

THE BLUE BAY PROJECT



Prepared for:
EcoAction Community Funding Program

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August 31, 2007

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1 INTRODUCTION

The Shediac Bay Watershed Association (SBWA) is a not-for-profit organization based in Shediac, NB (Fig. 1). The Association deals with issues related to water quality and habitat integrity. We have been involved in numerous projects and initiatives including water quality monitoring and remediation projects as well as awareness programs.

Shediac Bay is a beautiful and attractive body of water, important for its tourist attractions, economic values and ecosystem richness. The watershed region consists of about 15,000 people, but the population swells to over 100,000 during the summer months. The same phenomenon is observed in marinas within the watershed, where at least 300 boaters attend marina on a regular basis. This increased volume of people using Shediac Bay can lead to an increased use of the Bay that can affect the water quality.

The future of the Bay and its watershed is in the hands of people who are using it and enjoying it. The water quality of the Bay is of major importance for the continued enjoyment of its resources, such as boating activities. At the moment, a large portion of Shediac Bay is closed for shellfish harvesting because of poor water quality mainly due to high fecal coliforms and nutrient concentrations. The sources of pollution can include inland issues, and also improper boating practices. As such, with a mandate of improving water quality and promoting ecosystem stability, the SBWA would like to continue its positive work to promote better boating practices.

With financial assistance from EcoAction since 2005, the SBWA was able to develop the Green Boating program in Shediac Bay. The first year, the SBWA developed awareness tools for best boating practices and managed to understand the reality of local boaters through a survey. Also, a website was created for local boaters. During this year's project, awareness and education among boaters and young sailors was the focus of our program. We also started the development of a clean marine program for both marinas in our watershed. The first step of this plan was completed by assessing their actual status and drafting recommendations and an action plan. Moreover, the SBWA started an annual participation at the Moncton Boat Show, which appeared to be a great way to interact with boaters. Our work allowed us to better understand the needs and expectations of the boating community and to find the best way to deliver the message about best boating practices.

