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**Shoreline Sanitary Surveys of Shediac, Scoudouc, Batemans, Wayne
Road and Albert-Gallant watersheds**

Final Report - February 2000

By:

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1. Introduction

A detailed shoreline sanitary survey was carried out in November 1999 to pinpoint potential pollution sources in the following watersheds: Shediac river, Scoudouc river, Batemans brook, Wayne Road brook and Albert-Gallant brook. The survey included a general physical description of the main stem of each watercourse, adjacent land use, a listing of different types of pollution and their possible source. This preliminary report hopes to provide sufficient information to aide in the proper planning of a baseline water quality monitoring program and may offer recommendations for additional monitoring of certain troubled areas.

2. Materials and Methods

2.1 Surveyed area

The main branch of the Shediac river was surveyed from the McLaughlin road (GPS:359800E, 5116900N) down to Shediac bay (GPS: 379300E, 5125350N). The Scoudouc river was surveyed from the route 133 up to the natural gas pipelines (GPS: 382325E, 5114075N). The Batemans brook was surveyed from it's confluence with the Shediac river (GPS: 376875E, 5124000N) up to Saw mill road (GPS: 375350E, 5118900N). The Wayne's road brook was surveyed from the South Cove road behind Pizza Delight (GPS: 381925E, 5120075N) up to it's confluence with the Shediac bay (GPS: 382600E, 5120475N). The Albert-Gallant brook was surveyed from the bridge of road 134 (GPS: 377650E, 5125900N) down to it's confluence with the Shediac bay (378825E, 5126050N). All the surveyed sites are seen in Figure 1.

2.2 Survey description

Each watercourse was divided into several stretches. Individual stretches were then visually scrutinized for any suspected pollution source(s) that might have a potential impact on overall water quality. Any man-made structure or physical alteration visible from the river banks was inspected and considered as a potential pollution source. For each source, a detailed physical description, a GPS reading and a photograph were taken.

2.2.1 Physical descriptions

All possible pollution sources were determined as originating from either (1) pipes and culverts, (2) garbage or (3) buffer zone alterations. For each pipe or culvert, the diameter, the type (plastic, metal, etc.) and the origin and status were described. Whenever possible, a pollution source's origin was observed from several angles. The status of a pollution source is its state at the time of inspection (i.e. if this source is a potential, definite or non-pollution source). For any considerable amounts of garbage, the type, quantity and status of the objects included in this garbage were described. Non-point pollution sources like farm fields, forest clear-cut, cottages, etc. were categorized in the buffer zone alteration group. For this group, the following

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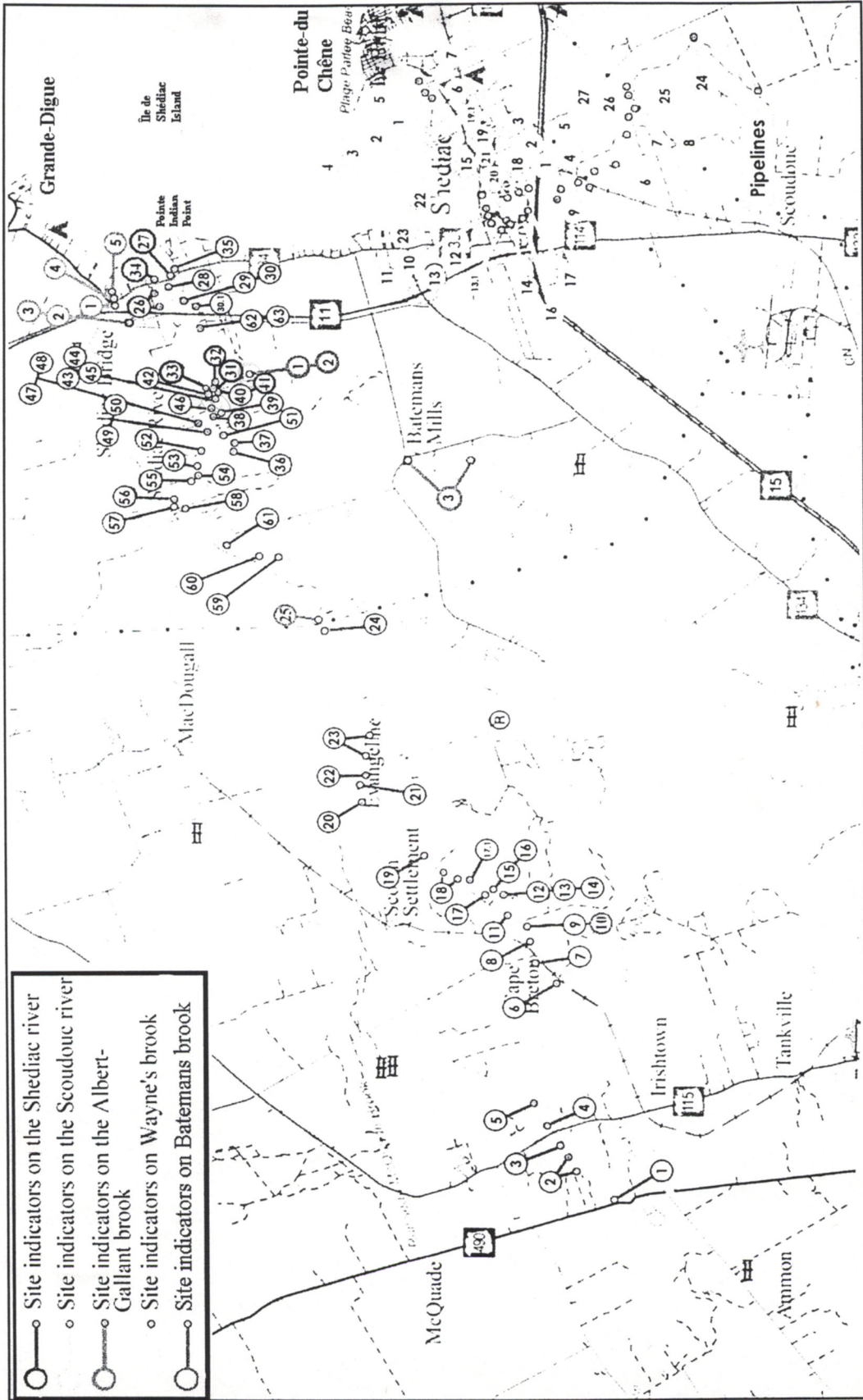


