

Little Slocan Lakes wetland complex

Slocan Wetlands Assessment & Monitoring Project

Managers' Final Report (Phase 2)

Prepared by Marcy Mahr & Rhia Mackenzie
Project Managers

October 2014



I. Introduction

The Slocan Wetlands Assessment & Monitoring Project (SWAMP) is a partnership of organizations including the Slocan River Streamkeepers Society, Slocan Lake Stewardship Society, Slocan Solutions Society, Fish & Wildlife Compensation Program, Columbia Basin Trust, BC Wildlife Federation, Central Kootenay Invasive Plant Committee, Regional District of Central Kootenay, and Ministry of Forest Lands and Natural Resource Operations.

SWAMP takes a science-based approach to identifying and classifying wetlands throughout the Slocan watershed to inform conservation and restoration opportunities. This locally-led effort relies on provincial data collection protocols and is working with Environment Canada to establish federal CABIN protocol for wetlands. The SWAMP team is also adjusting the protocols to better suit the needs of surveying and classifying wetlands of the Slocan watershed. An important result of SWAMP will be a comprehensive database for mapping and analyzing wetlands throughout the entire Slocan watershed.

SWAMP-Phase 1 (2013) enabled us to gain a broad understanding of the extent of wetlands in the Slocan watershed. Phase 1 resulted in preliminary maps, as well as inventory and assessment methodologies. Phase 2 (2014) focused on four target wetland complexes in the Slocan watershed: Beaver Lakes, Seaton Creek, Little Slocan Lakes, and Pass Creek. Refer to Appendix A for photos of these wetlands. Phase 2 field work resulted in the establishment of 30 ecological sample plots within four wetland complexes, and included multi-disciplinary assessments of each plot for flora and fauna. In addition, Phase 2 enabled the development of local expertise through training technicians and volunteers in wetland inventory and classification techniques.

The primary 'go-to' people for SWAMP's 2014 field season consisted of Ryan Durand as Field Director, and Rhia Mackenzie and Marcy Mahr as Field Technicians. Marcy and Rhia also co-served as Project Managers to handle scheduling, data management, communications, community engagement, and reporting deliverables to SWAMP's Executive and Steering committees and to project funders.



SWAMP's Field Technician Team 2014 inventorying wetlands throughout the Slocan Valley.

This Final Report marks the successful conclusion of Phase 2. Three essential types of information are reported here: 1) the results achieved during the 2014 delivery of SWAMP-Phase 2; 2) an assessment of delivering the project from the Program Managers' perspective; and 3) recommendations for designing and delivering a stronger program in 2015 as SWAMP-Phase 3.

Results based on field-collected data and analysis will be submitted separately by Ryan in his report.

Draft Program Goals¹

Wetlands are critically important ecosystems in the Slocan watershed. SWAMP's efforts serve to collectively learn more about local wetlands, identify conservation and restoration opportunities, and engage local residents in caring about wetlands. Two potential goal areas capture SWAMP's role within the larger conservation community.

1. Develop baseline information and assessment methods to enhance knowledge of the major wetland types in the Slocan Valley in order to identify key characteristics of healthy, functioning wetland ecosystems.

SWAMP will meet this goal by maintaining a broad ecosystem perspective of the Slocan Valley while identifying wetlands that are good candidates for restoration, enhancement and/or protection. It will also help assess areas for further inventory work to learn more about functionality, species of concern and invasive species.

Objectives for SWAMP-Phase 2 included:

- Identification of wetlands by location and size
 - Classification of wetland types (including rarity and representation)
 - Assessment of wetland ecological function, condition and integrity
 - Expert determination of focal species and habitat values
2. Build community support for wetlands and inspire local communities and private landowners to value wetlands by generating public awareness and offering citizen-based engagement throughout the Slocan Valley.

SWAMP will meet this educational goal by engaging with valley residents in several ways: a) directly through trainings and wetland appreciation events to enlist additional volunteers and community members to involve them in the project; b) more generally at public events through information sharing; and c) publicizing our work in printed and online media.

