(Disponible únicamente en inglés)
(Disponible en anglais seulement)

Youth Water Education and Monitoring Project
Bedeque Bay Environmental Management Association

Participating organizations and geographic location of the project
Over the course of the project there were many teachers that wished to participate in the program, encompassing a wide age range of students. The schools that were involved were Summerside intermediate School: 3 teachers, 6 classes and the Science Club who participated in the Adopt and Fish Habitat Watchout programs. Summerside Intermediate has sampling locations on Kelvin Grove Rd and Cairns Rd. Three Oaks Senior School participated in the Adopt Program in order to train for a knowledge competition called Envirothon. Kensington Intermediate Senior High School participated with 3 classes by monitoring a stream located near 12954 Victoria St E for the Adopt program. Also in Kensington the Queen Elizabeth Elementary School participated in the Discover program with 2 classes of grade 3 students. The next major participant was the Rustico family of schools which consists of Gulf Shore Consolidated School with 2 English classes and 1 French immersion class, and École St-Augustin with one French language class. Both of the schools participated in the Adopt program but each had a different field location in the area. École François Buote participated in Adopt with 2 classes at a river on lower marshfield Rd. Kinkora Regional High School did their field work at a nearby stream in Maple Plains and Athena Consolidated School at Scales Pond. L'école-sur-Mer participated in the Discover program while École Évangéline participated in the Adopt program in Richmond. L'école La-Belle-Cloche monitored a stream the Souris area and the last school to participate in the Adopt
Program was Englewood monitored a stream in Crapaud for Adopt. In addition the participating schools we also had youth groups that participated in the program such as 4-H, Scouts Canada and the aboriginal youth council to help the youth gain a better understanding of the rivers ecosystem and what they can do to help maintain it.
Along with the students and youth involved in the program many local watershed groups were invited to assist in the program in order to strengthen the relationship between island not for profit groups. Those that attended were: Wheatly River Improvement Group, Hunter-Clyde Watershed Association, Souris and Area wildlife federation, and South-shore Watershed Association. Partnerships also included the Abegweit biodiversity enhancement hatchery, Holland College, Dreams unlimited daycare, City of Summerside, the Department of Education and the Department of Fish and Wildlife. All of the above in Prince Edouard Island.

Background or problem statement
This project was carried out due to the misconception of the importance of water by youth, many of whom do not know what a watershed is, why it is important and how it could affect their everyday life if ignored. Our youth are our leaders of tomorrow it is crucial that they are made aware of the natural environment around them, all three programs Adopt a River, Discover your River, Fish Habitat Watch Out and River to the Sea get students interested, involved through hands on experience with what it takes to keep our green spaces healthy and beautiful. Students leaving the program can feel proud about the positive changes they have helped make in their community and have often gained a new respect for natural areas they had previously taken for granted. Many of the adopted streams are also visited by the same teacher year after year, the information gathered by the students has been compiled from year to year and we are able to see the improvements to the sites.

General description of the project
This project had two main goals, the first being to improve the health of the aquatic ecosystems across Prince Edward Island, and the second to support sustainable development of community. To achieve this staff worked closely with Island educators to increase knowledge skills and capacity of teachers, youth and parents so that they would better understand the aquatic ecosystem through hands on learning and enhancement projects. The projects included measuring water quality, taking biotic health indexes and enhancing natural areas through the incorporation of native ground plants, trees and shrubs. In order to

support the sustainable development of community we began focusing on the intra-environmental community relationships to increase the participation among local watershed groups and schools in their areas. In addition to the development of these partnerships we also worked to engage youth of three different language sectors in natural learning and ecological monitoring.

Description of outcomes and follow-up
The project produced education material in English and French, surveys that were used to evaluate the coordinator and the program as well as field manuals for easy reference in the field.
For additional information interested parties can contact the Executive Director of BBEMA Tracy Brown at 902 886 3211 Tracy@bbema.ca or the project coordinator Christopher Newell at 902 886 3288 or Chris@bbema.ca.

