

A Geoheritage Sites Map, Story Map and Online Database for Nova Scotia

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Introduction

With publication of Open File Map ME 2017-032, *Geoheritage Sites of Nova Scotia* (Calder and Poole, 2017) (Fig. 1), and the forthcoming publication of its corresponding GIS database (Calder and Poole, in press), the formal identification of geoheritage sites across Nova Scotia is a reality. The process that was followed is streamlined and efficient, taking seven years to evolve from concept to publication, involving contribution from the geoscientific community and general public. The resulting list serves as a vehicle to increase public awareness of both natural and cultural geoheritage, but does not afford additional legislative protection. Fossil sites in Nova Scotia are protected under the *Special Places Protection Act*. Other natural sites occur in municipal, provincial and national parks, which afford their own statutory protection.

With an area of 55 000 km², Nova Scotia is Canada's second smallest province and territory, but is larger than countries such as Belgium, Denmark, the Netherlands and Switzerland. Many countries and jurisdictions have attempted a comprehensive survey of their geoheritage sites only to fall to the inertia of legislative demands in formally proclaiming sites or to the demands of an onerous site documentation process. The result can be that overly ambitious efforts fail. The model that was used for identifying geoheritage sites (Calder and DeMont, 2010; Calder, 2014) succeeded due to its simplicity and to the fact that it built upon the legacy of work done by the dedicated community of the Atlantic Geoscience Society in informally identifying sites of public interest in publications such as the highly popular *Geological Highway Map of Nova Scotia* (Donohoe et al., 2005) and the *Nova Scotia Rocks* brochure (Atlantic Geoscience Society, 2013). An independent effort to document

select sites across Nova Scotia by Hickman Hild and Barr (2015) provided additional depth.

The Database

There are currently 195 geoheritage sites defined in the database (Calder and Poole, in press). Every site is assigned a unique four digit identifier that helps to link all the information that is maintained for the site in the database. The sites are maintained as point locations.

There are two broad categories of geoheritage sites: natural and cultural. The attributes maintained for the natural sites include the site name, county, age (geological period), level of significance (i.e. 1–globally unique, 2–globally significant or 3–exceptional example), a brief description, and co-ordinate information in UTM and latitude and longitude. The attributes for the cultural sites include the site name, county, category (e.g. First Nation sites, memorials, museums) and co-ordinate information. Links to other data including photos, websites and related documents are also maintained for each site.

The database will be distributed as a free digital download in Esri™ shapefiles, Esri file geodatabase, and KML/KMZ file formats (including full metadata relating to the database). We will follow the digital product release with the creation of a map service, which will be posted as a link on the digital product download page. Links to free viewers and applications that use this database will also be found on this page.

Esri Story Map

A selection of 54 of the 195 sites in the Geoheritage database are featured on an Esri-based Story Map application *Nova Scotia's Geoheritage*:

