
Digital Data Standards for a Community-Scale Tourism Opportunity Strategy

Prepared by

Ministry of Small Business, Tourism and Culture
Tourism Policy and Land Use Branch
For the
Cultural Task Force
Resources Inventory Committee

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Preface

The Resources Inventory Committee members are resource specialists from a number of professional disciplines and represent Provincial, Federal, First Nation and private sector agencies and other resource interests. RIC's objectives are to develop a common set of standards and procedures for provincial resource inventories, as recommended by the Forest Resources Commission in its report "The Future of our Forests".

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For further information about the Resources Inventory Committee and its various Task Forces, please visit the RIC website at <http://www.for.gov.bc.ca/ric>

Abstract

This document describes the digital data specifications for *Community-Scale Tourism Opportunity Strategy* data with a focus on spatial data collected for use in Geographic Information Systems (GIS). It is part of a series of related documents produced by the Resources Inventory Committee (RIC), which are intended to ensure B.C. government agencies are provided with resource information which meets recognized standards for quality and consistency. Recommended guidelines and 'must-follow' rules for the digital data capture, storage and presentation of Community-Scale Tourism Opportunity Strategy data are described, providing benchmarks for contractors or staff involved in digitally capturing resource inventory data, managers charged with overseeing data-collection projects, custodians maintaining resource inventory datasets, and end-users seeking to apply resource inventory data to resource management and land-use issues.

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This report was written by David Nicolson of Clover Point Cartographics Ltd. and Bruce Whyte, resource planner with the Tourism Policy and Land Use Branch of the Ministry of Small Business, Tourism and Culture.

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Section 1 - Introduction

Background

This document describes the digital data specifications for *Community-Scale Tourism Opportunity Strategy* data with a focus on spatial data collected for use in Geographic Information Systems (GIS). It is part of a series of related documents produced by the Resources Inventory Committee (RIC), which are intended to ensure B.C. government agencies are provided with resource information which meets recognized standards for quality and consistency. Recommended guidelines and 'must-follow' rules for the digital data capture, storage and presentation of Community-Scale Tourism Opportunity Strategy data are described, providing benchmarks for contractors or staff involved in digitally capturing resource inventory data, managers charged with overseeing data-collection projects, custodians maintaining resource inventory datasets, and end-users seeking to apply resource inventory data to resource management and land-use issues.

Purpose of the Standards

The purpose of this document is to define a set of digital data standards, which will provide end-users and those involved in the collection and maintenance of the *Community-Scale Tourism Opportunity Strategy* data with a clear understanding of the technical form of the data. This data standard address the discipline-specific content of the inventory data, data capture rules, georeferencing standards, and specifications for the storage and delivery of the data.

The intent of this document is to define the form and structure of digital resource inventory data managed by *the Ministry of Small Business, Tourism and Culture* of the Province of BC. It will define, for a *Community-Scale Tourism Opportunity Strategy*:

- standards for describing thematic content;
- standards for physical data specification;
- georeferencing standards;
- quality assurance guidelines; and
- recommendations for cartographic representation of the data.

This standard is introduced to achieve key provincial government objectives for digital data, by:

- making it easier to share digital spatial data between user groups using different hardware and software;
- making it easier to integrate digital spatial data by adhering to Provincial standards for georeferencing resource inventory data sets; and
- providing quantitative and qualitative measures of data quality to ensure data-collection efforts are effective, to ensure the Province receives good value in contracted projects.

Scope of the Standards

The digital data standards in this document will be applied to *Community-Scale Tourism Opportunity Strategy* project managed by the *Ministry of Small Business, Tourism and Culture*, a Province of British Columbia agency represented at the Resources Inventory Committee.

This document describes basic georeferencing and digital data definitions for a *Community-Scale Tourism Opportunity Strategy*, including coordinate systems, registration and logical and physical descriptions for attribute and spatial aspects of the data sets. The document describes, recommends or prescribes methods for digital data capture, quality assurance and graphic data representation, as well as project metadata related to the digital capture.

The document focuses on providing the standards and guidelines required by those involved in digital data capture of Community-Scale Tourism Opportunity Strategy data to ensure consistent delivery of digital data in the specified digital form or structure. The specification describes the form (or structure) of the data as it exists in its distribution archive or the source from which it is being accessed and the form the data is expected to be in when delivered by contract. The document does not attempt to describe a single process for digitally capturing the data, as there might be a number of ways of getting the data into the specified form.

One of the fundamental principles of a *Community-Scale Tourism Opportunity Strategy* is that appropriate information be incorporated from other datasets where available. Many of these datasets have their own standards (e.g. TRIM, Forest Recreation Inventory, various wildlife information sources). For external data sources this document applies only to how that data is incorporated into the TOS (Section 7d) and how it is displayed (Section 9). The entire document applies to all proprietary SBTC data concerning tourism facilities, features and patterns of resource use.

Intended Users of the Standards

This document is technical in nature, and is intended for a specialist audience of persons compiling, managing and utilizing *Community-Scale Tourism Opportunity Strategy* digital resource inventory datasets.

This document is intended for use by three major groups:

- government staff managing contracts for the collection of *Community-Scale Tourism Opportunity Strategy* data, or maintaining the resource inventory datasets;
- private-sector contractors and government staff actively involved in the collection, storage and maintenance of *Community-Scale Tourism Opportunity Strategy* digital data sets;
- end-users seeking to understand the structure of *Community-Scale Tourism Opportunity Strategy* datasets for use in analysis and graphic display.

Contractors and government staff involved directly with collecting *Community-Scale Tourism Opportunity Strategy* data will refer to this Standard for specific technical guidance on the form and structure of the data sets they prepare. Managers of such data-collection projects will use this Standard to evaluate whether resource inventory projects have been properly conducted.

Section 2 - Georeferencing

Coordinate System

The position of a point on the earth's surface is located by its coordinates. These coordinates can be expressed in one of two ways:

- i) The first method specifies location in terms of a spheroid (geographic coordinates) which specifies latitude, longitude and elevation. Latitude and longitude should be stated in degrees or portions of degrees. The elevation is an expression of z typically in metres measured from the relevant vertical datum. Use of "geographic coordinates" is the standard for "seamless" databases. Most GIS systems do not allow computation of distance and area measurements in geographic coordinates, thus requiring transformation to a planar (map) projection.
- ii) The second method specifies location in terms of rectangular (projection) coordinates that specify Northing, Easting and elevation. Northing and Easting should be stated in metres. The elevation is an expression of z typically in metres measured from the relevant vertical datum.

The horizontal datum specifies a mathematical approximation of the earth's shape. The vertical datum provides a reference for the measurement of elevation. Each digital map file must have a description of the coordinate system (projection parameters and spheroid) embedded (ARC/INFO .prj file).

Horizontal Datum

The horizontal datum is a function of the basemap registration. The *Community-Scale Tourism Opportunity Strategy* basemap is registered to the British Columbia Terrain Resource Inventory Mapping (TRIM) basemap. Therefore the data standard for Horizontal Datum is **NAD83** - the North American Datum defined in 1983, with the earth-centred ellipsoid derived from Geodetic Reference System 1980 (GRS80).

Data from external sources may be captured in NAD27 - North American Datum 1927, based on the Clarke Spheroid of 1866, but must be converted to NAD83 using appropriate the Canadian National Transformation Matrix (version 2) (*see NAD27 – NAD83 Conversion below*). Existing digital data from non-SBTC data custodians should be converted to NAD83 if it is provided in NAD27.

NOTE: It is recommended that the basemap produced by the contractor for new data capture is developed in NAD83. If National Topographic Series (NTS) basemaps are used to record new information, the data must be converted to NAD83 using appropriate transformations.

Vertical Datum

The *Community-Scale Tourism Opportunity Strategy* data standard for Vertical Datum is **CVD28**. CVD28 - Canadian Vertical Datum defined in 1928 is a reference surface used as the basis of elevation, depth and time measurements. All vertical measurements are based on mean sea level as defined by this datum and established by the Geodetic Survey of Canada. The Vertical Datum is to be specified if the data includes a value for elevation.

Projection

All digital map files must be delivered in the Albers Equal Area Conic projection for British Columbia, as defined by the Environment Division of the Ministry of Environment, Lands and Parks.

Parameters for Albers (British Columbia) have been defined as:

Central meridian 126° 0' 0" (West longitude)

1st standard parallel 50° 0' 0" (North latitude)

2nd standard parallel 58° 30' 0" (North latitude)

Latitude of origin 45° 0' 0" (North latitude)

Rectangular coordinates are metric with Easting values offset by 1,000,000 metres.

NAD27 - NAD83 Conversion

All coverages must be delivered in NAD83. Where a dataset contains data that has been upgraded to the new datum, the method of transformation must be identified. Use of the Canadian National Transformation Grid Version 2.0, as published by the Geodetic Survey of Canada and endorsed by Geographic Data BC, is mandatory for all datum conversions.

NOTE: When compared to Version 1.1, Version 2.0 of the Canadian National Transformation Grid provides greater detail in urban areas and more accurate control in pockets of the northeast of the province. This will be significant in areas of the northeast of the province where the required accuracy is 20 metres or less.

For further information on NAD27, NAD83 and the Canadian National Transformation Grid contact:

**Geospatial Reference Section, GDBC
Ministry of Environment, Lands and Parks,
Province of British Columbia**

Section 3 - Registration

Registration is based on existing Government standards and current practices. All data developed for a *Community-Scale Tourism Opportunity Strategy* must be referenced based to the following base map:

**Provincial Baseline Digital Atlas 1:20 000 (TRIM / TRIM II)
{TRIM Watershed Atlas (1:20 000)}**

At the Ministry's discretion, the following alternative base map could be used:

BC Ministry of Environment Watershed Atlas (1:50 000)

Base Positional Accuracy

The accuracy descriptions below refer to the accuracy of the basemap. The accuracy standards for proprietary SBTC data are addressed in Section 7.

