

Maine Stream Connectivity Work Group
Summary of Initial Sustainability Planning

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Slade Moore, *Biological Conservation*



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1. Introduction

Since its formation in 2009, the Stream Connectivity Work Group (SCWG) established itself as the state of Maine's primary network and forum for organizations in Maine with a shared interest in stream restoration. In that time, the SCWG has both created and supported development of important restoration tools and resources, raised public and professional awareness of restoration challenges and techniques, and now faces the threshold of new decade of work. This document is intended to frame the conversation of what contributions the SCWG will make in the next 5-10 years, and how it will do so sustainably.

II. Background

Aquatic Connectivity in Maine

Aquatic Connectivity can refer to the chemical, physical, and biological linkages within and among different types of aquatic systems (e.g. estuaries, streams, lakes) and the upland environments with which they interact. When the integrity of these linkages is significantly impaired or broken, ecological functioning is likewise impacted. This is readily observed where structural barriers such as dams and poorly designed road crossings physically impair or block the flow of water, sediment, nutrients, and the movements of migratory and resident fish and wildlife. Other significant impairments to aquatic connectivity in Maine result from stream channel straightening, loss of riparian forest communities, stream acidification, and pollution of various kinds. A principal concern is that impaired connectivity hinders or blocks the movements, reproductive potential and ultimately, recovery and survival of resident fish species like eastern brook trout, but also sea-run or "diadromous" fish whose migratory habits require unhindered movement between marine and freshwater habitats separated by thousands of miles. To varying degrees these species, which include Atlantic salmon, American shad, rainbow smelt, and the "river herring" (alewife and blueback herring), formerly provided considerable economic, cultural and ecological benefit to this region. Today, impaired connectivity in many of Maine's watersheds continues to suppress or prevent re-establishment of populations of these species.

Origin of the Maine Stream Connectivity Work Group

Some of the first efforts to address impaired aquatic connectivity in Maine can be dated to the early 19th Century, when vigorous opposition to blocked fish passage at a number of dam sites nevertheless failed to promote a universal, environmentally-considerate approach to harnessing Maine's rivers and streams for water powered industry. In the past few decades, notable projects led by government and non-government organizations have dramatically improved aspects of connectivity in portions of some Maine largest and highest profile watersheds, including the Lower Kennebec and the Penobscot. Yet, statewide surveys

demonstrate that about 40% of Maine's culvert crossings remain barriers to fish or aquatic wildlife passage, while roughly another 40-50% show signs of being at least potential barriers. With tens of thousands of problem road crossings in Maine, and 1,000+ dams with no accommodation for adequate fish passage, the scale of the connectivity problem can seem insurmountable. A problem that was centuries in the making and continues even today with the construction of substandard road crossings is not likely to be rapidly reversed, but the lack of a single, dedicated State of Maine habitat connectivity restoration program tends to hinder even incremental gains. As Maine slowly rises to organize a comprehensive response to impaired stream connectivity, there is recognition among restoration practitioners that as time passes, the cost of initiating and supporting recovery of habitats and species increases, while the likelihood of success becomes less assured.

At least three efforts in past decades were initiated to identify and evaluate possible solutions for increasing the pace and success of statewide river restoration efforts. These included the Maine River Restoration Task Force (2004), the Maine Stream Barrier Inventory, Prioritization, and Mitigation Project (2007), and an effort in 2008 aimed at improved coordination for salmon recovery efforts and more generally, fish passage. Each of these groups identified major, ongoing hindrances to the restoration of Maine's rivers and streams and the fish and wildlife populations they support. Notable among them were a lack of: 1) standardized methods and data to describe the scope of statewide connectivity impairment, 2) ecologically-based decision making tools for prioritizing corrective action, 3) coordination among organizations engaged in restoration, and 4) capacity to address these needs. Four years after the first of these groups delivered their comprehensive list of recommendations to the Land and Water Resources Council in 2004, little to no progress had yet been made toward systematically addressing longstanding, statewide restoration challenges. While some state of Maine programs are successful in distinct aspects of restoration and fishery recovery, the lack of a comprehensive state program to address relevant connectivity and restoration challenges prompted the U.S. Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, Natural Resources Conservation Service, American Rivers, and the Nature Conservancy in Maine to request in 2008 that the Governor form a river restoration partnership or taskforce and create a state restoration coordinator position.