Objectives for SWAMP-Phase 2 included:

- Participation of local residents as volunteers and interested landowners
- Transmission of knowledge to the community through education programs and events

¹ These two goals are a composite of ideas discussed at the October 7, 2014 Steering Committee. They have not been officially adopted by the Steering Committee, and are reported here as a draft / placeholder for discussion purposes.

- Expansion of collaborative efforts to bring our work to the attention of other organizations and all levels of government
- Accessibility of information and relevancy to government planning and management

TIMELINE January – October 2014

February

- Confirmation of funding from Columbia Basin Trust and additional support from BC Wildlife Federation, Slocan River Streamkeepers Society, and Slocan Lake Stewardship Society
- Steering Committee meeting February 28th kicks off Phase 2 work planning
- Approval of Steering Committee Terms of Reference and membership

March – April

- Executive Committee develops Phase 2 management structure
- Marcy Mahr and Rhia MacKenzie hired in dual capacity as Project Managers and Field Technicians
- Project Managers work with EC to develop work plan, timeline, roles and responsibilities

May

- Data forms for Technicians and Volunteers are developed
- SWAMP team members attend BCWF wetlands education programs within the Slocan Valley
- BCWF provides field equipment to SWAMP Technicians for south & north valley

June

- Field Technicians' training and inventorying: June 6th at Seaton Creek, June 7th at Wright Bowles private property, and June 24th at Beaver Lake Complex
- Professional experts for birds, mammals, amphibians and aquatic invertebrates are engaged
- Rhia has SWAMP booth at Endless Adventures on June 21st
- Marcy and Rhia work on public relations, create press release and training packages for Wetlands Training sessions

July

- Wetlands Trainings held on July 6th at Pedro Creek wetland in Winlaw; July 12th at Hunter Siding wetland in Hills
- Wetland Training participant evaluation surveys are analyzed to inform future trainings.

August – September

- Professional experts in birds, mammals, amphibians, and aquatic invertebrates complete Wildlife Habitat Assessment surveys on the four target wetlands
- Darcie Quamme, professional taxonomist and aquatic invertebrate specialist, creates and refines wetland CABIN protocols to be used at the four target wetlands as part of a larger pilot project through Environment Canada
- Inventory and classification of Little Slocan Lakes and Pass Creek completed
- Marcy, Rhia and volunteers accompany professionals on remaining WHA surveys and wetland CABIN invertebrate collections and water quality sampling

October

- Steering Committee met on Oct 7 to report on Phase 2 and plan for Phase 3
- Phase 3 grant application submitted to CBT on Oct 22
- Ryan Durand working on FWCP application to be submitted on November 14th
- Two public events in the south valley on November 3rd and November 10th organized by Mechelle Babic (Slocan River Streamkeeper, CABIN and SWAMP volunteer) showcase Slocan River Streamkeepers and SWAMP activities and achievements



SWAMP trainings, or SWAMP School, held in the south and north valley engaged 20 residents, several of whom later assisted with field work and submitted information on new wetlands.

II. Overview of 2014 Program

The following overview refers to SWAMP's two primary areas of activity, i.e., science field work /data collection / analysis, and public engagement / education.

Building a Scientific Foundation & Creating Engagement Opportunities

From June through September 2014, SWAMP-Phase 2 wetland classification field work was completed by the SWAMP technicians and professional experts. Ryan, an RPBio who has mapped and classified wetlands throughout British Columbia, trained SWAMP's two field technicians on provincial classification protocols and SWAMP's customized protocols. Ryan along with Marcy (an ecologist with a M.Sc. in plant ecology) and Rhia (a field technician with a diploma in Recreation, Fish & Wildlife) formed SWAMP's Technician Team. These three were joined by two ecologically-savvy community members – Christine Nichol and Melissa Dorey – during SWAMP's field training days.