Figure 1. Map of sampling sites on the Shediac, Scoudouc, Batemans, Wayne road and Albert-Gallant watersheds during the Southeastern Anglers Association's shoreline sanitary survey in November 1999.

parameters were observed: the type of buffer zone alteration (farm, golf course, clear cuttings, cottages, etc.), the width of the natural buffer strip (if smaller than 30 metres), any visible sediment contribution due to erosion, the length of watercourse bank(s) affected by the alteration, the slope of the bank and finally the status of the alteration. Below is a list of abbreviations that were used to facilitate the survey.

List of Abbreviations

- AB: Abandoned; indicates that a structure still appears to exist at this site location.
- AG: Agriculture; could indicate an agriculture source that for most part is non-point in nature, but is associated with farming industry.
- CC: Clear cut
- CU: Culverts
- DI: Ditch
- DP: Dumps
- FP: Fish or food processing plant.
- GB: Garbage
- LE: Leaching type source that may impact receiving waters
- PI: Pipe(s): carrying effluent or from an unknown source. Discharge observations are noted in narrative.
- R: Residence
- T: Trails
- WC: Watercourse; a stream, river, brook
- WV: Warf: includes man built shoreline structures

Status (pollution classification)

- N: Non-pollution source
- D: Definite pollution source; actual substance observed discharging into or contaminating a watercourse or estuary
- P: Potential source; no contamination observed, but probable or possible

2.2.2 GPS Coordinates

A Magellan GPS 300 was used to take position readings at potentially important pollution sources. If many possible pollution sources were located within a short distance, GPS readings were not taken for every site, since the instrument has only an accuracy of 50 metres. For pollution sources affecting longer distances of the river banks, a GPS position reading was taken at the start and at the end of the possible source.

2.2.3 Photographs

Photographs were taken for every important possible pollution source. Each picture was numbered for proper identification. A Kodak DC120 Zoom Digital camera and a Samsung film camera were both used to take pictures.

3. Survey Results

The survey dates for individual watersheds are listed in Table 1 (below). The estimated length of surveyed watercourse is also shown.

Table 1. Dates and estimated lengths of surveyed watercourse for the Shediac, Scoudouc, Batemans, Wayne Road and Albert-Gallant watersheds during the SAA's shoreline sanitary surveys in November 1999.

Watershed	Surveyed Distance (km)	Dates in 1999
Shediac	28	November 9-12, 15 and 17
Scoudouc	8	November 16-17, 19 and 24
Batemans	6	November 17 and 22
Wayne Road	1	November 26
Albert-Gallant	1	November 19

3.1 Shediac river

A 28 km stretch of the Shediac river was surveyed for any possible source of pollution that could affect water quality. Agricultural lands and pipes were the most numerous possible pollution sources seen on this river stretch. Three farm lands were contributing to heavy sediment loads. Near the other farms, only small amounts of sediment were observed in the watercourse. Ten pipes, considered suspicious, were flowing during time of inspection. The banks were eroding and erosion ditches were visible along two clear cuts. Two piles of garbage were also discovered along this stream. No leaching was evident. One junkyard, containing 11 derelict vehicles, was contributing to small amounts of sediment. No other leaching was visible. Culvert, ditches, trails and residences were also located near the river banks in certain areas. No serious problems were observed from the latter. All potential impacts to the river's water quality are summarized in Figure 2.