Successes
Describe the most significant successes achieved during the implementation of the project.
The most significant success that was achieved during the project was integration of the Adopt and Discover programs into the Mi'kmaq community with the help of Becky Peterson who works with Souris and Area wildlife federation and the Abegweit biodiversity enhancement hatchery. Now that the programs have been introduced and accepted it is expected they will become very successful within the community. BBEMA plans on building on this success and getting other first nations communities to participate in the programs also.

Challenges
Describe the most significant challenges encountered during the implementation of the project.
When working within the educational system it is important to be flexible, with so much crammed into nine months of the year, teaching schedules can be very erratic. The project coordinator often found themselves scheduling and then rescheduling teaching sessions, labs and field trips. The individual scientific backgrounds and curriculum training of individual teachers will greatly affect the amount of time the coordinator will need to spend with each class in preparation for the field sample collection and lab chemistry activities. Additionally the province wide success of the program itself has been a challenge. Since the Youth Water Education and Monitoring Project was launched it has grown from two teachers taking on a pilot project to over 22 teachers in 18 schools across PEI (as well as community youth organizations: Boy Scouts and 4-H groups). More and more teachers from outside communities (as far as Tignish/Souris) are interested in participating. This has placed additional budgeting/scheduling constraints on BBEMA's program coordinator. More teachers increase program field trips, classroom, lab visits and web site report technical assistance requirements. The programs are now active in both English/French schools across PEI, as well as being integrated into a community youth group (Scotchford Youth Group) and partnered with Mi'kmaq outreach programs (through the Abegweit Biodiversity Enhancement Hatchery). BBEMA's is now concentrating on expanding program activities to include local watershed groups; teaching volunteer members to become regional mentors, allowing BBEMA to reach more students across PEI. Providing watershed groups the opportunity to form ties with their local schools while gathering ecological information/field data on local streams that can be used for planning future enhancement projects

Lessons Learned
One of the important lessons learned was that no matter how much preparation you can put into an educational day you need to be flexible and ready to adapt how you present the material depending on what age groups and class composition you are working with. Some classes might require very little personal attention when working in the field while others may be more energetic and require slightly more attention to ensure everyone is learning the material to the best of their ability and ensure everyone's safety. By doing this students will get to most of their field education and ensure they have a memorable experience, while the teachers can be assured that the students are learning in a manner that will help their students retain the lesson for the future.

What next?
BBEMA is now concentrating on expanding program activities to include local watershed groups; teaching volunteer members to become regional mentors, allowing BBEMA to reach more students across PEI.

The future plan is that partnering with the watershed groups will allow BBEMA to reach more schools and teachers. Promoting increased partnerships and participation among local watershed groups by providing a common water quality protocol and parameter based monitoring program. Facilitated by the increased opportunity for student volunteers to participate in the collection of water quality data for regional groups - consistent yearly monitoring of individual streams using proven scientific protocols. This partnership will offer the opportunity for sharing/comparison of data between stream sites and Regional Watershed groups. Having been trained as regional sub-coordinators, representatives from these watershed groups will help to promote the programs and act as resources for teachers in their area, particularly to teachers that are a distance from the BBEMA office thus not as easily traveled to by the BBEMA coordinator – this would enable the BBEMA Water Education Program coordinator to be more readily available to schedule/supervise the field trip portions of the curriculum and act as provincial coordinator - subsequently, many of the watershed groups have already promoting the programs within local schools and have initiated partnerships with many new teachers. The modular format of the three program (Discover Your River, Adopt-a-River and Fish Habitat Watch Out) teaching guides make them easily adopted and incorporated by many regional environmental based organizations. BBEMA's expansion of the program to incorporate teaching materials in three languages English, French and Mi'kmaq provide a national wide opportunity for many Environmental groups to adopt and incorporate program aspects into regional water monitoring programs.

For additional information interested parties can contact Tracy Brown, Executive Director of BBEMA at Tel. (902) 886 3211; <Tracy@bbema.ca> or the project coordinator Christopher Newell at (902) 886 3288 or <Chris@bbema.ca>