

Saco Headwaters Alliance Projects

Project Impact Statements: Mobilizing Commitment Through Collaboration

**SHA as the facilitator/catalyst/liaison
to protect the ground and surface waters and
strengthen the sustainability and resiliency of
The Saco Headwaters Watershed**

Project Description	Project Impact	SHA's role as facilitator/catalyst/liaison
<p>1) The Assessment of Ground and Surface Water Monitoring Systems and Data: a gap analysis and recommendations: "Watching our Waters"</p> <p>As our first project, we chose the topic strategically, to help SHA determine where and how we could strengthen monitoring capability across the watershed. This would enable the comprehensive and continuous identification of threats. Next, SHA could catalyze action on priority threats by facilitating collaboration among funders, client municipalities and hydrology science organizations.</p> <p>The Virginia Wellington Cabot Foundation awarded SHA a grant in November 2019, which was completed in 2020. The study was conducted by Rich Brereton, PhD, FB Environmental.</p>	<p>This project symbolized and launched SHA's identity as the first water conservation organization in the region devoted to the long-term urgent vision of long term a resilient and sustainable Saco Headwaters Watershed by protecting our ground and surface waters. It is "urgent" since actions are required now to protect the future. Reversing damage to our ground and surface waters is frequently extremely costly and too often, impossible.</p> <p>The project also has provided an invaluable SHA tool to catalyze future projects to fill the identified monitoring gaps, build an "early warning system" "monitoring council" and pragmatically strengthen our capability to identify threats and take preventative action. It is available in the public domain.</p>	<p>A SHA Board member had developed trusting relationships over prior years with others who shared our Mission and Vision.</p> <ul style="list-style-type: none"> • the funder, the Virginia Wellington Cabot Foundation (VWCF) • the hydrology science company, FB Environmental. <p>VWCF offered SHA funding in 2019 for PROJECT #1 on <i>any topic</i> to help "put wind in the sails" of the newly convened SHA, even before it applied for incorporation and still had an informal Board. In learning this, the informal Board brainstormed and decided, with guidance from FB Environmental that Project #1 should embody a core organizing principle: the Saco Headwaters Watershed as one ecosystem with all ground and surface waters interconnected. Implicitly we were beginning to serve all municipalities, leaders, citizens, and tourists in the Saco Headwaters Watershed.</p>

<p>2) Hart’s Location Flood Plain Mapping— The floodplain map will be adopted as a map of record to enforce the provisions of the Floodplain Conservation District Ordinance.</p> <p>NHDES CWSRF (Clean Water State Revolving Fund; a federal EPA program administered by the State) awarded Hart’s Location the grant in 2020. The study was conducted by Rich Brereton, PhD, FB Environmental.</p>	<p>Hart’s Location is the closest municipality to the source of the Saco River and its policies and practices regarding the Saco River, directly or indirectly, impact all the communities who are downstream.</p> <p>The town officials accordingly will make informed decisions following the Ordinance to approve or not approve permits for new building based on future flood risk in flood prone areas as depicted by the floodplain map. Their decisions will help protect the entire Saco Headwaters Watershed.</p>	<p>The SHA Board had interviewed leaders of the NH DES Watershed Bureau, Deb Loiselle and Steve Landry, to learn what their priorities were for funding projects.</p> <p>We then explored the potential priority water protection needs with Mark Dindorf, Chairman, Board of Selectmen, Hart’s Location, also a member of the SHA Board. Mark identified the need for Flood Plain Mapping. Hart’s Location is particularly vulnerable to flooding as it is bisected by the Saco River and Route 302 which has endured significant flooding damage as recently as 2011, Hurricane Irene and 2017, a severe tropical storm. An Anonymous Donor of SHA also guaranteed and paid the interest charges on the CWSRF, principal forgiven loan since the budget of Hart’s Location is small and without that assurance the voters would not have approved the funding at their 2020 annual meeting.</p>