Provincial Baseline Digital Atlas 1:20 000 (TRIM)

1. 90% of all well-defined planimetric features are coordinated to within 10 metres of their true position.
2. 90% of all discrete spot elevations and DEM points are accurate to within 5 metres of their true elevation.
3. 90% of all points interpolated from the TRIM (including contour data) are accurate to within 10 metres of their true elevation
4. True position/elevation is defined as the coordinates that are obtained from positioning with high order ground methods.

TRIM Watershed Atlas - 1:20 000

Heights of land, watershed boundaries, and river segments are derived from TRIM planimetric and DEM baseline datasets. As such the accuracy of this product is limited to that described for the Provincial Baseline Digital Atlas 1:20 000 (TRIM).

BC Ministry of Environment Watershed Atlas - 1:50 000

The positional accuracy will be slightly less than the standard accuracy of the 1:50,000 NTS source maps.

Section 4 - Logical Data Description

The logical data model is not presently available.

This section documents a logical description of the data being collected. The purpose is to provide a single integrated definition of the data that is unbiased toward any single application of the data being collected and is independent of how the data are physically stored or accessed. The intent is to provide a common understanding of the data being collected as well as provide a basis for systems database design and definition of the Physical Data Description (Section 5).

Section 5 - Physical Data Description

This section provides a precise specification of the physical format of data exchanged between contractors and the data custodian. Throughout this section references are made to ARC/INFO software. While the data collection and analysis can be undertaken using any software program, data must follow the defined standards and must be delivered in one of the formats specified below.

Section 5a - Attributes – Describing the Tourism Operator

All attribute data is to be stored entirely within the GIS files, with the exception of the master database listing all tourism operators. Although more difficult for non-specialists to access with non-GIS software, attributes stored entirely within GIS feature attributes tables are easier to distribute and exchange between contractors and the data custodian with their spatial features. The attributes can be developed in any relational database. Attributes associated with the spatial data should be attached to the spatial elements before delivery.

Data Format

Attribute data can be delivered in the following formats:

Microsoft Access (.MDB)

dBASE (.DBF)

The following formats can also be used for interim deliverables:

Microsoft Excel (.XLS)

Microsoft Access (.MDB)

dBASE (.DBF)

Comma-Separated Values (.CSV)

Oracle Export (.EXP) (if specified by project guidelines)

INFO export (.E00 - Attribute data format of ARC/INFO)

Data File Name

The tourism operator file is to be named <STA>_tourop.<ext.>, where <STA> represents a two or three-letter code describing the project study area (normally a forest district or LRMP Area), and <ext.> represents the conventional filename extension defining the type of software used to compile the data. Ministry of Forest District codes and LRMP Area codes are included in Appendix D – Codes for Geographic Extent.

Examples

- ja_tourop.mdb for a Microsoft Access database of tourism operators in the Fort St. James LRMP area;
- drv_tourop.dbf for a dBase file of tourism operators in the Robson Valley Forest District.

Primary Table: Tour Operators

The primary table for the Community-Based Tourism Opportunity Strategy database is a file that describes the entities that operate tourism businesses.

Digital Data Standards for a Community-Scale Tourism Opportunity Strategy

The spatial files describing the location and attributes of facilities, travels routes, features and use areas can be linked to the file of tourism operators through unique identifiers for each operator (tourcode).

ITEM #	ITEM NAME	WIDTH	OUT-PUT	TYPE	N.DEC	DESCRIPTION
1	TOURCODE	6	6	I	-	Unique identifier assigned by Ministry/contractor Used to link between tourism operator attributes and the spatial elements (use area, features, and facility) used by each operator.
2	NAME	60	60	C	-	Name under which the tourism business operates
3	LEGAL_NAME	60	60	C	-	Legal name of tourism business / tourism operator
4	CONTACT	50	50	C	-	Name of contact person for operation
5	ADDRESS1	35	35	C	-	Mailing address or box #
6	ADDRESS2	35	35	C	-	Physical address of corporate headquarters (if different than above)
7	CITY	25	25	C	-	City
8	PROV	2	2	C	-	Province or State
9	POSTCODE	7	7	C	-	Postal code
10	PHONE1	14	14	C	-	Phone number (including area code) e.g. 250.123.4567
11	PHONE2	14	14	C	-	Alternative phone number (including area code) e.g. 1.888.123.4567
12	FAX	14	14	C	-	Fax number (including area code) e.g. 604.123.4567
13	EMAIL	40	40	C	-	Email address
14	WEB_SITE	60	60	C	-	Web page address
15	LOCATION	50	50	C	-	Description of location of operation if different than address location
16	TENURE	100	100	C	-	Type of land tenure for operation (if any) e.g. Private ownership, CR tenure – specify type, lease
17	PERMIT	1	1	C	-	Operator has a Park Use Permit (Y/N)
18	TOUR_ORG	6	6	C	-	Operator is a member of a tourism marketing organization (space delimited e.g. R P) L = Local (e.g. Tourism Victoria) R = Regional (e.g. Cariboo Tourism Association) P = Provincial (e.g. COTA) &/or National
19	ACCTYPE	20	20	C	-	Principal type of operation - ACCOMMODATION (see acctype codes – Appendix A) Multiple entries–space delimited (e.g. A01 A04 A09)

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20	TOURTYPE	20	20	C	-	Principal type of operation - TOUR/EXPERIENCE (see tourtype codes – Appendix A) Multiple entries–space delimited (e.g. R01 R11 R15)
21	TRANSTYPE	20	20	C	-	Principal type of operation - TRANSPORTATION (see transtype codes – Appendix A) Multiple entries–space delimited (e.g. P04 P05 P09)
22	ATTRTYPE	20	20	C	-	Principal type of operation - ATTRACTION (see attrtype codes – Appendix A) Multiple entries–space delimited (e.g. T01 T02 T09)
23	SERVICES	100	100	C	-	Listing of all services (see service codes – Appendix B) Multiple entries - space delimited (e.g. S32 S11 S14)
24	RENTAL	20	20	C	-	Listing of all equipment rented (SERVICE = S13) (see rental codes – Appendix B) Multiple entries - space delimited (e.g. A B F)
25	ACTIVITIES	100	100	C	-	Listing of all activities (primary & secondary) (see activity codes – Appendix C) Multiple entries-space delimited (e.g. H00 D02 K01)
26	SPECIES	30	30	C	-	Wildlife species of interest – space delimited (hunted if Guide-outfitter) A - Black Bear K – Wolf B - Grizzly Bear L - Whale C - Caribou M – Other Marine Species D - Cougar N – Fish E - Mountain Goat P - Shorebird F- Guided fishing Q - Waterfowl G – Deer R - Raptor H – Elk S - Songbird I – Moose T – Small Mammals J – Mountain Sheep X – Other Land Species
27	SEASON	24	24	C	-	Months of operation (space delimited – e.g.: e f g h) A - January G - July B - February H - August C - March I - September D - April J - October E - May K- November F - June L – December X – all year
28	USE	12	12	C	-	Level of use (e.g.: A3 B1 C0 D1) <u>Season</u> <u>Use Level</u> A – Summer (July-Aug.) 0 – Not available B - Fall (Sept-Nov.) 1 – Low (< 54% of cap.) C - Winter (Dec.-Mar.) 2 – Med. (55-84% of cap.) D - Spring (Apr.-June) 3 – High (> 85% of cap.)
29	START_DATE	4	4	C	-	Year current business started
30	LOCAL_TRIP	1	1	C	-	% of trips offered which take place in study area A - <25% B - 25% - 75% C - >75%
31	GRP_SIZE	1	1	C	-	Maximum size of groups on tour A - <2 people D – 13-15 people B – 3-6 people E – 16-20 people C – 7-12 people F – >20 people
32	PURPOSE	10	10	C	-	Why clients frequent your business (list in order of importance – space delimited) R = Recreation (locals) T = Tourist B = Business C = Conference/meeting V= Visiting friends or relatives

