

2010/11 FINAL REPORT

FSWP File Number*	FSWP 10 LR HWRS 74
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* Please use the FSWP File Number provided in previous FSWP project correspondence.

1. Project Information

1.1. Project Title

Watershed Evaluation of Beneficial Management Practices (WEBs)

1.2. Proponent's Legal Name

Fraser Basin Council Society

1.3. Project Location

Thompson Region – Salmon River Watershed

1.4. Contact for this report

Name: Marc Solomon

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1.5 Funding Amount

Original Approved Grant Amount:	Total FSWP Expenditures:	Final Invoice Amount:	Final Non-FSWP leveraging, including cash and in-kind:
\$55,000	\$51,049.54	\$7,049.54	\$128,757

2. Project Summary

Please provide a single paragraph describing your project, its objectives, and the results. As this summary may be used in program communications, clearly state the issue(s) that were addressed and avoid overly technical descriptions. Maximum 300 words.

The Watershed Evaluation of Beneficial Management Practices (WEBs) project aimed to create a win-win situation for both agricultural and ecological users of the Salmon River watershed. By implementing a network of climate stations on farms within the Salmon Valley, coupled with an intensive education and outreach campaign on the practical use and application of climate data to maximize irrigation efficiency, the forage producers in the Salmon Valley will ultimately achieve greater irrigation efficiency at a watershed scale. This will benefit the river by leaving more water in the river for fish, and will benefit producers by maximizing the efficiency of their irrigation thereby reducing the cost and labor associated with irrigating. Changes in irrigation practices undertaken by the producer may include altering the timing and frequency of irrigation, and/or changing the tools used for irrigation.

The Fraser Basin Council's role in this project was to build community support and awareness for irrigation BMPs, conduct an education/outreach campaign, support agriculture irrigation champions, and do broad outreach on irrigation BMPs and highlight the successes specific to the Salmon River watershed. The project objectives included: (1) Engaging and educating forage producers in the Salmon River Valley on the practical use and benefits of climate stations, and the application of climate data to achieve irrigation efficiency at the farm level; (2) to seek participation to implement a network of approximately 15 climate stations throughout the

Salmon Valley ; and (3) to identify, synthesize, and promote the activities and results achieved in the Salmon Valley for agricultural producers and salmon in three different formats (regional, provincial, and national scales). The end result of this project is to improve the sustainability of the Salmon Valley agricultural community in harmony with the hydrological integrity of the Salmon River.

OPTIONAL: Please give a short statement (up to 100 words) of the most compelling activity or outcome from your project.

3. Final Project Results and Effectiveness

3.1 Please copy THE EXPECTED DELIVERABLES from your detailed proposal and insert into this table. Add additional rows as needed. Then describe the FINAL DELIVERABLES (the tangible end products resulting from this work) associated with each expected Deliverable.

If FINAL DELIVERABLES differ from the original EXPECTED DELIVERABLES, please describe why, and the implications for the project.

EXPECTED DELIVERABLES	FINAL DELIVERABLES
<p>1. Production of a Needs and Opportunities Assessment Report</p>	<p>*A Production of a Needs and Opportunities Assessment report was completed on the use of climate stations and distributed to interested parties, project partners, and participants attending many of the workshops and display booths that the Fraser Basin Council Staff attended. The information contained in this report was collected through an online questionnaire (attached to the bottom of the report) that was distributed to agriculture producers and organizations currently utilizing climate stations on their properties in BC. The majority of producers contacted to participate in the survey completed the questionnaire with varying amounts of information.</p>
<p>2. Implement an education and outreach campaign through the delivery of engagement workshops and site evaluations</p>	<p>*An education and outreach campaign was implemented through the delivery of two Agriculture workshops in the Salmon River Watershed communities of Silver Creek and Westwold. These workshops had presentations on the WEBS research being conducted by Agriculture and Agri-Food Canada, the use of Irrigation Scheduling calculators, the Farmwest website which is used to look up local climate information from local climate stations, the Water Act Modernization and the affects it will have on irrigators and stream protection, the Salmon River Watershed Roundtable, and the Environmental Farm Plan and the opportunities the program offers to agriculture producers for improving their irrigation efficiency . All of these presentations linked back to</p>

