

Lower Fraser River Stream Inventory Atlas

Lower Fraser Valley Stream Review, Volume II

A co-operative project:



Fraser River **Action Plan**

Fisheries & Oceans Pêche et Océans Canada

Plan d'action du Fraser

Canada



First Edition: September, 1996 Second Edition: March, 1998

LOWER FRASER RIVER STREAM INVENTORY ATLAS

First edition: September 1996

Second edition: March 1998 (with Stream Name maps)

Habitat and Enhancement Branch Fisheries and Oceans Canada 360 - 555 W. Hastings St. Vancouver, B.C. V6B 5G3

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PREFACE

The Lower Mainland of B.C. faces tremendous pressures to respond to the demands of growth and development. Aquatic and terrestrial environmentally sensitive areas have been, and continue to be, impacted. Since knowledge of the location of aquatic features can help to protect them, the **Lower Fraser River Stream Inventory Atlas** has been produced. It provides maps that show the location of many streams in the Lower Mainland, and includes a fish presence layer. The information in this Atlas has been compiled to assist all involved in the planning and mangement of land and water resources.

It is hoped that this document (and its companion publications) will be used by all potential partners to better steward valuable public resources, and direct development away from environmentally sensitive aquatic areas. To assist stewardship efforts, the Fraser River Action Plan (Department of Fisheries and Oceans) has produced this document, which is part of a three volume package of information on streams of the Lower Fraser Valley. The three volumes in the **Lower Fraser Valley Stream Review** series include:

Volume 1: Lower Fraser Valley Streams Strategic Review, 1997 (1998)*

A comprehensive 450 page review of salmon bearing streams in the Lower Fraser Valley. Contains maps and appendices (watershed codes, escapement data, stream hydrographs).

Volume 2: Lower Fraser River Stream Inventory Atlas (First edition, September 1996; Second edition, with Stream Name Maps, 1998)*

Contains 47 orthophoto maps (and accompanying stream name index maps) with TRIM overlay, showing fish presence.

The Atlas, individual maps, or black and white TRIM sheets, can be purchased from: Archetype Print Ltd., #459-409 Granville Street, Vancouver, B.C., V6C 1T2, ph: 604-602-0282; fax: 604-602-0283.

Volume 3: Wild, Threatened, Endangered and Lost Streams of the Lower Fraser Valley - Summary Report, 1997 (1998)

A 40 page report on the classification of approximately 760 streams in the Lower Fraser Valley as lost, endangered, threatened or wild. Includes a classified streams map of the Lower Fraser Valley.

For copies of Volumes 1 and 3, or for further information, contact:

Habitat and Enhancement Branch Fisheries and Oceans Canada 360 - 555 W. Hastings St. Vancouver, B.C. V6B 5G3 fax: 604-666-0417

tax: 604-666-0417

^{*}Note: For more information about fish distribution, stream mapping, the Streamkeepers database and Urban Salmon Initiative, a Community Directory and Stream Survey Tracking System, see the Fish Habitat Inventory and Information Program on the Fisheries and Oceans Canada (Pacific Region) Internet site, at http://habitat.pac.dfo.ca.

INTRODUCTION

BACKGROUND

The Lower Fraser River Stream Inventory Atlas was developed by the Fraser River Action Plan, Department of Fisheries and Oceans (DFO). Information for the Atlas was compiled from the DFO/BC Environment Fisheries Information Summary System (FISS), consultants' reports, scientific and technical studies, agency files and other unpublished sources.

The Atlas is intended to be used as a resource for land and water use planning in the Lower Mainland. It is a compilation of annotated watercourse maps which can be used by local governments, land developers, resource management agencies and the public to identify fish habitat areas.

MAP PRODUCTS

First Edition: September, 1996.

This document contains fish presence maps (which are TRIM based--Terrestrial Resource Information Map--1:20,000) which are overlayed on a 1995 colour orthophoto backdrop and presented at a 1:50,000 scale (11 x 17 in). Where orthophoto coverage was not available for certain areas, the satellite image of the Greater Vancouver Regional District was incorporated (at 10 m pixel); image quality varies due to tiling of image during production. Black and white TRIM (1:20,000) map sheets (24 x 36 in) are also available and can be used in conjunction with the Atlas product.