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33	MARKET	16	16	C	-	Where are your clients primarily from? (list in order of importance – space delimited) A – Regional B – Provincial C – Canada D – USA - shorthaul (AK, WA., OR., ID.) E – USA – longhaul (remainder USA) F – Asian G – European H – Other International
34	CLIENT_PRE	6	6	I	0	Number of clients in previous year
35	CLIENT_EXP	6	6	I	0	Expected number of clients in current year
36	CHANGE1	1	1	C	-	Is your business more, less or equally busy to last year M=MORE, S= SAME, L= LESS
37	CHANGE2	1	1	C	-	Is your business more, less or equally busy to 2 years ago M=MORE, S= SAME, L= LESS
38	CHANGE3	1	1	C	-	Is your business more, less or equally busy to 3 years ago M=MORE, S= SAME, L= LESS
39	WHY_CHANGE	50	50	C	-	Verbal description of what influenced change
40	DURATION	15	15	C	-	Average length of stay for clients, - number or range of days (use 0 for < one day)
41	FEES_DAY	8	8	C	-	Daily charge to participant for services or experience – Event lasts one day or less (Round to nearest dollar – indicate if in USA \$\$)
42	FEES_NIGHT	8	8	C	-	Daily charge to participant for services or experience – Event lasts one or more nights (Round to nearest dollar – indicate if in USA \$\$)
43	EMP_FY	3	3	I	0	Number of employees - full time year round
44	EMP_FS	3	3	I	0	Number of employees - full time seasonal
45	EMP_PY	3	3	I	0	Number of employees - part time year round
46	EMP_PS	3	3	I	0	Number of employees - part time seasonal
47	EMP_TOT	3	3	I	0	Number of employees - total
48	EMP_FTE	3	3	I	0	Number of Full Time Equivalent Employees Consultants estimate based on above numbers
49	EMP_LOCAL	3	3	I	-	Number of employees from the study area
50	COMMENTS	254	254	C	-	Additional notes regarding the operation
51	SURVEY	3	3	C	-	Indicates how an operator participated in the study C – contact attempt via telephone – no response I – telephone interview N – did not attempt to contact / could not contact S – sent survey & telephone call – no response SR – returned completed survey
52	UPDATE	8	10	D	-	Date this operator information updated
53	SOURCE	30	30	C	-	Main source of information (how operator located) <ul style="list-style-type: none"> • (XXXX TRI – previous Tourism Resource Inventory (indicate year e.g. 1996 TRI) • XXXX TOS - –Tourism Opportunity Strategy (indicate year e.g. 1999 TOS) • ACCOMXXXX – Tourism BC Accommodation guide (with year) • ASSOC – Regional tourism association • Telus – Telephone Directory • BROCHURE – Company brochure • FIELD – Found during field work • GUIDE/OUTFITTER – Licensed MoE Guide Outfitter • POLK – POLK Directory • TIC – Tourist Information Centre • WWW.xxx – Web page • Other –specify code & record in report

Assigning Tourcodes

Tourcodes are a unique identifier assigned to tourism operators that allow an operator to be associated with a spatial element. Each tourism operator in the province has one tourcode, regardless of how many regions they operate in. The tourcode is assigned based on where the headquarters / primary facility of the operator is located or where the majority of the tourism activity occurs.

Tourcodes consist of a six-digit number. The first two digits represent the tourism region while the final four digits represent a unique number for the operator.

Tourism Region	Tourcode (first 2 digits)
Islands	10
Southwest	20
Okanagan	30
Kootenay	40
Cariboo-Chilcotin	50
North (formerly Northwest and Northeast)	60

SBTC will provide contractors with a list of all provincial tourism operators and their tourcodes. Operators who are on the list will keep their assigned tourcode, regardless of the region(s) they operate in. New operators identified by the contractors will be assigned a new code. To avoid duplicate coding when projects are undertaken concurrently throughout the province, SBTC will either assign the new tourcodes or designate a sub-region and have the contractor assign the tourcodes.

Example:

The Queen Charlotte Islands are in the North Region (60), but because of concurrent studies, is assigned the regional tourcode of 61. New operators identified for this project were assigned tourcodes starting with 61.

Examples of assigning regional tourcodes:

Operator X is based on Vancouver Island. They offer tours on the west and east coast of Vancouver Island, on the Central Coast and in the Queen Charlotte Islands. They are assigned a regional tourcode of 10.

Operator M is based in Vancouver but offers tours throughout Coastal BC, They are assigned a regional tourcode of 20.

Operator Y is based in Kamloops. They operate a Guide-Outfitting company near Prince George. They are assigned a regional tourcode of 60.

Operator Z is headquartered in Vancouver, but has facilities in the Kootenay Region. They are assigned a regional tourcode of 40.

Operator Q is headquartered in Victoria, but has facilities on Vancouver Island, in the Central Coast and on the Queen Charlottes. Each operation has separate names and mailing addresses. Each facility is assigned a tourcode appropriate to the region in which they are based.

Jane has a fishing charter and accommodation facility operating from the same address but under different names. Jane's operations are assigned two unique regional tourcodes. Frank has a fishing charter and accommodation facility operating from the same address under the same name. Frank's operations are assigned one unique regional tourcode.

The four digits following the regional tourcode are assigned in sequential order from the last previously identified tourism operator in the regional tourcode series. The final rectification of tourism operator tourcodes, and inclusion of new and updated information into the SBTC corporate database, will be undertaken by SBTC staff after the project has been completed.

Section 5b - Spatial

Coordinate System

All data must be in the following coordinate system. Note that the Offsets are separate from the false Easting and/or false Northing that may be part of the projection definition. For example, BC Albers has a false Easting of 1,000,000 metres.

Parameters	ARC/INFO - BC Albers	ESRI Arc Shape - BC Albers
Horizontal Unit of Resolution, Measurement Unit	metres, double precision	metres, double precision
Vertical Unit of Resolution, Measurement Unit	N/A	N/A
X,Y Offsets	0.0, 0.0	0.0, 0.0

Tiles / Coverage Extents

Data must be divided into the following geographical partitions, unless otherwise specified by the project guidelines:

Administrative or Geographical Area (e.g. Forest District or LRMP Area).

Data Format

Spatial data must be submitted in one of the following formats (in decreasing order of preference):

- ARC/INFO export (E00) - Unix/NT Version 7.xx or later - Uncompressed (i.e. exported with NONE compression option)
- Unix or NT ARC/INFO coverage - Unix/NT Version 7.xx or later. Set up in unique workspace
- ESRI Arc Shape
- PC ARC/INFO export (E00) – Version 4.xx - Uncompressed (i.e. exported with NONE compression option)
- SAIF

Coverage Name

The naming schema follows the Ministry of Environment, Lands and Parks naming conventions (see www.elp.gov.bc.ca/gis/coveragenames.html).

The first character in the coverage name refers to the **scale or map accuracy**. Data for a *Community-Scale Tourism Opportunity Strategy* is to be registered against TRIM, therefore the initial letter of the coverage name should be “t” (inferred 1:20 000 scale or accuracy). If the data is matched to the Watershed Atlas, the initial letter used in the coverage should be “l” (inferred 1:50 000 scale or accuracy). Layers taken directly from a regional Tourism Resource Inventory without further rectification should begin with the letter “q” (inferred 1:250 000 scale or accuracy). The actual accuracy for each point, line, polygon or region in the coverage is documented in the spatial database.

The next four characters refer to the **thematic content** of each coverage. The six thematic types are shown below.

tfc => tourism facility
tftp => tourism point feature
tftl => tourism line feature
tfta => tourism polygon feature
tuar => tourism use area (regions)
tc => tourism capability

The tourism capability has 3 subsequent letters that are used to describe the tourism product that has been modeled for capability. This is separated from the previous characters by an “_”. A full listing of codes for tourism capability models area found in Appendix E. Codes will be assigned by SBTC for products not listed in the Appendix.

The final 3 characters refer to the **geographic extent** of the project area. Codes for geographic extent are provided in Appendix D. Codes will be assigned by SBTC for project study areas that do not conform to one of those listed in the Appendix. The geographic extent codes are separated from the previous characters by an “_”.

Examples:

100 Mile House coverages, matched to TRIM. Capability models run using TRIM, Forest Cover and other 1:20 000 scale data sources (where available).

tffc_dmh => tourism facility

tftfp_dmh => tourism point feature

tftfl_dmh => tourism line feature

tftfa_dmh => tourism polygon feature

ttua_dmh => tourism use area (regions)

ttc_<XXX>_dmh => tourism capability where XXX stands for the tourism product being modeled

Feature Classification

Each feature (point, line or polygon) must have a feature code from the BC Government Feature Database in its feature attribute table, stored in a 10-character attribute called ‘FCODE’. FCODEs have been assigned in the table below. Additional FCODEs will be provided by SBTC as data custodians assign them.

Data Layers and Topology Implementation

Spatial data is to be captured as one of four different types: points, lines, polygons and regions. These entities are stored in specific layers or coverages depending on what each represents. Attributes for each coverage are described below. Topology for each coverage, used to express spatial relationships among map features, is described with the feature codes in the table below.

Coverage Type	Feature Code (FCODE)	Feature Class Description	Topology	
TOURISM FACILITY	<i>BB14050110 *</i>	Bed and Breakfast	point	
	AL12350000	Golf Course	point	
	<i>AA23150130 *</i>	Guest Ranch	point	
	BB14050000	Hotel / Motel / Tourist Lodge (frontcountry)	point	
	AL24350000	Lodge / Resort (backcountry)	point	
	BL17000000	Marina	point	
	BL18900000	Museum	point	
	BL01200000	Gallery / Attraction	point	
	<i>AL24360000 *</i>	Outdoor activity supplier (Non-facility based tourism operator headquarters)	point	
	<i>BB2975140 *</i>	Rentals (automobile / equipment)	point	
	AL03900130	RV Park / Private Campground / Campsite	point	
	AL27700000	Ski Area / Ski Hill	point	
	BB03700000	Secondary Facility / Cabin / Camp	point	
	TOURISM FEATURE	DC31700000	Trail – basic trail on soil, gravel or boardwalk	line
		DC31800000	Trail – improved (paved)	line
FM93200200		Trail – MoF developed / maintained	line	
FM93200300		Trail – heritage (historic route – may not exist today)	line	
<i>DC32000000 *</i>		Land Route – non-established route	line	
AL70003002		River Recreation / Lake-based route	line	
<i>AQ10800110 *</i>		Ocean Route	line	
<i>DC32000110 *</i>		Winter Route (ski, snowmobile, dogsled)	line	
DA24900000		Road – Gravel or paved road used for tourism activity	line	
<i>DC32000120 *</i>		Air Route / Flight Corridor	line	
TOURISM FEATURE	<i>AIXXXXXXXXXX *</i>	Activity Use - Climbing	point	
	<i>AIXXXXXXXXXX *</i>	Activity Use - Diving	point	

