put on the market, or if the landowners indicate a desire to sell for conservation, the South Berwick Conservation Commission should encourage the town to consider making a formal application to the Land for Maine's Future Board or other agencies for purchasing valuable parcels. Any purchases would help maintain water quality and provide for recreation.

\* The South Berwick Planning Board should immediately establish a policy that any proposed subdivision along the river be clustered and the river corridor be designated for protection. Public access should be discussed with the applicant. The board should also establish a policy that any construction taking place within a potential archeological site along the river be inventoried for archeological resources prior to construction taking place.

\* The South Berwick Conservation Commission should educate landowners along the river about the benefits of Tree Growth and Open Space taxation designations. This could increase the stability of ownership for river parcels and assist them in staying in their natural conditions which would help protect water quality.

\* The South Berwick Conservation Commission should begin to work with landowners on proper land use practices, including creating rain gardens and maintaining vegetative buffers along the River. This would serve educational esthetic and water quality related functions.

\* The Great Works Regional Land Trust should investigate the possibility of conservation easements for the parcels north of Leigh's Mill Pond and from Route 101 south.

\* The Transfer of Development Rights concept should be analyzed for implementation along the river.

\* The Conservation Commission should seek assistance in further defining the location and extent of rare plant and animal life along the river. This effort could be aided through voluntary assistance from UNH, The Nature Conservancy, or through the Maine Natural Areas Program. This would continue the process of identification of critical areas along the river as well as serve an educational function.

\* The South Berwick Conservation Commission and the Planning Boards should investigate any opportunities for a trail system along the river if landowners are willing and if it could be tied into existing trails or public lands.

\* An additional point of access to simply land a canoe – not to launch it—should be investigated at either Vaughan Woods or the Hamilton House. This would provide hiking, picnicking and other passive recreational opportunities. The Hamilton House permits tying up at the old dock area to the left of the house.

\* The South Berwick Conservation Commission should work with the Wells Reserve, Rachel Carson and other environmental organizations to monitor and remediate areas where invasive plant species are affecting marshland and upland habitat along the river.

### Projects Completed

\* Established Counting House Park.

\* Revised and distributed the Salmon Falls River guided River Trip Brochure.

\* Designated the river corridor as a Resource Protection District in the 1992 Zoning Ordinance rewrite. In addition, the high value wetlands along the river have been designated as Resource Protection to preserve vegetative buffers and enhance water quality.



*Showy lady's slipper is a lovely woodland flower that has become increasingly rare due to overcollection and habitat loss.*

# Acknowledgements

The South Berwick Conservation Commission is grateful to the following organizations and individuals who contributed to the development of this plan. Conservation is about community, and this project is evidence of the strong commitment to community that exists in South Berwick today.

Paul Schumacher & the Southern Maine Regional Planning Commission

Wendy Pirsig & the Old Berwick Historical Society

Jim Fisk & the South Berwick Planning Department

Sue Bickford & the Wells National Estuarine Research Reserve

Jean Demetracopoulos, Karl Honkonen  
Cathy King, & Cari Quarter,  
Former South Berwick  
Conservation Commission members

Mark Leonard  
South Berwick Citizen

Justine Stadler  
South Berwick Citizen

Commission members as of June 2009 include Pat Robinson (chair), John Stirling, Greg Hellyer, Rebecca Grey, and Dolores Jalbert Leonard.

For more information about the South Berwick Conservation Commission and its work, visit [southberwickconservationcomission.org](http://southberwickconservationcomission.org).