Second Edition: March, 1998. Contains Stream Name Maps.

This issue has been reprinted with a facing page showing stream names and names of major landmarks (towns, cities, geographic features) to provide references for geographic location. The 1:50,000 BC Watershed Atlas has been used to provide the base map for these blue line Stream Name Maps. Due to differences in scale, some aquatic features indicated on the orthophotos with TRIM overlay may be absent, not completely represented, or may be only an approximate match on the Stream Name Maps.

FUTURE DEVELOPMENT OF ATLAS

Information Formats

While the current product is available only in hard copy, DFO and BC Environment are working together to make this data available on the Internet (http://habitat.pac.dfo.ca).

Updating Information

The information represented in the fish presence layer of this Atlas is currently being refined and improved. Resource management and protection agencies, local governments, Streamkeepers and displaced fisheres in the Lower Fraser Valley are working together to map and ground truth streams,

wetlands, and other environmentally sensitive areas. The improved data will be incorporated into any future editions of the Lower Fraser River Stream Inventory Atlas or other map products.

New Products

Information that updates the fish presence layer, as well as other data features (i.e. wetlands, terrestrial sensitive habitat) are currently being put into a database that can be used for maps at a scale up to 1:5,000. One product based on this information is the Georgia Basin Sensitive Habitat Atlas Series. In this series, several Environmentally Sensitive Area Atlases and map sheets have been produced. These Atlases are jointly produced by municipal, provincial, and federal government agencies. The Atlases layer up-to-date aerial photographs with property boundaries, land parcels, and road networks with the location of environmentally sensitive lands and watercourses. A conservative planning boundary is delineated as a flag or warning for the presence of sensitive areas, facilitating subsequent field assessments to verify and refine their location. The Atlases provide information that local governments and the public can use for consideration when creating official community plans, land use planning or other development proposals. The information contained in the Atlases is available digitally in GIS (Geographic Information System). Environmentally Sensitive Areas Atlases and map sheets have been developed for, and are being used by, the Comox Strathcona Regional District, the Regional District of Nanaimo, and the District of Saanich. Environmentally Sensitive Areas Atlases for other areas in BC, including the Lower Mainland, are under consideration.

MAP INTERPRETATION

The watercourses shown in the **Lower Fraser River Stream Inventory Atlas** have been classified according to known fish use. Those watercourses or features known to support either anadromous or resident fish species are represented by a solid magenta line in the colour orthophoto series and a solid black line in the black and white map series. Watercourses for which there was no documented information on fish have been represented by a solid blue line in the colour orthophoto series and a hatched black line in the black and white series. Other information presented on the TRIM maps include transportation features, contours and text (e.g. stream or mountain names, municipalities, etc.).

Due to the nature and scale of data capture (1:20,000) for the current TRIM map base, all watercourses, wetlands or sensitive aquatic features, particularly small or ephemeral ones, are not represented or may not be precisely aligned. The category "unknown fish presence" similarly indicates the incomplete status of field information for these areas at this time and should not be interpreted as non fish bearing or not suitable habitat.

Given these limitations, the Atlas should be viewed as valuable strategic planning or reconnaissance tool; however, it must be supplemented with site-specific information for decision-making purposes.

GEOGRAPHIC SCOPE

The geographic coverage of the Stream Inventory Atlas includes the areas outlined on the attached index map. The large index map, as well as the thumbnail index maps included on each map sheet, provide a quick reference to the watersheds (or portions of watersheds) which have been mapped and the corresponding TRIM map sheet numbers. Tributaries to Boundary Bay and Burrard Inlet were also included in the study area.

The colour orthophoto backdrop does not currently exist for all maps in the 1:50,000 series. The orthophotos included here are for map sheets covering the Fraser River mainstem, Burrard Inlet, and Boundary Bay tributaries. Where orthophoto coverage was not available for certain areas, the satellite image of the Greater Vancouver Regional District was incorporated (at 10 m pixel) where possible. Where the orthophoto backdrop is not available, it is suggested that the black and white maps 1:20,000 TRIM map sheets be used in conjunction with the 1:50,000 colour Atlas map sheets.