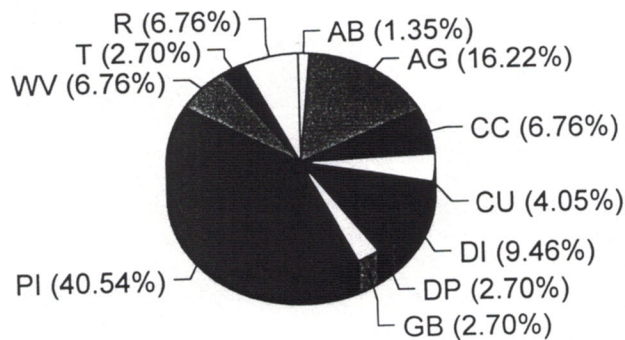


Figure 2. A pie chart showing the relative occurrence of different types of potential pollution sources along the Shediac river. The survey was conducted by the Southeastern Anglers Association in November 1999.

3.2 Scoudouc River

The sanitary survey was carried out along an eight-kilometre stretch of the Scoudouc river. The most commonly encountered possible pollution source types were from pipes, trails and agriculture (farms). Although pipes accounted for most of the possible pollution sources (39.5%), other types such as river crossings, trails, erosion ditches near farms and an open pit pose much more of a threat to the river's water quality. All potential impacts to the river's water quality are summarized in Figure 3.

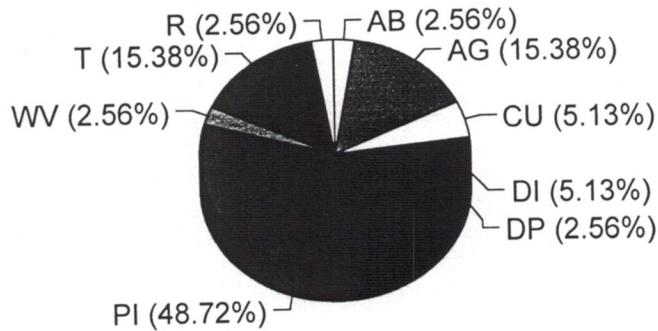


Figure 3. A pie chart showing the relative occurrence of different types of potential pollution sources along the Scoudouc river. The survey was conducted by the Southeastern Anglers Association in November 1999.

3.3 Batemans Brook

The sanitary survey was carried out along an six-kilometre stretch of Batemans brook. A variety of potential pollution sources were encountered along this short stretch. These included plastic drainage pipes from houses, a cattle and hog farm. One site was particularly polluted; four hog carcasses were strewn along the side of a lagoon near the stream (≈ 125 m). All potential impacts to the river's water quality are summarized in Figure 4.

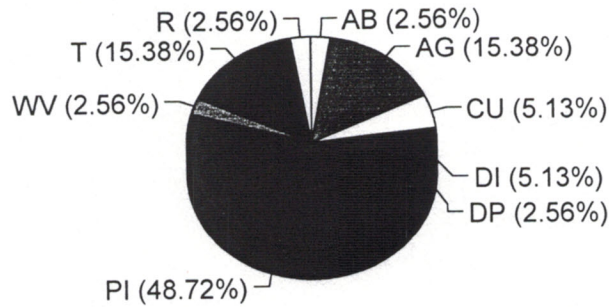


Figure 4. A pie chart showing the relative occurrence of different types of potential pollution sources along Batemans brook. The survey was conducted by the Southeastern Anglers Association in November 1999.

3.4 Wayne Road Brook

The sanitary survey was carried out along an one-kilometre stretch of Wayne road brook. The most commonly encountered possible pollution source types were drainage pipes and two culverts. The potential impact of these pollution sources seems to be minimal. All potential impacts to the river's water quality are summarized in Figure 5.

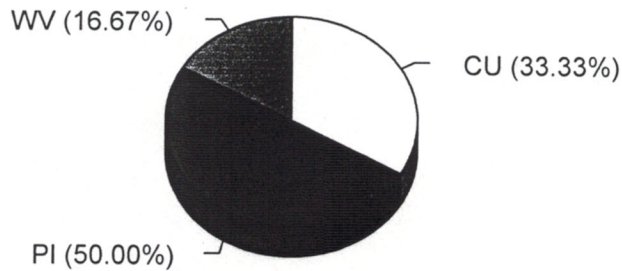


Figure 5. A pie chart showing the relative occurrence of different types of potential pollution sources along Wayne road brook. The survey was conducted by the Southeastern Anglers Association in November 1999.

3.5 Albert-Gallant Brook

The sanitary survey was carried out along an one-kilometre stretch of Albert-Gallant brook. The most commonly encountered possible pollution source types were from drainage pipes, one culvert and two small drainage ditches. The potential impact of these pollution sources seems to be minimal. All potential impacts to the river's water quality are summarized in Figure 6.

