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Activities relating to the Working Group on Toponymic Data Files and Gazetteers

Delineation Guidelines^{*}

*** Extract of a document developed by the Geographical Names Board of Canada and prepared by Jocelyne Revie (Canada), Geographical Names Board of Canada Secretariat, Canada**

DELINEATION GUIDELINES

Geographical Names Board of Canada, Canada

Abstract

This document is an extract of the *Delineation Guidelines* for geographical features in Canada to help toponymists or anyone undertaking toponymic research or the general public interested in submitting place names for official recognition. The increasing demand for delineations across Canada and the lack of resources to properly confirm feature limits and boundaries in the field has confirmed the need for a standardized set of toponymic delineation guidelines. This document outlines the primary uses and establishes a national approach for defining toponymic extents.

1. Introduction

These guidelines, as approved by the GNBC in NWT on August 8, 2007, have been developed principally for use by GNBC members. However, the guidelines will be of interest to members of the Canadian Council on Geomatics (CCOG); anyone undertaking toponymic research or to the general public interested in submitting place names for official recognition.

The primary focus of these feature delineations is on toponymy, rather than topology. An important distinction must be made between the application of a geographical name based on local usage, and the physical extent of the feature. For example, a hydrologist will define a river based on physical measurements of its source, length and flow. Local citizens may apply the name to only a portion of this physical feature. As outlined in Section 4, the toponymic perspective does not necessarily agree with the topological perspective. When the extent of a feature name does not agree with the topological instance, toponymists rely on local usage when approving geographical names and their extents.

There is a growing need to delineate the limits or extents of named features that commonly appear on various scales of maps and charts and in Geographic Information Systems (GIS) across Canada. Furthermore, most topographic features do not have officially defined boundaries. The need for delineation has become more obvious with the production of maps using GIS technology. *The On-Line Concise Gazetteer Atlas Project* in Natural Resources Canada (NRCan) recognized an immediate need for feature delineation which resulted in the initial drafting of these guidelines.

Canadian geographical naming authorities at the territorial, provincial, and federal levels have been marking delineations on paper maps and other records with varying degrees of standards and quality control until now. These delineations are not readily accessible in digital format to the public or to all naming authorities. Guidelines for standardized delineation are needed, especially with the advent of Web-mapping technology which allows feature delineations to be seen by anyone who has access to the Internet.

The guidelines listed in Section 4 were created through the joint efforts of the Atlas of Canada, officials from the National Hydrographic Network project, the Geographical Names Board of Canada (GNBC) Secretariat, and the Delineation Guidelines Working Group of the GNBC. The GNBC is committed to implementing the delineations of toponymic work using GIS for more effective graphic display and data exchange.

2. Background

Many geographical names authorities are well-positioned to obtain and record topographic feature delineations in Canada. Generally, the GNBC Secretariat, provincial, and territorial records contain a wealth of feature extent and limits information. In several jurisdictions this data has been systematically field checked over the years. The advent of GIS technology and the development of large-scale mapping in some provinces pose an emerging need for detailed delineation information. This led Ontario to develop a delineation program in the early 1990s and British Columbia to develop automated delineation routines in 2001.

However, the increasing demand for delineations across Canada and the lack of resources to properly confirm feature limits and boundaries in the field has confirmed the need for a standardized set of toponymic delineation guidelines. This document outlines the primary uses and best sources for toponymic feature boundary information and establishes a national approach for defining toponymic extents.

3. Delineation Guidelines: Primary Uses and Best Sources for Delineations

Delineations that are authorized by legislation or regulation (e.g., cities, parks, ocean boundaries, wetlands, moraines, etc.) help us administer and protect our natural resources that are often subject to heavy development pressures. Other primary uses for delineations include:

- enabling faster and more individualized information searches on the Web as information becomes tied to delineated areas rather than single points of location;
- providing the key information needed to facilitate the automatic placement of text on maps and on other GIS information products; and
- enabling the application of GIS analytical tools in toponymic research.