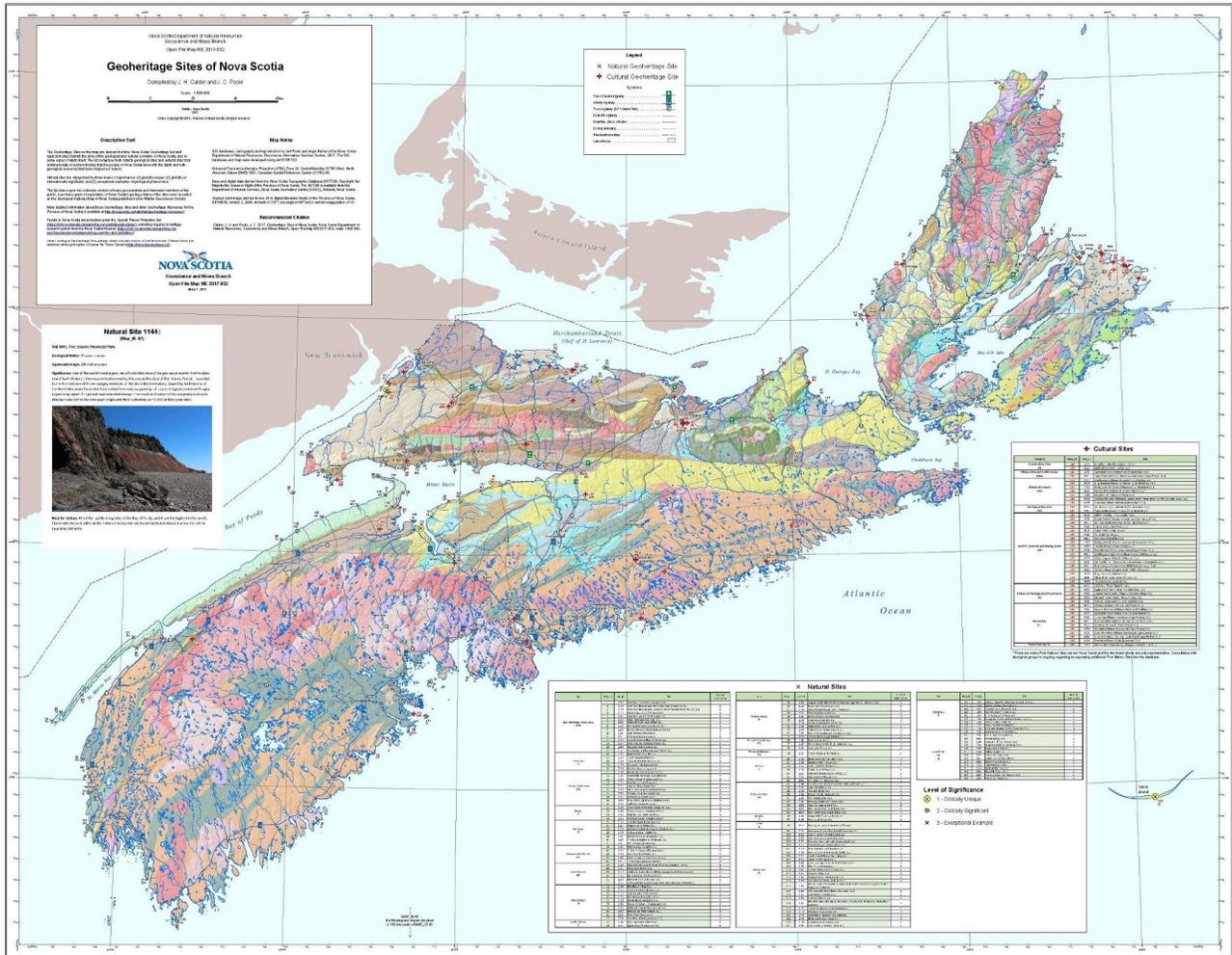


Figure 1. A low-resolution image of Open File Map ME 2017-032 *Geoheritage Sites of Nova Scotia* (Calder and Poole, 2017).

a Billion Years in the Making (Fig. 2) (Nova Scotia Department of Natural Resources, undated). This Story Map provides a user-friendly introduction to Nova Scotia’s geoheritage sites with an interactive map, photos, plain-language descriptions, and links to other information about the sites.

The List in the Future

Development of the list of Geoheritage Sites for Nova Scotia from the outset has involved input from the public at large, and this will continue to be the case going forward. The database can be updated or amended as needs arise. Feedback on the list and web-related products can be made by contacting Jeff Poole at the Nova Scotia Department of Natural Resources (Jeff.Poole@novascotia.ca).

References

Atlantic Geoscience Society, 2013. *Nova Scotia rocks: explore our geology*; Atlantic Geoscience Society, Publication no. 39.

Calder, J.H., 2014. Establishing a geoheritage list for Nova Scotia; *in* Mineral Resources Branch Report of Activities 2013; Nova Scotia Department of Natural Resources, Report ME 2014-001, p. 81–61. <http://novascotia.ca/natr/meb/data/pubs/14re01/14re01_Calder.pdf>

Calder, J.H. and DeMont, G.J., 2010. *Geoheritage in Nova Scotia*; *in* Mineral Resources Branch Report of Activities 2009; Nova Scotia Department of Natural Resources, Report ME 2010-1, p. 1-10.