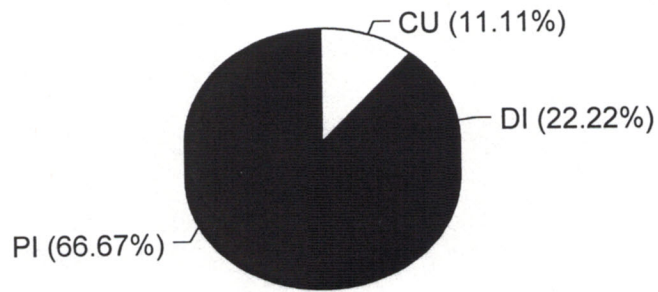


Figure 6. A pie chart showing the relative occurrence of different types of potential pollution sources along Albert-Gallant brook. The survey was conducted by the Southeastern Anglers Association in November 1999.

4. Recommendations for Water Quality Sampling

The present survey has focussed on identifying potential point source and non-point source pollution in several watersheds in the greater Shediac area. The main factors deemed to have a potential impact on water quality are riparian land use (agriculture, cottages and some forestry), drainage pipes (storm or sewer) and sedimentation (agriculture, roads and trails).

After having completed a preliminary shoreline sanitary survey, the Southeastern Anglers Association forwards the following recommendations:

- the water quality parameters to be tested should be ones possibly affected by adjacent land use. For example, where agricultural use is predominant, nutrients and bacterial testing should be a priority. Where cottages and housing are present, bacteria should be tested along with organic household chemicals. Last of all, where erosion is present, water should be tested for levels of total suspended solids or turbidity.
- water sampling sites should be situated below the confluence of the main stem of each river and its tributaries, especially where agricultural land use or urbanization are intense.
- sampling should be carried out on three separate occasions during dry weather and also on three separate occasions after a considerable rain event (25 mm or more rainfall during a 24-hour period).
- No sampling should be carried out during or immediately after extreme rainfall events.

This report is a culmination of shoreline sanitary surveys completed in the late fall of 1999. It is preliminary in nature and the SAA recommends that further surveys be completed in the upper reaches of the watersheds studied herein.

APPENDIX A

Table 2. Summary descriptions of potential pollution source types along the Shediac river. The shoreline sanitary survey was carried out by the Southeastern Anglers Association in November 1999.

Site	Type	Status	Observation	Easting	Northing
1	DI	D	A residential lawn is causing minor erosion on the left side of the river.	359800	5116900
2	AG	P	A cow pasture situated 20-25 meters from the river bank. No animal was visible ATOI.	360500	5117650
	AG	P	Present at this site is a cow pasture, very close to the steep stream banks. Also visible at this site is a plastic drain tile pipe. Possible bacterial sources.	360500	5117700
	AG	D	New fence was installed in 1999 by the Southeastern Anglers Association to improve a degraded section of this watercourse. Cows have an 18 m wide limited access to the stream for drinking. This will reduced sedimentation and coliform contamination.	360625	5117775
3	AG	D	This farm (other section of the same farm as site 2), was responsible for extreme erosion on both side of the stream. It was restored in 1999 by the Southeastern Anglers Association. Several years will be needed to permit the regrowth of the overgrazed vegetation. Some severe erosion ditch are present. This section is definitely a sedimentation and coliform contributing source. 25 animals were visible ATOI. The newly installed fence is at an average distance of 10 meters from the watercourse. The cow crossing is 8 meters wide. The left bank has a 60 degrees slope and the right bank has a 50 degree slope. This farm pasture ends at route 115.	360925	5117925
4	CC	N	On the left side of the watercourse, a residential clear cut is causing minor erosion of the top of the bank. Six meters of the watercourse's left bank is affected. This bank has a 70 degree slope.	361225	5118100
5	GB	P	Piles of garbage including fridges, car parts, metals segments and tires were situated on the left side of the watercourse.	361550	5118300
6	T	N	Bridge for ATV crossing creating minor erosion.	364225	5117950
7	GB	D	Presence of garbage on the right side of the stream. Included in the garbage are metal segments, plastics and glass. There is another pile of garbage 100 meters downstream, on the right side of the watercourse. Included in this other pile are metals segments and barrels.	364700	5118400

