GROWING OUR FUTURES: COMMUNITY-BASED TRAINING IN NATIVE PLANT HORTICULTURE FOR ABORIGINAL COMMUNITIES

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ABSTRACT

An increased demand for reclamation using native plants in British Columbia has created opportunities for stable, long-term economic opportunities in Aboriginal communities through employment in native plant horticulture. The Growing our Futures: Native Plant Horticulture training program was created collaboratively by staff at Royal Roads University, Keefer Ecological Services Ltd, West Moberly First Nations and Saulteau First Nations in order to provide training to Aboriginal communities in native plant seed collection, propagation and nursery management. The program was piloted in 2013 at Twin Sisters Native Plant Nursery located in West Moberly BC, and Tipi Mountain Native Plants located in Cranbrook, BC. Nine students from Twin Sisters nursery and seven students from Tipi Mountain nursery completed the Growing our Futures program. Following consultation with the leadership and other representatives of Saulteau and West Moberly First Nations, it was determined that Growing Our Futures should be developed for community-based delivery to support broad student participation, retention and success through enabling students to learn within their family, community and Elders support networks. In this paper, we provide an overview of the 2013 pilot year of the Growing our Futures: Native Plant Horticulture training program, discuss successes and lessons learned, and describe future directions for this program in 2014 and beyond.

KEY WORDS

Education, Indigenous, Native Plants, Propagation, Reclamation

BACKGROUND

Site reclamation necessitated by natural resource development activities is shifting away from the use of agronomic plants toward a biodiversity model aimed at re-establishing native plant cover. The use of native plants in reclamation has the potential to provide myriad environmental and social benefits and is supported by many Aboriginal communities interested in seeing the land restored with biologically and culturally appropriate plant communities. At the same time, there is a lack of skilled labour in rural British Columbia able to meet the growing demand for native plants. Trained personnel are needed across the reclamation cycle from developing reclamation plans, to producing the required native plant material, to the implementation of reclamation plans on disturbed sites. As one of the few rural populations in Canada currently experiencing population growth, Aboriginal communities have the potential to help
address these and other labour shortages currently being faced in many northern and rural areas (Agriculture and Agri-Food Canada, 2011).

Many large-scale natural resource projects across Canada are located near Aboriginal communities (Government of Canada, n.d.), and the natural resource sector is the leading private sector employer of Aboriginal people (Agriculture and Agri-Food Canada, 2011). At the same time, rural Aboriginal people currently experience an unemployment rate nearly eight percentage points higher than non-Aboriginal people living in rural Canada (Statistics Canada, 2006). Programs and policies that provide training to Aboriginal people for local employment or entrepreneurial opportunities in the native plant horticulture and reclamation sector arguably make good economic, social and environmental sense by providing employment gateways to a growing Aboriginal labour force while increasing the supply of native plant material available for reclamation.

*Growing our Futures* is a training program in native plant horticulture developed in 2013 by Royal Roads University (RRU), Keefer Ecological Services (KES), Saulteau (SFN) and West Moberly First Nations (WMFN). The Program was designed to create capacity for native plant propagation within Aboriginal communities, facilitating greater participation by Aboriginal people in native plant reclamation and restoration programs occurring within their Territories. One of the key features emphasised by the leadership and other representatives of our First Nations partners involved in the *Growing Our Futures* program was in-community delivery. Aboriginal-centered, community-based training programs have been described as a means of increasing the participation, engagement and retention of Aboriginal students (Inuit Tapiriit Kanatami, 2007; Saskatchewan Ministry of Education, 2009).

In 2013, *Growing Our Futures* was piloted at two separate First Nations-owned native plant nurseries. Twin Sisters Native Plant Nursery, a joint venture of the Saulteau and West Moberly First Nations, was opened in 2013 at Moberly Lake in the Peace region of Northeastern BC. The students participating in the Twin Sisters program came from a variety of backgrounds but the great majority (over 90%) had no pre-existing nursery experience and none had any experience growing native plant species. Mountain Native Plant Nursery, owned by a member of the Ktunaxa First Nation, is a fully functional nursery that has been in operation under its current ownership since 2008. The students participating in the Tipi Mountain program were largely existing nursery workers wishing to broaden and deepen their skills and theoretical knowledge in native plant propagation. Many students from both groups possessed extensive traditional knowledge relating to the identification and typical uses of many local plant species. Tipi Nine students from Twin Sisters nursery and seven students from Tipi Mountain nursery completed the *Growing our Futures* program in December, 2013.

