

## Technology Works in the Outdoors

by Adam Zita

On a November night hike outing at the Wye Marsh Wildlife Centre in Midland, Ontario, I had the opportunity to enlighten a local Scout and Cub group about “Critters of the Night.” After a short PowerPoint presentation about the many nocturnal creatures one might see, we ventured into the moonlit night eager to encounter a “critter” or two. As we hiked along the trails one Scout said, “This is cool! Okay, raise you hand if you think this is cool!” Of course, I thought this was cool so I raised my hand, but one Scout said, “I’d rather be home playing my PlayStation® 3!”

Technology is all around us and no matter how hard we promote the value of outdoor and experiential education (OEE) to adults and children alike, we are pulled away by a different reality — one might say, a virtual reality. Even when one is engaged in the outdoors either through a night hike or a stream study, technology is lingering there, in the backs of our minds. By today’s cultural standards, what is the definition of technology? Is it things that go beep, buzz and blip? Is a compass a form of technology? There are benefits of integrating technology, such as a Global Positioning System (GPS), into OEE. By using handheld GPS units, we can connect a generation of learners to nature through a medium they already understand and embrace.

GPS technology has a short history dating back only to the early 1990s. But its roots date back to 1957. That was the year that Sputnik was launched. Scientists were able to track the Sputnik satellite using a radio signal. Other satellites and systems were used by the US Navy to try and perfect the GPS technology. GPS technology became available for public use in 1995 when a complete constellation of 24 satellites was in Earth’s orbit (Mohawk College, 2007). This grouping ensured

detailed accuracy of information and a reliable satellite signal.

A GPS unit is simply another tool in the orienteering tool box. Maps were created so that we could visually conceive and explore the landscape. A compass was created to allow us to navigate with greater accuracy around the planet. And now, GPS technology enables us to navigate the planet with an even greater degree of precision. Using any one of these three technologies can allow you to go from one place to another as long as you know how to use the technology properly. Using all three together can increase your chances of success in reaching your destination. Our task as outdoor educators is to try and show the learner that these technologies can work for them and increase their appreciation, understanding and knowledge of the natural world.

At the recent COEO conference at Camp Wanakita, I led a workshop on using GPS technology in various settings based on the program I developed and delivered at Wye Marsh Wildlife Centre. I had three main foci:

1. Discuss how GPS technology can be integrated into the Ontario curriculum
2. Instruct the group on the basics of a GPS unit (marking and following waypoints)
3. Introduce the group to geocaching.

While developing our GPS program at Wye Marsh we searched the Ontario curriculum to tie in this technology with school-based learning. Education for curriculum and community is a key value in OEE as learning is more meaningful and effective when students can draw connections between their studies and the world around them (Foster and Linney, 2007). We discovered that it touched on many subjects in both elementary and high school:

**Elementary:****Science & Technology (Gr.7)**

Geography (Grade 7 &amp; 8)

**Secondary:****Geography of Canada (Grade 9)**

Science (Grade 10)

Geography (Grade 11 &amp; 12)

The program is called *Adventures in Conservation*. The objectives of the program are for students to

- learn to read and program a GPS handheld unit
- demonstrate knowledge of a GPS by following an orienteering course
- investigate and discuss various issues in conservation (human–environment interactions, sustainability, and so on).

We allow students the opportunity to combine the latest in modern geotechnology with an outdoor wilderness experience. Involvement in outdoor activities stimulates interest in the outdoors, which will then motivate students to learn about the environment (Foster and Linney, 2007). Education for the environment is another key value of OEE that this program aptly promotes. The program is set up much like a compass orienteering course, but instead of following degrees and counting steps, students follow longitude and latitude coordinates to a specific location on Earth. Discussion is then concentrated on how this technology can be used to protect the environment by, for example, promoting water conservation, conveying the importance of wetlands as habitat and natural water filters, understanding the delicate balance of ecosystems, encouraging the use of sustainable energy and developing an environmentally sensitive forestry industry.

Learning how to use a GPS unit is quite simple, but for some it may seem a difficult task. In my experience people are turned off by this technology because they believe they will not be able to understand it. So making this exercise as simple as possible is very



important. It is not my intention here to give step-by-step instructions on how to use a GPS unit, but I do suggest that before instructing others to use one GPS unit, you read the instructions and practice on your own. Remember, while a GPS unit has many functions, if you concentrate on learning the basics (e.g., marking and following waypoints) the rest will come with time.

Another tool I introduced at my workshop that offers a great way to become familiar using a GPS unit in the outdoors is geocaching. Geocaching is worldwide treasure hunting adventure game that utilizes the Internet and GPS technology. The aim of this activity is to use your GPS unit to find hidden items that can be placed anywhere in the world. You are given a set of coordinates and maybe a clue and your challenge is to find where the “cache” is hidden. To receive coordinates to find a cache, you must first

register with one of many geocaching websites. The site with which I am registered — [www.geocaching.com](http://www.geocaching.com) — invites both novice and expert users to join and learn as much as they wish about GPS technology and geocaching.

The benefits of this activity are quite obvious: It gets people outside, and time spent outdoors strongly correlates with increased physical activity and fitness in children (Foster and Linney, 2007). You might think this extreme, but people are more attached to their electronic gadgets in the home than in the outdoors. A third key value of OEE is education for well being (Foster and Linney, 2007). In his book, *Last Child in the Woods*, Richard Louv addresses the fact that children are not interacting with the out-of-doors as much today as in the past and suggests this has resulted in them suffering from “nature deficit disorder.” Although not an official medical diagnosis, I have interacted with children in outdoor settings that have never ventured outside the city and I have seen the symptoms of this disorder firsthand. Geocaching enables children and their families to get outside together and rediscover the out-of-doors in a new and fun way.

From a travel perspective, this activity gets people out to places they may not have travelled to if it were not for the hidden geocache. Many in the eco-adventure industry are utilizing geocaching as a tourist attraction. It allows basic interaction with geophysical surroundings. A cache may not be buried, but it can be camouflaged so the searcher must investigate and contemplate possible hiding spots. Not only are participants interacting with their environment, but they are utilizing and enhancing problem solving and critical thinking skills. This speaks directly to the fourth key value of OEE: education for character (Foster and Linney, 2007). Working in OEE for the last four years I have personally witnessed children thrive physically, emotionally and academically when they are given the opportunity to explore and discover the outdoors and nature.

Much of today’s generation is already fixated and mesmerised by technology. It would be to the benefit of OEE to try and utilize the advantages of technology in drawing more learners closer to our natural world. GPS technology is one such medium. It directly corresponds to the four key values of OEE — education for well being, character, environment, and curriculum and community — and can easily be integrated into outdoor, classroom or family settings. Foster and Linney (2007) also call for a continuous experiential interaction with natural surroundings and go on to say that “we must do so in dynamic ways. We must provide [learners] with hand-on experiences that activate their curiosity and sense of wonder about their natural surroundings.” With GPS technology we have an opportunity to create hands-on learning opportunities that will stimulate students’ curiosity for the unknown through a medium that is familiar to today’s generation. Through this technology more children will rekindle a sense of wonder about their natural surroundings and realize what the world really looks like.

### References

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*Adam Zita worked as a naturalist and outdoor educator at Wye Marsh in Midland for over three years and is now an outdoor educator at Kinark Outdoor Centre in Haliburton. He has also worked as a part-time teacher at Georgian College in Barrie instructing a course on eco-adventure travel.*