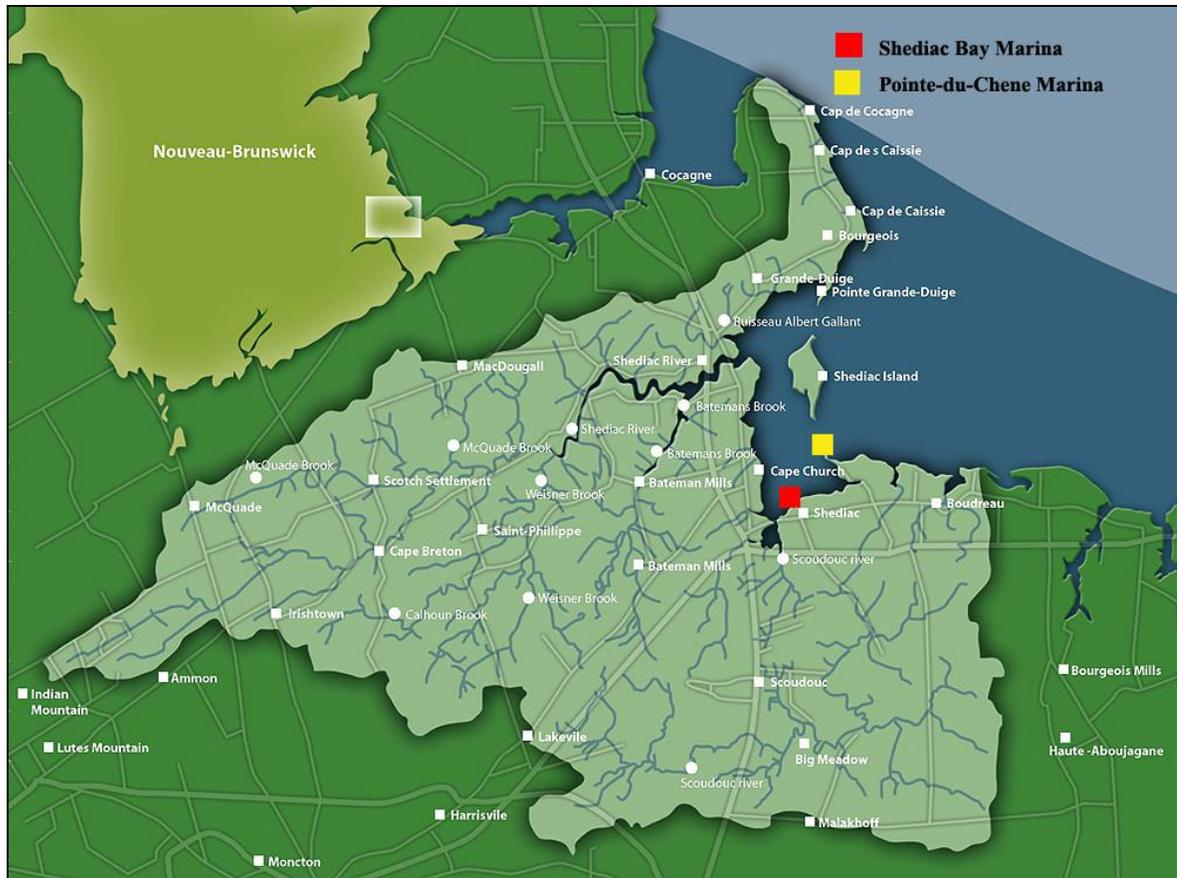


Figure 1. Shediac Bay watershed boundaries and location of both marinas.

2 CLEAN MARINA ENVIRONMENTAL MANAGEMENT PLAN

During this project, the SBWA was able to begin the development of an environmental emergency response plan that will allow marinas to tackle potential threats affecting water quality and habitats integrity in Shediac Bay. The Clean Marine Practices Handbook from the Ontario Marine Operators Association was presented to marinas' managers and all aspects such as Best Management Practices regarding Waste management (pump-outs stations and hazardous material), dock maintenance, and boat maintenance were discussed. Through this process, the Shediac Bay marina agreed to upgrade their docking system by using floating pipes instead of Styrofoam.

Brief marina evaluations were also completed by identifying all potential and existing pollution sources. A document was developed to present emergency response plans for both marinas within Shediac Bay (Annex 1). This document was developed to initiate them to a structured emergency plan including the annual training of the staff. The document was presented to each marina management teams and discussions followed to identify what are

the possibilities to implement aspects of the plan and the Clean Marine Practices Handbook.

The produced report contains emergency procedures and suggestions for spill clean-up equipment. The emergency response plan is meant to be a living document and should be updated according to the aspects the marinas are willing to address. A final report will be produced in two to three years to include the upgrades marinas undertook regarding the proposed emergency spill response equipment and hazardous product collection stations. In future years, detailed long-term management and auto-evaluation plans for each marina should be developed to allow them to evaluate their improvement over time.

Our role was mainly to assist these parties with the elaboration of specific response strategies in case of spills. Discussions were initiated for the marinas to purchase some equipment such as retaining floating units and absorbing pads, however, their precarious financial situation will only allow such purchase in 2 to 3 years. The objective is to create emergency stations at each marina and provide support to train the staff to respond to such environmental emergency situations.

The conservation of the water quality in Shediac Bay is essential to our continued use of these waterways. Marinas being a source of contamination, the SBWA is confident that by adopting spill emergency plans, hazardous material management, and best practices while pumping-out each marina will contribute to the sustainability of the watershed. These efforts will be beneficial to nearly 500 local and visitor boaters.

3 AWARENESS AND EDUCATION PROGRAM

3.1.1 Sailing School

The core of the Green Boating program is raising awareness among recreational boaters. During this project, we established an education program with the Shediac Bay Yacht Club Sailing School. A green boating presentation designed for kids and young adults was created during this project. The presentations took place at the sailing school on a weekly basis from July to September. A total of 7 presentations were performed for over 100 young sailors aging from 8 to 14 years old. The series of presentations was a success and students were very receptive to the interactive presentations that we offered.

3.1.2 Boaters

3.1.2.1 Bilge Absorbent Pad Promotion

An awareness program was launched during the 2006 season where we distributed “goody packs” to boaters during sailing events over the summer. This aspect of our awareness program was a real success and it appeared to be an excellent way to promote green boating among the boating community. The “goody packs” included a bilge absorbent pad and information about best boating practices and new upcoming small craft sewage regulations. A total of 200 “goody packs” were prepared and distributed to local and visitor boaters. The “goody packs” were created using small attaches to reduce the use of packaging material.