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<p>3) North Conway Water Precinct Saco-Kearsarge Brook Watershed Septic Risk Assessment. In process (NHDES CWSRF)</p>	<p>North Conway Water Precinct drinking water wells are located within the Saco River aquifer. Increasing development pressure in the 1970's – 1990's led USGS to warn the Precinct of the risk posed by septic systems to their drinking water wells, and the Precinct proactively built a modern sewer collection and wastewater treatment system to eliminate the threat. As development pressures continue outside of the Precinct's political boundary, studies like this are critical to identify other potential drinking water threats. The North Conway Water Precinct will use the results to assess the threat to our Saco Aquifer and its clean drinking water by septic systems in and around Hale's Location. The results will help the Precinct make targeted sewer collection investment to protect its drinking water resources.</p>	<p>SHA served as a catalyst to identify funding opportunities for this important study. Previous work with NHDES Source Water Protection Grant program provided the means for SHA collaboration with the Precinct in development of the project funding plan. SHA's experience with FB Environmental was also instrumental in connecting the Precinct with a firm capable of performing the scientific modelling required by this project.</p>
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<p>4) Saco River-Kearsarge Brook Watershed Management Plan comprising the towns of Conway, Bartlett, Hale’s Location. In process as of this writing, this project will outline strategies to protect the quality of source water in the Upper Saco River valley and to address the aquatic life integrity impairment identified by the NHDES in Kearsarge Brook. The expected outcome of this project is a community-supported and data- driven plan that identifies the priority threats and meets the criteria for NRCS’s National Water Quality Initiative standards as well as the EPA’s Clean Water Act Section 319 program and can act as a roadmap for future protection and restoration efforts.</p> <p>Funding is provided by the Natural Resources Conservation Service (NRCS), USDA via their financial administration partner, the National Fish and Wildlife Foundation (NFWF). The project finances are being managed the Greater Lovell Land Trust of Lovell, ME.)</p>	<p>This project represents a watershed management plan for a significant sub-watershed of the Saco Headwaters Watershed. In so doing, it represents a role model and inspiration for funding and implementing analogous projects in other sub-watersheds, as well.</p> <p>It represents a significant contribution to the NRCS New Hampshire strategy, as part of NRCS’s National Water Quality Program.</p> <p>It will provide a set of water conservation priorities of threat mitigation that NRCS and the Saco Headwaters Alliance will seek funds to address and ameliorate.</p>	<p>SHA Board member, Nels Liljedahl, NRCS Conservationist, Carroll County, NH, introduced SHA to his NH state-wide counterpart Don Kierstead, Asst. State Conservationist. Don invited SHA to organize a process to choose a site and deliver the project, early in 2020. SHA had not yet received its 501 c-3 tax exempt status from IRS and was not yet eligible. The Board of the Greater Lovell Land Trust kindly agreed to serve as Fiscal Agent instead of SHA. Fortunately, the president of GLLT, Jill Rundle, at that time was on the SHA Board.</p> <p>SHA also mobilized and facilitated the collaboration of the multi-stakeholder team that selected the site: Don Kierstead, NRCS in association with guidance from members of the Saco Headwaters Alliance, including board member, Jason Gagnon, Superintendent of the North Conway Water Precinct and scientists from FB Environmental and other members of SHA, as well.</p>
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<p>5) Saco/Swift Rivers Corridor Management Plan (CMP) Hart’s Location, Bartlett, Conway & Albany (in process, NHDES CWSRF, sponsored by the Saco Swift River Local Advisory Council, SSRILAC)</p> <p>The development of the CMP will result in a guidance document that will help ensure consistent management practices across the municipalities that comprise the Saco and Swift River corridors with specific focus on the 1/4-mile-wide corridor from the seasonal highwater embankments.</p>	<p>Analogous to the Saco River-Kearsarge Brook Watershed Management Plan (above) provides a water protection management plan from a different and overlapping geographical perspective. The two plans are complementary.</p> <p>The impact of the CMP will that the results will be to provide guidance to the Board of the SSRILAC, who in turn, will provide guidance to all of its participating towns.</p>	<p>One of the key supporters and advisors to SHA at our inception was Tracie Sales, manager, NHDES State-wide Rivers and Lakes Programs. She was introduced to SHA by one of our original Board members, currently Treasurer, Jeff Sires, then of HEB Engineers. Jeff became the founding Chairman of the new Saco Swift River Local Advisory Council, SSRILAC, part of a state-wide program overseen by Tracie. It requires membership from the towns on the banks of the river in question. SHA and SSRILAC came into being roughly at the same time.