The Technician Team established plots in each wetland type within all four target wetland complexes associated with Beaver Lake and Seaton Creek in the north valley, and Little Slocan Lakes and Pass Creek in the south valley. Once this initial in-depth site survey of plant communities and soils was completed by the Technician Team, Marcy and Rhia accompanied expert biologists Jakob Dulisse (amphibians and reptiles),

Janice Arndt (birds), and Tyson Ehlers (mammals) to these areas to conduct Wildlife Habitat Assessments (WHA) associated with each plot. In the course of this field sampling effort new plots were added to the project. Concurrently, Darcie Quamme conducted CABIN and water quality collections at each of the four wetland complexes. Refer to Appendix A for photos of the four surveyed wetlands.

[At the time of this reporting, Ryan is synthesizing all of the data in his phase 2 report to inform the next steps for Phase 3 field work. For further information on data collection methodologies, analysis and results please consult Ryan's Phase 2 report.]

On-the-ground scientific knowledge is fundamental to SWAMP's mandate and forms the basis of action-oriented deliverables such as identifying potential conservation and restoration efforts and long-term monitoring. This knowledge is also helpful in informing public outreach, environmental education and private landowner stewardship.

As part of SWAMP's Phase 2 education and outreach efforts, two Training Workshops, or "SWAMP School", were held in which local citizens in both the south and north Slokan Valley learned what makes wetlands unique habitat and how to identify and classify wetlands. The south valley training was held on July 6th at Pedro Creek south of Winlaw, and the north valley training was held on July 12th at Hunter Siding in Hills. Refer to Appendix B for media and the poster announcing the trainings.

These trainings reached 20 people, including college students, a local landowner with wetland, several seasonal residents who enjoy recreating and nature, and many locals who are interested in conserving wetlands. After the training, participants were invited to submit data on wetlands they found during their personal outings and also to join SWAMP experts in the field. Refer to Appendix C for examples of participant feedback.

Key public engagement opportunities:

- 2 half-day training workshops were the entrée to joining and contributing field information to the project.
- SWAMP Project Managers arranged for a volunteer from the south valley training to accompany the SWAMP bird expert to the Pass Creek wetlands in July; and also arranged for a volunteer from the north valley training to accompany the SWAMP bird expert to Little Slokan Lakes wetlands in August.
- The Executive Committee and SWAMP Project Managers hosted many information booths at farmers' markets and festivals over the summer throughout the Slokan Valley, and engaged hundreds local residents and children while demonstrating the wetlands model.
- 2 public programs are scheduled for the south valley in early November in which SWAMP will be one of the projects featured.



Demonstrations of the wetlands model at New Denver Friday Markets and Garlic Festival were a ‘kid magnet’.

III. A Snapshot of Achievements

SWAMP-Phase 2

- 4 wetland complexes were surveyed by the Technician Team and professional biologists.
- Other wetlands were also surveyed by volunteers: Bonanza Marsh, wetlands around Shannon Lake, and small wetlands along the Rail Trail on Slocan Lake from Rosebery to Hills.
- 2 volunteer trainings held in July at Pedro Creek in Winlaw and Hunter Siding in Hills prepared 20 citizens; 2 trained citizens assisted experts and 1 person submitted data on a new wetland.
- Information booths and the wetlands model engaged local community members and tourists at local markets & festivals from early July through mid September. Specifically: 9 Friday Markets in New Denver; 2 half-days of Toad Fest at Summit Lake in late August; and at SLSS’s booth at Garlic Festival in New Denver in early September. (At the Friday Markets and Garlic Festival, SLSS estimates over 300 kids interacted with the wetlands model).
- Executive Committee members and Project Managers actively engaged locals when out in the community by providing updates about SWAMP and handing out brochures.
- Partnerships initiated with local organizations and government representatives through sharing detailed monthly updates on SWAMP activities and achievements.