In response to the request, the Baldacci administration encouraged creation of an unfunded, informal partnership, but provided no coordinator position. Nevertheless, a work group comprised of state and federal agencies and NGO participants having a restoration interest and/or expertise first met in April 2009 to discuss the challenges of restoration in Maine and what to do next. Maine Coastal Program, then part of the State Planning Office, and Maine DMR's Bureau of Sea-Run Fisheries, were assigned to convene the group.

Early in the process, the Work Group concluded that a broad suite of connectivity issues warranted attention and that the relevant spatial scale of the group's work would be the entire state. The top priority identified was to restore longitudinal, in-stream connectivity, with a focus on working cooperatively with willing owners of roads and dams to reverse habitat

fragmentation. There was initially a strong emphasis on improving interagency coordination as a key function of the group, but membership was rapidly expanded beyond government agencies to include all organizations wishing to contribute expertise and support.

Milestones and Achievements Since 2009

Since its establishment, the SCWG evolved to focus its efforts on improving the pace and quality of stream habitat restoration in Maine. In doing so, it engaged in a variety of initiatives. Some of these evolved into successful programs, while others gained little traction despite the apparent need. Below is a summary of the some of the work products of the SCWG:

- 22 General Meetings, each featuring updates on member's recent and emerging restoration work, opportunities for support and collaboration, and presentations on restoration case histories, issues, and approaches, including speakers for relevant programs in Maine and other state's (MA, NH, PA)
- A statewide restoration needs assessment that informed the subsequent development of the SCWG's priority actions
- Investigations into establishing new statewide restoration funding sources
- Identification of multiple parameters for a restoration decision tool
- Funding and collaboration for statewide barrier surveys
- Statewide Barrier Database development
- Grant writing support for individual restoration projects
- Work sessions to match in-need projects with SCWG members offering assistance
- Investigations of lower cost road crossing construction techniques
- Technical support for the Maine DOT Aquatic Restoration and Management Strategy
- Interagency planning for state-owned dams
- Development of a restoration project list and an online editable project viewer
- Technical support for development and delivery of Stream-Smart Road Crossing training
- Habitat GIS layers for key species used in the restoration decision-making
- Development of the Maine Stream Habitat Viewer
- Development of the Stream Habitat Viewer version 2.0

III. Planning for Sustainability of the SCWG in its Second Decade

The SCWG's contributions have been noteworthy, but perhaps most notable in the areas of education, training and outreach (for practitioners and the public), development of decision making tools, and increased collaboration among SCWG members. Nearing the close of its first decade, an assessment of the SCWG seems timely. Questions like, what has worked, what hasn't, and why, all seem especially relevant, as does an estimation of what best the SCWG can apply to the restoration scene in the next 5-10 years given shifts in funding, structure of member organizations, and advances in restoration since 2009. To prompt an opening to this

conversation, the author and SCWG Coordinator since 2009 sent a brief questionnaire to the membership and convened a conference call in May 2017 to discuss the results. A summary is provided below.

May 8, 2017 SCWG “Futures” Conference Call Notes

1. What are the important benefits/products of the SCWG that assist participant’s organizations, partners, and restoration in Maine?
 - The forum and networking aspect of the SCWG – critical for learning about other people’s restoration work and to develop collaborative, site-specific projects
 - Development of the Habitat Viewer and support for Stream Smart and the Crossing Database
 - SCWG’s unique arrangement and make-up – it’s diverse, inclusive, and a model for other states
 - Fits well with the Maine State Wildlife Action Grant approach
2. What are restoration needs that the SCWG is especially well-suited to address?
 - Equitable allocation of restoration funding across Maine
 - More local engagement, so communities can benefit from SCWG’s collaborative approach
 - Continue as a platform to advance larger scale projects, which are almost always beyond the capacity of a single agency
 - Enhance communication among the restoration community
 - More support for Stream Smart training and outreach
 - Provide technical support for the Water Bond-funded grant program for road crossings
 - Support development of products, like lower-cost crossings, which benefit restoration
 - More support and outreach, like stream simulation training, for the engineering sector
 - Streamline restoration project permitting
3. Are there structural or functional changes to the SCWG that would make it more effective?
 - To make concerted efforts that address restoration needs in new ways, a more formal group structure would probably help.
 - A steering committee is a logical next step and would have the strong support of at least some partnering organizations.
 - The SCWG Coordinator would be important to supporting the needs of a steering committee.
 - Different alternatives for group structure need to consider the issue of capacity of members and the state coordinator.
 - Advancing new initiatives through establishment of formal, ad hoc committees, might improve the distribution of effort and the rate of progress
 - Designate meeting dates and programs well in advance (at least 6 months prior)

