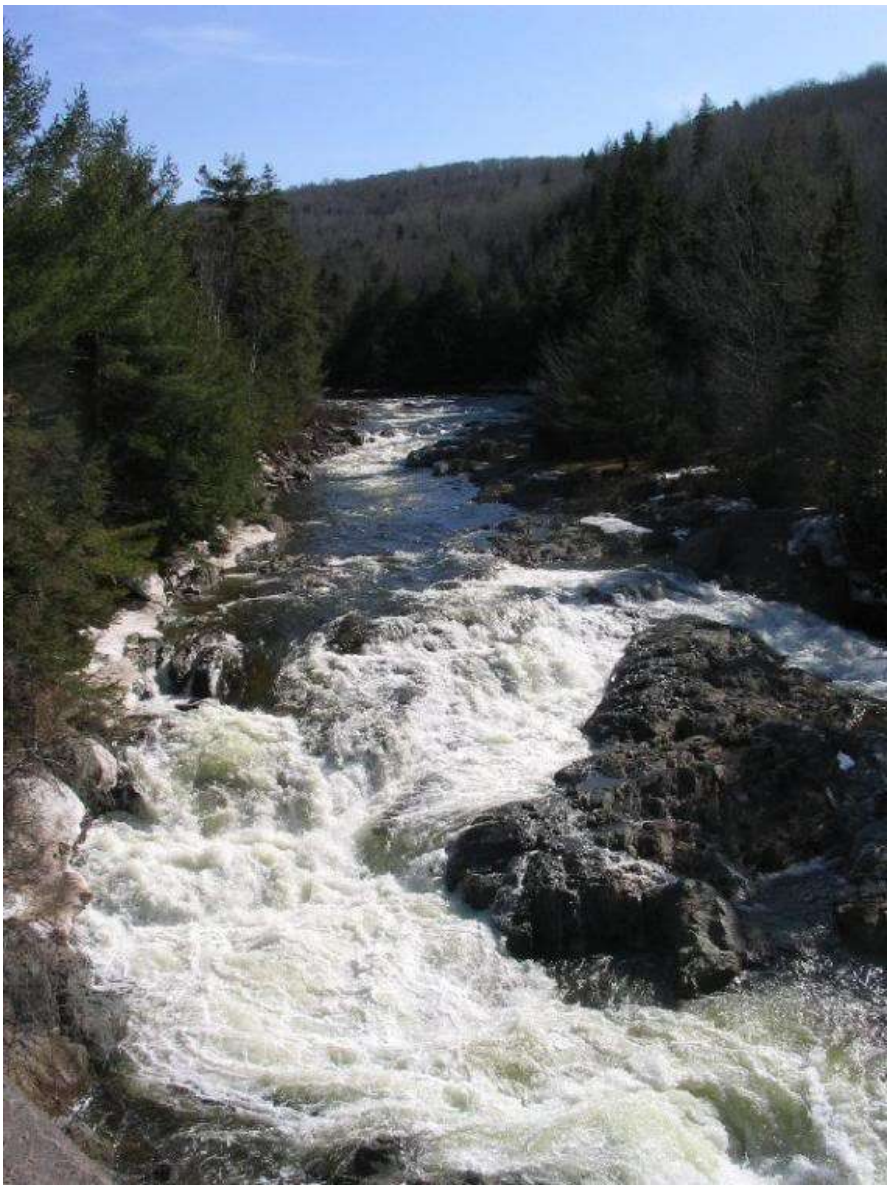
Pollett River Habitat Assessment



Alliance du bassin versant
Petitcodiac
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The Petitcodiac Watershed Alliance (PWMG-GSBP Inc.) is a non-profit environmental science and education organization that promotes sustainable use of the Petitcodiac River and its tributaries. In addition since 1997, the group has been involved in a monitoring program of established sites in the Petitcodiac River and tributaries of concern or interest. These sites are verified through the following stream health indicators: temperature, dissolved oxygen, total coliformes, E. coli., nitrates, phosphorous, sediment and pH. More information about the groups' activities can be found on the following web-site: www.petitcodiacwatershed.org

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Introduction

The Pollett River is a river that is located between the village of Elgin and Salisbury. This watercourse has a watershed area of 314 km². Almost 50% of the area in this watershed is made up of woodlots. A large percentage of forest is still intact, and this watershed has a number of unique features. At least 22% of the Pollett River watershed consists of mature forest. Pine makes up another 17% of the area. Mixed wood and tolerant hardwood make up another 7%.

The major economic activity in this watershed is forestry and agriculture. Many cottages and private homes border the Pollett River and these dwellings have resulted in some damages to the riparian zone however, the Pollett remains the most pristine terrestrial and aquatic ecosystem in the entire Petitcodiac River Watershed.

http://www.unbf.ca/forestry/centers/Pollett.htmThe uniqueness of this watershed has captured the interest of other conservation groups such as the Fundy Model Forest and the Greater Fundy Ecosystem Research Group (GFERG). They have identified the Pollett river watershed as home to a number of ecologically sensitive areas of concern.

Gibson Brook – Gibson Brook empties into the Pollett River near the village of Elgin. Gibson Brook has steep slopes, and has one of the largest hemlock stands in southeastern New Brunswick. These stands are increasingly rare. Rare plants in Gibson Brook include the frog orchis and lesser wintergreen.

Three ecologically sensitive forest types have also been identified in woodlots of the Pollett River watershed.

1. Pine-Oak Forest Community Type
2. Wet Cedar Forest Community Type
3. Sugar Maple/White Ash/ Ironwood/Beech Community Type

In 2001 the Fundy Model Forest and the Greater Fundy Ecosystem Research Group (GFERG combined their resources and developed the Pollett River Watershed Project for Woodlot Owners. One of the goals of this project was to help woodlot owners identify their important and increasingly rare habitat types and ensure that they are maintained. As a result of this project most of the private woodlot owners have woodlot management plans and can identify any unique habitats within their woodlots that require conservation.

The Petitcodiac watershed Alliance in our Preliminary Water Classification Report in 2002, recommended that the Pollett River be classified as a Class A stream. Class A streams have high aquatic community standards, high levels of dissolved oxygen, low levels of bacteria and some protection from activities that

would negatively impact the present aquatic qualities. The Petitcodiac Watershed Alliance will further recommend that the Pollett River, due to its pristine condition, its historical significance, its natural beauty and unique features, be nominated for outstanding natural waters classification. This classification would provide another layer of protection to the Pollett River that ensures it will remain in the condition that it is found in today.