ACKNOWLEDGEMENTS

This project and the first edition (September 1996) was funded by the Fraser Raiver Action Plan, DFO, under the federal government's Green Plan. The second edition (March 1998) was funded by the Habitat Restoration and Salmon Enhancement Program, DFO. Project direction was provided by Otto Langer, Melody Farrell, and Fern Hietkamp, Habitat and Enhancement Branch, DFO.

We are grateful to the following agency staff who provided information and reviews for the Atlas:

Department of Fisheries and Oceans: Brian Atagi, Don Aurel, Paul Beck, Maurice Coulter-Boisvert, Scott Gilbert, Mark Johnson, Andy Lewis, Brad Mason, Gary Millar, Derek Ray, Herb Redekopp, Bruce Reid.

BC Environment: Rob Knight, Pamela Zevit.

Enhanced FISS data capture and hardcopy map annotation was completed by Julia Hamilton, Neil Matherson, Lori Ross and Pamela Zevit from the BC Environment Fisheries Program.

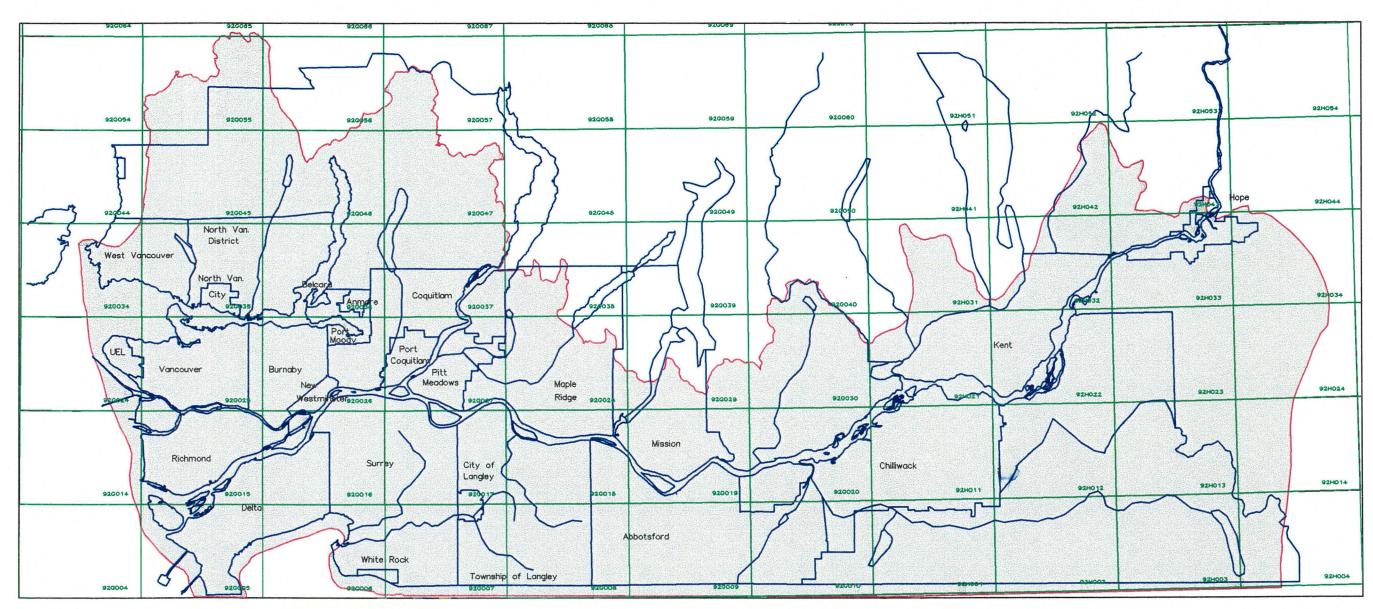
First Edition

Tom Pinkerton (DFO) integrated all map themes and plotted the final Atlas product. Map digitizing, digital data capture and project coordination was provided by Michael Mascarenhas (DFO).

