

Youth Leading Environmental Change

2018-2019 Final Report

Prepared By:

Katei McLean
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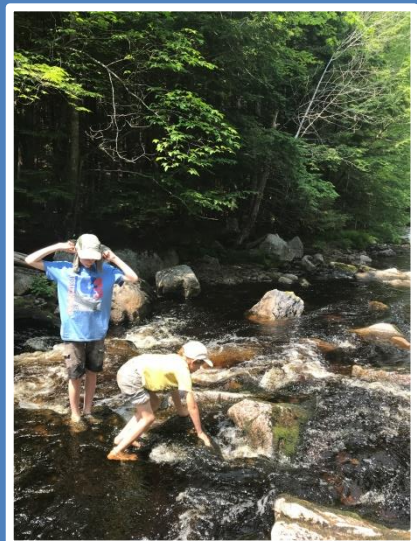
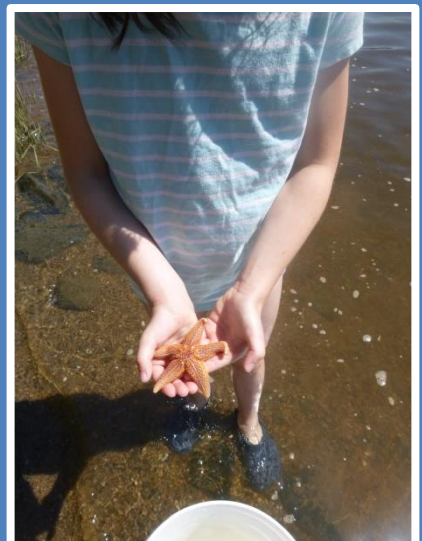
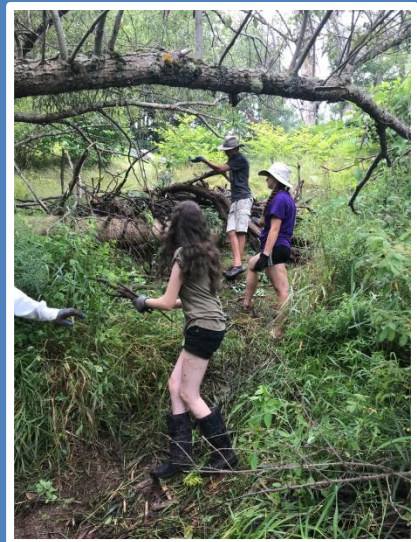
Clean Annapolis River Project

314 St. George Street, P.O. Box 395,

Annapolis Royal, NS, B0S 1A0

1-888-547-4344; 902 532 7533

carp@annapolisriver.ca, www.annapolisriver.ca



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Nova Scotia Habitat Conservation Fund (contributions from hunters and trappers), Blomidon Naturalists Society, the Parker Mountain Wind Turbine Society, and Annapolis Active Kids Healthy Kids



Active Kids Healthy Kids



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1.0 Program goals and objectives

Youth Leading Environmental Change (YLEC) is a free, extra-curricular program that engages youth throughout the Annapolis River watershed in environmental education, stewardship actions and leadership development training. Youth have the opportunity to learn how landscape features and functions impact human and environmental health, as well as community wellbeing. Participants reinforce their understanding of these concepts and apply them through a variety of environmental restoration and stewardship activities that positively impact their community and the health of the ecosystem. Participants then share their learning with the community through public outreach activities.

Program Goals

1. To engage youth from across the Annapolis River watershed in experiential learning activities related to local environmental issues in order to develop ecological literacy*;
2. To provide youth with the skills, experience and confidence required to be active leaders in their communities;
3. To provide opportunities for youth to explore a variety of ecosystems in order to develop a connection to the natural world and an interest in future pursuits related to the environment.

** Ecological literacy can be defined as is the ability to understand the natural systems that make life on earth possible. To be ecologically literate means understanding the principles of organization of ecological communities (i.e. ecosystems) and using those principles for creating sustainable human communities.*

2018-2019 Program Objectives

1. To provide training and skill development opportunities for local youth in topics related to environmental science, management, and conservation. This will include developing transferable skills that may help youth obtain future employment in fields related to environmental sciences and natural resource management.
2. To provide opportunities for students to apply their new knowledge and skills in a range of environmental management, conservation and stewardship projects that address key issues in their community.
3. To provide leadership development training for youth in order to provide them with the confidence and competence required to carry on as future leaders in their communities.
4. To provide leadership experience for youth by supporting them to plan and deliver public education and outreach events and activities; these events/activities will provide them with an opportunity to share new knowledge and experiences with members of the public and to raise public awareness about environmental issues.