Methodology

The stream Habitat Assessment was performed using the protocol set out by the New Brunswick Department of the Environment and the *Ecological Restoration of degraded Aquatic Habitats* from the Department of Fisheries and Oceans. Information was also taken from the United States Department of Agriculture, *Stream Visual Habitat Assessment Protocol, Technical note 99-1.*

Reach surveys were conducted at every 500m of stream during a range of flow conditions. Water quality parameters were analyzed using the following list of equipment and tools:

YSI 85 handheld meter for dissolved oxygen, salinity, temperature and conductivity measurements.

B-343 Handheld Nitrate Ion Meter

30 meter logging tape and meter stick

LaMotte pH test kit

Quanti-tray 2000© for bacterial analysis

YSI 9500© for phosphorous analysis

Garmin GPS Unit

Plant Identification keys

Macro invertebrate Identification keys

Fish Identification Keys

Physical Characteristics

The Pollett River is a large river with an average width of 19.95 m. The upper part of the river or the headwaters of the river, are close in proximity to Fundy National Park. There is no commercial development in this section of the river and the watercourse appears to have a great deal of dynamic stability. Physical characteristics such as stream width, substrate composition, and depth are relatively

uniform. There is some visible erosion along outside banks but the banks are stabilized by the roots of trees, shrubs and grass. There is also some active braiding of the river channel in places and these dead-end channels are providing plenty of resting areas for many small fish during periods of low flow.

The riparian vegetation is very healthy in this part of the river with some large woody debris scattered along the banks providing habitat for insects, and cover for fish and other observed aquatic species. The grade is sufficient in this part of the river to provide a swift current throughout the reach but large sections of the river have lost their pool-riffle structure. Deep pools over 1m in depth are a few kilometers apart in the upper regions of this river. Many kilometers of riffle habitat are interspersed with shallow, first and second class pools that average between .5 and 1m deep, but very few deep pools. In the middle and lower stretches of the Pollett deep pools are more abundant, some as deep as 3m. The water throughout the river is clean and clear and there is no problem with light penetration down to the substrate of even very deep pools. The river banks are well forested and do provide some canopy cover along the shoreline, but because the river is wide the forest provides less than 25% percent canopy cover for the entire river.

The average water depth in the first 10 km of river assessed was .56 m and velocities within the river averaged 0.38m/s. The depth is sufficient for trout and salmon species of fish which both require a depth of .18 m for migration. The average velocity is well below the maximum velocity of 2.5 m/s that might act as a barrier to fish passage. There is a 4m waterfall that acts as a barrier to passage of small species of fish. The waterfall used to be a popular spot for netting Atlantic salmon during their migration upstream to the headwaters of this river. There is a very deep pool below the falls and with high water levels in the spring of the year. The waterfall did not prevent passage of Atlantic Salmon 40 yrs ago when they were abundant in the Pollett River. Atlantic Salmon have not been spotted in this section of the river since the 1980's. This is most likely due to fish passage issues caused by the causeway over the Petitcodiac River. The causeway was built in 1968 to accommodate traffic flows between Moncton and Riverview and has contributed to the steady decline of this particular species of Atlantic salmon.

The substrate within the stream is mostly gravel and large rocks. Some sections are entirely bedrock and there are occasional gravel and sandbars as well. There is no visible algae in sections of the river that are characterized by good flow rates but algae can be found in some resting pools, especially those that are cut off from the river during the drier summer months.

There is little to no visible sediment deposition in this river, embeddedness falls within the 0 to 10% range and this river should be able to provide excellent spawning habitat for trout and other salmonids species of fish. Turtles have also been found in and around the Pollett in areas where gravel and sand bars provide suitable breeding habitat.

The banks of this river are almost entirely forested. But, there is a fair amount of buffer zone damage in some of the more populated sections of the river. Two incidents were reported to the department of the environment during this assessment. In one case a road was being built within the buffer zone of the river without a permit and in another section of river the owner was removing gravel from the riverbank. JD Irving was contacted concerning problems with sediment loading in a tributary of the

Pollett as a result of poor culvert installation on a logging road. Other than that, there are homeowners with sewage issues along the river that we could detect from odors emanating from the shoreline, and homeowners that have destroyed the buffer zone in order to obtain clear views of the river.

Figure 1 and 2: Damage to Pollett River buffer through removal of gravel (above) and road building activity (above and right) both without the required permits.

Chemical Characteristics

SAMPLING POLLETT RIVER SUMMER OF 2009

PWMG 11 - Pollett River, 1km above confluence with the Petitcodiac River

On route 106 towards Salisbury and turn onto Powers Pit Rd (on the right). Turn right after covered bridge and the sampling site is on the left at the first clearing.

Latitude: 45.99573 Longitude: 65.09082

MONTH	DO MG/L	TEMP °C	PH	EC MPN	TC MPN	SSC MG/L	SAL. PPT	N	P MG/L	CON µS
May	12.07	12.3°C	6.5	1	1046	0	0	0.15 mg/L	0.159	43.9
June	9.33	15.2°C	7.0	77	≥2420	6	0	0.24 mg/L	0.16	51.3
July	9.54	20.6°C	7.0	49	≥2420	0	0	0.35 mg/L	0.16	45.0
Aug	10.26	24.0°C	7.5	161	≥2420	0	0	17 ppm	0.09	56.7
Sept	10.58	13.5°C	7.0	154	≥2420	0	0	8.8 ppm	0.28	55.6
Oct	12.23	5.2°C	6.5	39	≥2420	0	0	9.2 ppm	0.1	32.1
average	10.7	15.1°C	6.9	80	2191	1.0	0		0.16	47.4

Dissolved Oxygen (DO)

The average dissolved oxygen reading taken in 45 different places in the Pollett River during the months of July, August and September was 10 mg/L. The accepted desirable range for dissolved oxygen in fish bearing streams is 7-11 mg/L as indicated in the chart below.

Dissolved Oxygen (mg/L)	
0-2 mg/L:	not enough oxygen to support life
2-4 mg/L:	only a few kinds of fish and insects can survive
4-7 mg/L:	acceptable for warm water fish
7-11 mg/L:	very good for most stream fish including cold water fish
Percent Saturation (%)	
Below 60%:	poor; water too warm or bacteria using up DO
60-79%:	acceptable for most aquatic organisms
80-100%:	excellent for most aquatic organisms
112% or more:	too high, may be dangerous to fish

Conductivity and Salinity

The average conductivity taken in 50 different locations from the Pollett River during the months of July, August and September was 39.1 µS. The overall range in conductivity went from a low of just 27.8 µS to 55.3 µS. It is also interesting to note that the lowest conductivities were found in the headwaters of the Pollett River and there was a gradual increase in conductivity until it emptied into the Petitcodiac River. Conductivity in this stream is generally lower than most other watercourses in the Petitcodiac River watershed, but is suitable for fish bearing streams. Salinity was measured at the same time that conductivity readings were taken and was always found to be 0.

pH

The pH was measured 50 times in the months of July, august and September. There was found to be very little variance in the pH range. Most pH values were recorded as 7 or 7.5.

