

Keeping Track of Problem Bears – a GIS Solution

By Holly Harten, GIS Technician/Analyst, Sault Ste. Marie Innovation Centre's Community Geomatics Centre.

The Sault Ste. Marie Innovation Centre's Community Geomatics Centre and the Ontario Ministry of Natural Resources (OMNR) Bear Wise program have partnered to provide insight into nuisance bears through the use of GIS. The Ministry of Natural Resources is committed to reducing preventable causes of human-bear conflict in Ontario. The Bear Wise program teaches people about black bears as well as the measures they must take to keep bears away from urban and semi urban areas.

Bear sighting data is recorded by the OMNR Bear Wise Reporting Line. Any call that results in a bear occurrence is recorded in a spreadsheet for archiving. The weekly data is provided to the Community Geomatics Centre for geoprocessing and mapping. The caller's location is recorded as well as any details regarding the bear encounter. This allows the CGC staff to geocode the information to the location of the incident using the existing base data and orthophotography for the city. This information is exported

as a shapefile and provided back to the OMNR through a secure data transfer site. This process is currently in place in Sault Ste. Marie and Elliot Lake, Ontario.

A major part of the Bear Wise program focuses on community education programs. With the use of the GIS we can identify areas that are having higher than average bear occurrences and the Bear Wise program can then educate the entire neighborhood if necessary or host a community information session to lessen the impact of the bears. To learn more about Bear Wise programming please visit www.mnr.gov.on.ca.

Using GIS also helps identify areas where bears are expected to be encountered by people. This may include urban areas where there is a green space corridor leading into the neighbourhood. A green space corridor is a natural corridor of forest or treed area that leads into a community from a rural area providing a "path" for wildlife.

Bear data for Sault Ste. Marie is made available to the public at large through a community GIS portal (portal.ssmic.com). An interactive map, located within the Social and Public Safety section of the website,

illustrates the count and location of each reported bear occurrence as well as bi-weekly PDF maps allowing the public to print a copy for their personal use. This allows for a spatial temporal comparison of the bears movements within the community at a very detailed level. The Bear Wise program can in turn use this information to evaluate their community education programs by assessing whether or not citizens are implementing what they have learned or whether the same neighbourhoods are requiring weekly or annual re-education.

An annual density map is generated at the end of each bear season to identify hot spots and inform the public of the overall problem surrounding habituated bears in our community. An article is often written for the bear season by the local newspaper, accompanied by a density map, to help inform our community about how to reduce the chances of encountering nuisance bears, as well as the proper action to take if an encounter were to occur.

The Community Geomatics Centre has been involved in mapping the bear occurrences since 2004. The project began with the Sault Ste. Marie City Police requesting an

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informative map/poster to serve as a communication piece for a community information session. It has since evolved into the interactive mapping available today and continues to grow into other communities, such as the implementation of the Elliot Lake mapping in 2008.

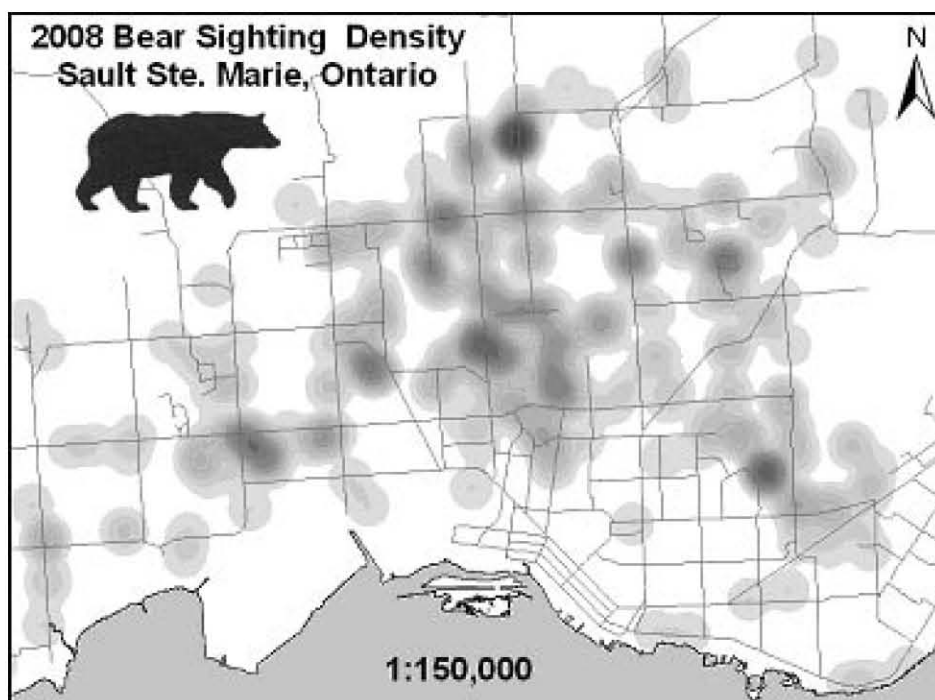
The benefits of the Bear mapping have been seen over the years by the Bear Wise team, the City Police and most importantly the community as a whole. However, we must consider that the occurrences being mapped are only those that were called in. There are potentially many other bear occurrences

happening each day that are not being reported and could potentially affect the outcome. All the information is being provided to aid in public education, it is ultimately up to each member of the community to implement bear safe practices.

About the Author

Holly Harten is a GIS Technician/Analyst at the Sault Ste. Marie Innovation Centre's Community Geomatics Centre and can be contacted at (705)942-6938 ext.34 or by email hharten@ssmic.com.

Figure 1: 2008 Bear Sighting Density



Calendar

December 1, 2008

- First call for Be Spatial'09 Exhibitors and Presentations

January 1, 2009

- Annual membership renewals are due

January 9, 2009

- Advertising deadline for Winter'09 Newsletter

January 16, 2009

- Deadline for Submission of Articles for Winter'09 Newsletter

January 30, 2009

- Deadline for Submission of Abstracts for Presentations at Be Spatial'09

February 12, 2009

- Winter Program Event at Black Creek Village in Toronto

March 6, 2009

- Deadline for Best GIS Challenges, Notice of Intention due

March 27, 2009

- Deadline for Best GIS Challenges

April 24, 2009

- Deadline for Map Gallery "Intention to Submit" for Be Spatial'09

May 5, 2008

- BeSpatial '09, annual meeting, program event and Expo at Paramount Conference and Event Centre in Vaughan