Digital Data Standards for a Community-Scale Tourism Opportunity Strategy

	<i>AIXXXXXXXXX * </i>	Activity Use - Fishing	point
	<i>AIXXXXXXXXX * </i>	Activity Use – Kayak (put-in / pull-out)	point
	<i>AIXXXXXXXXX * </i>	Activity Use – Other	point
Coverage Type	FCODE	Feature Class Description	Topology
	AQ90450000	Airfield / Airstrip / Aircraft Landing	point
	AQ13450000	Helicopter Landing	point
	AQ00800000	Anchorage	point
	GE01800000	Beach	point
	CQ15800000	Boat Ramp	point
	BN03750000	Cabin / Hut / Shack	point
	AL93901000	Campsite – Wilderness	point
	AL03900110	Campground/Campsite – Federal	point
	AL03900120	Campground/Campsite – Municipal	point
	AL03900140	Campground/Campsite – Provincial	point
	AL03900150	Campground/Campsite – Regional	point
	CQ08850000	Dock / Wharf	point
	AL13650000	Heritage / Historic Site (with tourism value)	point
	GF2875120	Hot Spring / Thermal Spring	point
	FI91300010	Ministry of Forests Recreation Site (RSITE)	point
	FI91300020	Ministry of Forests Proposed Recreation Site (RSP)	point
	FI91300020	Ministry of Forests Recreation Reserve (RECRES)	point
	HB18800000	Mountain Peak	point
	AL21150000	Picnic Site	point
	<i>DC31700001 * </i>	Trailhead	point
	AL16550000	Viewpoint / Scenic Viewing	point
	GA10450000	Waterfall	point
	FE84580000	Wildlife Viewing / Wildlife Site (with tourism value)	point
TOURISM FEATURE	AL70000000	Activity / Use – biological, physical, cultural, historic feature of recreational/tourism significance or value	polygon
TOURISM USE	<i>ALXXXXXXXX * </i>	Tourism operator use area	region
PRODUCT CAPABILITY	<i>ALXXXXXXXX * </i>	Tourism product capability	polygon

** Indicates FCODE is not officially approved or assigned at this time*

Linkages to Attributes

Coverages contain attributes about each specific element. For instance the TOURISM FEATURE coverages will contain attributes which describe each feature element (point, line or polygon). Elements in the TOURISM USE and FACILITY coverages are linked to the tourism operator attribute database through a unique field called TOURCODE. All facilities and use areas must contain a TOURCODE that exactly matches those specified in the operator attribute database. Coverages will be linked through the point attribute table and region attribute table (subclass ALL). Each facility is also assigned a unique FACCODE that can also be used to link the one or more facility elements back to the tourism operators identified in the attribute database.

Required Spatial Attributes – TOURISM FACILITIES

ITEM #	ITEM NAME	WDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	AREA	4	12	F	3	Reserved for ARC/INFO
2	PERIMETER	4	12	F	3	Reserved for ARC/INFO
3	<COVERGAE>#	4	5	B	-	Reserved for ARC/INFO
4	<COVERAGE>-ID	4	5	B	-	Reserved for ARC/INFO
5	FCODE	10	10	C	-	Feature code assigned to each point
6	TOURCODE	6	6	I	-	Unique identifier assigned by Ministry/contractor
7	NAME	60	60	C	-	Name of facility (for display on plots)
8	FACCODE	6	6	I	0	Unique identifier for facility assigned by Ministry/contractor
9	UNITS	4	4	I	0	Number of roofed sleeping units (rooms / cabins)
10	SITES	4	4	I	0	Number of camping sites (unserviced)
11	RVSITES	4	4	I	0	Number of RV or camping sites (serviced – one of electricity, water or sewer hook-ups provided)
12	BERTHS	4	4	I	0	Number of berths (overnight – boats/ships)
13	REST_SEAT	4	4	I	0	Number of restaurant seats (SERVICE = S01)
14	COFFEE_SEAT	4	4	I	0	Number of coffee shop seats (SERVICE = S02)
15	DINE_SEAT	4	4	I	0	Number of fine dining seats (SERVICE = S03)
16	PUB_SEAT	4	4	I	0	Number of pub seats (SERVICE = S04)
17	MEET_CAP	4	4	I	0	Maximum capacity of meeting room
18	RETAIL_FT	5	5	I	0	Total square footage of retail space
19	MOORSLIPS	4	4	I	0	Number of moorage slips
20	MOORFEET	5	5	I	0	Length of dock (in feet)
21	VERTICAL	5	5	I	0	Vertical drop at ski hill (meters)
22	RUNS	3	3	I	0	Number of runs at ski hill
23	TRAMS	2	2	I	0	Number of tram and/or gondola lines at ski hill
24	CHAIRS	2	2	I	0	Number of chair lifts at ski hill
25	TOWS	2	2	I	0	Number of t-bars and/or rope tows at ski hill
26	TRACK	6	6	I	0	Length of track set Nordic trails (kilometers)
27	NOTRACK	6	6	I	0	Length of untracked Nordic trails (kilometers)
28	HOLES	2	2	I	0	Number of holes at gold course
29	PAR	2	2	I	0	Par of golf course from men's tee
30	YARDS	5	5	I	0	Total yardage of golf course from men's tee
31	SOURCE	30	30	C	-	Source for location of point <ul style="list-style-type: none"> • XXXX TRI – previous Tourism Resource Inventory (indicate year e.g. 1996 TRI) • XXXX TOS - --Tourism Opportunity Strategy (indicate year e.g. 1999 TOS) • BCAL – from BC Assets and Land Corporation • BROCHURE – Company brochure • FIELD – Found during field work • OPERATORS – from tourism operator • TRIM - Provincial 1:20,000 Digital Baseline Mapping • REPORT – list name of report • Other –specify code & record in report
32	SOURCE_SCA	10	10	C	-	Scale facility was recorded from OR is accurate to e.g. 1:20,000 ; 1:50,000: 1:250,000
33	COMMENTS	254	254	C	-	Additional notes regarding the facility
34	UPDATE	8	10	D	-	Date last updated
35	DISTRICT	3	3	C	-	Ministry of Forest District (See Appendix D)

Required Spatial Attributes – TOURISM FEATURES (lines)

ITEM #	ITEM NAME	WIDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	FNODE#	4	5	B	-	Reserved for ARC/INFO
2	TNODE#	4	5	B	-	Reserved for ARC/INFO
3	LPOLY#	4	5	B	-	Reserved for ARC/INFO
4	RPOLY#	4	5	B	-	Reserved for ARC/INFO
5	LENGTH	4	12	F	3	Reserved for ARC/INFO
6	<COVERGAE>#	4	5	B	-	Reserved for ARC/INFO
7	<COVERAGE>-ID	4	5	B	-	Reserved for ARC/INFO
8	FCODE	10	10	C	-	Feature code assigned to each line
9	NAME	100	100	C	-	Name of feature (if known)
10	FEATURE	40	40	C	-	Listing of all features found at this site (see feature code sheet) multiple entries – space delimited
11	ACTIVITY	40	40	C	-	Listing of all activities occurring at this site (see activity code sheet) multiple entries – space delimited
12	ACCESS	6	6	C	-	Type of access to feature – select one (Listed in decreasing order of accessibility) <ul style="list-style-type: none"> • ROAD • WATER • TRAIL • AIR
13	USE_LEVEL	1	1	C	-	Current level of use for feature (L, M or H)
14	FEAT_RANK	1	1	C	-	Ranked evaluation of importance of feature NOT YET IN EFFECT
15	SOURCE	30	30	C	-	source of update information <ul style="list-style-type: none"> • XXXX TRI – previous Tourism Resource Inventory (indicate year e.g. 1996 TRI) • XXXX TOS - --Tourism Opportunity Strategy (indicate year e.g. 1999 TOS) • BCAL – from BC Assets and Land Corporation • BROCHURE – Company brochure • FIELD – Found during field work • OPERATORS – from tourism operator • TRIM - Provincial 1:20,000 Digital Baseline Mapping • REPORT – list name of report • Other –specify code & record in report
16	SOURCE_SCA	10	10	C	-	Scale feature was recorded from / is accurate to e.g. 1:20,000 ; 1:50,000: 1:250,000
17	COMMENTS	254	254	C	-	General notes on feature
18	UPDATE	8	10	D	-	Date last updated
19	DISTRICT	3	3	C	-	Ministry of Forest District (See Appendix D)

Required Spatial Attributes – TOURISM FEATURES (points)

ITEM #	ITEM NAME	WIDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	AREA	4	12	F	3	Reserved for ARC/INFO
2	PERIMETER	4	12	F	3	Reserved for ARC/INFO
3	<COVERGAE>#	4	5	B	-	Reserved for ARC/INFO
4	<COVERAGE>-ID	4	5	B	-	Reserved for ARC/INFO
5	FCODE	10	10	C	-	Feature code assigned to each point
6	NAME	100	100	C	-	Name of feature (if known)
7	FEATURE	40	40	C	-	listing of all features found at this site (see feature code sheet above) multiple entries - space delimited
8	ACTIVITY	40	40	C	-	listing of all activities occurring at this site (see activity code sheet above) multiple entries - space delimited
9	ACCESS	6	6	C	-	Type of access to feature – select one (Listed in decreasing order of accessibility) <ul style="list-style-type: none"> • Road • Water • Trail • Air
10	USE_LEVEL	1	1	C	-	Current level of use for feature (L, M or H)
11	FEAT_RANK	1	1	C	-	Ranked evaluation of importance of feature NOT YET IN EFFECT
12	SOURCE	30	30	C	-	source of update information <ul style="list-style-type: none"> • xxxx TRI – previous Tourism Resource Inventory (indicate year e.g. 1996 TRI) • CLI MAPS – Can. Land Inventory • CHS xxxx – Canadian Hydrographic Service chart – chart # • FIELD – Found during field work • FS REC –Forest Service Recreation Map • OPERATORS – from tourism operator • TRIM – Provincial 1:20,000 Digital Baseline Mapping • REPORT – list name of report • OTHER – make and specify your own codes
13	SOURCE_SCA	10	10	C	-	Scale feature was recorded from / is accurate to e.g. 1:20,000 ; 1:50,000: 1:250,000
14	COMMENTS	254	254	C	-	general notes on feature
15	UPDATE	8	10	D	-	date last updated
16	DISTRICT	3	3	C	-	Ministry of Forest District (See Appendix D)