Temperature

The water temperature in the Pollett River was measured 48 times in the months of July August and September. The lowest temperature recorded was 11.2 taken one morning in the month of September. The highest temperature recorded was 21.4 late in the afternoon on a hot day in July. These temperatures fall within a suitable range for all salmonids species found in the Petitcodiac watershed.

Bacteria and E.coli

Bacteria results are recorded each year from the months of May to October in the Pollett River. The three year average E.coli level in the Pollett River is just 24 MPN. The E.coli levels for the 2009 sampling season are 80 MPN. That being said, there are three streams running into the Pollett River that have very high E. coli levels. The Mapleton Brook had high E. coli levels in July but not in August. We believe that this is due to agricultural activities about 1 km upstream. The confluence of the Webster and Lee Brooks also had high E.coli levels. More testing must be done to determine if this is also related to

agricultural activity along the Webster Brook or septic systems running into the Lee Brook, or a combination of both. The small stream running adjacent to the Jordan Memorial Home in River Glade also had high E. coli levels. The cause of the high levels of E. coli in this stream has not been identified as of yet.

Tributaries of the Pollett River tested for E. coli and Total Coliformes

	E. coli (MPN)	Total coliformes	Month Sampled
Culvert #948	0	201	August 26,2009
Lee and Webster confluence	1733	<2420	August 26. 2009
Lee Brook	158	<2420	Sept.28 2009
Webster Brook	344	<2420	Sept.28 2009
Jordan Brook	228	<2420	August 26, 2009
Babcock Brook	18	303	August 26, 2009
Miller Brook	435	< 2420	Sept 28 2009
Mapleton Brook	1120	<2420	July 28,2009
Mapleton Brook	41	1986	August 26, 2009
Mapleton Brook	866	<2420	Sept. 28, 2009

Observation: Webster Brook and Mapleton Brook have operating dairy farms that may be raising E. coli levels in the streams that flow near or through pastures. The source of E. coli contamination in Miller Brook is still unknown.

Nitrates and Phosphates

Nitrate and phosphate levels were monitored in the Pollett River from May to October. Nitrate levels should not exceed 13 mg/L and there are currently no Canadian water quality guidelines for phosphorous levels, however, according to the United States Environmental protection Agency, phosphate levels in healthy freshwater ecosystems should fall within the 0.01 to 0.03 mg/L range. Phosphate levels above 0.1 mg/L indicate phosphorous contamination and phosphate levels over .25 mg/L indicate that a stream is heavily contaminated by phosphorous. Nitrate and phosphate levels are both high enough in the Pollett River to indicate that there are sources of contamination that need to be identified in the Pollett River.

2009	May	June	July	August	September	October
Nitrates mg/L	15	23	35	17	8.8	9.2
Phosphates mg/L	0.159	0.16	0.16	0.09	0.28	0.1

Unique features of the Pollett River

There are several features that make the Pollett River unique. The first is the gorge that the river flows through near the village of Elgin. There are two waterfalls in this area, one is formed when the Gibson Brook enters the Pollett River, and the second is in the Pollett River itself. Both falls are noted in the book “Waterfalls of New Brunswick”. The Pollett River, in the region of the gorge, is a popular swimming area with the local residents and many from outside of the region. The area is also very dangerous, the gorge itself has very steep cliffs and on average two swimmers per year are rescued by the local authorities due to swimming accidents and falls, alcohol often plays a role. See Appendix for a Times and Transcript report of the latest accident.

Figure 2: A climber descends into the gorge of the Pollett River.

The Pollett River from Elgin to the Glades is also the location of the annual Pollett River run. A popular annual event that has no official organizer, but occurs the fist weekend of every May. Participants make their own raft or bring a boat and float down the Pollett River, which is sometimes dangerously high. A lot of garbage is usually left behind after each run, but a small group of boaters usually returns the next day to clean up. The Petitcodiac Watershed Alliance conducted a clean-up of the Pollett in June of 2010 and removed additional garbage and a lot of beer cans from the river. There are two boats still in the river that were abandoned by May run participants. They are in isolated sections of the river that are very difficult to access. One is made from the back end of a truck, with car seats welded into it. It probably was mounted on to plastic barrels to make it float. What is left of it in the river is too heavy to carry any distance and since there is no easy access to the river at its current location, it has been left in the river. The second wreck is also located in an isolated area. It is also too large to be carried out by

canoe and will have to be dismantled in-stream to get it out piece by piece.

Figure 3: Boaters line up to enter the water for the 2009 Pollett River run.

Figure 4: Home made rafts are common sights on the Pollett River run.

The Petitcodiac Watershed Alliance also observed, during the course of this assessment that there are a number of unique habitats along the Pollett River. There is a section of Pollett River that is home to a large population of cedar waxwings.

The cedar waxwings are attracted to a section of the Pollett where there is an abundance of apple and other fruit trees. The Pollett River also provides habitat for ducks, Canada geese, hawks and eagles.

Figure 5: A Cedar Waxwing.

The Pollett River is also unique in the Petitcodiac River watershed in that the riparian zone of the Pollett is almost entirely intact. The intact forested areas are largely a mix of conifers and hardwoods. This mix of conifers and hardwoods has attracted the interest of the Fundy Model Forest conservation group, who have labeled the forest as typical of "old growth Acadian forest". There are also a good number of young elm trees beginning to grow along the banks of the Pollett River. Elm trees were once common along the Pollett River before the 1970's when Dutch Elm disease went through Southeastern New Brunswick and most of the elms were lost.

One wood turtle was found in a tributary of the Pollett River. Wood turtles are listed by SARA as a species at risk. These turtles are unique in that they are a terrestrial turtle that requires forest cover, clean watercourses and a gravel or sand bar to lay their eggs in.