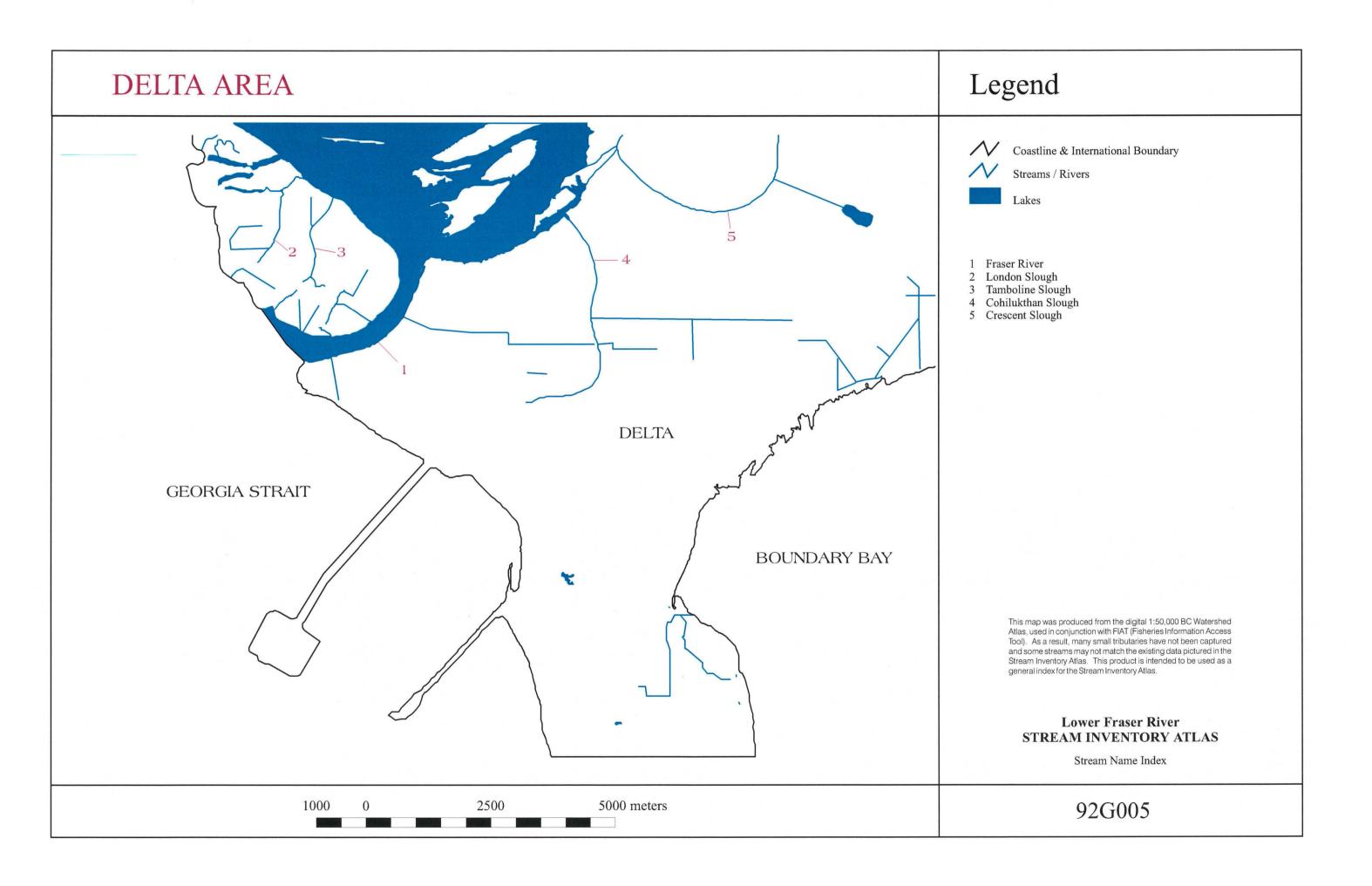
Second Edition

Marcel Pepin, Joanna Dale, and Cynthia Durance of Precision Identification Biological Consultants researched and designed the Stream Name maps. James Hughes (DFO) designed index map inserts, and coordinated production.