Required Spatial Attributes – TOURISM FEATURES (polygons)

ITEM #	ITEM NAME	WIDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	AREA	4	12	F	3	Reserved for ARC/INFO
2	PERIMETER	4	12	F	3	Reserved for ARC/INFO
3	<COVERGAE>#	4	5	B	-	Reserved for ARC/INFO
4	<COVERAGE>-ID	4	5	B	-	Reserved for ARC/INFO
5	FCODE	10	10	C	-	Feature code assigned to each point
6	NAME	100	100	C	-	Name of feature (if known)
7	FEATURE	40	40	C	-	listing of all features found at this site (see feature code sheet above) multiple entries - space delimited
8	ACTIVITY	40	40	C	-	listing of all activities occurring at this site (see activity code sheet above) multiple entries - space delimited
9	ACCESS	6	6	C	-	Type of access to feature – select one (Listed in decreasing order of accessibility) <ul style="list-style-type: none"> • Road • Water • Trail • Air
10	USE_LEVEL	1	1	C	-	Current level of use for feature (L, M or H)
11	FEAT_RANK	1	1	C	-	Ranked evaluation of importance of feature NOT YET IN EFFECT
12	SOURCE	30	30	C	-	source of update information <ul style="list-style-type: none"> • xxxx TRI – previous Tourism Resource Inventory (indicate year e.g. 1996 TRI) • CLI MAPS – Can. Land Inventory • CHS xxxx – Canadian Hydrographic Service chart – chart # • FIELD – Found during field work • FS REC –Forest Service Recreation Map • OPERATORS – from tourism operator • TRIM – Provincial 1:20,000 Digital Baseline Mapping • REPORT – list name of report • OTHER – make and specify your own codes
13	SOURCE_SCA	10	10	C	-	Scale feature was recorded from / is accurate to e.g. 1:20,000 ; 1:50,000: 1:250,000
14	COMMENTS	254	254	C	-	general notes on feature
15	UPDATE	8	10	D	-	date last updated
16	DISTRICT	3	3	C	-	Ministry of Forest District (See Appendix D)

NB: A feature can be a point, line or polygon. Features can be associated with a physical feature or activity site/location and can have an activity code, feature code or both.

Required Spatial Attributes – TOURISM USE AREAS (regions)

ITEM #	ITEM NAME	WIDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	AREA	4	12	F	3	Reserved for ARC/INFO
2	PERIMETER	4	12	F	3	Reserved for ARC/INFO
3	USE#	4	5	B	-	Reserved for ARC/INFO
4	USE-ID	4	5	B	-	Reserved for ARC/INFO
5	FCODE	10	10	C	-	Feature code assigned to each line
6	TOURCODE	6	6	I	-	Unique identifier assigned by Ministry/contractor which identifies the operator using this region
7	ACTIVITY	40	40	C	-	listing of all activities occurring in this polygon (see activity code sheet above) multiple entries - space delimited
8	SOURCE	30	30	C	-	source • OPERATORS – use area delimited from study
9	SOURCE_SCA	10	10	C	-	Scale use was recorded from – should be 1:20,000
10	COMMENTS	254	254	C	-	general notes on use polygon
11	UPDATE	8	10	D	-	date last updated
12	DISTRICT	3	3	C	-	Ministry of Forest District (See Appendix D)

NB: There are no attributes associated with the line delimiting a use area.

A use area is made up of an operator’s facilities, features and routes, plus any areas the operators have indicated. The procedure to delimitate an operator’s use area is described in Section 7d.

Required Spatial Attributes – TOURISM PRODUCT CAPABILITY (polygon)

ITEM #	ITEM NAME	WIDTH	OPUT	TYP	N.DEC	DESCRIPTION
1	AREA	8	18	F	5	Reserved for ARC/INFO
2	PERIMETER	8	18	F	5	Reserved for ARC/INFO
3	<COVERGAE>#	4	5	B	-	Reserved for ARC/INFO
4	<COVERAGE>-ID	4	5	B	-	Reserved for ARC/INFO
5	<CODE>CAP	1	1	C	-	Capability for tourism product V = Very High H = High M – Moderate L – Low N - None

NB: Appendix E has a three-letter code for each potential tourism product. Products modeled for capability that do not have a code will be assigned one by SBTC staff..

Templates

Digital templates consisting of empty Arc/Info coverage files are available from *ftp 199.175.33.21 in the directory pub/outgoing/templates*. Use of these templates will simplify conformance to the specifications in this document.

Section 6 - Metadata

Metadata is defined as information about information. This section outlines metadata which is to be stored with the each digital files developed for a *Community-Scale Tourism Opportunity Strategy*. The purpose of maintaining metadata is to facilitate tracing the history of each digital map coverage.

Two types of metadata occur:

1. Project Metadata: a record of field mapping information in the header of the RIC Inventory Data Form (Table 1 below). This can be included in the project report.
2. Dataset Metadata: a meta data table stored with each spatial dataset. Must be included with each digital coverage delivered.

Project Metadata

Table 1- Example of Fields and Attributes for typical RIC Field Inventory data form

Field #	Name	Description	Length	Format	DBF field name
1	Project Name	The common name of the project – usually a well known local place or feature.	40	c-e-l	Proj_Name
2	Geographic Location	The geographic area of the mapping project	40	an-e-l-u	Geog_Loc
3	Data owner/ custodian	The public or private-sector organization responsible for maintaining the data.	40	c-e-l-u	Org_Name
4	Project Manager	The public or private-sector organization responsible for the mapping project.	40	c-e-l-u	Org_Name
5	Mapper	The specialist doing the inventory. Where more than one mapper is working on the project, the project leader.	30	c-e-l-u	Mapper
6	Survey Intensity Level	A class used to indicate the extent to which the data has been checked on the ground.	1	n-x-r	SIL
7	Year Surveyed	The year (YYYY)in which the ground survey for the project was completed.	4	n-x-r	Year_Surv
8	Date Recorded	The completion date (mm-dd-yyyy) for entering project and inventory data.	8	n-x-r	Date_Rec
9	Recorder Name	The person and agency who originally digitized the Mapping data.	30	c-e-l-u	Recor_Name

Dataset Metadata

Metadata should be collected in .DBF format, for maximum compatibility with archive databases. They are to be integrated with the INFO directory for each coverage.

Table 2- Meta data table stored with each spatial dataset

PROJECT	Campbell River Tourism Opportunity Strategy
GEOGRAPHIC AREA (coverage or extent)	Campbell River FD and portions of Port McNeil FD
AGENCY	Ministry of Small Business, Tourism and Culture, Tourism Policy and Land Use Branch
AGENCY CONTACT	Bruce Whyte 250.365.8797
DATA COLLECTION	Geoscape 604.526.9195 – Warren Fox
DIGITAL MAPPING	Clover Point Cartographics Ltd. 250.384-3537 – David Nicolson
COVERAGE TITLE	Tourism Facilities
DESCRIPTION	Tourism operator primary and secondary facilities
ACCURACY	Matched to TRIM, generally 1:20,000
STANDARDS	Digital Data Standard for a Community Based Tourism Opportunity Strategy Version 0.99 (January 24, 2000)
PROJECTION	Albers Equal Area Conic, NAD83
PRODUCTION DATE	March 31, 2000
DATABASE	See report <i>Tourism Opportunity Study for the Campbell River and Port McNeill (portions) Forest Districts</i> for data dictionary
MODIFICATION NOTES	

MELP has developed an ARC/INFO AML that can be used to facilitate the development of spatial metadata. http://www.elp.gov.bc.ca/gis/create_meta_aml.text

Section 7 - Digital Data Capture Rules/Requirements

Section 7a - Quality of Digital Data Capture

Quality of digital data capture is composed of accuracy, precision, resolution, and degree of detail. For a discussion of these terms, refer to “Scale, Accuracy, and Resolution in a GIS” at <http://www.env.gov.bc.ca/gis/gisscale.html>.

Map Registration

A minimum of 4 control points must be used to register each map for digital data capture. These points should be placed on the outer edges of the mapsheet and ideally conform to known coordinates or basemap features. The root mean square error of the control point residuals after registration should be less than 15 meters (0.015).

Processing Tolerances

Fuzzy tolerance defines the minimum distance allowable between any two arcs, nodes or vertices. The fuzzy tolerance is calculated according to the following:

$$\text{Fuzzy tolerance} = \text{mapscale} / 10000$$

For the purpose of the Community Scale Tourism Opportunity Strategy fuzzy tolerance should be specified at **2 meters**.

Dangle tolerance defines the minimum length allowed for dangling arcs. The dangle tolerance is calculated according to the following:

$$\text{Fuzzy tolerance} = \text{mapscale} / 10000$$

For the purpose of the Community Scale Tourism Opportunity Strategy dangle tolerance should be specified at **2 meters**.