There were very few adult fish species found in the Pollett River although minnows in shallow pools were common. The minnows that we could identify included sticklebacks, chub and dace. One dead brook trout about 6cm in length was found, and many conversations with landowners and fishermen have led us to the conclusion that there is not an abundance of trout that is caught in the Pollett River. Swimmers in the Pollett Also pointed out to us that there were a lot of leeches in some sections of the Pollett. The abundance of certain types of leeches could be an indication that there are no big fish in the Pollett River as bigger species of fish eat leeches. We conducted several macro-invertebrate surveys over the course of the study and found that there were representatives of most macro-invertebrate species present in the river. These included freshwater mussels, snails, black fly and mosquito larva. We also found leeches, scuds, fishing spiders, dragonfly and caddis fly larva as well as water striders. There were also found, an abundance of macro-invertebrates that require clean, highly oxygenated water such as water pennies, mayflies and stoneflies. The macro-invertebrates present should be capable of providing an adequate food source for an abundance of freshwater fish species. There is an abundance of brook trout in the smaller tributaries that run into the Pollett. Two children fishing in a well forested tributary indicated to me that they had caught a dozen trout in a small tributary in just 45 minutes.

Blueberries are common in the Pollett River watershed; there are at least three blueberry farmers in this watershed with hundreds of acres in production. Blueberries play an important role in the local economy.

Potential Impacts on the Pollett River

Forestry operations

There is a significant amount of clear cutting taking place in the Pollett River watershed. Most of the harvesting is done by JD Irving Ltd, although at least one land owner has cleared a large tract of land. It is difficult to determine the acreage of land that is cut on a yearly basis as the only information that we can obtain is the 25 year cutting plan. We have been able to obtain GIS maps that show all Irving forestry activity from 2001 to 2007. The type of deforestation that is taking place is of particular concern. The trees are all cut and put through a chipper, every tree is removed and there is nothing left behind, there are no undesirable species, no limbs and no branches left behind to provide nutrients for the soil or habitat for animals. Large tracts of land are being cleared at a time which also affects the infiltration and runoff of water during precipitation events, the rate of spring melt off and the ability of the watershed to moderate flow rates during extremely wet or dry periods of weather. Poorly designed woods roads and undersized or poorly installed culverts are also potential threats to water quality in the Pollett River watershed.

Figure 6 and 7: The volume of clear cutting taking place in the Pollett River watershed may impact water quality and quantity.

Figure 8 and 9: An undersized culvert on an Irving logging road contributes sediment to a tributary of the Pollett River.

Agricultural Operations

There are four working dairy farms in the Pollett River watershed area, and numerous hobby farms. Most of the dairy farms are adjacent to tributaries of the Pollett River, and most of those tributaries have high E. coli levels during the summer months. It is our experience that most area farmers are unaware that they are having a negative impact on their freshwater resources. At least two of the dairy farms that we worked with have plans to expand their operations. Most of water quality issues in rural areas can be attributed at least in part to agricultural practices. Only two of the dairy farms have environmental farm plans (that we know of).

Figure 10 and 11: Dairy Farms in the valleys of the Pollett River watershed.

Natural Gas Fractionation

There are two natural gas wells within the Pollett River watershed. Natural gas fractional has the potential to have a negative impact on the Pollett River watershed, especially as a greater number of wells are drilled. Some of the risks associated with shale gas fractionation include: freshwater extraction from local streams, habitat destruction, and sediment deposition from the construction of dirt roads, wastewater spills and chemical contamination of surface waters.

Figure 12 and 13: Natural gas fractionation site, less than a kilometer from the Pollett River.

Granite Quarries

A new granite quarry began operating in the Pollett River area during the summer of 2009. There is sufficient buffer zone in place between the Pollett River and the quarry, but at least one tributary (Gibson Brook) of the Pollett River runs just downhill of the quarry operation. As the quarry develops, there is some potential for the quarry to contribute sediment into the Pollett River through deforestation, increased heavy truck traffic, dirt road construction, and the pumping of water from the quarry itself.

Private landowner development

Large areas of privately owned woodlots along the Pollett River are being subdivided and are being sold as building lots. Each building lot owner has the potential to damage the riparian zone of the Pollett as they construct homes and cottages. There is also the possibility of sewage contamination in the future as rural septic systems are not always properly maintained. The Petitcodiac Watershed Alliance is already working with one real estate agent selling Pollett river waterfront building lots in an effort to encourage new landowners to develop their properties in accordance with the law and in the interest of good stewardship.

Figure 10: Recreational users of the river can also cause localized damage to streambeds and shorelines and this can lead to sediment or erosion problems.

Conclusion

More work needs to be done with landowners who live along this river:

Farmers need to be encouraged to develop Environmental farm plans to prevent E. coli from entering the small streams that feed the Pollett River. The PWA is working with a farmer on the Mapleton Brook to obtain funding for a concrete manure pit for their farm. There are three other large farms in the area that should also have environmental Farm Plans - if they don't already have one completed.

The buffer zones along the Pollett River that have been damaged by private landowners should be repaired. The PWA will provide these landowners with information about buffer zones and how they protect the river and provide funding and assistance to make the necessary repairs. There are homeowners along the Pollett River that need to make improvements to their septic and sewer systems. The PWA will visit all homes along the Pollett River and provide information on proper septic system installation and service information.

Some sections of the Pollett River are popular areas for visitors. Often these visitors leave behind unsightly garbage. There is a section of riverbank that the PWA will try to clean-up. This section has tourism potential but also creates liability issues for the landowner. A solution needs to be found that will permit the public to safely access this section of the river and protect the landowner as well.

The upper reaches of this river are in pristine condition and is worthy of protection. The Petitcodiac Watershed Alliance will begin the process of nominating this river as an Outstanding River for classification purposes.

The PWA is working with a coalition of nine other conservation groups to bring the Inner Bay of Fundy Salmon back into the upper part of the Petitcodiac River Watershed. This includes the Pollett River and the Little River. We will continue working with landowners and DFO to ensure that the Pollett River has the habitat necessary to ensure the success of this project.

The Petitcodiac Watershed Alliance will continue to monitor and work with JD Irving to ensure that deforestation does not have a negative long term impact on the aquatic habitat of the Pollett River.

Work should also be done in the Gordon falls area of the Pollett River in the interest of public safety. The Petitcodiac Watershed Alliance has initiated contact with the Elgin Eco-center to develop a plan to both protect this area and make it safer for the general public. One suggestion has been made that we seek funding to build an ice-cream stand or take-out in this area, provide a safe fenced-in walking trail with a barrier that prevents people from jumping into the gorge, and a set of stairs that allows safe public access to the popular swimming hole. Proceeds from the sale of food or ice-cream can then be used to subsidize wages for a full time employee to monitor public activity in the area. Keeping people out of the area is next to impossible. The landowner has already posted no trespassing signs which are largely ignored.

Appendix

An accident in the Pollet River at Gordon Falls.