IV. Ingredients to Success: Partnerships, Project Synergies & Branding

Partnerships = Collaboration

SWAMP was born out of a wetlands education program organized by BCWF in the summer of 2013. Yet the roots of this cooperative initiative go deeper. For years, local environmental organizations have recognized the value of partnering to achieve greater goals, in essence to “think like a watershed.” SWAMP operates as a collective, collaborative initiative, in which different organizations come together to support common goals, aim for common results, and in order to together create greater impact. The Executive Committee consists of:

Slocan River Streamkeepers Society (SRSS) – This society is represented by Jen Yeow and Gregoire Lamoureux who are active members of the Executive Committee. SRSS has provided technical support and innovation, organized local events that include SWAMP, and contributed financially to supporting the south valley Project Manager position in Phase 2.

Slocan Lake Stewardship Society (SLSS) – This society is represented by Margaret Hartley and Sally Hammond who are active members of the Executive Committee. SLSS promoted and supported SWAMP with public outreach throughout the summer, and contributed financially to supporting the north valley Project Manager position in Phase 2.

Slocan Solutions Society (SSS) – This society is represented by Richard Johnson who is an active member of the Executive Committee and serves as SWAMP’s fiscal manager.

Two key partners and founding members of the Steering Committee are:

BC Wildlife Federation (BCWF) – This society is represented by Neil Fletcher who is an active member of the Steering Committee. Neil has provided encouragement and guidance in the birthing of SWAMP as an initiative, and continues to offer his experience and connections to benefit SWAMP. In Phase 2, BCWF provided an essential “You and the Slocan: Wetlands & Watersheds” brochure that included SWAMP; in addition BCWF loaned SWAMP all the field equipment necessary for data collection.

Fish and Wildlife Compensation Program (FWCP) – This program is represented by Irene Manley who is an active member of the Steering Committee. Irene has acted in an advisory and supportive capacity guiding the SWAMP team in transitioning from Phase 2 to Phase 3 project planning.

Project Synergies = Efficiencies

SWAMP's two Project Managers also served as Field Technicians. This dual role / capacity was successful in that both managers had a greater scope of the field work involved and were able to provide feedback to the Executive Committee on field methodologies in addition to the delivery of the project.

SWAMP's Project Managers also performed other professional work during the summer that complemented SWAMP's objectives. For example, Rhia is CABIN certified and assisted the Slocan River Streamkeepers Society with in-field refinement of the newly developed wetlands CABIN protocol. Additionally, she works on the Slocan River in conjunction with SRSS on a variety of projects which has led to greater ecological insight and further community involvement in the south valley.

Marcy served as the Community Education Coordinator of the Slocan Lake Stewardship Society. In this role she demonstrated the wetlands model at Friday Markets for SLSS and SWAMP; and encouraged Friday Market goers to attend SWAMP citizens' trainings. While Marcy was a SWAMP Technician she took photos of interesting flora and fauna in the Seaton Creek and Beaver Lake wetlands complexes, Bonanza Marsh, Hunter Siding wetland, and Shannon Lake wetland and posted them on SLSS's *Eyes on Slocan Lake* biodiversity mapping project.

This combination of these part-time jobs resulted in opportunities for adding value to SWAMP in 2014.

Another example of partners providing synergy was that every Friday from July 4th through September 5th, SLSS hosted a bustling information table at the New Denver Friday Market. Hands-on demonstrations with the wetlands model provided a great way to involve children and their caretakers in learning what wetlands are, how they work, and why they are valuable in providing habitat and ecosystem services for nature and society (e.g., for storing water, filtering water, keeping water cool, providing secure cover, etc.)

Branding = On-going Public Recognition

The ability for SWAMP to quickly and nimbly decide upon a name and logo greatly facilitated getting the word out and disseminating information with a SWAMP branding. In Phase 2 budget was the major limiting factor to a more widespread dissemination of information to through public media and online sources. A greater public outreach component is envisioned for Phase 3 of the project.



SWAMP's distinctive logo appeared on stickers, posters and all education materials.

What could strengthen the delivery and management of this project?

- Clear continued direction from the Executive Committee with regards to priorities (especially if funding does not meet our anticipated needs).
- Regular updates from the Executive Committee on required deliverables and budget adjustments.
- Creation of a management team that includes the Field Director and Project Managers and the Executive Committee.