Currently, the official source for toponymic feature delineations that have not been regulated or legislated in Canada is found in the records of the territories, provinces, and federal departments and agencies that form the Geographical Names Board of Canada.

The official toponymic extent, or delineation, is determined by the provinces, territories or federal departments or agencies with responsibility for naming. Naming authorities in those jurisdictions follow the guidelines in this document to delineate features at an appropriate scale. Capturing of the extent information is normally accomplished through field surveys and/or correspondence. Initially, where record information is incomplete, naming authorities in Canada will use their records and follow the guidelines where necessary to delineate features. Future field confirmation of delineations or extents will take place as time and resources permit.

The delineation of toponymic extents is marked by many complex geographical considerations and assumptions that vary in number by scale and landscape type.

4. Delineation Examples

4.1 General Comments

The examples provided indicate the appropriate geometric feature type as a **polygon, line or point**;

- These guidelines are developed with the philosophy that, in general, named places in Canada exist with a definable spatial area. Therefore, wherever possible, they must be delineated with a polygon outlining their spatial extent. For example this would mean that both banks of a river would be used to define a polygon. The size, shape and nature of the polygon will be guided by local usage except in those instances where policy, statute or practice of the naming authority may dictate otherwise. In instances where the map scale of the feature is such that it is impossible to display the feature as a polygon (a small creek or a height of land, for example), then the use of single lines (vectors) or points may be used for display purposes only.
- The delineation of toponym polygon boundaries should be coincident with base mapping line segments and, as required, additional “virtual” lines are used to close the toponym delineation polygon;

Several important issues affecting delineation were identified with respect to **rivers and water bodies**. The following three bullets summarize the best practices for river and water body delineation;

- A flexible approach that reflects local usage and adheres to toponymy principles rather than hydrological principles is best;
- All of the geometric elements that are part of the named flowing water feature shall be connected in the database. This is the same as a group of islands that have a group name (i.e. Bird Islands - example 2d.2);
- Rivers sometimes include water bodies that they flow through. A river delineation may be broken by a water body if that water body is not considered to be part of the river;

It was determined that toponym delineation can be derived from any appropriate scale of **reference map or chart** (1:1M; 1:250 K; 1:50 K; 1:20K or 1:10K).

- specific guidelines indicating how map and chart information may be used to demonstrate the graphic limits of real-world features (e.g., how lines of bathymetry from a hydrographic chart are used to define the limits and extent of a navigation channel, etc.).

4.2 Topographic categories

The delineation examples in this document have been arranged in accordance with the generic categories as published in the Generic Terms in Canada's Geographical Names: Terminology Bulletin 176. These examples appear under the generic and subcategory headings followed by a brief description of the category and a list of the more commonly used generics.

The following topographic categories are used in this document. Please note that examples for all categories may not exist at this time.

1. Water Features

- a) flowing freshwater
- b) features on flowing water
- c) standing water surrounded by land
- d) water sources
- e) standing water connected to two or more bodies of water
- f) features used for navigation
- g) tidal water features
- h) shoreline water features

2. Terrain Features

- a) elevated shoreline features
- b) low-lying shoreline features
- c) underwater features
- d) terrain surrounded by water
- e) elevated
- f) depressed
- g) flat

3. Ice and Snow Features

4. Features associated with vegetation

- a) forested areas
- b) open areas with low vegetation

5. Underground Features

6. Volcanic Features
7. Constructed Features
 - a) resource related
 - b) transportation related
 - c) others
8. Undersea Features
9. Topocomplexes
 - a) water-and-land
 - b) land-and-water
 - c) water-and-water
 - d) land-and-land

The topographic categories used above are essentially groupings of generic terms as used in the Canadian Geographical Names Data Base (CGNDB) and the Canadian Geographical Names Service (CGNS). This document does not provide a full list of generic terms (generics, for short). The full list of generics is the one in the *CGNDB* and *CGNS Data Base Records Manuals*. It is worth noting that the actual list of generics that is in use across Canada is now in excess of 1200 generic terms. This list of generics is updated on an annual basis.

