

Ottawa River Caves Update '98
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The exploration and survey of the Ottawa River Caves has now been going on for 14 years and the end is in sight, something I have said MANY times before. The first recorded dives in the caves were carried out by my open water scuba instructor, Al Shames, and his friends in 1984. I joined the team in 1985 and published an account of our explorations in the Canadian Caver, fall 1986 (18-2). At that time we had explored 553 meters of passage and were just starting to survey.

Exploration and survey continued and I published another update in the Canadian Caver, spring 1987 (19-1) by which time we had about 1.6 km of passage explored with 1,335 meters of line survey (very little passage detail surveyed). We were very inefficient, solving the problems of underwater surveying in large passage with very limited visibility. The next update was published in the Canadian Caver, spring 1990 (22-1). We had explored 2.7 km of passage, had 2,535 meters of line surveyed and some passage detail completed.

The years swiftly slipped by with several weekend trips every year and the exploration/survey continued to progress. We became vastly more efficient and by the fall of 1995 we had surveyed 6,014 meters of passage and completed virtually all of the passage detail. A description of this exploration and surveying as well as a map was published in the Canadian Caver, spring 1997 (28-1). At that time, I expected to finish the cave soon as there were only a few unfinished leads to deal with and the potential for more cave seemed relatively small.

In 1996, I had a very successful survey year. I spent almost 42 hours surveying the Ottawa River Caves, much of it solo. Ric Browning assisted for just over 16 hours and my wife Dana and Michel Therien each helped for one dive. We also spent a fair amount of time checking out leads in the area. We went over to Quebec and wrote off one lead when the rock turned out to be granite. We also hiked in and checked a feature simply marked "pothole" on the map. It turned out to be a closed depression approximately 100 meters long, 35 meters wide and 25 meters deep on the TOP of a large hill. The bottom of the depression was covered with dirt and leaves but it was obvious that the water ponds in the spring or after a heavy rain before it sinks into the ground. No potential for human sized cave.

We continued the wall survey of the top end of the major resurgence under Reid Island. Many tons of rock had fallen on the right hand line (facing upstream) over the previous year and we spent as little time in the area as possible. There were many rocks 50 to 60 cm thick and 7 to 10 meters along each edge that had fallen on the line. This is a very interesting phenomenon. The cave passage has developed in two horizontal bedding planes with a 'shelf' of rock remaining along each side of the passage. In other passages we have measured the 'shelf' to be 10 meters wide and a few hundred meters long. The

big problem is that with the very limited visibility you do not usually know if you are under a shelf or the roof of the passage. The center of the large passages is covered with clams and loose debris and with the strong current it is impossible to move upstream. The sides of the passages are often very low or full of silt. Therefore, the only location where it is possible to lay the line and explore is part way out from each wall, on the floor where a strip of eroded limestone is exposed, providing many handholds and places to tie the line. Unfortunately, if there is a 'shelf', the line will be laid directly underneath it. Very dangerous.

We were unable to complete the top end of the survey of the right hand wall of this passage as, even at low river levels, the current was too strong to move against. There is one very small inlet passage that has not yet been explored or surveyed as we are not in a rush to return to this very dangerous section of cave.

We then moved over to Fitzpatrick Island and continued the exploration and survey of the shallow caves cutting across the island. On 21 September 1996, I was diving solo (my wife Dana was standby on the surface) doing passage detail in the small and very shallow caves under Fitzpatrick Island. I had just exited the cave and was laying on the bottom of the river in 2 meters of water putting the finishing touches on the survey when I noticed that the water was not moving from left to right (the direction of river flow). Nor was it moving towards me out of the cave passage. Instead it was sinking in the rocks I was laying on. I poked around the rocks like a chipmunk in a woodpile and a few minutes later found myself at 7 meters of depth in open cave passage approximately 2 meters high and 8 meters wide with the current going IN! This passage was completely unexpected as we knew of no active resurgences that we had not already explored.

A couple of weeks later I was back with Ric Browning. We did a large number of long, cold dives, exploring and surveying the complex upstream branches of this new passage. As we moved farther downstream and under the island, the passage got larger and the current stronger. Just as things were getting interesting, the winter closed in and we were finished for the year. In the midst of this frantic exploration and surveying, I managed two survey dives in the passage upstream from the pool on Alumet Island with Dana and Michel.