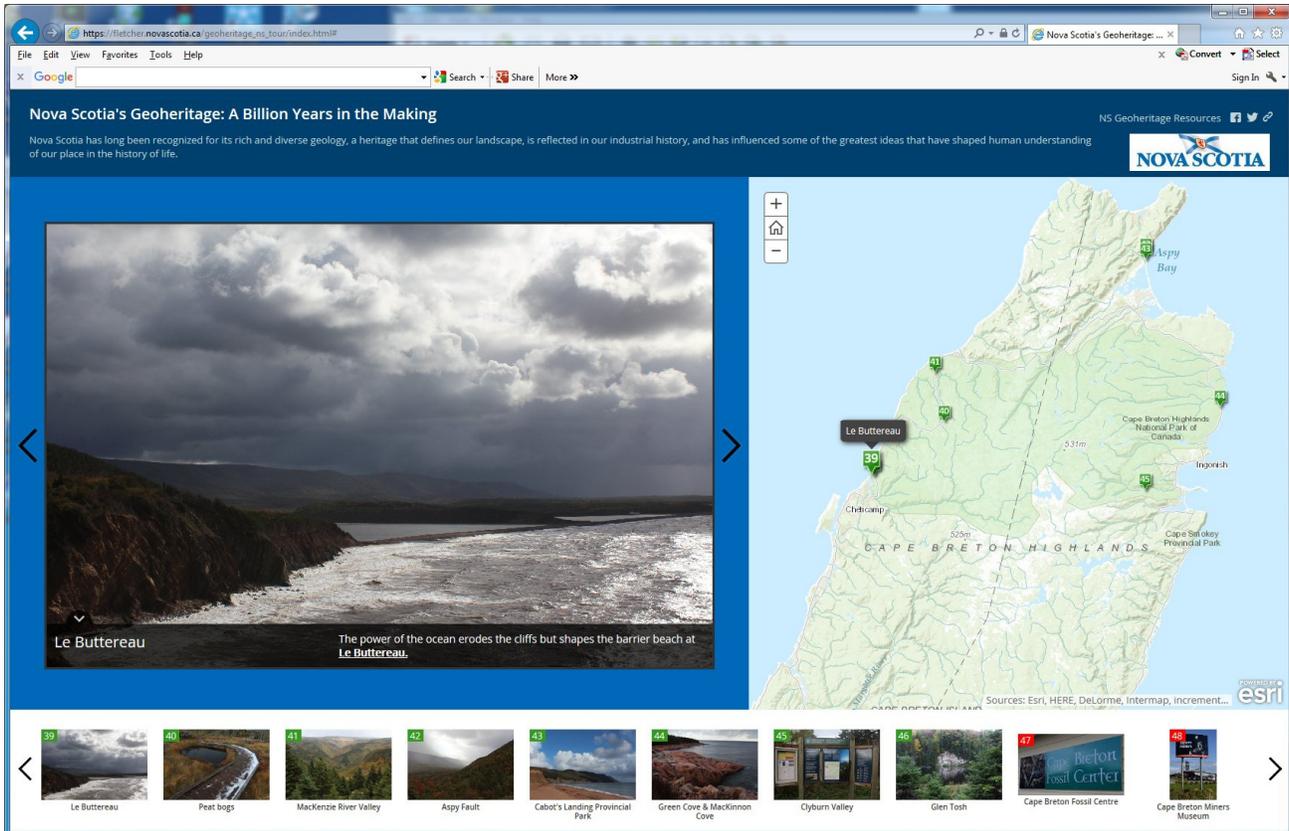


Figure 2. An example of the online, interactive Story Map application *Nova Scotia's Geoheritage: a Billion Years in the Making* (Nova Scotia Department of Natural Resources, undated).

<http://novascotia.ca/natr/meb/data/pubs/10re01/10re01_01Calder.pdf>

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Donohoe, H.V. Jr., White, C.E., Raeside, R.P., and Fisher, B.E., 2005. Geological highway map of Nova Scotia; Atlantic Geoscience Society, Special Publication No. 1.

Hickman Hild, M. and Barr, S.M., 2015. Geology of Nova Scotia: touring through time at 48 scenic sites; Boulder Publications, Portugal Cove-St. Philips, Newfoundland and Labrador, 267 p.

Nova Scotia Department of Natural Resources, undated. Nova Scotia's geoheritage: a billion years in the making; Nova Scotia Department of Natural Resources. <https://fletcher.novascotia.ca/geoheritage_ns_tour/index.html>