Data Capture

Data captured from hardcopy map sources should be matched to the TRIM basemap. If an element is present in TRIM, the digitized element should be replaced with the TRIM feature. Elements that are not replaced by TRIM features should be within 0.5 mm of the original map feature when plotted on a check plot at map scale.

Digitizing Accuracy/Error

Digitizing accuracy specifies how closely the location and shape of a feature in its coordinate space reflects its location and shape in mapping on physical media such as paper or mylar. The required accuracy/error of mapped features is related to the scale of data capture, and can be specified in terms of deviation between checkplots and physical media.

For a *Community-Scale Tourism Opportunity Strategy* all features must be within 0.5 mm of the original map features when plotted on check plots at map scale. For data captured from existing hardcopy maps at 1:20 000 scale, all features must be within 10 metres of their mapped location in projection coordinates. (TRIM Standards)

Precision

Precision is the degree of exactness with which a quantity is expressed. i.e. the least significant digit of numbers used to represent data. Precision for each numeric value captured is specified in Section 5 - physical data model. Usually, the precision of spatial coordinates is far greater than needed for resource surveys, so is not an issue.

Resolution

Resolution is the degree to which closely related entities can be discriminated. This includes the minimum separation of points along the same feature, and the minimum separation between two features. Resolution may also refer to the amount of detail, or the smallest feature that may be captured.

Resolution is related to the scale at which the data is to be mapped/displayed.

Section 7b - Minimum Feature Size

Contractors can, at their discretion, capture information as a point, line or polygon. As a general rule, the feature should be captured as it is displayed in TRIM. There is no minimum feature size for point or line features. Facilities should be captured as a point in the center of the facility, regardless of the size of the facility. Trails and routes should be captured as single line features using the center of the element (road/trail/river/lake/ocean). Features and use sites should be captured as points, unless the feature exists as a polygon in TRIM (e.g. Lake using for fishing or canoeing, wetland). Area-based features should be a minimum of 5 hectares to be represented as a polygon.

Section 7c - Data Capture Rules/Requirements

This table provides an indication of the rules that should be followed when capturing these discrete data types. Brief descriptions of the rules follow.

Applicability of Data Capture Rules to Spatial Data Types				
Rule	Point	Linear	Discrete Polygon	Region
Right-Hand Rule			x	x
Direction-of-flow Rule		x		
Pseudo-node Rule		x	x	x
Polygon Integrity Rule			x	x
Single Inside Point Rule			x	x
Vertex Density Rule		x	x	x

Right-Hand Rule

An arc that bounds a real feature must be captured such that the feature lies to the right of the line. Equivalently, the boundary of the feature must be oriented in a clockwise direction.

Applicability: This rule applies to discrete polygon spatial datatypes.

Direction-of-flow Rule

Linear features having a defined discernible gradient or direction-of-flow must be digitized in the downward or downstream direction.

Applicability: This rule applies to linear spatial data types.

Example: River raft route, river kayaking

Pseudo-node Rule

Pseudo-nodes (i.e. 2-nodes, or nodes where only two arcs meet) should be avoided, except where necessary to meet the maximum element size constraints of a particular software product. Pseudo-nodes are required where the database attributes on a linear feature differentiate.

Polygon Integrity Rule

Polygonal feature classes must not contain undershoots or overshoots (i.e. one-nodes, or nodes that touch only one arc).

Single Inside Point Rule

A polygonal feature must contain at most one inside point for attribute linkage.

Applicability: This rule applies to discrete polygon and coverage spatial data types

Example: Each Tourism Feature polygon contains a single inside point

Vertex Density Rule

Vertices should be spaced a minimum of 5 meters apart (weedtolerance 5).

Section 7d – Guidelines for Feature, Facility and Use Coverages

Facility

A facility consists of a point defining the location of an accommodation, base headquarter or camp used by a tourism operator. Contractors are expected to record the location against the TRIM base as accurately as possible. In urban locations the Transportation Centreline Network (TCN) can be used to location street addresses. Operators may have one or more facilities. Each operator should have at least on facility or “base” within the study area. Points may be placed on top of each other if different operators are based from the same facility. Each facility point is to be coded with a unique FACCODE, FCODE and the TOURCODE of the operator who uses the facility. The contract administrator will assign the initial FACCODE for the facilities added by each project.

Feature (point)

Point features are site locations that have relevance to tourism. They may include natural features, viewpoints or sites, wildlife use sites, campsites, cultural or heritage sites, infrastructure/structures or activity use sites. Where the feature exists in TRIM (e.g. waterfall, structure) it is to be copied from the TRIM coverage. If the feature does not exist in TRIM it should be matched to the TRIM elements (lakes, rivers, roads, mountain peaks etc). All points are to be assigned an FCODE. Where known, each point should be coded with an appropriate feature code (Appendix C). Each point should have one or more activity codes (Appendix C).

Feature (line)

Line features are trails or routes that have relevance to tourism. They may include maintained trails (designated or established trails), unmaintained (non-official status) trails, land, water or snow routes, or roads. Where the feature exists in TRIM (e.g. road, trail) it is to be copied from the TRIM coverage. If the feature does not exist in TRIM it should be matched to the TRIM elements (lakes, rivers, roads, mountain peaks etc). All lines are to be assigned an FCODE. Where known, each line should be coded with an appropriate feature code (Appendix C). Each line should have one or more activity codes (Appendix C).

Feature (polygon)

Polygon features are areas that have relevance to tourism. They generally consist of lakes or large rivers identified by tourism operators as important for one or more tourism activities. Where the feature exists in TRIM (e.g. lake, wetland) it is to be copied from the TRIM coverage. If the feature does not exist in TRIM it should be matched to the TRIM elements (lakes, rivers, roads, mountain peaks etc). All polygons are to be assigned an FCODE. Each polygon should have one or more activity codes (Appendix C).

Use (region)

Every operator has a “use area” which consists of the facilities and features identified as important for their business. In addition operators may identify areas which contain no specific feature but are important for their business (either for the activities they undertake or the viewscapes presented in the area). Point and line facilities and features identified by an operator are to be buffered by 100 meters and merged with the polygon features and areas of use identified by the operator. The result is one or more polygons that identify the area used by each tourism operator. These polygons are then to be combined with the polygons of other tourism operators to create one coverage of tourism use. Each tourism operator use area will be identified as a REGION within the coverage. Each region should have the operator’s unique TOOURCODE. The documentation found in ARC/INFO (ArcHelp) provides detailed instructions on how to create a REGION coverage.

Section 8 - Quality Assurance Procedures

Quality Assurance is an important component of any digital data capture program. It is the process by which consistency of the digital data being delivered is confirmed to be in compliance with the digital data specification itself.

Following are guidelines for Quality Assurance Procedures for a *Community-Scale Tourism Opportunity Strategy*. It is important to note that the scope of this section is limited to quality assurance relating directly to the digital data capture process (e.g. digitization, data entry, or any other computer automated digital capture technique) and to the structure of the resultant digital data. Quality assurance relating to actual content as captured in the field or office through inventory, survey, measurement, or interpretation is not included.

Quality Assurance procedures are to be carried out by the contractor before digital data is delivered to the client. At their discretion, the Ministry may also undertake specific quality control initiatives. Checkplots of the spatial data are expected to be delivered to the Ministry upon completion of the draft and final project reports. Coverages and files that do not meet Ministry specifications may be returned to the contractor for updating.

Spatial Quality Control

All coverages must be delivered topologically clean. The following standards apply for each type of coverage being delivered to SBTC.

Point

- Points can extend beyond the study area boundary
- Each point is to contain one attribute record
- The coverage should be built for POINT feature types
- The BUILD POINT command should process the coverage without errors or warnings

Line

- Lines can extend beyond the study area boundary
- Lines should not be split at the edge of a mapsheet (e.g. BCGS grid, NTS grid)
- Each line is to contain one attribute record
- The coverage should be built for LINE feature types
- The BUILD ARC command should process the coverage without errors or warnings

Polygon

- All polygons must be closed on themselves
- No dangling nodes or undershoots permitted
- NODEERRORS command should generate no warnings and report 0 dangling nodes.

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- Except where required by software limitations, arcs which make up a polygon should not contain excess pseudo-nodes
- Polygons can extend beyond the study area boundary
- Polygons should not be split at the edge of a mapsheet (e.g. BCGS grid, NTS grid)
- Each polygon is to contain one point, and one attribute record
- The coverage should be built for POLYGON feature types
- The BUILD POLY command should process the coverage without errors or warnings
- The LABELERRORS command should generate no warnings, except the polygon 1 error.

Region

- All polygons must be closed on themselves
- No dangling nodes or undershoots permitted
- NODEERRORS command should generate no warnings and report 0 dangling nodes
- MAKEREGION command should run without errors or warnings
- REGIONERRORS command must report no errors
- Except where required by software limitations, arcs which make up a polygon should not contain excess pseudo-nodes
- Regions can extend beyond the study area boundary
- Regions should not be split at the edge of a mapsheet (e.g. BCGS grid, NTS grid)
- Each region is to contain one point, and one attribute record

Database Quality Control

Quality control of the database is expected to be more rigorous and formal. Automated techniques that produce an error report are preferred, but not required by the Ministry. Examples of automated checks include:

- Ensure all field information is filled using CAPITAL LETTERS
- Ensure 0 (zero) and O are not interchanged
- Generate database field definitions directly from the coverage and include in the data dictionary.
- Data structure is to follow standards defined in this document.