The response from students participating in the 2013 *Growing Our Futures* pilot program was extremely positive. As one student stated: “I never learned so much in my life – I love it.” Another student stated that the training has more than lived up to her expectations: “I am really happy and feeling very blessed to be a part of this. My mind has never felt so full in a good way!” All of the participating students made major measureable gains in their theoretical knowledge and in their development of practical nursery skills as demonstrated through the completion of a number of assignments in native plant identification, plant morphology, and plant propagation. A 2014 delivery of Growing Our Futures is planned for Southern Vancouver Island with the Tsawout First Nation.
PROGRAM ASSESSMENT

Fundamental to the continued success of the *Growing Our Futures* program is a commitment to critical assessment and improvement of the program to ensure that it continues to serve the needs of participating Aboriginal students and communities. The remainder of this paper provides a qualitative assessment of our 2013 pilot programs at Tipi Mountain Native Plants and Twin Sisters Native Plant Nursery based on our experience as program planners and instructors. This assessment focuses on the extent to which the *Growing Our Futures* partnership delivered a program that reduced financial and logistical barriers for students; increased community collaboration; engaged community support for students, incorporated cultural knowledge and Elder involvement; made use of a flexible admission model; created bridges to employment opportunities for students; and implemented an innovative delivery approach informed by current Aboriginal models of teaching and learning.

**Reduced Financial and Logistical Barriers to Accessing Post-Secondary Education**

Although not exclusively targeted at rural Aboriginal communities, *Growing Our Futures* will be largely delivered in rural Aboriginal communities located in proximity to natural resource development. For this reason, *Growing Our Futures* was designed for community-based delivery, an approach that may reduce a number of the financial and logistical barriers experienced by rural Aboriginal students attending post-secondary programs in urban areas (Saskatchewan Ministry of Education, 2009). Delivering *Growing Our Futures* within host communities during our 2013 pilot deliveries avoided the need for students to relocate to access the training. Working closely with the First Nations communities involved in both pilot offerings, the *Growing Our Futures* partnership was also able to access substantial funding to support delivery costs, offer free tuition to students and provide financial support in the form of stipends and wage subsidies for students, all of which may not have been possible outside a community-based training model. Delivering the program *in situ* also allowed students to make use of their existing support networks while attending the program. For example, students with children could make use of existing childcare arrangements that would not have been possible had they been required to move to a new location to access training.

**Increase Opportunities for Collaboration with Aboriginal Communities**

Community collaboration was positively enhanced through the use of the community-based delivery model. As discussed in the previous section, working with communities allowed us to access funding to both offer free tuition and to provide financial support to students. Our First Nations partners, Saulteau First Nations, West Moberly First Nations and Ktunaxa Nation Council also provided support and guidance with respect to intake, enrollment and reporting to the various funding agencies and logistical support with respect to room bookings and organizing program events. Other forms of collaboration with respect to curriculum development and modification were more challenging in both programs given the myriad responsibilities and limited time available to education coordinators and other staff in the participating communities. Community collaboration with respect to curriculum development and modification in future deliveries will be greatly enhanced if funding is provided to support the greater involvement of Aboriginal community administrators and contributing staff. In our 2014 delivery we have included budget provisions to pay for the contributions of both an education director/coordinator as well as a community life coach, both of whom will provide culturally appropriate student support and feedback.
throughout the program.

Effectively Incorporated Cultural Knowledge and Support for Elder Involvement

Elder involvement in training programs has been identified as a key element supporting Aboriginal student success (Inuit Tapiriit Kanatami, 2007; Saskatchewan Ministry of Education, 2009; Assembly of First Nations, 2012). Elders can provide both culturally-appropriate student support as well as cultural enrichment, especially within a program that includes a focus on a number of plant species with cultural importance. During the TMNP training, for example our students spent three days with Wayne McCoy, a Ktunaxa Elder with substantial plant knowledge. In our 2014 delivery with the Tsawout First Nation, we have included a budget provision to support weekly workshops with community Elders.

We found it difficult to incorporate additional cultural knowledge outside of workshops and outings with Elders. An attempt to present both Western and Traditional forms of taxonomy, for example, with the intent to provide recognition and respect for the different yet equally valid ways of classifying and organizing organisms in the natural world, was not well-received when packaged in a very Western mode of teaching (a lecture) and presented by non-Aboriginal instructors. Our lesson from this experience is that cultural knowledge included in the program must arise from community members themselves. Future programming will be improved by creating space for student activities and discussions centred on the cultural knowledge held by students, Elders and guests. We believe spending as much time as possible in natural spaces and interacting directly with plants, will inspire deeper collaboration among students and instructors. Involving community education directors/coordinators as much as is possible (while, at the same time, respecting their time) will help identify locally appropriate approaches to incorporating cultural activities into the training program.

Effectively Utilize Flexible Admissions

Our experience is that skilled workers in native plant horticulture may come from myriad educational and experiential backgrounds and that the knowledge and skills that students can bring to a training program or place of employment may not be adequately captured by records of their prior educational history and/or other achievements. For this reason Growing Our Futures employs a flexible admissions model, wherein achievement of high school diploma or any other prior certification is not required for entry into the program. Admissions are instead focused on attitude, enthusiasm and life experience. Providing flexible admissions based on life experience has been recommended by various entities including the Saskatchewan Ministry of Education (2009).