Lower Fraser River Stream Inventory Atlas



1:20,000 TRIM Map Index for Stream Inventory Atlas

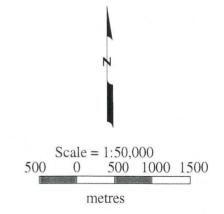






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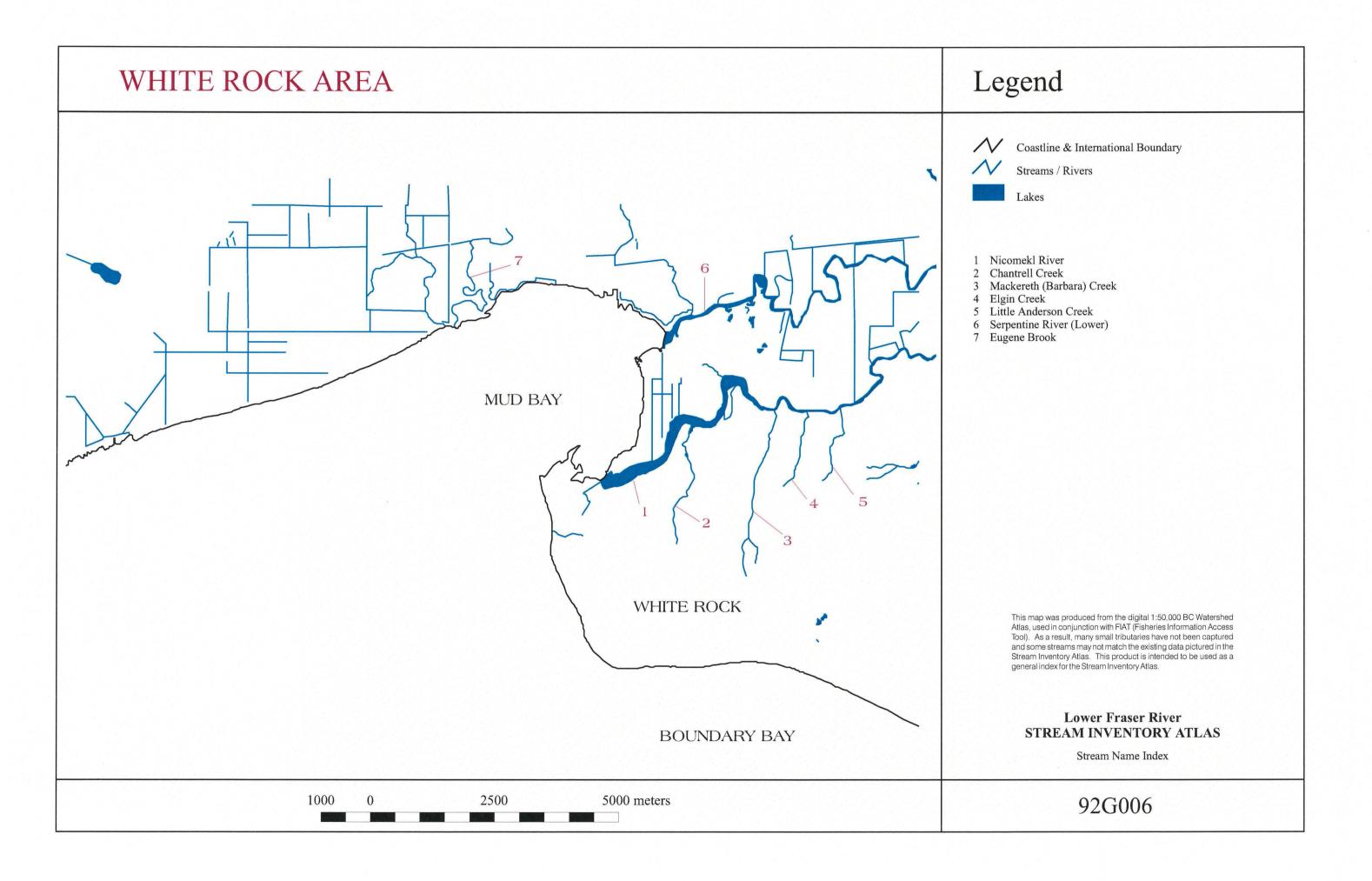
Note: This map has been produced from the best available information and based on the 1:20,000 TRIM base. As a result many small tributaries have not been captured. It is intended as a basis for strategic planning however, this information should be augmented with site specific information for decision making purposes. For detailed information contact Habitat and Enhancement Branch, Department of Fisheries and Oceans