Note that BC Environment has a Quality Assurance process specified for their ARC/Info environment. It can be accessed via the Internet at: <http://www.env.gov.bc.ca/gis/>.

Section 9 - Cartographic/Representation/Output

Two types of cartographic output are required by a *Community-Scale Tourism Opportunity Strategy*: check plots and display maps. Check plots are to be generated as an aid to data accuracy validation. Display maps are intended to be used to solicit comments and input from non-technical participants in the *Community-Scale Tourism Opportunity Strategy*.

Check plot(s) and display maps are required which depict tourism facilities, features, routes, and use areas (on either together or on two separate maps) and one map for each tourism product modeled for capability. Maps are also required for outlining areas of tourism opportunity.

Maps for quality control purposes should be generated at 1:50,000 while maps for display purposes can be generated at any appropriate scale, dependent upon the size of the study area. The TRIM basemap or MELP Watershed Atlas should be used for check plots, but a 1:250,000 basemap may be suitable for display plots (upon permission of the contract administrator). The contract administrator may grant variances to the checkplot size. Check plots must use the same datum and projection as the source map.

Symbology

Generic software symbology should be employed, unless specified below. A legend must be included on each map that describes the symbols used to represent the points, lines and polygons. Over time the data custodian may develop customized symbology for use on display plots.

For tourism product capability maps the following shading should be used:

Capability Rank	Shading
Very High	Purple
High	Red
Moderate	Yellow
Low	Green
None	No shading

The polygon outlines should not be displayed on capability maps to aid map clarity.

Annotation/Labeling

Labels, if required, should be generated directly from the attribute database. Labels are only required on a check plot which displays tourism operator facilities (facility operator/company name). Labels should be placed so they are not overlapping and positioned so that each can be visually associated with the feature they represent.

Annotation of waterbodies, roads and mountains etc. should be included for reference purposes on each map.

Cartographic Alteration/Visual Enhancement

In some cases it may be necessary to alter or delete positionally correct features for the purposes of visual clarity (Note that any such alteration should be applied to output products only, NOT the original source data!). This includes such alterations as offsetting coincident linework, deleting segments of lines where they cross text elements or other lines, and adding graphic elements. Any alterations made to features of a given feature class should be noted and discussed with the Ministry contact.

Surround

Each checkplot or display map should contain the following surround content:

- Title (mapsheet name or description of area covered),
- legend with symbology,
- scale or scale bars,
- statement of projection and datum,
- north arrow,
- provincial logo,
- last update of data date, plot date,
- originator of plot,
- base map information (source), and
- neatline.

Sample layouts are available from the contract administrator.

For Further Information

For further information on the methods to be followed in the compilation of Tourism Opportunity Strategy work and other tourism inventories, please contact the Ministry of Small Business, Tourism and Culture at (250) 387-5440.

Appendix A

Data Definitions/Codes for ACCTYPE

ACCOMMODATION

Codes	Value	Description
A01	Hotel	Multi-unit, roofed, frontcountry accommodation
A02	Motel	Multi-unit, roofed, frontcountry accommodation
A03	RV/Campground	Non-roofed accommodation, front/mid/back country
A04	Lodge/Resort	Roofed multi-unit, mid/back country
A05	Camps	Backcountry, non-roofed
A06	Huts/Cabins	Secondary facilities, roofed, backcountry (no road access)
A07	Cabins/Cottages	Roofed individual units, road-accessible
A08	Guest Ranch/Farm	Agricultural operation with accommodation
A09	Bed and Breakfast	Private residence w/accommodation; owner on premises
A10	Condominiums	Private residence w/accommodation; owner not on premises
A11	Hostel	Multi-unit w/shared facilities; may share accommodation rooms
A12	Cruise Ship	Mobile accommodation on scheduled runs, or charter vessel w/>12 units
A13	Vessel Lodge	Non-moving vessel w/accommodations (location fixed for >14 days)
A14	Float Camp	Non-moving vessel or other facility on water; has legal tenure
A15	Charter boats	Moving vessel w/accommodation =<12 units
A16	Motel / Condo	As per A10 except building has reception – may be run by property manager
A17	Property Manager	Manages and markets houses, condo or other facilities on behalf of owner
A18	Other accommodation	Accommodation types not defined

Data Definitions/Codes for TOURTYPE

TOURS & EXPERIENCES

Codes	Value	Description
R01	Guide-outfitter	MoE tenured, licensed guides with designated territories
R02	River rafting	MoE tenured river rafters
R03	Marine charters, salt	Includes fishing, nature, tours and cruise ship
R04	Marine charters, fresh	Includes fishing, nature and tours
R05	Air tours/charters	Includes flightseeing and non-scheduled transportation
R06	Geology & Minerals	Goldpanning, rockhounding, etc.
R07	Kayak/Canoe	Paddle-powered vessels; flatwater, whitewater and marine
R08	Bus/Van tours	Charter operations and non-scheduled transportation
R09	Rail tours	Charter and non-scheduled transportation
R10	Heli/Cat ski/hike	Transport assist by helicopter or snow-cat
R11	Hiking/Mountaineering/Nature	Includes most nature viewing products
R12	SCUBA/snorkeling	All types of underwater explorations

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R13	Caving/spelunking	All types of underground explorations
R14	Snowmobile	Snow-machine-based activities
R15	Cycling	Bicycle-based activities (touring, mountain trails, etc)
R16	Rock climbing	Extreme rock products
R17	Horse and Trail	Equestrian and trail riding, all types of riding animals
R18	Ski touring	Cross-country, telemark and touring by ski and dog sledding
R19	Other	Touring products not defined

Data Definitions/Codes for TRANSTYPE

PUBLIC TRANSPORTATION

Codes	Value	Description
P03	Marine	Regularly scheduled ferry service (e.g. BC Ferry, Clipper Navigation)
P05	Air	Regularly scheduled air service (e.g. Air BC, Harbour Air)
P08	Bus	Regularly scheduled bus service (e.g. Greyhound)
P09	Rail	Regularly scheduled rail service (e.g. Via Rail, BC Rail)
P19	Taxi	Taxi service
P20	Car Rental	Automobile (car / van / bus) rental operations

Data Definitions/Codes for ATTRTYPE

ATTRACTIONS

Codes	Value	Description
T01	Museum	Displays and Interprets artifacts of historic interest
T02	Arts/Culture/Heritage	Displays/interprets items/events of arts/culture/heritage interest
T03	Recreation	Offers opportunity to pursue recreation activity
T04	Industry	Displays/interprets Industrial activity
T05	Winery/Brewery	Displays/interprets wine/beer production processes
T06	Science/Technology	Displays/interprets items of science/tech. Interest
T07	Nature	Displays/interprets natural features of interest
T08	Sports	Offers opportunities for organized sports, general team sports
T09	Golf - public	Golf course open to public
T10	Golf - private	Golf course open only to members
T11	Golf-semi-private	Golf course open to members and select public
T12	Marina - public	Marina open to public and transient boaters
T13	Marina - private	Marina not open to public or transient boaters
T14	Ski Facility	Downhill ski facilities and other ski facilities
T15	Other	Attraction types not defined
T16	Rental	Equipment rental / retail only (other than automobile). No guided activities or services

Appendix B

Data Definitions/Codes for SERVICE

Food & Beverage Services			Facility Amenities	
Restaurant	S01		Conference facility	S19
Coffee shop	S02		Child care	S24
Fine dining	S03		Playground	S25
Pub / lounge	S04		Data / net connections	S26
Catering Services	S05		Sauna / hot tub / jacuzzi	S27
Other food services	S06		Swimming pool	S28
			Pay phone	S29
			Auxiliary sports facilities	S30
Retail Services				
General / convenience store	S07		Fitness facility	S31
Gift shop	S08		Boat launch	S32
Grocery store	S09		Boat moorage / docks	S33
Beer/wine/liquor sales	S10		Driving range	S35
Activity-specific supplies	S12		Other accommodation service	S34
Equipment rentals	S13			
Activity lessons	S14		Campground / Marina Amenities	
License sales	S15		Sani-dump	S20
Tour bookings	S16		Hook-ups	S21
Fuel	S11		Showers	S22
Ice	S38		Laundry	S23
Fishing Bait	S39		Potable water	S36
Marine / auto repairs	S17		Washroom (common facility / public access)	S37
Other supply / repair facilities	S18			

NB: For “other” type specify in comments field

Equipment Rentals

Automobile (car / van)	a		Personal Watercraft (e.g. Sea Doo)	j
RV	b		Kayak	k
ATV	c		Canoe	l
Scooters	d		Mountain Bike / Bicycle	m
Snowmobile	e		Diving Equipment	n
Boat	f		Camping Equipment	o
Motor (for small boats)	g		Ski Equipment (downhill & x-c)	s
Sailboat	h		Other equipment	x
Powerboat	i			

Appendix C

Data Definitions/Codes for ACTIVITIES

NB – copied from MoF Rec – version 2.1 98/10/09

Air Sport Activities	
A00	Air Sports, general
A01	Hang Gliding
A02	Paragliding
A20	Flightseeing (<i>added by MSBTC</i>)
A21	Skydiving (<i>added by MSBTC</i>)
A22	Bungee Jumping (<i>added by MSBTC</i>)

Water Sport Activities	
B00	Water Sports, general
B01	Beach Activities
B02	Boating (non-motorized)
B03	Canoeing
B04	Kayaking (river)
B05	Parasailing
B06	Rafting
B07	Sailing
B08	Scuba Diving / Skin Diving
B09	Snorkeling
B10	Surfing
B11	Swimming / Bathing
B12	Tubing
B13	Wind Surfing
B20	Sea Kayaking (<i>added by MSBTC</i>)
B21	Water Sliding (<i>added by MSBTC</i>)