Figure 2. Goody packs distributed at sailing events, the Boat Show and at various awareness events. The goody packs include a bilge pad, Maritime Clean Boating Guide, and a pamphlet produced by the SBWA.

3.1.2.2 Information Campaign

The new proposed Pollution Prevention regulation under the Department of transportation will, among other aspects, require that all boats that have a toilet and navigate on Canadian waters have either a holding tank or a Marine Sanitation Device (MSD) that would treat black water to an acceptable level of contamination (250 ppm). During the awareness campaign, the SBWA promoted the details of the proposed regulation that will be enforced 5 years after its final approval. A presentation on the subject was performed for a group of boaters from Cocagne and Shediac bays. Many questions were raised and the need for a formal information session appears necessary for the upcoming year.

Various awareness sessions were undertaken at different venues within the Shediac Bay watershed. The SBWA installed a booth during a weekend at the local mall to promote the Association and environmental values for local resident. Also the SBWA participated at an Earth Day event in April where green boating life style was promoted.

3.1.2.3 Signs and Promotional Documents

The SBWA produced 4 large signs (5x3 feet) to promote water quality and to acknowledge our partners' contributions. The signs were produced in French and English separately and installed at various locations in the watershed including at the Shediac Bay marina. The Green Boating pamphlet was updated and additional copies (400) were reproduced to distribute during the awareness campaign. Five hundred copies of the Maritime Clean Boating Guide produced by the Bluenose Coastal Action Foundation was purchase to be distributed during events. This guide is very complete and along with our produced pamphlet, all aspects of green boating practices were covered.



Figure 3. Sign posted at the Shediac Bay Marina and produced to state the support of our partners in water quality.

3.1.3 Green Boating at the Boat Show

The SBWA participated at the Moncton Boat Show for the second season in March 2007. Our booth was very well presented showcasing green boating awareness signs and literature, as well as various environmentally friendly products. We are confident that our participation at this event plays an important role in promoting green boating practices among boaters. The SBWA is the only environmental group present at the event and we feel that the visibility and awareness it creates are crucial components for the promotion of environmental values.



Figure 4. SBWA Booth at the 2007 Moncton Boat Show.

4 PROJECT TEAM

The Executive Director with the SBWA, was in charge of supervising the project and ensured its proper development. A student was responsible to prepare and offer the presentations on a weekly basis. The student and the Executive Director both participated in the marina evaluation and development of best management practices.

The SBWA is overseen by a board of directors composed of 25 members, which volunteered their time for this project. The SBWA Science Committee worked as consultants during the process of the project. They also ensured that the project guidelines were adequate.

The project was supported by different organizations such as the Town of Shediac who provided support and space during awareness sessions. The Pointe du Chêne Harbour Port Authority as well as the Shediac Bay Marina have also pledged to support our efforts by promoting and participating in our activities. Fisheries and Oceans Canada and Environment Canada supported this project by providing presentation material and expert advises for our information sessions.

5 COMMUNICATIONS

An article was published in a popular community paper (“Journal l’Etoile”) (Annex 2). Media coverage was also performed during the AGM where the project was presented and where our guest speaker, Patrice Godin with Environment Canada, informed the public of water quality issues involving human wastes in Shediac Bay.



Figure 5. SBWA 2005-2006 annual general meeting.

6 CONCLUSION

During this project, the SBWA, in partnership with Yacht Clubs and marina management teams, was able to begin the development of an environmental emergency response plan that will allow marinas to tackle potential threats affecting water quality and habitats integrity in Shediac Bay. These efforts will be beneficial to nearly 500 local and visitor boaters.

The education and awareness portion of this project appeared to be a real success among young and adult boaters. The SBWA participated at the Moncton Boat Show as well as at various promotional events, and offered presentations on green boating practices. Over 1000 people have been receiving information regarding green boating practices and related information. Moreover, great partnership was formed with the local boating community and as they are now involved in the water quality and habitat integrity sustainability of Shediac Bay.