</p> <p>One of the requirements of the LAC is to create a Corridor Management Plan (CMP). SHA Board member, Mark Dindorf followed Jeff Sires as chairman of the SSRILAC. Given his experience with the CWSRF wearing his hat as Chairman of the Selectmen, Hart’s Location (see above for a description of the Hart’s Location Flood Plain Mapping Project) he had developed a trusting relationship with NHDES Deb Loiselle, who administers the CWSRF. Mark facilitated the CMP proposal writing for CWSRF funds with the expert scientific technical writing support from Rich Brereton, FB Environmental. The successful multi-stakeholder collaboration was a function of the SHA’s core method of facilitating, catalyzing and liaising to mobilize shared commitment.</p> <p>The CMP is being technically led by Rich Brereton, FB Environmental.</p>
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<p>6) Saco Riverbank Erosion Risk Assessment (Phase I), and Bank fortification (Phase II will require significant new funding), to protect the North Conway Wastewater Treatment Plant from Saco River flooding events (in process, NHDES CWSRF & NCWP, the implementer)</p>	<p>North Conway Water Precinct’s wastewater treatment facility (WWTF) is located on the banks of the Saco River. Over the past decades, the Saco has been steadily eroding its banks in the direction of the WWTF. The Precinct has retained Interfluve, a nationally respected fluvial geomorphology consulting firm, to survey a reach of more than 8 miles and evaluate erosion risk near the WWTF. A future phase of the project will build upon the survey and risk assessment, incorporating public input to identify remediation strategies that both protect the WWTF and align with public goals for the river corridor.</p>	<p>SHA was instrumental in creating the relationships that led to successful funding and technical partnerships with NHDES by bridging the gap between the traditionally separate NHDES subsections of Wastewater Engineering and Watershed/Rivers/Stormwater. By leveraging previous relationships across many NHDES departments, this project was broadly supported from both a technical and funding perspective within NHDES.</p>
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<p>7) SHA Municipal Education and Outreach to improve Source Water Protection, Phase I (awarded by NHDES Source Water Protection Bureau in 2020 and executed in 2021)— Hart’s Locations, Bartlett, Albany, Jackson, Conway, Madison, Eaton, Chatham (NH DES) These towns have been presented with information on the opportunities available to municipalities to protect local ground and surface water quality and quantity. They also have received and/or participated in creating a self-assessment checklist to identify gaps and opportunities to improve their water resource stewardship on a local level, especially passage of the NH State Model Groundwater Protection Ordinance.</p>	<p>The impact of this project is two-fold.</p> <p>First, it represents significant step in the difficult process of engaging municipalities and earning their trust and attention to attend to their responsibility and authority for protecting the ground and surface waters within their jurisdictions amidst competing priorities. The leaders of municipalities are devoted, dedicated volunteers and extremely busy town management employees with a focus on this year’s budget. Protecting ground and surface waters represents a long-term priority for which scarce municipal funds are available. Engaging municipalities is a strategic priority of SHA for which we have received other grants (see below).</p> <p>Secondly, this project has produced a valuable educational toolkit, including the self-assessment to guide town leaders to identify water protection priorities.</p> <p>With perseverance over time, SHA will continue to engage municipalities to partner with them and raise funds to address their water protection priorities.</p>	<p>In 2017, members of the Board of Directors of the Upper Saco Valley Land Trust (USVLT), later to become SHA Board members, were beginning to launch a new initiative—ground and surface water protection. USVLT’s Board had recently agreed to expand its mission to include protection of the entire ecosystem with water as the priority resource.</p> <p>They sought guidance from the Chief of the NHDES Source Water Protection Bureau, Paul Susca. The USVLT Team crafted a proposal that followed his guidance for an education and outreach program to municipalities. The program was funded and executed by USVLT with the support from FB Environmental. This program became a template to build upon for the SHA 2021 Municipal Education and Outreach Program described here.</p> <p>This program was led by Rich Brereton, FB Environmental and Mark Dindorf, former SHA Board member who had transitioned to the position of Executive Director (part-time).</p>