Falls claim another victim

Published Wednesday July 14th, 2010

ELGIN - A young man was taken to hospital on Friday after jumping or falling from atop the cliffs overlooking a popular party spot near here.

Gibson Falls and Gordon Falls are a series of dramatic waterfalls just south of Petitcodiac where young people congregate to swim, dive off the cliffs and party. And about twice a year, firefighters are called there to rescue injured swimmers and cliff divers, occasionally to recover a dead body.

Elgin fire chief Garry Steeves has personally helped retrieve four dead swimmers or cliff divers over his many years as chief and he's taken part in many rescues, too.

Ironically, while Friday afternoon's frantic call for help came from a phone located within sight of the Elgin Fire Department, Steeves was forced to tell 911 that he and his men couldn't respond due to a snafu in insurance coverage that the provincial government still hasn't resolved after several months.

"It makes us feel helpless," Steeves says.

"My firemen are pretty uptight about it, and rightfully so."

At the beginning of the year, fire chiefs in all local service districts in New Brunswick were told that firefighters are not insured to perform off-road rescues - things like helping hikers or swimmers who have been injured in the woods or on the water.

That has always been the case, but many fire departments, like Elgin, were not aware of that fact and have been performing the service for years.

The provincial government says a solution requires changes to the Municipalities Act, something that can't happen until the Legislature is sitting, and that won't happen again until the fall after the provincial election in September.

In the meantime, 911 operators are supposed to direct such off-road rescue calls to fire departments in villages, towns and cities, in this case to Petitcodiac which is much farther from Gibson Falls than Elgin which is just a few kilometres away. For some reason, that didn't happen on Friday and it tears at the hearts of Steeves' firefighters to have to turn down calls for help.

"Don't call me and make me have to say no," he says.

In this case, the unidentified young man fell or jumped about 30 feet, landing on his feet on rocks. Those at the scene said he appeared to have very badly injured both feet and at least one wrist.

"If he was even bleeding, well, it could be 30 minutes before Petitcodiac could get there. A man could bleed out," Steeves says.

Petitcodiac fire chief Gerald Jones said the call came in at 3:30 p.m. Firefighters left for the scene at 3:36 p.m., arriving at 3:51 p.m., for a total of 21 minutes. That's very good time, but the Elgin Fire Department typically takes seven minutes to get there, Jones says.

"A lot could happen to a traumatized body in that time," Jones says, describing the extra time as "unnecessary."

If that injured person had fallen in the water, had suffered a head injury or other especially sensitive injury, the extra time needed to render assistance could have made the operation a recovery instead, he notes. Gordon and Gibson falls have been used by young people as summertime fun for generations, often with deadly results. The danger doesn't deter anyone from swimming at the falls, in fact quite the opposite.

Steeves recalls the last young person whose body he helped recover from the bottom of the steep cliffs that circle the swimming hole.

"Five minutes after the ambulance left, the kids were right back in that hole, swimming."

As well, car crashes involving vehicles full of young people going to and from the falls are not rare, including one on May 29 that killed three Riverview teenagers and left two others in critical condition.

RCMP have tried cracking down on the partiers, with many check stops along nearby roads in recent weeks and more than a few visits to the actual falls to talk to the swimmers and cliff divers. No Parking signs have been erected in the area and police are quick to order tow trucks when needed.

But nothing stops young people looking for thrills or just wanting to spend a sunny summer day swimming in the Pollett River, watching dare devils leap from the towering cliffs into the waters below.

Both chiefs believe the falls' remote, woodland location means there's little more that can be done to prevent further injuries or deaths.

"I don't know how you'd keep them out," Jones says.

"I don't think it's possible," Steeves says.

In the meantime, they both hope the lagging resolution to the insurance issue doesn't end up costing someone's life while fully trained, experienced rescuers sit idle just a few kilometres away.

"Let's get er done," Steeves says.

Press release announcing the formation of the PFRC

Coalition of Conservation, Sportsmen and First Nations Groups

BY: John Bagnall
DATE: July 31, 2009
FILE: TE83002.15.15010

In anticipation of the Stage 2 and subsequent permanent Stage 3 opening of the Petitcodiac River causeway gates, a coalition of conservation groups, sportsmen's groups and First Nations (the Coalition) has been formed to monitor and help restore the diadromous fish populations of the river. Sentinelles Petitcodiac Riverkeeper, Fort Folly First Nation, Petitcodiac Watershed Alliance, Petitcodiac Sportsman Club, the NB Salmon Council, the Atlantic Salmon Federation, the NB Wildlife Federation, Moncton Fish & Game, the Big Salmon River Angling Association and the Dieppe Fly Tying Club have formed a yet unnamed group with the Riverkeeper group being the informal co-ordinating organization.

The first task of the Coalition will be to establish a live gene bank of Petitcodiac River salmon. A live gene bank is a collection of live wild individuals of an endangered species or with similar genetics as the population that is endangered, in the case of the Petitcodiac River, the Inner Bay of Fundy salmon. The Petitcodiac River gene bank will be housed at the Mactaquac Biodiversity Facility, a federally operated fish rearing facility on the St. John River upstream of Fredericton.

An attempt will be made in 2009 to acquire wild juvenile salmon from small streams draining to Shepody Bay as well as any relict juvenile salmon in Petitcodiac River tributaries. These fish should be very similar genetically to the presumably extirpated Petitcodiac stock, more so than the existing gene bank of IBoF salmon which is based primarily on Big Salmon River, Point Wolfe River and Upper Salmon River salmon. The first step in establishing the proposed Petitcodiac River Salmon gene bank will be to inventory the small streams draining to Shepody Bay as well as the Petitcodiac River tributaries with the greatest likelihood of having relict juveniles of wild Petitcodiac River origin. The inventory will be accomplished by electrofishing to identify areas of greatest concentration of salmon. A tissue sample (fin clip) will be obtained from each juvenile salmon captured for genetic assessment, mainly to ensure that the fish are not aquaculture escapees.

Following the inventory, which is expected to last two weeks, the Coalition will formally present their proposed gene bank plan to the IBoF Planning Group. If it is approved, the stamp of approval that is gained will be used to solicit funding that will allow the gene bank establishment to continue until sufficient wild fish are housed. Upon approval, the best of the inventoried sites will be re-visited and wild juvenile salmon will be collected for transportation to the gene bank. These fish as well as others collected in subsequent years would be grown out to mature adults at Mactaquac. The mature fish would be released into suitable habitat in the Petitcodiac River drainage (probably in the Little or Pollett River tributaries) and allowed to spawn naturally thereby re-establishing a "wild" population in the river. Alternatively, the adult fish grown in the gene bank would be spawned at the Biodiversity facility, the eggs incubated until they spawn and the unfed fry stocked into suitable Petitcodiac River drainage nursery habitat.