8	AG	N	On the right side of the stream, for a stretch of approx. 105 meters, an hay field is 5-10 meters from the stream. No erosion was observed. On the left side, the watercourse is protected by a good buffer strip.	365100	5118600
9	PI	P	A 10 cm plastic pipe on the right side of the stream is originating from a house.	365300	5118500
10	DP	P	A junk yard with 11 cars, is present on the left side of stream, 15 m from the watercourse. This is affecting 50 m of the watercourse left bank.	365300	5118500
11	PI	P	A 10 cm plastic pipe, on the right side of the stream, originates from 2 houses. Beside this pipe, a small quantity of garbage was dump on the bank. Included in this garbage are metals, plastic's and glass.	365650	5118925
12	PI	P	A 10 cm plastic pipe on the left side of the stream originates from 3 houses.	365850	5118975
13	CC	N	For a stretch of 93 meters, a clear cut on the right side of the river has left a 15 meter buffer strip. The river banks have a 5 degree slope . At this site, an old pit was situated behind a white trailer. No signs of sedimentation were visible.	365950	5118925
14	PI	P	A 10 cm plastic pipe on the left side of the stream originates from a house.	365950	5118925
15	AG	N	A farm on the right side of the river is fenced off at 12 meters from the watercourse. No signs of erosion are visible. This farm is situated along a 366 m stretch of the watercourse. The slope of the bank is approx. 5-10 degrees. No animal were visible ATOI.	366100	5119100
16	CC	N	A clear cut on the left side of the stream is situated 10-15 m from the watercourse. No sign of sedimentation are visible. Fifty meters of left river bank is affected. The bank has a 5 degree slope. A house is situated 30 m from this watercourse.	366100	5119100
17	PI	P	On the left side of the river, a 10 cm plastic pipe originates from an abandoned field.	366000	5119200
17.1	PI	P	The construction of the pipe lines have created minor impacts over 30 m of river banks. Unstable non vegetated soils are contributing to minor sedimentation. .	366250	5119500

18	AG	N	On the left side of the river, an hay field is leaving a 15-20 meter buffer strip for a stretch of 175 meters. This river bank have a 10 degree slope. On the right river side, another hay field is following the river for a stretch of 254 meters. This right river bank have a 60 degree slope . An abandoned farm field is situated approx. 100 meters downstream of these 2 hay fields.	366325	5119800
	AG	N	A farm field is situated on the left side of the watercourse with a buffer strip averaging 5- 10 meters. The length of river bank affected is approx. 61meters. The slope of the bank is 70-80 degree's. No fencing to stop the animals access to the stream was visible. Possible non point bacterial and sediment source .	366450	5120025
19	DI	N	Minimal sediment loads coming from a draining ditch which is on the right side of the watercourse.	366850	5120400
20	CC	N	A clear cut on the left side of the stream is leaving a 5 meters riparian strip. No sign of sedimentation are visible. The river banks have a 5-10 degree slope. 200 meters of this left river bank is touched by this clear cut. Approx. 280 meters downstream, another clear cut on the same side is leaving a 10-15 meter buffer strip for a stretch of 462 meters. This river bank have a slope of 45 degrees. No sediment contribution resulting from this clear cut was observed.	367925	5121550
21	T	N	An ATV trail passes close to the river right banks. No sediment contribution was observed.	368275	5121600
22	AB	N	An abandon old van was located on top of the right river bank.	368525	5121500
23	AG	N	Cattle farm field on the right side of the river, fenced at 3 meters from the watercourse for a stretch of 860 meters. The slope of this right bank is 80degree's. A small erosion ditch and a small stream flowing in the river are present in this 860 meter section. Definite sediment and bacterial sources. On the same side, 300 meters lower than the the end of the section of the farm described above, a crossing was closed with a gate. Some erosion was visible at this crossing.	369850	5121525
		N	Other section of an animal farming field on the right side of the river. The average width of the buffer strip is 15m. No sediment contribution was visible. The river bank were affected for 360m. The slope of the bank is 10 degrees.	369400	5121375
24	PI	N	On the right side of the river, a 10 cm plastic pipe is originating from a wood siding resident.	371475	5122350
25			Watercourse		

26	R	N	A cottage landscape is at 0 m from the watercourse for a 553m stretch. This bank have a 10 degree slope. In the middle of this stretch, a bank stabilizer was put in place to prevent or stop erosion. Another bank stabilizer was located 100 meters downstream.	378025	5125300
	PI	D	A 10 cm plastic pipe originating from a charcole black cottage was flowing ATOI. This pipe is coming from a bank stabilizer. Green moss is present in the pipe.	378325	5125450
	PI	N	Two 10 cm plastic pipes were originating from a brown cottage.	378425	5125425
27	R	N	House landscapes were at 0 m from the watercourse for a stretch of 1146 meters.		
28	DI	N	Man made drainage ditch creating minor sedimentation.	378425	5125200
29	DI	N	Drainage ditch contributing to small loads of sediment.	378150	5124925
30	PI	P	A 4 cm metal pipe on the right side of the river originating from a white cottage.	378100	5124875
30.1	WV	N	A rock bank stabilizer in front of blue house protecting 29 m of river bank.	377975	5124650
31	R	N	Houses and cottages were present along a 662 m stretch. No buffer strip was left along this river section.		
32	PI	N	Water was flowing out of a 10 cm plastic pipe that originates from a white house.	376475	5124350
	PI	N	At this site, two 10 cm plastic pipe were originating from a white house.	376575	5124250
33	R	N	Houses and cottages were present along this 1096m stretch. A small 5 m buffer strip was left and banks were stabilized at several points on this river section.		
34	WV	N	A warf was present along 30 m of river bank. No buffer strip was left for 125 m.		
35	CU	P	A road culvert originates from route 134. The river banks were stabilized with rocks for a stretch of 400 meters.	378825	5125050
36	R	N	Houses and cottages were present along this river section. Banks were stabilized with cement blocks, rocks and wood for 100 m.	375100	5123050
	PI	P	An important water flow is coming out of a 16 cm metal pipe that originates from a beige house.		
37	PI	P	A non flowing 10 cm plastic pipe is situated behind a beige house.	375225	5123950
38	PI	N	Five non flowing 10 cm plastic pipes that originates from a beige house are located inside 15 m of river bank. These pipes seemed to be used for drainaige purposes.	375225	5124400