What could strengthen the engagement & educational value of this project?

- Develop “SWAMP School” (i.e., wetlands training) as a longer program so more information can be learned and then practiced by participant teams.
- Offer scheduled follow up opportunities for trainees to go out with SWAMP Technicians and experts to increase participation after the trainings.
- Offer an educational family SWAMP field day with different stations where youth and their parents can learn about wetlands by netting bugs, searching for birds with binoculars, keying out plants and looking for signs of wildlife.
- Offer in-field wetland appreciation events modelled after BCWF’s local bio-blitz and ‘map your marshes’ events. Include local biologists and naturalists give guided tours and talks. Structure the events so the SWAMP team can fulfill roles of guides, facilitators and educators.
- Utilize social media and diversify communications to reach a larger audience. This can be done by a) creating and maintaining a social media site that is regularly updated with fun facts and pictures; b) designing a user-friendly and up-to-date website that links to the social media site, plus other local environmental organizations, province-wide wetland conservation and educational initiatives, wetland ecology educational materials and to BCWF’s interactive wetland biodiversity atlas; and c) submitting biweekly wetlands educational articles, this format can be modelled after SLSS’s Valley Voice submissions.
- Get involved in the local schools! Expand upon the Slocan River Streamkeepers school outreach program and/or create an educational in-field wetlands foray in conjunction with CBEEN’s *Wild Voices for Kids* program.

Photo Montages of the Four Wetlands Complexes Suveyed During SWAMP-Phase 2

BEAVER LAKE WETLANDS COMPLEX



SEATON CREEK WETLANDS COMPLEX



LITTLE SLOCAN LAKES WETLANDS COMPLEX



PASS CREEK WETLAND



Help find and map wetlands in the Slocan Valley

submitted

Is it a marsh or a fen? The Slocan Wetlands Assessment and Monitoring Project (SWAMP) is hosting free wetland training workshops to teach interested community members how to contribute important information about wetlands in the Slocan watershed. You'll learn what makes wetlands unique habitat and how to identify and classify different types of wetlands. Through these trainings we hope to create a committed group of volunteers as 'citizen scientists' throughout the Slocan valley.

SWAMP is a partnership of organizations including the Slocan River Streamkeepers, Slocan Lake Stewardship Society, Slocan Solutions Society, BC Hydro Fish & Wildlife Compensation Program, Columbia Basin Trust, Central Kootenay Invasive Plant Committee, Regional District of Central Kootenay, and Ministry of Forest Lands and Natural

Resources. The group is taking a science-based approach to identifying and classifying wetlands throughout the Slocan watershed to create maps and inform restoration and conservation decisions. This locally led effort relies on provincial data collection standards and will result in a comprehensive mapping database for wetlands in the valley.

SWAMP is hosting two training workshops, one in the south valley and one in the north.

The south valley training will be held on Sunday, July 6 from 11 am to 3 pm at the Pedro Creek wetland located south of Winlaw on Oma Road. For further details on this training, contact Rhia MacKenzie at zzoist@gmail.com or 250-226-7544.

The north valley training will be held on Saturday, July 12 from 10:30 am to 3 pm at Hunter Siding Wetland north of New Denver in Hills. For further details on this training contact

Marcy Mahr at marcy@netidea.com or 250-358-2669. Participants are encouraged to attend only one of the trainings.


Preregistration is required. Each training is limited to 12 participants.

New Summer

July 7 - 12, 2014

- **Music Explorers** - a
- **Experience Dance** -
- **ViSTA Theater for a**
"Adventures with Sh"

All programs are f



Valhalla Fine Arts
SOCIETY



WETLANDS
Training Sessions

FREE WORKSHOPS!



Come and learn how you can contribute important information about wetlands in the Slocan Watershed.

- Learn what makes wetlands unique habitat.
- Practice identifying and classifying different types of wetlands.
- Discover what wildlife lives in wetlands.

Each participant will receive a training information package.