Students in our 2013 pilot programs came from a variety of educational backgrounds and all brought a wealth of experience and knowledge to the program. A major lesson in the effective utilization of the flexible admissions model was the need to identify the essential skills for employment success in native plant horticulture and provide remediation to students where necessary. A lesson in calculating germination tests that involved ratios, for example, was not possible for some students in our 2013 offering with very limited math skills. In our 2014 delivery, we plan to address this by having instructors, the educational coordinator and life coach work with each student at the outset of the program to produce an individualized learning plan, which will include additional skills development where necessary. Time will be built into the program to support students in attaining the goals set out in their individualized learning plans.
Increased Opportunities for Work Experience and Networking
Both Growing Our Futures 2013 pilot programs were hosted by Aboriginally-owned native plant nurseries. Tipi Mountain students were largely existing employees of TMNP, and this training was offered to increase their skill, understanding, effectiveness and engagement with their work. The majority of these students continued with their employment at the nursery after they completed the program. Twin Sisters Native Plant nursery was newly opened in 2013 and five Twin Sisters students were employed by TSNP after completing the program. Periods of paid work-experience were interspersed among the six weeks of training in both projects, including nursery work at both locations and a seed collection contract at TSNP, allowed students to put their learning into practice.

In spite of these successes, we felt that we could make better use of the community-based delivery model in future deliveries to allow for increased networking as well as increase the employment skills training offered to students to better support them in finding and keeping meaningful employment. In 2014, workshops from the already proven and successful RRU-Continuing Studies Employment Readiness Access Program will provide over two weeks of employment skills training designed to help students transition from learning to employment by enhancing communication, leadership, management, problem solving, team-building, entrepreneurial and computer skills. Our 2014 offering will also involve field visits to local places of employment, which will serve the dual purpose of allowing students the opportunity to network while increasing potential employers’ familiarity with the Growing Our Futures program.

Implemented Innovative Delivery Based on Current Aboriginal Education Models
Aboriginal students have demonstrated greater success in programs that are student-focused, cooperative and hands-on (Saskatchewan Ministry of Education, 2009). Not surprisingly, students in our 2013 pilot programs responded far better to active learning (activities and assignments) compared to passive learning (lectures and demonstrations). Students were also extremely engaged when working in groups toward a common goal of producing materials that demonstrated their knowledge. For example, we found that student-led group presentations were great opportunities for learners to review key concepts and to take real pride in what they had learned and what they had to share with other students. Asking the students to work on group presentations also helped with team building and, in many cases, will reflect the reality of their future workplace(s). In future offerings we aim to increase opportunities for student curiosity, imagination and initiative to guide their learning by having the students work in groups or individually to explore topical questions followed by the opportunity to share their learning with the rest of the class.

FUTURE DIRECTIONS: SEED TO SITE

After developing the Growing Our Futures program, our advisory board and industry partners identified a need for an increased number of trained personnel with the technical skills to participate across the entire native plant reclamation cycle: planning for reclamation, seed collection, growing out the required plant material, reclamation planting using native plants, and monitoring reclaimed sites. Seed to Site: Native Plant Reclamation training aims to link Aboriginal people with meaningful employment opportunities in natural resource reclamation in their home communities as well as support the development of Aboriginal-owned enterprises.
As with *Growing Our Futures*, the *Seed to Site* curriculum will be developed by the Growing Our Futures Partnership, which includes professionals from Royal Roads University, Keefer Ecological Services and representatives of our Aboriginal partners associated with Twin Sisters Native Plants Nursery. Additionally, we will also seek guidance from an advisory board composed of professionals in the native plant reclamation and natural resource development sectors, aboriginal representatives, and specialists in adult aboriginal education. Following the lessons we have learned with developing and delivering the *Growing Our Futures* program, *Seed to Site* will use an aboriginal education model that includes face-to-face, community-based instruction, flexible admissions, life coach and Elder support, culturally enriched content, hands-on learning, and the creation of personalized learning plans for essential and employment skills.

Once developed, *Seed to Site* can be delivered separately or concurrently with *Growing Our Futures* depending on the needs of the participating community. Both *Growing Our Futures* and *Seed to Site* can be delivered throughout British Columbia, and exported across Canada and internationally, while still employing British Columbians for program planning and instructional delivery. Our hope is to eventually build an instructional assistant team from previous *Growing Our Futures* and *Seed to Site* graduates in order to provide further employment opportunities to graduates and to provide direct graduate mentorship for future Aboriginal students.

**CONCLUSION**

*Growing Our Futures* works with Aboriginal students within their home communities to engage their knowledge, enthusiasm and passion for native plants while at the same time providing the necessary skills to successfully obtain and maintain employment in the native plant horticulture sector. Our objectives are to address the lack of rural capacity in native plant horticulture, enhance Aboriginal communities’ ability to meaningfully participate in reclamation, and support positive and lasting relationships between First Nations and industry. Through the 2013 pilots we learned a number of important lessons about how adult Aboriginal students learn, the need for a strong cultural component in the program, the need to address gaps in employment skills, and the benefit of creating personalized training plans to assist students in achieving their educational and employment goals. Most importantly, we understand the need for continual program assessment and modification to ensure that *Growing Our Futures* remains responsive to the needs of both Aboriginal students and participating Aboriginal communities.

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LITERATURE CITED