39	CC	P	Bulldozing activities have caused minor erosion of a 35 m stretch of river bank. Small erosion ditch are present on this site.	375825	5124275
40	DI	N	Erosion ditch having no visible impact on the watercourse.	376250	5124250
41	PI	N	A 7.5 cm plastic pipe used for spring water drainaige. The spring is originating from a brown house.	376300	5124300
42	PI	P	A 10 cm plastic pipe that originates from a red cottage was not flowing ATOI. This pipe was filled with dirt.	376225	5124400
43	DI	P	Man made drainage ditch causing minor sedimentation.	376150	5124350
44	CU	P	A 30 cm cement culvert which originates from a brown house drive way ditch	376125	5124325
45	AG	D	Series of drainaige ditches that originates from a farm field are contributing to important sediment loads. No fencing was installed to stop animal access to the watercourse and no buffer strip was present for a 200 m stretch. The river bank have a slope of 5 degrees.	376100	5124375
46	PI	P	A small waterflow was comming out of a 10 cm plastic pipe that originates from from a beige house.	375925	5124400
47	CU	P	A 30 cm cement culvert originating from a beige house, is used to drain a natural spring and precipitation run-offs. An important waterflow was comming out of this culvert ATOI.	375625	5124650
48	WV, PI	P	A wooden bank stabilizer was holding 50 m of river bank. Also present at this site was a flowing 2.5 cm plastic pipe which originates from a brown house.	375600	5124650
49	AG	P	A farm hay field contained no erosion ditches even if the river bank were heavily sloped (70 degrees). A 10 m buffer strip was left between the field and the watercourse. Probable sediment source during heavy rain.	375525	5124550
50	DI	D	An erosion ditch that originates from a grey house is contributing to heavy sediment loads. Also present below this house was a 2.5 cm plastic pipe used to drain a natural spring.	375500	5124500
51	PI	N	A 2.5 cm plastic pipe, originating from a brown house was flowing from a natural spring.	355375	5124150
		N	Good buffer strip (no houses and no cottages). (1580m-2382m)		
52	DP	P	Dumping of dirt on the bank by wheel barrel at 2431m. Green house no. 26. Causing sediment contributions in the river. Length of w.c. bank affected 2m. Slope of the bank 80degree's.	375050	5124625

53	AG	N	Old farm field, on 80 m of river bank, contributing to no visible sedimentation. This river bank had a 20 degree slope .	374700	5124650
54	PI	N	A 7.5 cm plastic pipe originating from a white house was draining a natural spring.	374525	5124700
55	WV	N	In front of a green house, the banks were stabilized with wood braces for a 20 meter stretch.	374475	5124800
56	PI	N	A 15 cm metal pipe originating from a house's pond was flowing.	374025	5125125
57	PI	N	A 30 cm metal pipe originating from a fish pond which was near a brown house had an important waterflow.	373950	5125150
	PI	N	A 10 cm plastic drain pipe originates from a brown house. This pipe was used for land runoffs drainage purposes.		
	WV	N	The river banks were held by a wooden bank stabilizer for a 20 m stretch.		
58	PI	N	A 10 cm plastic pipe originates from a grey house. This pipe was not flowing during time of inspection.	373900	5124950
59	PI	N	On the left side , a 10 cm plastic pipe originating from a white house was flowing at time of inspection.	373950	5123275
60	PI	N	On the left side, a 10 cm plastic pipe originating from a yellow house, was flowing ATOI. This pipe seemed to be used for drainage purposes.	373000	5123700
61	PI	D	On the left side, a 7.5 cm plastic pipe originating from a red house was flowing ATOI. Soap residues were coming out from this pipe.	373175	5124100
62	PI	N	Three plastic pipes were originating from a beige house. The diameter of the first pipe was 10cm. The diameter of the second pipe was 10cm. The diameter of the third pipe was 5cm and this pipe was covered with a screen.	377550	5124500
63	PI	P	Two pipes (3.5 and 10 cm)were originating from a pool which was situated near a blue house.	377575	5124600

Table 3. Summary descriptions of potential pollution source types along the Scoudouc river. The shoreline sanitary survey was carried out by the Southeastern Anglers Association in November 1999.