Another potential project being considered by the Coalition would be the establishment of a fish counting fence on the Petitcodiac River in the Salisbury area. The fence would be constructed in the spring following subsidence of the spring freshet. Fish migrating upstream and downstream would be counted to monitor the results of the Stage 2 and Stage 3 phases of the Petitcodiac River restoration.

Pollett River's problematic sites

July 9th – September 22nd 2009

Site 2.

Date: 07/09/09
Latitude: N45°45'04.8''
Elevation: 172.3 m
Water Temperature: 15.3 °C
Salinity: 0 ppt
Width: 35.8 m

Time: 13:58
Longitude: W65°04'33.8''
pH: 7
Specific Conductivity: 28 µS
Dissolved Oxygen: 9.48 mg/L
Average Velocity: 8.829 m/s

Site 2: Downstream

Site 2: Up- stream

Site 2: Across

Comments: A four wheeler trail crosses the river here and this has damaged the true right bank. The river is wide and shallow, it divides itself to go around an island. Substrate is boulders, cobble and some sand. Water is clear and clean. This section of stream is all riffles and no pools. Wide variety of macro invertebrates: caddisflies, mayflies, dragonfly larvae, worms, damselfly larvae, blackfly larvae, leeches.

Site 7.

Date: 07/16/09
Latitude: N45°45’35.7’’
Elevation: 155.0 m
Water Temperature: 14.5 °C
Salinity: 0 ppt
Width: 18.8 m

Time: 11:42
Longitude: W65°04’49.1’’
pH: ⃠
Specific Conductivity: 31.3 µS
Dissolved Oxygen: 10.47 mg/L
Average Velocity: 13.734 m/s

Site 7: Up Stream

Site 7: Down Stream

Site 7: Across

Site 7: Natural Oil

1 Dead Trout

Comments:

Substrate consists of rocks and gravel. Water is clear and clean. Some bank erosion, but the grass and shrubs are stabilizing ground. A lot of algae beginning to appear along the banks. Residents are taking water from the river and dumping waste over the bank. One resident mows grass to the riverbank.

Cottage too close to the bank between site 7-8

Site 8.

Date: 07/16/09
Latitude: N45°45’47.9’’
Elevation: 161.2 m
Water Temperature: 15.8 °C
Salinity: 0 ppt
Width: 22.4 m

Time: 12:45
Longitude: W65°045’04.7’’
pH: ∅
Specific Conductivity: 30.8 µS
Dissolved Oxygen: 10.44 mg/L
Average Velocity: 8.829 m/s

Site 8: Up stream

Site 8: Down stream

Algae coming from a ditch at a cottage.

Site 8: Across Stream

Comments:

Camps are encroaching riverbank. Lawn mowed to river edge. Substrate consists of large rocks. Banks appear stable. Small stream enters here. Algae on the rocks. Stream channel has been altered, a dam has been built here to provide deeper water for swimmers.

ATV trail between site 8-9

Site 14.

Date: 07/21/09
Latitude: N45°47’48.9’’
Elevation: 99.4 m
Water Temperature: 20.1 °C
Salinity: 0 ppt
Width: 13 m

Time: 11:20
Longitude: W65°06’08.8’’
pH: 7
Specific Conductivity: 23.2 µS
Dissolved Oxygen: 9.70 mg/L
Average Velocity: ∅

Site 14: Up Stream

Site 14: Down Stream

Site 14: Across

Comments:

There’s a bridge down stream. Erosion on the true right bank. Camps are 15 meters from the edge of the water. 5% shade. Substrate consists of bedrocks and gravel.

Site 22.

Date: 08/05/09
Latitude: N45°49’51.8’’
Elevation: 87.9 m
Water Temperature: 17.8 °C
Salinity: 0 ppt
Width: ∅ m

Time: 12:43
Longitude: W65°06’08.6’’
pH: 7
Specific Conductivity: 35.6 µS
Dissolved Oxygen: 10.40 mg/L
Average Velocity: 24.525 m/s

Site 22: Up Stream

Site 22: Down Stream

Site 22: Across

Slight erosion between site 21-22

Comments:

Located in the back of the grey house. There’s some clear cutting, erosion and garbage between site 21 and 22 close to the river. There’s lawn on one side of the river. Clear cutting on other side with some buffer damage. Substrate consists of boulders, rocks and sand. The first house before the Girl Guide camp has a bad sewage problem – you can smell it on the river.

Site 36.

Date: 08/13/09
Latitude: N45°53’31.8’’
Elevation: 51.3 m
Water Temperature: 15.7 °C
Salinity: 0 ppt
Width: 22.3 m

Time: 11:10
Longitude: W65°05’48.9’’
pH: 7
Specific Conductivity: 44.9 µS
Dissolved Oxygen: 10.61 mg/L
Average Velocity: 28.449 m/s

Site 36 :Up Stream

Site 36: Down Stream

Across Stream

Stream enters river between site 35-36

Comments:

There’s a stream coming in the river between site 35 and 36. Someone destroyed a huge part of the riparian zone (lot for sale sign). Tall grass on banks. Substrate consists of boulders and gravel embedded.

There’s fish (minnows) in a small pool on the true right side and some tadpoles.

A wetland is being mowed with a bushcutter between sites 35 and 36.

Site 41.

Date: 08/14/09
Latitude: N45°54’37.6’’
Elevation: 44.4 m
Water Temperature: 16.5 °C
Salinity: 0 ppt
Width: 29.7 m

Time: 11:58
Longitude: W65°05’04.9’’
pH: 7
Specific Conductivity: 46.0 µS
Dissolved Oxygen: 9.78 mg/L
Average Velocity: 5.886 m/s

Site 41: Up Stream

Site 41: Down Stream

Site 41: Across

Damage riparian zone between site 40-41

Comments:

Tall grass on both sides. Substrate consists of boulders, rocks, rubbles and gravel. Zero shade on the river. Clear cutting between site 40 and 41. The riparian zone and wetland on the true right bank has been damaged, looks like it is being mowed with a bush cutter.

Site 44.

Date: 08/14/09
Latitude: N45°55’22.8’’
Elevation: 70.0 m
Water Temperature: 19.1 °C
Salinity: 0 ppt
Width: 14.9 m

Time: 13:54
Longitude: W65°05’03.2’’
pH: 7
Specific Conductivity: 41.6 µS
Dissolved Oxygen: 9.74 mg/L
Average Velocity: ∅

Site 44: Up Stream

Site 44: Down Stream

Site 44: Across (clear cutting)

Comments:

Clear cutting / hayfield cut too close to the true left bank. Little amount of an alga that looks like Eurasian Milfoil. Substrate consists of Boulders, rocks, rubbles and gravel. Saw some small fish, water pennies.