2.0 2018 Program

Program structure

Youth Leading Environmental Change is a free, extra-curricular program for students in grade four through twelve from communities across the Annapolis River watershed. The regular field program runs from May through September. During this time, programs are offered with individuals participating based on their availability. Programs focus on training and skill development, or application of skills and knowledge through participation in activities related to local environmental conservation, management or stewardship projects. Activities take place at multiple locations across the Annapolis River watershed and typically tie into work being conducted through CARP's various projects or programs (e.g. wetland restoration, fish habitat restoration, culvert remediation, wood turtle monitoring, etc.).

The program seeks to create opportunities for participants to share their experience through outreach programs. The project leader works with participants to identify or create public outreach opportunities and support participants in creating presentations or activities related to their experiences and the knowledge they have gained through the YLEC program. Outreach activities allow students to engage their broader community in environmental initiatives and act as role models for their peers. Examples of outreach opportunities include class or youth group (e.g. Guides, Scouts) field trips, or presentations in classrooms or at conferences and special events.

2018 Activities

May 3	Wood turtle visual survey, Lawrencetown
May 5	Outreach event "Society of Fibre Artists of the Annapolis River", microplastic pollution awareness
May 13	Wood turtle visual survey, Fales River
May 26	Wood turtle visual survey, Walker Brook
May 27	Beach Clean, Young's Cove Coastal Access Park
June 1	Beach seine and fish identification
June 2	Outreach event, YMCA Healthy Kids Day, fish of the Annapolis Estuary
June 19	Outreach event, CARP AGM, project displays
June 26	Swift and swallow paddle, bird species at risk
July 3	Invertebrate sampling and identification; introduction to water quality
July 5	Lawns to gardens training
July 8	Beach clean, Hilsburn
July 11	Community Forest Day
July 13	Fish habitat restoration, Fales River
July 14	Beach seine, fish ID
July 15	Outreach event, Annapolis River Festival
July 19	Marine microplastic beach sampling
July 26	Exploring wetlands
July 29	Beach clean, Smiths Cove/Digby

August 4	Outreach event, Annapolis Royal Natal Days touch tank
August 6	Outreach event, Natal Day Parade, biodiversity
August 8	Fish habitat restoration, North Kingston
August 8	Community gardening, Kingston
August 13	Species at risk identification
August 14	Wildlife of the Annapolis watershed paddle
August 16	Fish habitat restoration, Fales River
August 17	Wood turtle handing and field survey training
September 15	Beach clean, Port Lorne
September 16	Outreach event, Annapolis Marsh Day, wildlife/plants/waterfowl/pollinators
September 21	Lawns to gardens field day
September 26	Sea turtle monitoring in Atlantic Canada
October 1	Wetland restoration
October 18	Outreach event, Two-Eyed Seeing conference



Clearing a debris blockage upstream of a culvert in North Kingston



A well-deserved rest during deflector log installation on the Fales River



Identifying benthic macroinvertebrates after collecting a kick sample in the Round Hill River



Learning to conduct a beach seine and identify native fish and invertebrate species

Program Reach

The core YLEC program included 32 youth participants representing communities in Digby, Annapolis and Kings Counties. The program was able to engage additional youth by planning and delivering activities in partnership with external organizations, with an additional 46 youth directly engaged in field activities. This does not include the number of additional youth or other members of the public engaged in outreach activities.

Youth Leader supported outreach activities, which included guest presentations to schools or at public events, leading activities at special events (e.g. critter dipping at the Annapolis Marsh Day, fish identification at the touch tank), reached over 2,000 members of the public. It should be noted that members of the YLEC program have been called on to support outreach activities outside of the project timeline, adding to the number of community members engaged thanks to the support of local youth leaders.



YLEC ambassador Sebastian teaching visitors at the Annapolis Marsh about benthic invertebrates



Taking measurements and completing a data card after discovering a new wood turtle during a visual survey

3.0 Discussion and Recommendations

2018 marked the fourth year of the YLEC program. This program continues to fill an important niche in CARP's suite of program and projects, creating a direct avenue to engage with local youth.

The YLEC program has provided secondary benefits to CARP including increased volunteer participation from youth and their families, increased engagement in CARP outreach programs and the establishment and reinforcement of relationships with new external partners (organizations, institutions, schools, etc.).

In addition to group activities offered through the YLEC program, CARP aims to create additional volunteer opportunities for youth. In many cases this allows youth to explore specific areas of interest more fully. In some cases youth volunteers have played a significant role in the completion of field activities related to CARP projects including the Atlantic Canada Microplastics Research Project and Wood Turtle Monitoring & Stewardship program. This has also led to an increase in the number of students working with CARP to complete high school co-operative education placements or volunteer service hours. In some cases program participants have taken on independent initiatives such as the planning of a series of community beach cleans and an ongoing fundraising initiative at the Middleton Farmers Market.

A program survey was disseminated to participants and their parents/guardians in order to collect information that can be used to improve the YLEC program in future years. Some of the key learnings from the results of this survey (Appendix 1) are that students are interested in exposure to a broad range of activities and scientific protocols, students are interested in participation in the development of environmental projects/initiatives, most students are interested in having more outreach opportunities, and presentations to the public or to schools is their preferred type of outreach activity to participate in. In order to further develop the program, it is recommended that CARP explore strategies to allow students to co-create projects and take greater leadership roles in their implementation.