July 6, 2014
SOUTH VALLEY - 11:00 am - 3:00 pm @ Pedro Creek Wetland, South of Winlaw, park and access on Oma Road. For further details contact Rhia MacKenzie: zzoist@gmail.com or 250-226-7544.

July 12, 2014
NORTH VALLEY - 10:30 am - 3:00 pm @ Hunter Siding Wetland. Meet at the Hill Fire & Community Hall on Hwy 8. For further details contact Marcy Mahr: marcy@netidea.com or 250-358-2669.

What to bring:
Waders (or gum boots if you do not have waders), GPS (if you have one), appropriate clothing, notebook & pencil and lunch, water and snacks.



Evaluation of Training Day

Pedro Creek Wetland
Sunday, July 6, 2014

Thank you for joining the SWAMP team! Your feedback on the Volunteer Training Day is important so please tell us what we did well and what suggestions you have for making improvements in the future.

This survey should take only a few minutes. Please type in your responses below the questions and provide as much detail as you like. Then return the completed survey to marcy@netidea.com.

1. **Did the training day provide you with the right level of information (i.e., too much, just right, not enough)? Please explain.** It was perfect. I thought the instructor explained things in simple terms and was, most importantly, very patient. I admit my evaluation may be slightly biased because I have had some previous training in site assessment, but, having said that, I wish my previous instruction had been that clear. As discussed in the workshop, some areas on the site evaluation form could possibly be simplified.
2. **Are there topics you wished we had covered during the training that we should incorporate into our next workshops?** Perhaps pointing out and identifying more of the common vegetation might be helpful for some folks.
3. **Do you now feel well prepared to go out and collect information on wetlands (i.e., yes, somewhat, not really)? Please explain.** I'm sure I could, but I will go out with someone who is already familiar with the larger local landscape. The sessions with the biologists will build confidence too I think.

If you answered somewhat or not really prepared, what additional support would you like to receive from SWAMP?

4. **How important was it to meet others in the community who share your same interests in wetlands?** It's important so that you can partner up with people with various skill levels...makes the job easier and more fun.
5. **Is there anything else you'd like to share?** Wondering if there will be hip waders available at some point. It's a little difficult to identify herbs and some shrubs from a distance. Otherwise we're pretty limited to edges, or places that are very shallow or in turn require a watercraft.



Evaluation of Training Day

Hunter Siding Wetland
Saturday, July 12, 2014

Thank you for joining the SWAMP team! Your feedback on the Volunteer Training Day is important so please tell us what we did well and what suggestions you have for making improvements in the future.

This survey should take only a few minutes. Please type in your responses below the questions and provide as much detail as you like. Then return the completed survey to marcy@netidea.com.

6. **Did the training day provide you with the right level of information (i.e., too much, just right, not enough)? Please explain.**

Yes, just right. The back up printed information to the Assessment Form will be critically important in the field – it's reassuring to have. On page 3 of the Intro. to Wetlands, the Edatopic grid diagram could be left off – looks too intimidating. Maybe some photos of the different wetland types would be useful – visual comparisons really help me remember verbal information.

7. **Are there topics you wished we had covered during the training that we should incorporate into our next workshops?**

A brief mention of the importance and usefulness of wetlands in the verbal introduction – and a mention of the wildlife (insects etc) supported by a wetland.

8. Do you now feel well prepared to go out and collect information on wetlands

Sorta mostly. Still feel very unsure about using GIS – and I see how useful it is.

If you answered somewhat or not really prepared, what additional support would you like to receive from SWAMP?

More practical practice and instruction on how to use GIS. Think I'd feel more comfortable if I went out with someone more experienced than I am.

9. How important was it to meet others in the community who share your same interests in wetlands? Very – was a good way to connect with others on a practical (vs political) level.

10. Is there anything else you'd like to share?

I wouldn't want the group to be larger – as it was we were big enough to straggle out away from Ryan. Smaller group makes for better focus and attention (OK, maybe not in the Slocan).

Appreciated that Ryan kept things simple and pared down, yet covered a lot of material.

Good organizing and facilitating Marcy!