7 ANNEX 1 – EMERGENCY RESPONSE PLAN

Emergency Response Plan for Shediac Bay Marinas

POTENTIAL ENVIRONMENTAL THREATS

1. Fuelling station (Pointe-du-Chene Marina)
2. Pump-out stations (Pointe-du-Chene and Shediac marinas)
3. Boating activities and maintenance (Pointe-du-Chene and Shediac marinas)

HAZARDOUS MATERIAL SPILL RESPONSE PLAN

1. Establish a single binder for all of your emergency response plans. Give it a bright cover and spine so that it stands out. Make sure each employee knows where it is and what type of information it contains.
2. Create a site plan: show valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shutoffs, hazardous material storage locations (*e.g.*, solvents, fuels, pool chemicals, pesticides - indicate quantities), location of response materials, and telephones.
3. Action items will include deploying the equipment and contacting the emergency agencies and additional resources.

Emergency Contacts:

- Marina Spokesperson and Manager: Ron Robichaud 532-7000 (Shediac Marina); Walter Wojcicki 532-6800 (Pointe-du-Chene Marina);
 - Coast Guard – Environmental Emergency Channel 16 or 1-800-565-1633
 - Shediac Police department (RCMP): 911 or 533-5151
 - Local hospitals: Moncton Hospital: 857-5111; George Dumont Hospital: 862-4000
 - Pointe-du-Chene Marina (marina that has emergency response equipment): 532-6800
4. Action to be taken during an oil spill event and:
 - Upon discovery of a spill or release, assess the situation and determine whether it is safe for you to remain in the area. **At all times keep safe, do not place yourself at risk;**
 - Stop the flow;
 - Contact marina spokesperson: Marina Spokesperson and Manager: Ron Robichaud 532-7000 (Shediac Marina); Walter Wojcicki 532-6800 (Pointe-du-Chene Marina);

- Evaluate if this is a spill that you can handle or do you need external assistance for clean up and disposal of waste products;
 - Contain the spill (oil absorbent material stored in red box kit at entrance of boat house) or;
 - Contact the **Coast Guard at Channel 16** or **1-800-565-1633** or ;
 - Contact the **Emergency Spill Call Center** for assistance and cleanup at **1-888-295-5549** or;
 - Contact spill response company if necessary
 - Ezi Way Cleaning & Restoration: 384-5550
 - Acadia Waste Petroleum Management : 853-0000
 - Additional actions/observations should be considered:
 - Identify the product spilled or released (diesel, heating oil, gasoline, other);
 - Determine the quantity released (gallons, liters, or other units);
 - Determine if hazards to people (vapors, fumes) or the environment are present;
 - Identify the weather conditions;
 - Where possible, identify the cause of the spill or release;
 - Warn people in the immediate vicinity;
 - Enforce no smoking and evacuate the area, if necessary.
5. Based on likely threats, what equipment should be deployed

Oil or gasoline spills:

- To contain small spills the best product to use is the inner harbor (calm water) Minimax kit using the absorbent pads or Oilwik interceptor pillows or booms (<http://www.oilspillcleanup.com/mini.html>)
- Always use an Oilwik spill clean-up boom that allows collecting oil on water.
- For spills ranging from 10-80 gallons, use a floating boom designed to contain and collect large amount of oil or gasoline (<http://www.boomenviro.com/spillkits/spillkits2.htm>)
- Always follow instructions provided by the manufacturer.

Other hazardous product spills:

- Proper kit for paint and other chemicals should be available especially if a hazardous material collection station is installed at the marina. To contain and collect spills from any hazardous material use Pigmalion outdoor spill box kit (http://www.spill.ca/products/Flyers/pigmalion_springsummer-2007.pdf).
- Always follow instructions provided by the manufacturer.

6. Create a maintenance/replacement and practice schedule for the equipment.
7. Equipment should be used as described on fabricant label and disposed with the Westmorland Albert Solid Waste Corporation. To be sure that the crew understands the response plan, conduct drills that simulate an oil spill. Evaluate the drill and share observations with all your employees at least once a year. Update the emergency response plan as necessary each year.

SPILL RESPONSE STATION

Outdoor spill containment and control materials should be placed in a **clearly marked location**, readily accessible to work and storage areas. These spill response kits should include absorbent pads and booms, empty sandbags, sewer pipe plugs, drain covers, fire extinguishers, and a copy of the facility's spill contingency plan.