Site	Type	Status	Observation	Easting	Northing
1	PI	N	Plastic pipe (10 cm dia.) originating from beige house (#2). Runoff from house gutters. No flow.	380275	5117925
2	PI	N	Plastic pipe (10 cm dia.) originating from blue house (#4). No flow.	380275	5117800
3	PI	N	Plastic pipe (25 cm dia.) originating from brown house (#5). Metal cover on pipe. Metal tank on bank. Storm drain.	380300	5117775
4	AG	N	Old abandoned field with small buffer strip of 2 m. Small erosion ditch contributing sediment. Steep bank of 70%. Some garbage was burned at this site.	380475	5117450
4		N	Old train track crossing. Dirt road close to the river. No buffer strip.		
5	R	D	Serious sediment source from land erosion at culvert crossing dirt road. No buffer strip. Moderate slope (%30). Culvert (76 cm dia.) originates from brown house (#7).	380775	5117075
6		D	Small erosion ditch near brown house with grey room (#8). Moderate sediment source. Water runoff from abandoned pit is main source.	380825	5116800
6	DP	N	Dirt road coming from pit close to the river at 2175m.		
6	T	N	Small camp site with ATV access trail. Picnic table. Access road 200 m further.	331296	5116538
6			End of tidal waters.	381750	5116550
7	T	D	ATV trail crosses river.	382250	5116500
8	T	D	ATV trail crosses river. No buffer strip.	381900	5116400
8	AB	N	Old train tracks.		
9	AG	D	Small cow crossing. Fence leads into river to limit cattle's access.	380400	5117250
9	AG	D	Cattle field and access trail to river. 10 cattle nearby. No erosion ditch, but a lot of sediment contribution. Steep slope (80%) and thin buffer zone.		
9	AG	P	Cattle field with 4 cattle visible. Thin buffer strip. Steep slope (80%).	380300	5117300
9	AG	D	One small and two large erosion ditches caused by cattle access to river.		
9	AG	N	Hay field with old fence on top of hill. Steep bank (85%). Thin buffer strip (3 m).	380150	5117925
10	PI	P	Metal pipe (25 cm dia.) originating from tourist center's parking lot. Pipe has metal cover. Storm drain.	379875	5119200
11	PI	P	Plastic pipe (10 cm dia.) originating from trailer park. No flow.	379725	5119175
12	PI	P	Plastic pipe (10 cm dia.) originating from white house (#1). No flow.	379625	5119075

13	CU	P	Metal culvert (60 cm dia.) originating from grey house (#2). Minimal flow.	379600	5119075
13	PI	P	Plastic pipe (10 cm dia.) originating from grey house (#2). Minimal flow.	379600	5119075
13.1	PI	P	One plastic pipe (10 cm dia.) and one cement pipe (20 cm dia.) originating from brick house (#4).	379500	5118925
14	PI	P	Plastic pipe (25 cm dia.) originating from small brick building. No flow. Proximity to white house (#9). Metal cover, storm drain.	379575	5118850
15	WV	N	Bank stabilizer. Length bank affected: 110m.	379750	5118950
15	PI	P	Pipes in the bank stabilizer at every 6-8ft (approx. 50 pipes). In front of houses no. 16, 17 and 18.		
16	PI	N	Two plastic pipes (10 cm dia.) originating from blue house (#24). Drain for storm runoff. No flow.	379750	5118650
16	PI	N	Plastic pipe (25 cm dia.) originating from blue house (#24). Drain for storm runoff. No flow.	379750	5118650
17	PI	N	Plastic pipe (10 cm dia.) originating from blue house (#32). Drain for storm runoff.	379875	5118475
18	PI	N	Plastic pipe (10 cm dia.) with plastic cover originating from green house (#37). Drain for storm runoff.	380325	5118325
19	CU	P	Plastic culvert (60 cm dia.) in road. Storm drain.	380300	5118700
19.1	PI	P	Two plastic pipes (10 cm dia.) superposed, originating from army green house. Screen on pipes. Weak flow.	380200	5118550
20	PI	N	Plastic pipe (10 cm dia.) originating from white house (#45). Drain for storm runoff. No flow.	380150	5118775
21	PI	N	Plastic pipe (10 cm dia.) originating from big brown house (#47). Drain for storm runoff. No flow.	380150	5118775
22	PI	D	Two plastic pipes (15 and 20 cm dia.) originating from Shediac Lobster Shop. Lobster waste flowing out of larger pipe.	380200	5119325
23	PI	P	Plastic pipe (10 cm dia.) originating from behind tourist center. Definite pollution source. Some temporary flow observed.	379975	5119275
23		D	Plastic pipe (10 cm dia.) originating from behind tourist center. Definite pollution source. Some temporary flow observed.		
23		N	Plastic pipe (10 cm dia.) originating from behind tourist center. Screen on pipe. No flow.		
23.1	NP	P	NB Natural gas pipe line. 30 m of steep bank (80%) affected. Minor sediment contributions.	382325	5114075
24	T	N	ATV Trail along left side of river which does not cross it.	383325	5115025
24.1	T	D	ATV Trail crossing river.	383375	5115300
25	DI	N	Erosion ditch along slightly sloped bank. Minor sediment contribution. Good buffer strip (15-20 m) which probably stops most of sediment.	382650	5116450
26	DI	D	No buffer strip. Erosion ditch along right side of river that is probably caused by power lines trail. Serious sediment contribution. Moderate slope.	382250	5116550