As a follow-up to this call, the SCWG membership was provided with the summary and convened a session during the May 31, 2017 meeting to discuss next steps. Notes adapted from that session follow below:

SCWG in Decade Two: Planning for Maximum Impact and Sustainability Group Discussion

Highlights of Discussion:

- The May call summary detailing members' thoughts on SCWG strengths, contributions, and need for structural changes was accurate.
- There is a need for a full-time coordinator housed at a state agency, or an NGO, funded (in part) by the state and there was discussion about how to renew a case for that. The idea of 3-4 agencies contributing funds for more hours for a coordinator was mentioned.
- Attendees are generally in favor of a steering committee. A call for volunteers was made.
- There is interest in an eelgrass and tidal crossing restoration subgroup.
- NOAA indicated an interest in more coordination with project managers on funding.
- Interest in the nearly complete Project Viewer remains; follow-up with USFWS
- Assistance with grant-writing is seen as a current gap/need.
- There is a need to compile success stories (TNC/ME Rivers working on this)
- Interested towns should be matched with Stream-Smart and restoration practitioners.
- USFWS had done a programmatic consultation to streamline permitting. NOAA/NMFS is not interested in this approach. It was mentioned that NMFS is not the roadblock.
- Improvements to meetings could include adding a field visit component or providing rapid project presentations.
- March and November timing for meetings is good.
- Consider extending invitations to new members, such as FEMA, who's new rules might compliment restoration efforts.

IV. Conclusions

The sessions described above were preliminary steps toward building the SCWG's readiness to sustainably enter its next decade and to do so with maximum restoration impact. A review of the sessions indicates a clear interest in diverse topics, which should be explored further as resources to continue this scoping effort are available (funds for the current coordinator contract are expended). Some highlights were:

1. Structural and programmatic aspects of the SCWG:
 - A standing steering committee could alleviate some of the workload of the part-time Coordinator by performing various functions, such as rigorously vetting and tracking progress of new and ongoing initiatives, developing and implementing strategies and workplans, and providing oversight for ad hoc committees. It would also put the membership more "in the driver's seat". Volunteers were solicited and should be contacted soon to agree to a meeting date. The Coordinator's and

Steering Committee's roles and responsibilities in relation to one another must be clearly defined to provide substance and value to this discussion.

- A full-time Coordinator is desired by the Group. For the past 8 years, the SCWG Coordinator's work was one of several major tasks in the scope of MCP's contracting Habitat Restoration Coordinator (HRC). The HRC is retained by a part-time contract administered by MCP and has been funded by the Gulf of Maine Council (2009-2014), MCP (2014-2015), and the Maine State Wildlife Grant (2015-2017). The HRC's contract hours started at half-time in 2009 and decreased to about 35% time for the past 3 three years. When executed, the latest MCP contract will bring the HRC up to 50% time. At the last SCWG meeting, the idea of a partnership of several state agency funders for a full-time Habitat Restoration Coordinator was raised, but not discussed in depth.
 - Regular meetings are essential to engaging and informing the SCWG. They have been convened twice/year since 2009, which members still desire. The question of having meetings on the same dates each year and adding new features, like a field component and rapid project presentations were raised and should be explored.
 - Support for new initiatives such as an eelgrass and tidal restoration subgroup express a natural progression toward a more diverse restoration focus and theme for the SCWG, given the lack of any other statewide habitat restoration group in Maine. How best to facilitate expansion of SCWG activities beyond the "stream" focus, and what the implications would be (at least a change to a more appropriate and user-friendly name for the group at some point?) should be discussed during the first Steering Committee meeting.
2. There was continued support for much of the work already underway. Some examples are the Stream-Smart Program, the Habitat Viewer Program, the nearly finished Project Viewer and expansion of assistance to the Water Bond funded DEP culvert grant program. Matching of municipalities with assigned practitioners, a concept that never fully gelled in the past due to lack of capacity, was discussed and deserves further attention.
 3. A discussion of changes in funding available for individual, on the ground projects, indicated the potential for the SCWG to make a concerted effort to help establish a more equitable allocation of restoration funding to all of Maine's regions and watersheds. These are high-level discussions that require participation from upper level managers at relevant agencies and organizations, not necessarily SCWG members. Identifying and convening these people is a high priority.