Generic Terms in Canada's Geographical Names (also known as TB 176) is a subset of the full list of generics as it contains only those generics that are actually used **in** geographical names.

4.3 Examples

The examples shown in this document are guidelines only and are to be employed as rules of thumb. Any delineations used in this document should not be used as legal descriptions. Generally, unless delineations are being generated on hardcopy documents, existing digital geometry (water line data, contour line data, etc.) should be used to form the basis of the delineations, whenever possible.

NOTE: The official toponymic extents as approved by GNBC members shall **always** override these guidelines. It is also recommended that toponymists be consulted in cases where difficulty is encountered in determining the correct extent for a feature.

1. Water Features

a) flowing freshwater

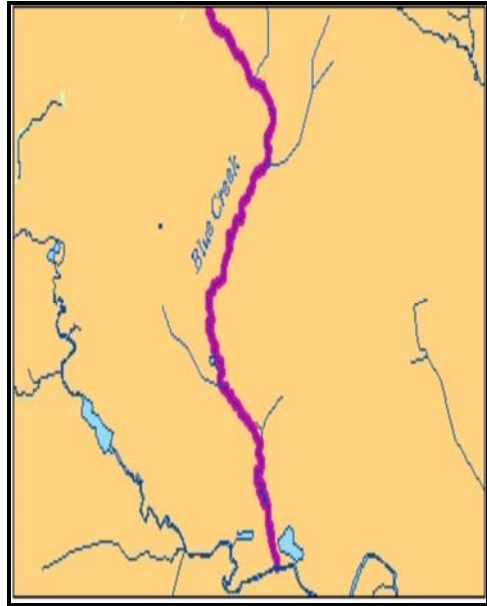
Flowing watercourses of various sizes such as a river, stream, creek, brook, or reach

Example 1a.1

Delineation type: **Line**

Delineation of “Blue Creek”

- Use identical single stream line from the base map to delineate the creek.
- The mouth is the intersection point of the single stream line and the shoreline of the water body that the creek empties into.
- **Note:** The delineation of “Blue Creek” does not include the small tributaries that empty into it. These small tributaries may have their own names or may be unnamed.



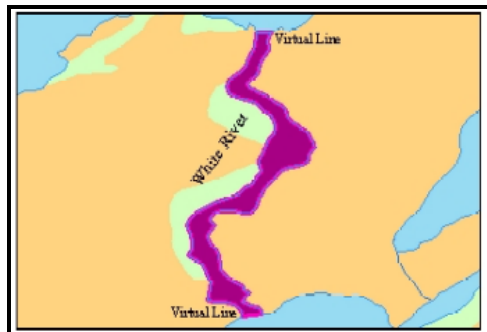
Example 1a.1

Example 1a.2

Delineation type: **Polygon**

Delineation of “White River”

- Use identical shorelines of river sections that have two sides to delineate river polygon.
- Use virtual lines to close the ends of the polygon where the river meets other water bodies.
- The mouth is the midpoint of a virtual line between the river polygon and the water body.



Example 1a.2

Example 1a.3 Delineation type: **Line and polygon**

Delineation of “Black Creek”

- Use identical single stream lines from the base map to delineate part of the creek.