27	T	D	ATV Trail crossing the river. Dirt road on both side of river.	382250	5116650
28			Rusting culvert pipe (abandoned) lying across a portion of the river.		
28	WC	D	Road erosion due to heavy rain. Cars, trucks and ATV's crossing the river. Severe sedimentation contribution.	383050	5111525

Table 4. Summary descriptions of potential pollution source types along Batemans brook. The shoreline sanitary survey was carried out by the Southeastern Anglers Association in November 1999.

Site	Type	Status	Observation	Easting	Northing
			Good buffer strip 0m- 3650m.		
1	PI	N	Plastic pipe (2 cm dia.) originating from beige house (#8) on left side. For drainage of spring water. Moderate flow.	376650	5123550
2	PI	N	Plastic pipe (2.5 cm dia.) originating from white house (#11) on left side. For drainage of spring water. Moderate flow.	376700	5123700
3	R	N	A white house and a gray house .	374850	5119400
3	WC	P	Small stream flows into Batesman brook on right side. Pig farm nearby, although it is not visible from this site. †	374900	5119900
3	AG	P	Cattle field on left side. No animals. Buffer strip 10-15 m. No erosion and no sediment sources. Steep bank (80%)	375000	5120300
3			Serious sediment contributions from Batesman Mill rd.		
3	LE	D	Overflow from cattle and hog farm lagoon flowing into Batesman brook. Farm is approx.125 m from brook. Four dead pigs found.	374850 374925	5119475 5119450

Table 5. Summary descriptions of potential pollution source types along Wayne road brook. The shoreline sanitary survey was carried out by the Southeastern Anglers Association in November 1999.

Site	Type	Status	Observation	Easting	Northing
1	PI	N	Two plastic drainage pipes (10 cm dia.) originating from beige house no.4. No flow.	382225 382250	5120125 5120200
2	WV	N	Cement bank stabilizer along a 23 m stretch in front of yellow house (#5). Buffer strip of 30 m consists of small vegetation. Weak slope (5%).	382250	5120175
3	CU	P	Cement culvert (61 cm dia.) originating from Ditch Rd. on Wayne St. Weak flow.		
4	PI	P	Plastic pipe (10 cm dia.) originating from white house (#7). No flow.	382200	5120250
5	CU	N	Cement culvert crossing Wayne's brook	382250	5120375
6	PI	D	Metal storm drainage pipe (25 cm dia.) originating from small brick building	382500	5120375
7	WC	N	Small stream flowing to the Shediac Bay	382600	5120475

Table 6. Summary descriptions of potential pollution source types along Albert-Gallant brook. The shoreline sanitary survey was carried out by the Southeastern Anglers Association in November 1999.

Site	Type	Status	Observation	Easting	Northing
1	PI	P	Four plastic pipes (10 cm dia.) originating from cottage park. No flow.	378125	5126150
1	PI	D	Pipe originating from cottage park. No flow.		
1	PI	P	Pipe (10 cm dia.) originating from cottage park. Weak flow.		
1	PI	P	Pipe appears to be running underneath rocks. Potential source.		
1		N	Good buffer strip both sides of brook. No housing.	377800	5125850
2		N	Poor buffer strip.		
3	DI	N	Small drainage ditch on right side.	377750	5125850
3	PI	N	Two plastic drainage pipes (10 cm dia.) originating from green house (#1) on right side of brook		
3	CU	P	Cement culvert (45 cm dia.) of unknown origin on left side. Weak flow.	378150	5126175
4	DI	N	Small drainage ditch (2 m wide). No buffer vegetation along bank, but some in ditch. Weak slope (3%). Near Cocagne Building Supplies.	378300	5126200
5	PI	N	Plastic pipe (10 cm dia.) originating from big white house (#2) on left side. Drainage flows in ditch that leads straight to brook. Moderate sediment contribution.	378300	5126200