Site 53.

Date: 09/14/09
Latitude: N45°57’07.4’’
Elevation: 25.4 m
Water Temperature: ∅
Salinity: ∅
Width: 25.0 m

Time: 15:00
Longitude: W65°05’01.7’’
pH: ∅
Specific Conductivity: ∅
Dissolved Oxygen: ∅
Average Velocity: ∅

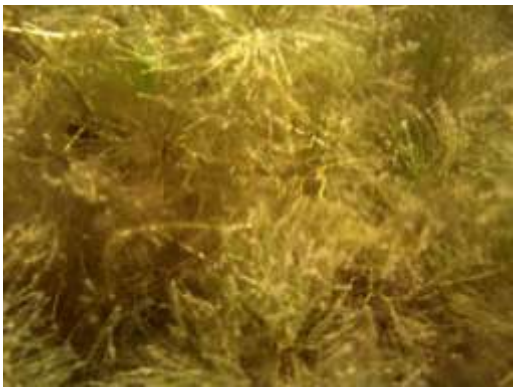
Erosion between site 52 and 53

Site 53: Up Stream

Site 53: Down Stream

Site 53: Across

Big pool between site 53-54



Algae between site 53-54

Cliff Swallow's nests between site 53-54

Comments:

Bad erosion on the true right bank between site 52 and 53 and also between site 53 and 54. Left bank has some tall grass and shrubs. Saw some Cliff Swallow's nests and some bad algae between site 53 and 54. Not much shade here for the river. Substrate consists of rocks, rubbles and gravel plus half of the river is bedrock. There is a lot of erosion taking place on the banks in places but it is natural and tree roots are offering some soil stability.