HAZARDOUS MATERIAL STORAGE

Facility hazardous waste plan

- Type of waste accepted: Oil, latex, and antifouling paints;
- Details about the storage area and design requirements: Few hazardous material storage units are presented and Marina authorities should decide of the proper one to be use at each Marina;
- Marina Spokesperson and Manager: Ron Robichaud 532-7000 (Shediac Marina); Walter Wojcicki 532-6800 (Pointe-du-Chene Marina);
- Contact the Westmorland Albert Solid Waste Corporation when waste needs to be disposed.
- Use the spill response plan for hazardous material spill

PROPOSED MATERIAL FOR EMERGENCY RESPONSE KIT AND STORAGE UNITS

- Absorbent pads
 - Clean Marina DIESELWICK Absorbent Sheets / 6 Sheets for 9.95\$
 - Clean Marina OILBUOY Bilge Cushion / 9.95\$: Oilbuoy can be tethered in position as a preventative measure to collect oil or diesel drips and leaks.
 - Pigmalion various pads and kits:
http://www.spill.ca/products/Flyers/pigmalion_springsummer-2007.pdf
- Boom containment
 - Inner harbour/calm water Mini wax (\$13.50)

- Boom containment ACB61250 Self inflatable Boom with Inflatable Chambers with Solid Foundation Discs - \$43.00
- <http://www.boomenviro.com/spillkits/spillkits2.htm>

- Spill Cleanup Kits
 - Various size kits: Universal 20-Gallon Spill Kit – SPKU-20
 - Small kit for calm waters: <http://www.oilspillcleanup.com/mini.html>
 - Large kit for calm waters:
<http://www.boomenviro.com/spillkits/spillkits2.htm>
 - Large kit for fast current waters:
<http://www.oilspillcleanup.com/optimax.html>
 - Various hazardous material spill kits:
http://www.nwhazmat.com/products_spill_kits.cfm

- Storage and disposal
 - Flammable material storage cabinets:
<http://www.interstateproducts.com/safety/cabinet1.html>

BEST PRACTICES REFRESHER (from the Maritime Clean Boating Guide)

PUMPOUT STATION

- 1- Conduct regular inspections and maintenance on pumpout facilities
- 2- Keep pumpout facilities clean and easily accessible.
- 3- Provide pumpout services at convenient times
- 4- Promote the use of non toxic biodegradable cleansers and deodorants for holding tank treatment that do not use formaldehyde.
- 5- Encourage all boat owners to prevent discharge while boating in coastal waters by removing their existing...
- 6- Discourage your customers from using dish soaps to clean dishes on board their boats.
- 7- Sell only low nitrogen detergents in your ship store.
- 8- Encourage customers to use the showers and restrooms provided by the marina when at the docks.

BOAT MAINTENANCE

- 1- Install a holding tank on your boat.
- 2- Do not discharge any sewage, grey water or bilge in the watersways, use the pump-out facilities at the marinas.
- 3- Opt for biological alternatives instead of products that contain toxic chemicals such as formaldehyde, ammonia, chlorine...
- 4- Ensure proper disposal of hazardous wastes and garbage.
- 5- Hazardous wastes can also be brought free of charge at the Westmorland albert solid waste commission.
- 6- Keep engines well tuned, inspecting for leaks and inconsistencies.
- 7- If possible, do not use anti fouling paint. It contains toxic metals such as copper, mercury and arsenic and pesticides and biocides, all of which result in toxic pollution of the aquatic environment.
- 8- Make sure that any trash goes into special bins and try to recycle as much as you can.

Tips on pumping-out

- Read the instruction posted at the pump-out facility or ask for assistance.
- Wear waterproof gloves.
- Keep a bucket and a sponge close at hand while pumping
- Moor the boat securely to the dock
- Turn off the boat engine.
- Slowly open the cap to the tank to release the pressure in the holding tank.
- DO NOT leave the boat unattended while pumping.