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Lower Fraser River STREAM INVENTORY ATLAS

Resource Information to Protect Fish Bearing Streams



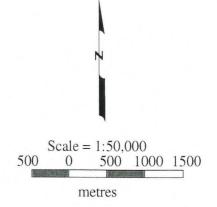




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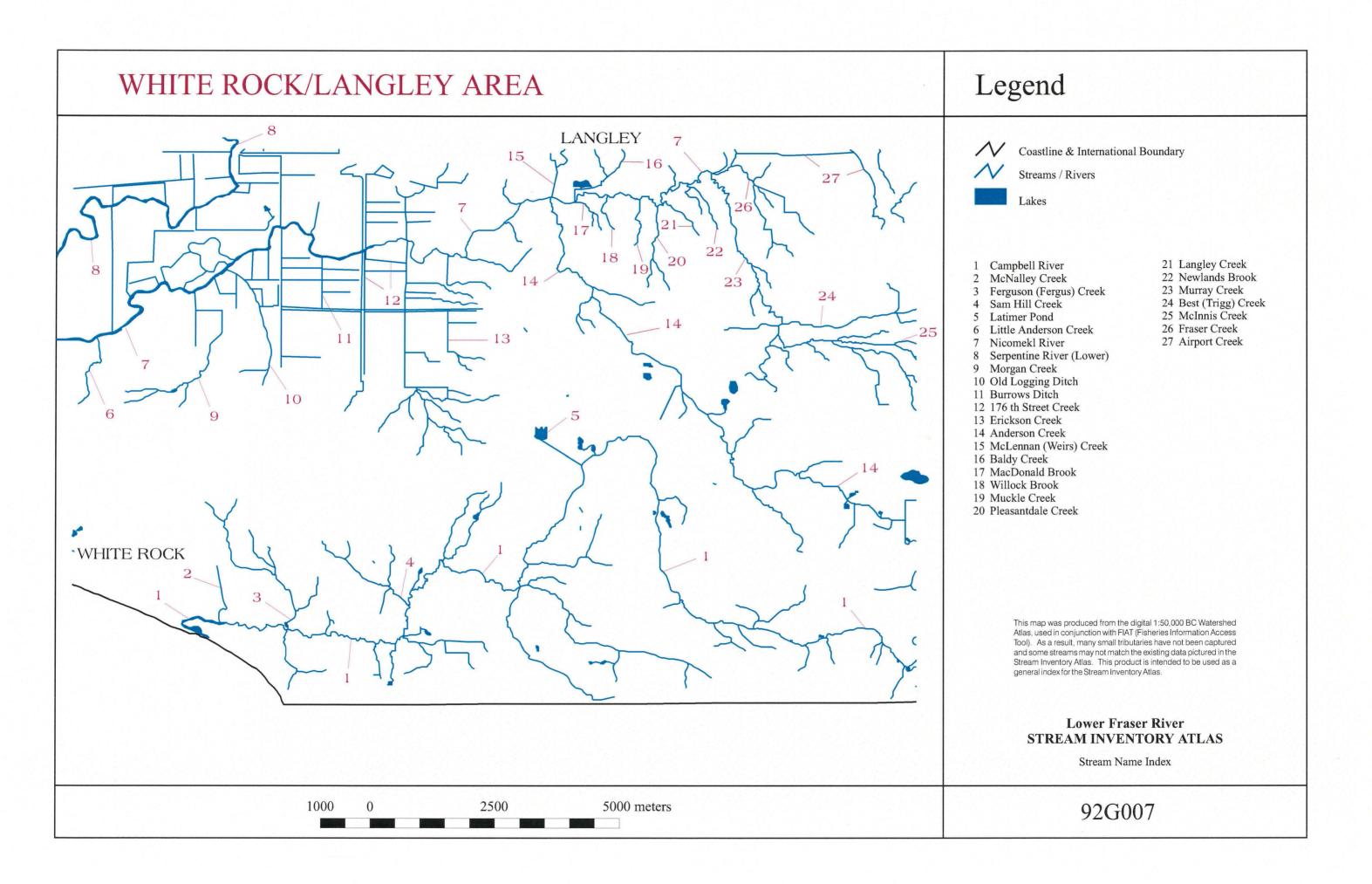
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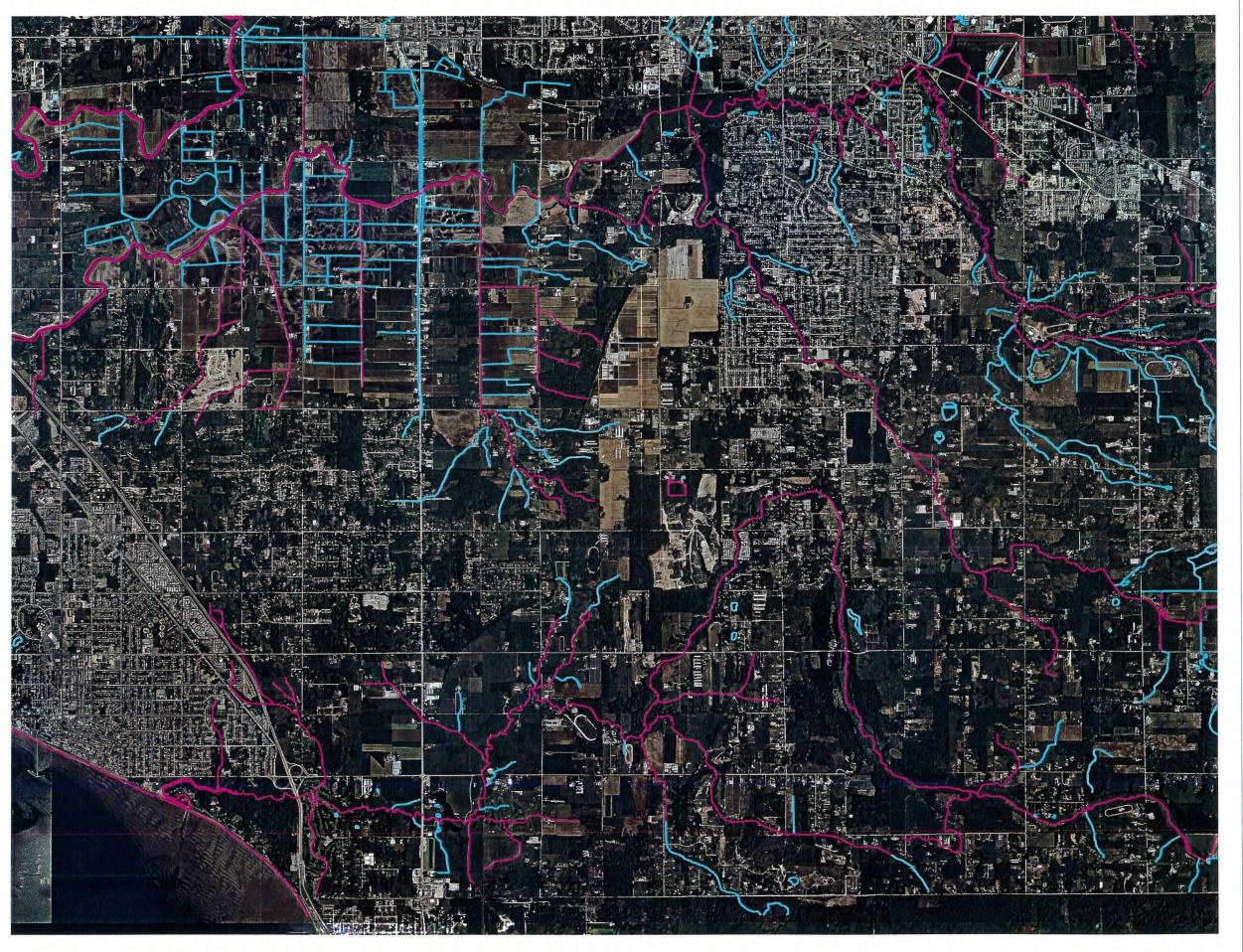


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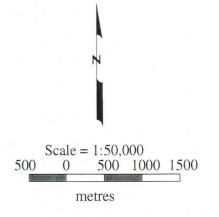