	<p>the importance of irrigation efficiency.</p> <p>The site visit portion of the project involved Fraser Basin Council Staff working with Agriculture Canada staff and participating producers to evaluate various agriculture fields, scanning these fields to identify soil structures and mineral content, and taking soil samples. All of the initial nine participating farms had this site evaluation work completed on select fields on their property in 2010.</p>
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<p>3. Ongoing communications and media relations</p>	<p>Communications and media relations continued until March 31, 2011 and included various means to spread the word and educate people about irrigation BMP's and the WEBs project. These included:</p> <ul style="list-style-type: none"> *A project news release which was distributed to nine different local, regional, provincial and national media sources. *An irrigation efficiency and WEBs project brochure which was produced and distributed to 1000 irrigation licensees in drought prone areas, agriculture interest groups, agriculture organizations and other industry group's dependant on water. * Displays and information sharing sessions which were set-up and hosted at four different agriculture or water related workshops and meetings in BC (BC Cattlemens' AGM May 2010, Williams Lake, Sustainable Agriculture gathering in May 2010, Lumby, Stewards Workshop March 2011 Lumby, Hydrology workshop March 2011 Merritt). The display contained information about the WEBs project, a tensiometer demonstration for determining when to irrigate, information handouts about the WEBs project, irrigation scheduling calculator brochures, and irrigation factsheets about conserving water, soil water storage capacity, irrigation water saving tips, and irrigation scheduling techniques.
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3.2 Please evaluate the EFFECTIVENESS of your project in achieving Project Objectives. Identify the indicators you have used to measure the effectiveness of your project. Please include any notable successes or challenges.

- The agriculture workshops were very effective at sharing information about the current water challenges in the Salmon River directly with the agriculture producers who are affected. The producers who participated in the workshops were provided with current information about the WEBs research project goals promote and attain better irrigation efficiency in the watershed through the use of climate stations and other tools.
- Following both of the Agriculture workshops in the Salmon River Watershed all of the presenters noted that they had received follow-up communication from workshop participants asking for additional information about irrigation efficiency. This was an indicator of the success of the workshops as it had agriculture producers thinking about irrigation efficiency BMPs weeks after the events.
- After the installation of the first nine climate stations on participating farms, within the first two months some of the producers began to change their irrigation techniques and reduce their water consumption. These changes included changing sprinkler nozzles, and running their irrigation systems less as a result

of the climate information provided to them by the climate stations.

- One of the most notable challenges included getting agriculture producers to attend the workshop. Despite advertising in local newspapers, posting workshop posters throughout the communities, sending out emails through Ministry of Agriculture and BC Cattleman’s email and mail distribution lists, and phoning numerous local producers it was still challenging getting producers to commit to attending the workshops due to their extremely busy schedules. Although our attendance at the Westwold workshop was quite high, the attendance at the Westwold workshop was lower than expected likely due to an earlier than expected spring.
- In some areas of the Salmon River Watershed there was limited internet access due to the rural nature of many of the farms. This significantly limited our ability to share the data collected by the climate stations with other neighboring non-participating producers preventing them from benefiting from the tool.

3.4 IF applicable, please describe how your project has achieved one or more of the following supported processes (Section 2.2 of RFP; section 7 of detailed proposal template). If results differ from those originally anticipated, please describe.