After pumping

- Carefully disconnect the hoses from your boat, holding the hose upright to avoid spillage.
- Replace the cap on the deck fitting and tighten securely.
- When finished be careful not to let the suction hose dangle in the water.
- Rinse the suction hose in a bucket of water and allow this water to be sucked by the pump facility. Never clean the suction hose in the coastal waters.
- Wash your hands to avoid contamination.

- 9- To control holding tank odour use EcoEthic holding tank treatment, Septa-Flush, Actizyme-RV...

8 ANNEX 2 – MEDIA RELEASES

Communiqué de Presse
Pour diffusion immédiate

Shediac, 10 juillet 2006 - Programme de navigation écologique pour la baie de Shediac

Le projet de navigation écologique est de retour cet été! Encore une fois, l'Association du bassin versant de la baie de Shediac (ABVBS), avec l'assistance du programme de Financement communautaire ÉcoAction d'Environnement Canada, travaille à promouvoir de meilleures pratiques lors de la navigation en mer. Ce projet fait partie du mandat de l'ABVBS qui est d'améliorer la qualité de l'eau et de promouvoir la stabilité des écosystèmes.

L'an passé un sondage a été distribué aux navigateurs pour nous aider à identifier les méthodes d'entretien les plus communes. Le but de ce sondage était entre autre de déterminer la proportion de bateaux équipés de réservoirs d'entreposage des eaux usées et la fréquence à laquelle ils utilisent les stations de vidange. L'ABVBS adressait aussi les questions portant sur d'autres stratégies de gestion des déchets tels que l'entretien des moteurs, les méthodes de nettoyage et les produits utilisés, le contrôle du déversement de matières dangereuses et leur élimination. Ceci nous a permis de poursuivre le projet cette année en apportant un meilleur soutien aux propriétaires de bateaux qui ne sont pas équipés de réservoirs d'entreposage et en offrant de l'information sur les coûts, les différents types de réservoirs disponibles et les produits écologiques qui peuvent être utilisés sans problème dans un environnement aquatique.

Plusieurs projets de sensibilisation sont organisés auprès de la population de plaisanciers de la région de Shediac. Entre autre, l'ABVBS offre une présentation hebdomadaire sur la navigation écologique aux jeunes de l'école de voile de la baie de Shediac. Aussi, dans le cadre du programme de sensibilisation, l'ABVBS organisera un kiosque d'information aux marinas de la baie de Shediac au cours d'une fin de semaine à la fin août 2006. Cet événement permettra de distribuer de l'information sur le sujet ainsi que des échantillons de produits écologiques. Nous serons aussi disponibles pour répondre aux questions des plaisanciers concernant la nouvelle réglementation qui a récemment été proposée par Transport Canada (Partie I de la Gazette du Canada, 17 juin 2006).

Effectivement, une des grandes raisons de notre programme de sensibilisation est d'informer les navigateurs des nouveaux règlements qui pourraient être mis sur pied dès 2007. Il s'agit d'un règlement sur la prévention de la pollution par les navires et sur les produits chimiques dangereux. Entre autre, ce nouveau règlement propose que : (119-1) « Tout bateau doté d'une toilette doit être muni d'un appareil d'épuration marine ou d'une citerne de retenue. » (129-1 a et b) « Le rejet des eaux usées d'un navire doté d'une toilette est autorisé si il s'effectue à l'aide d'un appareil d'épuration marine et l'effluent comporte un compte de coliformes fécaux égal ou inférieur à 14/100 ml, s'il s'agit d'un bateau qui se trouve dans une zone désignée pour les eaux usées; Si le bateau se trouve à l'extérieur des zones désignée, le taux de coliformes fécaux doit être égal ou inférieur à 250/100 ml. » Des spécifications au niveau de l'installation et conception du réservoir de rétention des eaux usées sont aussi suggérées ainsi que des interdictions de rejet de certains produits toxiques.

Pour plus de renseignements concernant ces informations ou pour en savoir d'avantage sur la navigation écologique, venez nous voir à la marina de Shediac ou visitez notre site web où une section est dédiée au sujet (<http://www.sbwa-abvbs.net/en/greenboating.htm>).

Il est à souhaiter que les bénéfices à long terme de ce projet, conjugués à nos autres efforts, permettront l'amélioration de la qualité de l'eau dans notre bassin versant et la prise de conscience de l'importance d'un écosystème côtier en bonne santé.

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