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<p>8) Municipal Outreach to build watershed-wide collaboration which complemented the Education and Outreach Program described above (#7) This time the funding was from the Virginia Wellington Cabot Foundation (VWCF, awarded in 2020 and carried out in 2021. VWCF had also funded SHA’s first project, Watching our Waters. See #1, above). This project was principally planning and resulted in the development of a SHA Municipal Education and Outreach Handbook.</p> <p>9) Municipal Outreach to build watershed-wide collaboration-Implementation of the Municipal Outreach Handbook developed in #8, above, with the third grant in three years received from the Virginia Wellington Cabot Foundation (awarded in 2021 to be carried out in 2022) the client municipalities remain the same as in #7 and #8. The work is currently in process.</p>	<p>Mark Dindorf, Executive Director of SHA (part-time) and a founding SHA Board member, has been working with the municipalities in the Saco Headwaters Watershed, including those targeted in #7, above, toward passage of the necessary ordinances and/or warrants.</p> <p>This is a significant challenge and will require years of attention from SHA. Municipalities are consumed with current budgets and priorities and protecting ground and surface waters is not in mind as a priority. Since floods, drought, pollution do not respect municipal boundaries, collaboration among municipalities to take preventative measures is critical.</p> <p>For example, if all towns but one town protect the aquifer underneath their towns with the Groundwater Protection Ordinance, then the aquifer is still in danger of pollution. Earning trust to transform these attitudes and behaviors is one of the urgent necessities and reasons that SHA was created.</p>	<p>Mobilizing commitment with municipalities to expand efforts to protect ground and surface waters is a slow, process given their competing priorities, as described in #7, above. SHA is committed to the long-term process of building trusting relationships, investing expertise and time, while raising the funds it requires.</p> <p>Municipal leaders are focused on the priorities within their municipal geographic boundaries and annual budgets, understandably. Most are volunteers and many are in the positions for relatively short periods of time. It is understandable that it is frequently not within their awareness that they have a crucial role to play in collaborating with other municipalities and multiple other stakeholders such as NHDES, NRCS, SHA et al, given the reality that ground and surface water threats such as pollution, flooding damage and drought do not respect municipal boundaries and need to be addressed on the level of the entire ecosystem, the Saco Headwaters Watershed.</p>
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<p>10) Watershed-wide Monitoring “Evaluating impacts of withdrawals on water resources in the Saco Headwaters Watershed (SHW)”, funded and executed by by the US Geological Survey (USGS) (2022-2023). This is one of five national study sites and represents a national priority for USGS. USGS and SHA found each other serendipitously, both with similar goals, albeit SHA’s on the level of the Saco Headwaters Watershed, and USGS on the level of the entire USA.</p>	<p>The impact of the study will be threefold:</p> <ol style="list-style-type: none"> 1. To provide data to the stakeholders of the Saco Headwaters Watershed to inform regional priority questions concerning the protection of ground and surface water. 2. To provide tools that will be developed to help predict future threats to the quantity and quality of the water to the ground and surface water of the Saco Headwaters Watershed. 3. To address recommendations from the above Project #1The Assessment of Ground and Surface Water Monitoring Systems and Data: a gap analysis and recommendations: “Watching our Waters” (It is available on the SHA Website.) <p>The goal is to fill critical identified monitoring gaps, build an “early warning system”, i.e., “monitoring council” and pragmatically strengthen our capability to identify threats and take preventative action.</p>	<p>SHA, with its multi-stakeholder network across the Saco Headwaters Watershed is facilitating communications between USGS and the SHW network in its function as a liaison.</p>
<p>Conclusion Each project is like one jig saw puzzle piece and fits, synergistically, with all the other projects to build comprehensive, long term sustainability and resilience of the total Saco Headwaters Watershed.</p>		