1997 will almost certainly remain the year when we explored and surveyed the most new cave passage in the Ottawa River System. I ended up with 71 hours surveying, Ric managed 43 hours and a new Ottawa River Cave diver, Ralph Hoskins, put in 23 hours helping with the survey. We ended up with 137 manhours of underwater surveying for the year!

The first couple of dives in 1997 were into T4 (Tony's Terrible Tummy Troubles) when the river was in full flood. There was a tiny bit of current in T4 and I managed to survey most of the line and passage detail. There is one short leg of line not yet surveyed. The top end of the passage is very confusing with interconnecting rooms almost completely filled with silt and no noticeable current. This is a very unfriendly place and it is unlikely we will find much more passage here.

We continued work on the deep complex passages under Fitzpatrick Island. On one memorable dive, Ric and I swam in 500 meters to the end of the line, tied on and laid 300 meters of 1 inch webbing in large passage with very strong current going IN. It was a very long and exhausting climb back up the webbing and rope, against the current, to the entrance. We spent the next several weekends exploring and surveying the passages that parallel and intersect this main line. At one point there are six parallel passages, all approximately 2-3 meters high and 10 meters wide! All of these dives were done with 3 or 4 side mounted tanks

Ralph joined the team and I started him helping with the survey of the passage upstream from the pool on Alumet Island. We found a small inlet passage and when he followed me into this very low and difficult passage I knew I had a great new partner. The passage is often less than 12 inches high!

Ric and I continued to push and survey the large passages under Fitzpatrick Island and started to use nitrox. Even though the maximum depth was less than 40 feet, our bottom times were often 3.5 hours and we were doing two dives a day! This put us at significant risk of decompression sickness and the fatigue of decompression stress. LTC Scuba in Toronto kindly donated all of the nitrox and lent us many tanks. On one long weekend, Ric and I took 49 tanks of nitrox up to the caves and dived almost all of them (many of them contained over 95 cubic feet of nitrox)!

There were several particularly memorable dives during this period. On 10 Oct 1997 Ric and I set up for a mammoth push dive. We swam down to the end of the line, almost 800 meters downstream, and started laying more line. We almost immediately surfaced in the river! When we had turned back a few months earlier we had been almost to the exit. Fortunately, we now had a new entrance that gave easier access to the middle area of these passages.

On 11 Oct 1997, Ric and I did a dive where we surveyed the 'Rathole'. The dive was 3.25 hours long and almost all spent between 30 and 36 feet of depth. As we were heading out I noticed that my air computer had switched into decompression mode. It had cleared by the time we reached the entrance and we were diving 36% nitrox not air but never-the-less, it was the first 'decompression' dive in the Ottawa River Caves. Coincidentally, it was also my 400th cave dive!

On 31 Oct 1997, Ralph and I went in to continue exploration and survey of a very nasty passage we had found off the main passage under the center of Fitzpatrick Island. The passage had lots of silt and no current. We moved extremely slowly with lots of attention to buoyancy control and slowly extended the survey and the line. After approximately 40 meters we connected to the line in Dana's Gift. We had made the connection, linking almost all the caves on the Quebec side! This is certainly the longest cave in Quebec and one of the longest caves in Canada, all underwater and very close to connecting to the almost 4 km of cave passages in Ontario!

That afternoon, Ralph and I extended the line down the main passage and found the final, downstream exit to the caves under Fitzpatrick Island. We also mapped the inside of the collapsed resurgence at the downstream end of Fitzpartick Island. We called the new passage 'two-way passage' as the water historically ran from the river to the now collapsed resurgence. When the resurgence collapsed, the current reversed as the water coming down under the island used this passage to exit back into the river.

We ended the year with a dive on 1 Nov 1997 were Ralph and I completed the passage detail of 'two-way passage'. We had now surveyed just a few meters less than 10 km of passage and had completed passage detail on almost all of it. We had only a few small areas to finish on the map and again, soon expect to be finished! Unfortunately, after only one weekend of cave diving in the spring of 1998 I broke my left arm and was out of action for a while. We hope to finish the caves this fall.

The lengths of the various caves shown on the map should be taken as approximate at this time. The surveys are accurate but which passages can be considered to be interconnected and therefore justifiably called one 'cave' and which should be considered isolated segments remains to be sorted out. I will be discussing this issue with several senior speleologists and will detail the conclusions and the 'rules' that were used in the next and hopefully last update. Meanwhile, exploration continues. Who knows, we might find another completely unexpected entrance that leads to over 3 km of passage like we did in the fall of 1996!