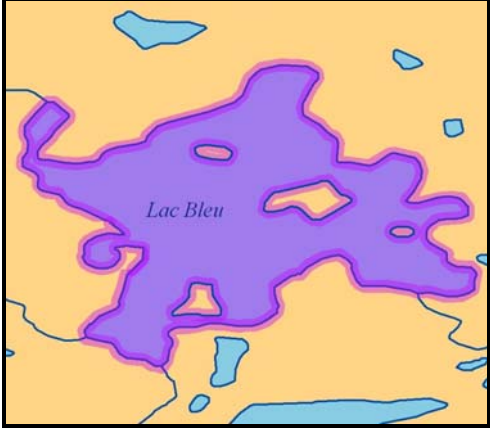
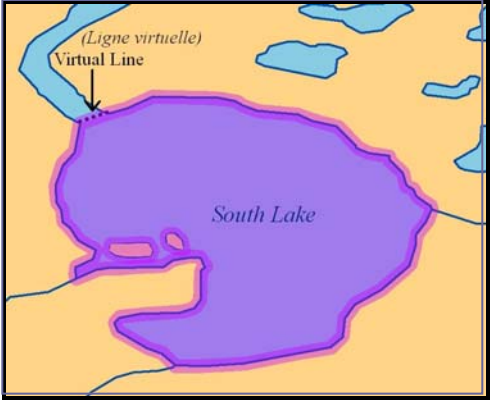
Note: This delineation emphasizes the role of local usage in delineating more complex features. Local usage indicates that only one of the four polygons lying along the “Black Creek” system’ is part of the feature named “Black Creek”. In this case, the long, narrow polygon from the base is added to the four line segments from the base map to complete the delineation of “Black Creek”.



1. Water Features

c) standing water surrounded by land


Inland body of standing water such as a lake, pond, lagoon, reservoir or loch

<p>Example 1c.1 Delineation type: Polygon</p> <p><i>Delineation of “Lac Bleu”</i></p> <ul style="list-style-type: none">• Use identical shorelines from the base map to delineate the edge of the feature.• Exclude all islands within the feature by using identical island shorelines from the base map.	 <p>The map shows a large, irregularly shaped lake labeled "Lac Bleu" in blue. The lake is surrounded by a yellowish-brown land area. Several smaller, irregularly shaped islands are scattered within the lake's perimeter. The lake's boundary is defined by a solid blue line, and the islands are also defined by solid blue lines. The text "Lac Bleu" is written in blue within the lake's area.</p> <p>Example 1c.1</p>
<p>Example 1c.2 Delineation type: Polygon</p> <p><i>Delineation of “South Lake” within a river system</i></p> <ul style="list-style-type: none">• Use identical shorelines from the base map to delineate the edge of the feature.• Use a virtual line to close the lake polygon.• Exclude all islands within the feature by using identical island shorelines from the base map.	 <p>The map shows a large, irregularly shaped lake labeled "South Lake" in blue. The lake is surrounded by a yellowish-brown land area. Several smaller, irregularly shaped islands are scattered within the lake's perimeter. The lake's boundary is defined by a solid blue line, and the islands are also defined by solid blue lines. A dashed blue line, labeled "(Ligne virtuelle) Virtual Line", is drawn across the top of the lake to close the polygon. The text "South Lake" is written in blue within the lake's area.</p> <p>Example 1c.2</p>

2. Terrain Features

a) elevated shoreline features


Prominent projection of land extending into a body of water or above the shoreline such as a cape, head, point, peninsula, or raised beach

<p>Example 2a.1 Delineation type: Polygon</p> <p><i>Delineation of “Bird Peninsula”</i></p> <ul style="list-style-type: none">• Use identical shorelines from the base map to delineate the sides of the peninsula.• Add a virtual line at the neck (narrowest part) of the peninsula to close the polygon.	 <p>Example 2a.1</p>
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2. Terrain Features

e) elevated

Mass of land prominently elevated above the surrounding terrain, bounded by steep slopes and rising to a summit and/or peaks such as a mountain, peak, mount, ridge, hill, bluff, or cliff

<p>Example 2e.8 Delineation type: Polygon</p> <p><i>Delineation of “Kitturiaqtauniq”(pingo) (large-scale map)</i></p> <ul style="list-style-type: none">• Use identical contour lines from the base map to delineate the base and extent of the pingo, as you would a peak.	 <p>Example 2e.8</p>
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5. Reference Sources

- Centre for Topographic Information. 2003. *CTIO Caris User Guide*. Appendix “C”: Virtual Features and Boundaries, Ottawa.
- Centre for Topographic Information. 2002, *Canadian Geographical Names Product Specifications*, Version 02, Ottawa: Geographical Names Section.

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