From the perspective of parents/guardians, the availability of carpooling was a key factor in facilitating participation. CARP should strive to continue to offer transportation and coordinate carpools when possible. The geographic distribution of programs is not even across the watershed, which may limit participation. Greater effort should be made to identify activities across the watershed; this may mean that some YLEC activities do not directly tie in to other CARP project deliverables. The majority of participants in the program were from Annapolis County. Annapolis County does represent the largest area of the watershed; however, it is likely feasible to increase participation by youth in Kings and Digby counties through concerted promotion and recruitment effort. Better distribution of activities across the watershed may also support participation by youth in communities on the periphery of the watershed. Partnering with schools and promoting the program as an avenue to complete service hours for programs such as the Duke of Edenborough Award may help to attract new participants.

4.0 Conclusions

The program creates a unique and important engagement and learning opportunity for local youth

The YLEC program creates a unique volunteer and learning opportunity for youth in the communities of the Annapolis River watershed. This is captured well in the responses provided by one of the YLEC participants who was new to the program in 2018, "... I feel that it is a good and convenient opportunity for me to become involved in my community. Ever since I moved to Nova Scotia last summer I have developed an interest in the impacts of climate change as well as the community around me. I wanted to positively impact this new and unique environment. However, I was never able to find many volunteer opportunities that would allow me to do so."

The program is also unique in its ability to provide transferable skills for youth interested in careers related to natural resources. There are several examples of former participants in the YLEC program have gone on to pursue post-secondary education in related fields and gained entry level employment in the environmental sector.

Reconnecting to nature is an important cross-cutting strategy for addressing environmental sustainability

The importance of "reconnecting to nature" has emerged as a key strategy in meeting objectives related to environmental sustainability and biodiversity conservation (Ives et al., 2018; Soga et al., 2016). Emerging research on this topic has demonstrated that "children who frequently experience nature are likely to develop greater emotional affinity to and support for protecting biodiversity (Soga et al., 2016.)" At a regional level, recent work by the Kespuwitk Conservation Collaborative of southwest Nova Scotia has seen the identification of a "disconnect to land" emerge as a cross-cutting threat to biodiversity targets, with "reconnecting to nature" emerging as a cross-cutting strategy to address this threat. The YLEC program represents one method for reconnecting to nature and can serve as a model for implementation among other watershed or community-based environmental organizations.



Students from Champlain elementary School during a class field trip to the Annapolis marsh delivered with support from YLEC ambassadors

5.0 References

Ives, D., Abson, D., von Wehrden, H., Dörninger, C., Klaniecki, K., Fischer, J. (2018). Reconnecting with nature for sustainability. *Sustainability Science*, 13(5), 1389-1397. doi.org/10.1007/s11625-018-0542-9

Soga, M., Gatson, K., Yamura, Y., Kurisi, K., & Hanaki, K. (2016). Both direct and vicarious experience of nature affect children's willingness to conserve biodiversity. *International Journal of Environmental Research and Public Health*, 13(6), 529. doi:10.3390/ijerph13060529

6.0 Appendices

Appendix 1. YLEC Program Participants Survey

YLEC Program Participants Survey		
Most questions were open ended, allowing for multiple responses if desired.		
Number of respondents: 13		
What activities did you enjoy participating in most?	Turtle monitoring	9
	Community gardening	1
	Fish habitat	4
	Water quality	1
	Fish sampling and ID	4
	Tree planting	2
Where there activities that you did not like participating in?	Rock weir building	1
	Public speaking (outreach)	1
	No	12
Are there specific skills you would like to learn or practice?	Leading a team	2
	Scientific protocols	5
	Wildlife identification	2
	Managing soil erosion	1
	Project management	1
	Raising awareness about species at risk	1
	Public speaking	1
	Conducting research	1
Would you be interested in working with other youth to develop your own environmental project or initiatives through the program?	Yes	10
	Beach clean	2
	Waste audit	1
	Not enough time	1
	No	1
If you are interested in developing your own initiative, would you be willing to participate in a weekend workshop to plan your initiatives (assuming you were available)?	Yes	69%
	No	0%
	Unsure	31%
Would you like to participate in more outreach activities?	Yes	46%
	No	0%
	Unsure	15%
	Indifferent	38%
What type of outreach activities do you want to participate in?	Public or school presentations	8
	Leading activities at special events	6
	Writing newsletters, websites, blogs, etc.	5
	Creating social media content	2
	Other	3
(For parents) What would help your child participate in more activities?	Carpooling/ assistance with travel	5
	More advanced scheduling	2
	Having more available time	2
	More activities close to home	2
	Flexible timing/drop in style events	1
(For parents) Is e-mail an acceptable primary method of communication.	Yes	100%