site #	date	time	Latitude	Longitude	Elevation	pH	Temp (deg C)	Conductivity	Salinity	DO	Width	Velocity #1	Velocity #2	Velocity #3	Velocity #4	Velocity #5	Velocity Avg
1	7/9/09	13:20	N45 45 19.7	W65 04 45.9	148.3	7	14.7	27.8	0	9.63	24.2	4.905	19.62	21.582	39.24	19.62	20.9934
2	7/9/09	13:58	N45 45 04.8	W65 04 33.8	172.3	7	15.3	28	0	9.48	35.8	19.62	9.81	0	4.905	9.81	8.829
3	7/9/09	14:27	N45 44 53.3	W65 04 17.2	163.5	7	15.5	28	0	9.17	15.2	0	29.43	29.43	29.43	39.24	25.506
4	7/10/09	12:44	N45 44 42.6	W65 03 59.2	181.1	7	16.2	27.9	0	8.94	15.1	49.05	19.62	14.715	29.43	49.05	32.373
5	7/10/09	13:44	N45 44 31.7	W65 03 39.0	183.5	7					18	19.62	4.905	58.86	9.81	24.525	23.544
6	7/10/09	14:42	N45 44 15.5	W65 03 44.1	177.3	7	18.6	28.4	0	8.4		4.905	4.905	14.715	24.525	4.905	10.791
7	7/16/09	11:42	N45 45 35.7	W65 04 49.1	155		14.5	31.3	0	10.47	18.8	0	4.905	19.62	14.715	29.43	13.734
8	7/16/09	12:45	N45 45 47.9	W65 05 04.7	161.2		15.8	30.8	0	10.44	22.4	9.81	14.715	4.905	4.905	9.81	8.829
9	7/16/09	13:19	N45 46 02.9	W65 05 13.2	159.2		17.2	31	0	10.34	21	4.905	24.525	29.43	29.43	9.81	19.62
10	7/16/09	13:41	N45 46 17.6	W65 05 20.5	146.9		17.4	29.4	0	9.9	17.3	0	-4.905	19.62	19.62	29.43	12.753
11	7/16/09	14:05	N45 46 29.1	W65 05 35.6	138.8		18	31.4	0	9.83	19.3	0	29.43	19.62	29.43	29.43	21.582
12	7/16/09	14:36	N45 46 43.9	W65 05 42.4	144		18.4	31.5	0	8.97	21.8	9.81	0	9.81	9.81	4.905	6.867
62	9/22/09	12:00	N45 46 59.6	W65 05 38.6	81		11.2	33.3	0	11.19	15	0	0	0	0	0	
63	9/22/09	12:42	N45 47 05.5	W65 05 43.5	13.6	7	11.7	34.2	0	10.51		0	0	0	0	0	
13	7/21/09	10:16	N45 47 36.1	W65 06 02.5	62.5	7	19.4	33.6	0	9.5	22	0	0	0	0	0	
14	7/21/09	11:20	N45 47 48.9	W65 06 08.8	99.4	7	20.1	23.2	0	9.7	13	0	0	0	0	0	
15	7/21/09	12:15	N45 48 03.9	W65 06 17.9	101.2	7	20.2	34.6	0	9.15	17	0	0	0	0	0	
16	7/21/09	12:45	N45 48 18.9	W65 06 25.6	86.6	7	20.7	34.9	0	8.95	11	0	0	0	0	0	
17	7/21/09	13:20	N45 48 36.1	W65 06 23.0	79.3	7	21.4	37.1	0	9.27	15	0	0	0	0	0	
18	7/30/09	13:03	N45 48 52.3	W65 06 19.8	97.6	7	19.2	33.7	0	9.78	22.9	29.43	19.62	19.62	19.62	14.715	20.601
19	7/30/09		N45 49 08.3	W65 06 16.0	84.7		19.3	33.7	0	10.03	24.3	33.354	21.582	19.62	19.62	29.43	24.7212
20	7/30/09	14:10	N45 49 22.7	W65 06 06.6	90.7		20	33.6	0	9.93	18.5	19.62	29.43	39.24	78.48	29.43	39.24
21	8/5/09	11:54	N45 49 36.9	W65 06 19.1	85.5	7	17.3	34.9	0	10.67		14.715	14.715	39.24	19.62	14.715	20.601
22	8/5/09	12:43	N45 49 51.8	W65 06 08.6	87.9	7	17.8	35.6	0	10.4		39.24	29.43	58.86	24.525	39.24	38.259
23	8/5/09	13:00	N45 50 07.5	W65 06 02.9	103.2	7	14.4	37.2	0	10.15		98.1	107.91	58.86	39.24	68.67	74.556
24	8/5/09	13:42	N45 50 23.6	W65 06 10.7	95.7	7	17.8	35.8	0	10.45		49.05	73.575	39.24	34.335	88.29	56.898
25	8/5/09	13:59	N45 50 39.9	W65 06 01.3	79.4	7	18.6	31.7	0	18.86	21.2	68.67	117.72	88.29	78.48	63.765	83.385
26	8/5/09	14:43	N45 50 56.2	W65 05 59.2	75.4	7	18.6	35.7	0	10.4	22	19.62	24.525	29.43	29.43	9.81	22.563
27	8/5/09	15:15	N45 51 12.5	W65 05 56.8	71.2	7	18.8	36	0	10.19	26	107.91	83.385	127.53	14.715	0	66.708
28	8/5/09	15:38	N45 51 27.3	W65 06 03.7	90.7	7	18.8	0	0	10.54	24	39.24	88.29	39.24	39.24	19.62	45.126
29	8/5/09	16:02	N45 51 41.3	W65 05 52.5	71.5	7	18.8	37.4	0	9.43	30.3	29.43	19.62	39.24	29.43	29.43	29.43
30	8/6/09	11:32	N45 52 05.8	W65 05 51.0	76	7	14.9	40	0	10.44	34	29.43	19.62	19.62	9.81	4.905	16.677
31	8/6/09	12:03	N45 52 21.6	W65 05 45.2	60.7	7	15.9	39.3	0	10.24	21	29.43	117.72	49.05	24.525	58.86	55.917
32	8/6/09	12:25	N45 52 36.2	W65 05 35.4	68.7	7	15.5	39.5	0	10.38	18	39.24	39.24	49.05	19.62	29.43	35.316
33	8/6/09	12:51	N45 52 49.3	W65 05 51.8	56	7	16.4	39.6	0	10.67	21	9.81	9.81	39.24	14.715	39.24	22.563
34	8/6/09	13:27	N45 53 02.2	W65 05 32.9	56	7	16.17	39.8	0	11	18	0	0	0	0	0	
35	8/6/09	13:49	N45 53 17.0	W65 05 40.4	69.1	7	17.3	39.9	0	10.69	25	107.91	107.91	58.86	29.43	29.43	66.708
36	8/13/09	11:10	N45 53 31.8	W65 05 48.9	51.3	7	15.7	44.9	0	10.61	22.3	39.24	39.24	19.62	24.525	19.62	28.449
37	8/13/09	12:12	N45 53 41.5	W65 05 30.9	56.7	7	15.5	45.2	0	10.57	20.3	24.525	14.715	9.81	4.905	14.715	13.734
38	8/13/09	13:03	N45 53 57.5	W65 05 36.3	62.4	7	17.4	45	0	12.52	19.8	19.62	39.24	29.43	39.24	39.24	33.354
39	8/13/09	14:01	N45 54 04.9	W65 05 15.1	50	7	18.4	45.3	0	10.46	16.2	9.81	14.715	9.81	9.81	9.81	10.791
40	8/13/09	14:41	N45 54 21.7	W65 05 11.8	34.9	7	19	45.5	0	9.5	18.1	19.62	29.43	49.05	19.62		36.286
41	8/14/09	11:58	N45 54 37.6	W65 05 04.9	44.4	7	16.5	46	0	9.78	29.7	4.905	4.905	4.905	9.81	4.905	5.886
42	8/14/09	12:28	N45 54 53.4	W65 05 12.3	38.9	7.5	17.1	46.8	0	10.75	25.7	29.43	9.81	19.62	29.43	19.62	21.582
43	8/14/09	13:05	N45 55 06.9	W65 04 58.1	34.9	7	18.7	46.5	0	10.61	23.7	9.81	9.81	9.81	24.525	9.81	12.753
44	8/14/09	13:54	N45 55 22.8	W65 05 03.2	70	7	19.1	41.6	0	9.74	14.9	0	0	0	0	0	
45	8/14/09	14:12	N45 55 37.6	W65 05 15.0	36	7.5	20.2	46.2	0	9.05	35	0	0	0	0	0	
46	8/14/09	14:40	N45 55 53.7	W65 05 15.0	43	7.5	20.9	46.3	0	8.3		0	0	0	0	0	
47	8/14/09	15:11	N45 56 08.6	W65 05 03.9	63	7.5	21.2	46.7	0	9.64	31.7	0	0	0	0	0	
48	09/14/09	11:56	N45 57 07.1	W65 05 01.3	26	7	14.7	48.2	0	9.07	29.4	4.905	0	4.905	4.905	9.81	4.905
49	09/14/09	12:33	N45 55 33.2	W65 05 16.1	31						23	0	0	0	0	0	
50	09/14/09	12:57	N45 56 08.6	W65 05 04.0	35.5						>30	0	0	0	0	0	
51	09/14/09	13:24	N45 56 26.1	W65 04 46.0	38.3						20	0	0	0	0	0	
52	09/14/09	14:02	N45 56 43.0	W65 05 17.0	42.8	7	17.4	48.8	0	9.3	18	0	0	0	0	0	
53	09/14/09	15:00	N45 57 07.4	W65 05 01.7	25.4						25	0	0	0	0	0	
54	09/18/09	11:23	N45 57 23.3	W65 05 04.7	31.7						35	0	0	0	0	0	
55	09/18/09	12:15	N45 57 39.4	W65 04 56.4	25.4	7	11.1	51	0	11.15	22	0	0	0	0	0	
56	09/18/09	13:03	N45 57 51.1	W65 05 30.7	28.7						25	0	0	0	0	0	
57	09/18/09	13:32	N45 58 08.9	W65 05 30.6	26.5						40	0	0	0	0	0	
58	9/21/09	11:30	N45 58 43.9	W65 05 10.7	22.6						40	0	0	0	0	0	
59	9/21/09	12:12	N45 58 58.7	W65 05 32.0	19.8	7	12.9	54.6	0	12.02		0	0	0	0	0	
60	9/21/09	12:32	N45 59 15.4	W65 05 24.4	17.6		13.1	55.3	0	11.9	45	0	0	0	0	0	
61	9/21/09	13:25	N45 59 45.9	W65 05 26.1	22							0	0	0	0	0	
62	9/22/09	12:00	N45 46 59.6	W65 05 38.6	81		11.2	33.3	0	11.19	15	0	0	0	0	0	
63	9/22/09	12:42	N45 47 05.5	W65 05 43.5	13.6	7	11.7	34.2	0	10.51		0	0	0	0	0	

Raw data for all 63 sites assessed on the Pollett River.

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