<p>Engagement of First Nations. Please specify who, and in what capacity.</p>	<p>First Nation Bands with water licenses both in the Salmon River Watershed and other drought prone locations throughout BC were mailed irrigation efficiency brochures about the WEBs project. These brochures were also distributed through the First Nation Agricultural Association’s head office to any interested first nation agriculture producers in the province.</p> <p>Some of the bands that were included in the brochure mail out included: The Okanagan Indian Band, Williams Lake Indian , Coldwater Indian Band, Band, Kamloops Indian Bands</p> <p>First Nations participated at water-related workshops where irrigation efficiency material was on display: Stewards workshop Lumby March 2011 (Okanagan Indian Band, Skeetchestn, Splantsin); Hydrology workshop Merritt March 2011 (Coldwater, Upper Nicola, Shackan, Nooaitch);</p>
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<p>Active partnerships with one or more organizations.</p>	<p>The Fraser Basin Council actively partnered on this project with the several organizations including:</p> <ul style="list-style-type: none"> • Agriculture and Agri-Food Canada staff- Bruce Roddan (WEBs Researcher), Rob Maciak and Rae Bell (WEBs research assistants). All three individuals contributed throughout the entire year in various ways including workshop presentations, site evaluations, climate station set-ups, and the training of participating producers on the use of the climate stations installed on their farms. • Ministry of Agriculture – Andrew Peterson (Regional Resource Specialist) contributed in numerous ways including workshop presentations on Irrigation Scheduling Calculators and Farmwest, consultation with participating producers on the use of climate stations and tensiometers, and the promotion of the WEBs project and irrigation BMP’s during his many farm site visits, and participated at BCCA booth in May 2010 • Ministry of Natural Resource Operations – Valerie Cameron, (Regional Manager for the Thompson Water Stewardship Branch) presented at our Silver Creek Agriculture Workshop
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	<p>the topic of Water Act Modernization and the proposed new Water Sustainability Act.</p> <ul style="list-style-type: none"> • ARDCORP Environmental Farm Plan- Pete Spencer and King Campbell (Environmental Farm Planners) presented at both the Silver Creek and Westwold workshops. They share with producers the opportunities available to them through the Environmental Farm Plan Program for obtaining funding for irrigation system upgrades and for purchasing climate stations in an effort to improve irrigation efficiency. • The Salmon River Watershed Roundtable- Mike Wallis and Jamie Felhauer (volunteers) actively promoted the WEBs project throughout the Salmon River watershed and also presented at both the agriculture workshops.
Engagement and participation of diverse and under-represented groups.	<ul style="list-style-type: none"> • Agriculture producers from all types of sub sectors including forage crops, turf farms, cattle, sheep, berries etc, were engaged at both agriculture workshops and through the distribution of the Irrigation Efficiency brochure.
Relationship building, as a foundation for sustainable, enduring activities.	<ul style="list-style-type: none"> • As the Agriculture and Agri-Food Canada portion of the WEBs project will continue until 2013 via non-fswp funding sources, this first year of the project has significantly helped the Fraser Basin Council and project partners to build strong relationships with local producers in the Salmon River Watershed and to educate them about the irrigation efficiency tools available to them and the importance of implementing irrigation BMP's to ensure the sustainability of the watershed. This project has help to identify agriculture community champions who will not only continue to build support within the community for irrigation efficiency in the watershed, but will also lead by example through the use of their new climate stations and other such tools to improve their irrigation efficiency.
Capacity building, including mentorship models, leadership training and skills development.	<ul style="list-style-type: none"> • This project has provided training to project participating farms on the use of climate stations and how to utilize the climate data they collect to improve their irrigation efficiency.
Recognition and support of champions and their initiatives.	<ul style="list-style-type: none"> • As previously mentioned this project has helped identify agriculture community champions within the Salmon River Watershed and will continue to support on their goal of becoming better at irrigation efficiency. Early first year results of AAFC research indicates that the local agriculture community do not over-water, as indicated by drying of soil at a depth of 90cm during the summer.
Opportunities to influence policy and decision making,	<ul style="list-style-type: none"> • Presentation of Water Sustainability Act policy proposal generated discussion at the 2 workshops in the Salmon River Valley, and encouraged producers to provide feedback to the Living Water Smart blog
<p>3.5 Please describe how the benefits of this project will be sustained and/or be built upon into the future. What are the planned next steps, or recommendations for further work, if applicable?</p>	

Despite the FSWP funding ending in March 2011, the WEBs project will continue unto March 2013 with the support of non-FSWP funding. During the next two years the rigorous research study on the watershed-wide effects of irrigation BMPs in the Salmon River watershed. This study will specifically look at biophysical (e.g. hydrologic flow) and economic impacts of irrigation management technologies at a farm level, and scaled to a watershed landscape level using GIS land use inventory and tools developed by the BC Ministry of Agriculture and the University of Victoria. For the duration of this time, FBC is working with Agriculture and Agri-Food Canada to administer portions of the WEBs project.