Snow Sport Activities	
D00	Snow Sports, general
D01	Cross-Country Skiing
D02	Dog Sledding
D03	Downhill Skiing
D04	Ice-Skating
D05	Ski Touring
D06	Sledding / Tobogganing / Tubing
D07	Snow Boarding
D08	Snow Shoeing
D09	Telemark Skiing
D20	Heli-Skiing (<i>added by MSBTC</i>)

Exploring Activities	
E00	Exploring, general
E01	Cave / Spelunking
E02	Canyoning
Fishing Activities	
F00	Fishing, general

F01	Sport Fishing (freshwater)
F02	Ice Fishing
F03	Shell Fishing (eg clams, crabs)
F20	Fly Fishing (<i>added by MSBTC</i>)
F21	Sport Fishing (Saltwater) (<i>added by MSBTC</i>)

Gathering / Collecting Activities	
G00	Gathering / Collecting, general
G01	Beach Combing
G02	Berry Picking
G03	Fossil Hunting
G04	Mineral Panning
G05	Mushroom Picking
G06	Rock Hounding
G07	Vegetation Picking / Collecting

Hunting Activities	
H00	Hunting, general
H01	Large Game
H02	Small Game
H03	Target Shooting
H04	Upland Fowl (eg grouse)
H05	Waterfowl

Summer Land Sport Activities	
I00	Summer Land Sports, general
I01	Hiking / Backpacking
I02	Mountain Biking
I03	Horseback Riding
I04	Orienteering
I05	Survival Games
I20	Heli-Hiking (<i>added by MSBTC</i>)
I21	Road Bike Touring (<i>added by MSBTC</i>)
I22	Llama Trekking (<i>added by MSBTC</i>)

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	Motorized Activities
M00	Motorized Land Activities, general
M01	All-Terrain Vehicle (ATV)
M02	Trail-Bike Riding
M03	Off-Road Driving (4x4)
M04	Driving For Pleasure (2WD)
M05	Snowmobiling
M06	Snow-Cat Skiing
M07	Motor Water Activities, general
M08	Boating (motorized)
M09	Jet boating
M10	Water Skiing
M11	Flight Activities, general
M12	Helicopter
M13	Fixed-Wing
M20	Float Plane (<i>added by MSBTC</i>)
M21	Race Cars (<i>added by MSBTC</i>)
M22	Go-Carts (<i>added by MSBTC</i>)

	Nature Activities
N00	Nature Activities, general
N01	Nature Study / Appreciation
N02	Photography / Drawing / Painting
N03	Relaxation / Contemplation

	Viewing Activities
Q00	Viewing, general
Q01	Aquatic / Fish Run
Q02	Astronomical / Meteorological
Q03	Big Tree
Q04	Bird Watching
Q05	Cultural / Historical
Q06	Large Land Mammal
Q07	Large Marine Mammal
Q08	Scenic
Q09	Wildlife
Q20	Petting Animals (<i>added by MSBTC</i>)
Q21	Animal Racing (<i>added by MSBTC</i>)

	Climbing
R00	Climbing, general
R01	Ice Climbing
R02	Mountaineering
R03	Rock Climbing
R04	Ski Mountaineering

	Camping Activities
K00	Camping, general
K01	Cabin / Hut Use
K02	Cottaging
K03	Picnicking
K04	Summer Camping
K05	Snow / Winter Camping

	Other Activities
X01	Mini golf (<i>added by MSBTC</i>)
X02	Golf (<i>added by MSBTC</i>)

Data Definitions/Codes for FEATURES

NB - copied from MoF Rec - version 2.1 98/10/09

Aquatic Flora/Fauna Features	
A00	Aquatic Flora / Fauna, general
A01	Fish
A02	Aquatic Habitat
A03	Aquatic Birds / Waterfowl
A04	Edible Aquatic Foods
A05	Marine Mammals, Large
A06	Marine Mammals, Small

Shore Features	
B00	Shore Features, general
B01	Shorelands
B02	Coastal Plain
B03	Crenulated Shore
B04	Delta
B05	Estuary
B06	Headland / Point / Cape
B07	Lagoon
B08	Rock or Sea Arch
B09	Rock Platform / Ledge
B10	Sand / Gravel bar
B11	Sea Cave / Shore Cave
B12	Sea Stack
B13	Spit or Hook
B14	Tidal Flat / Tidal Marsh
B15	Tombolo
B16	Beach, general
B17	Fine Textured Beach
B18	Sand Beach
B19	Pebble Beach
B20	Cobble Beach
B21	Rubble Beach
B22	Pocket Beach
B23	Raised Beach
B24	Offshore Feature, general
B25	Islets
B26	Island, small

Cultural Features (Modern)	
C00	Cultural Features, general
C01	Art
C02	Structural Feature
C03	Cultural Use Site
C04	Cultural Trail or Route

Hydrologic Features	
D00	Hydrologic Features, general
D01	Junction of Rivers / Streams
D02	Rapids and Chutes
D03	Riptides and Currents
D04	Springs, Thermal
D05	Springs, Freshwater
D06	Springs, Mineral
D07	Water Clarity
D08	Water Colour
D09	Waterfall, Site-Specific
D10	Waterfall, Landscape

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D11	Waves
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Vegetation Features	
E00	Vegetation Features, general
E01	Alpine / High sub-alpine
E02	Regenerating Stand
E03	Coniferous
E04	Deciduous
E05	Mixed Coniferous / Deciduous
E06	Forest Parkland
E07	Brush
E08	Wetland Vegetation
E09	Grassland
E10	Meadow / Open Space
E11	Pastoral / Agricultural

Glacial Features	
G00	Glacial Features, general
G01	Cirque / Cirque Basin
G02	Col
G03	Crevasse
G04	Drumlin
G05	Erratic
G06	Esker
G07	Glacial Outwash
G08	Glacial Trough ('U'-shaped Valley)
G09	Glacier
G10	Hanging Valley
G11	Horn / Matterhorn / Arete
G12	Ice Fall
G13	Ice Tunnel / Cave
G14	Icefield or Snowfield
G15	Kame / Kettle
G16	Moraine or Till (eg moraine ridge)
G17	Roche Moutonnee / Crag & Tail Hill
G18	Nunataks

Historic Features	
H00	Historic, general
H01	Art
H02	Structural Feature
H03	Traditional Use Site
H04	Traditional Use Route or Trail

Periglacial Feature	
J00	Periglacial Features, general
J01	Patterned Ground

Cave / Karst Feature	
K00	Cave / Karst Features, general
K01	Cave
K02	Sinkhole
K03	Limestone Plateau

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Mass Movement Feature	
L00	Mass Movement Features, general
L01	Landslide / Rockslide / Avalanche
L02	Earth Slump
L03	Rock Fall / Topple (Colluvial, Talus, Scree Cones)
L04	Snow Avalanche

Waterbody Features	
M00	Waterbody Features, general
M01	Frequent Small Waterbodies
M02	Lake, Small (<40 ha)
M03	Lake, Mid-size (41-200 ha)
M04	Lake, Large (201-1000 ha)
M05	Lake, Very Large (> 1000 ha)
M06	Tarn
M07	Pro-glacial / Ice-dam Lake
M08	Oxbow
M09	Large River (double-line on 1:50,000)
M10	Anastamosing Channel (Fluvial)
M11	Meandering / Irregularly Sinuous Channel (Fluvial)
M12	Braided Channel (Fluvial)
M13	Small River, Stream or Creek
M14	River / Stream Deposits
M15	Cove or Bay
M16	Fjord
M17	Inlet
M18	Marine Channel
M19	Ocean, Open

Generic Landform Features	
Q00	Generic (Broad) Landform Features, general
Q01	Canyon / Gorge / Ravine
Q02	Cliff
Q03	Fan
Q04	Gully
Q05	Hill
Q06	Hoodoo
Q07	Hummocky / Rolling / Undulating Terrain
Q08	Mountain
Q09	Peak(s)
Q10	Plain
Q11	Plateau
Q12	Ridge
Q13	Sand Dune
Q14	Sidehill
Q15	Terrace
Q16	Topographic Pattern / Contrast
Q17	Valley

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Bedrock Features	
R00	Bedrock Features, general
R01	Exposed Bedrock (subordinate)
R02	Exposed Internal Rock Structure (dominant)
R03	Mineral Deposits
R04	Fossils

Trail or Route Features	
T00	Trail or Route Features, general
T01	Developed Land Trail
T02	Developed Snow Trail
T03	Land Route
T04	Snow Route
T05	Water Route
T06	Water / Land Portage Route

Harbour Features	
U00	Harbour Features, general
U01	Large Harbour
U02	Protected Moorage
U03	Boat Launch (<i>added by MSBTC</i>)

Volcanic Features	
V00	Volcanic Features, general
V01	Columnar Basalt
V02	Cinder Cone
V03	Lava Flow
V04	Tuya

Wildlife Features	
W00	Wildlife Features, general
W01	Upland Bird
W02	Land Mammal, Small
W03	Land Mammal, Large
W04	Freshwater Mammal
W05	Wildlife Diversity
W06	Amphibian
W07	Reptile

Human-made Feature	
Y00	Human-made Features, general
Y01	Developed Campsite
Y02	Undeveloped Campsite
Y_n	Human-made Features <number & name>

Miscellaneous Feature	
X_n	Miscellaneous Feature <number & name>