3.6. What are the top three lessons learned from this project that could be useful to communicate to others doing similar work in the Basin?

1. Technology limitations such as internet access can play a significant role in the direction a project can take when working in rural agriculture communities such as Westwold. Only a few of the participating farms in the Westwold community had access to the internet which greatly affected their ability share their climate station information online for others to view.
2. Communication and attendance of agriculture producers can vary significantly depending on the time of year due to their busy work schedules. Based on our experience the best time of the year to connect with producers through communication and outreach is during the months of December through to February.
3. Approach agriculture producers as stewards of the land – in many cases they either are doing the right thing, or want to do the right thing to be responsible stewards, as well as successful business people.-

REQUIRED: Attach all DOCUMENTATION of Final Deliverables, and LIST attachments in Section 7. These may include technical reports, maps, photos, evidence of communications, lists of meeting participants, etc.

4. Outreach and Communications

Please describe how you have communicated project activities and results within local and basin-wide communities, across organizations and/or to decision makers.

Please list and attach copies of (or links to) any communications materials from these efforts that you have not previously submitted.

Outreach and communication for this project occurred in various forms including the following:

- (1) Agriculture Workshops in the Salmon River Watershed communities of Silver Creek and Westwold – Each workshop had presentations on the WEBs research project, Irrigation Scheduling Calculators, Farmwest, the Environmental Farm Plan, the Water Act Modernization, and the Salmon River Watershed Roundtable. All of these presentations were tied back to the theme of irrigation efficiency. Each participant at the workshop was provided with a presentation folder containing information on key websites and people to refer to for irrigation information, an irrigation efficiency brochure, an Irrigation Scheduling Calculator brochure, and factsheets on Irrigation Scheduling Techniques, Irrigation Water-Saving Tips, Conserving Water on the Farm, and Irrigation decisions with Limited Water documents. At both of the community workshops display booths were set up sharing additional information to agriculture participants about irrigation efficiency. Also there was a question and answer period after each presentation allowing producers to ask their irrigation efficiency questions.
- (2) A WEBs project news release (see attached)– a project news release was distributed to nine different media sources including local and regional sources such as The Falkland News, The Salmon Arm Observer, The Shuswap News; provincial sources such as The Beef in BC Magazine and The Country Life Newspaper; and national sources such as the Country Guide magazine and The Canadian Cattleman Magazine.
- (3) The Needs and Opportunities on the use of Climate Stations report: this report was produced using information gathered from agriculture producers throughout BC currently using climate stations on their agricultural properties. The information used to write this report was gathered through an online questionnaire, emails, and phone communication with producers. Upon completion on the initial

information gathering, the information was summarized in a report and distributed to project partners and the agriculture community at the two agriculture workshops, and other meetings/workshops attended by FBC staff.

- (4) The production and distribution of an Irrigation Efficiency Brochure – this brochure was produced as a way to reach out to other members of the agriculture community who were not able to attend one of our community workshops. The brochure discussed the importance of irrigation efficiency for both the agriculture producer and fish. In total one thousand brochures were printed, with many of them being directly mailed to the households of agriculture irrigator water licensees in known drought prone areas of the province where there have been previous or current stream low flow issues noted. Copies of the brochure were also part of the presentation folder distributed at both the Silver Creek and Westwold workshops, and at other workshops/meetings that were attended by the FBC staff to promote the WEBS project and irrigation efficiency. Copies of the brochure were also distributed to Agriculture and Agri-Food Canada, the Ministry of Agriculture, The First Nation Agriculture Association and the BC Cattleman Association for placing in their front lobbies for distribution to the general public.
- (5) Project information sharing, booths and displays were set up at several meetings or workshops including the BC Cattleman’s Annual General Meeting, Lee Hesketh’s Sustainability Agriculture tour, the 7th annual Stewardship Workshop, and the MPB Hydrology workshop in Merritt. All of these meetings/workshops had attendance by agriculture producers and other water users.