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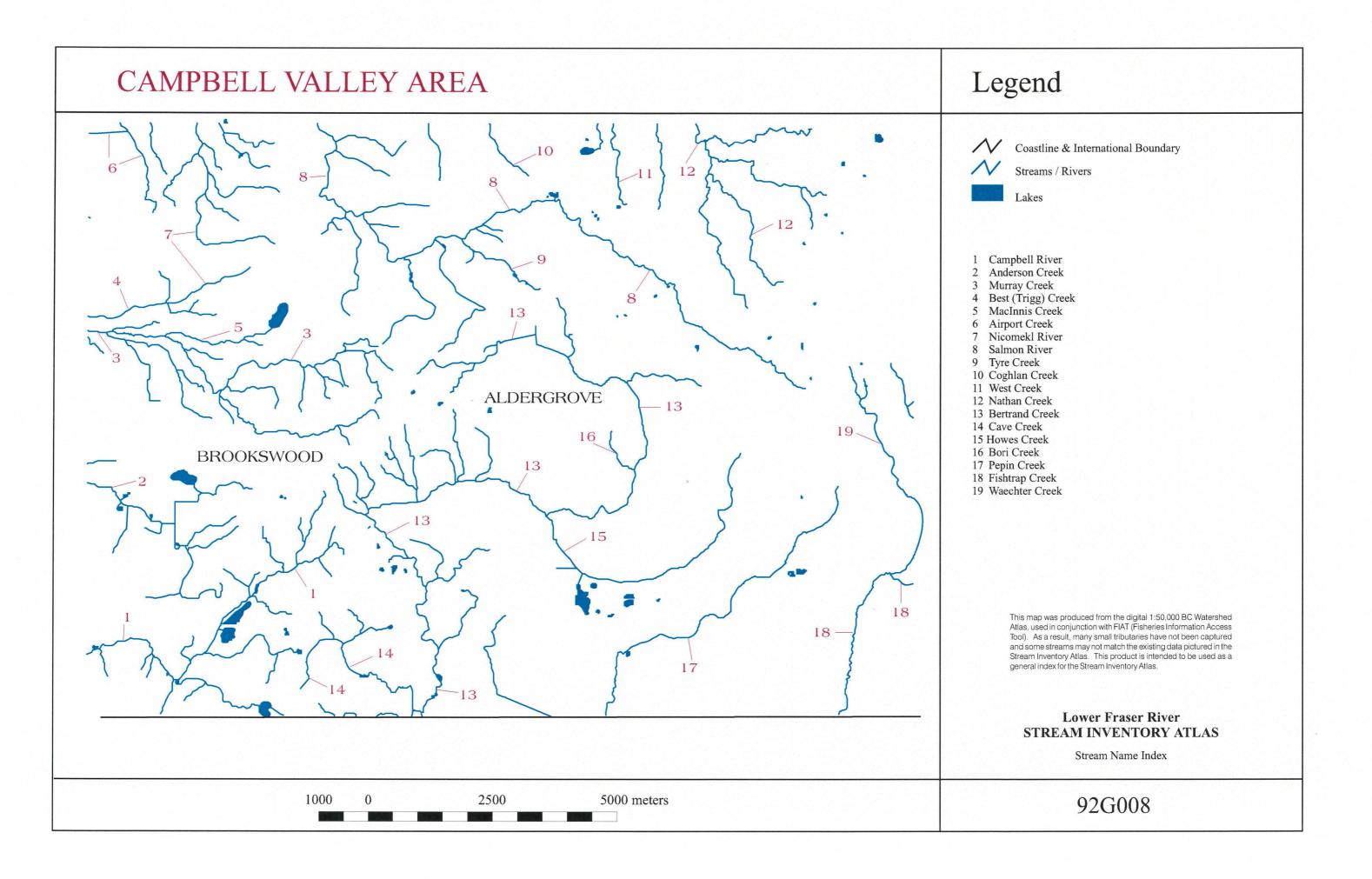
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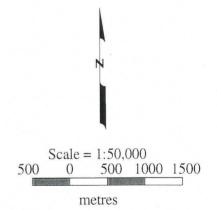




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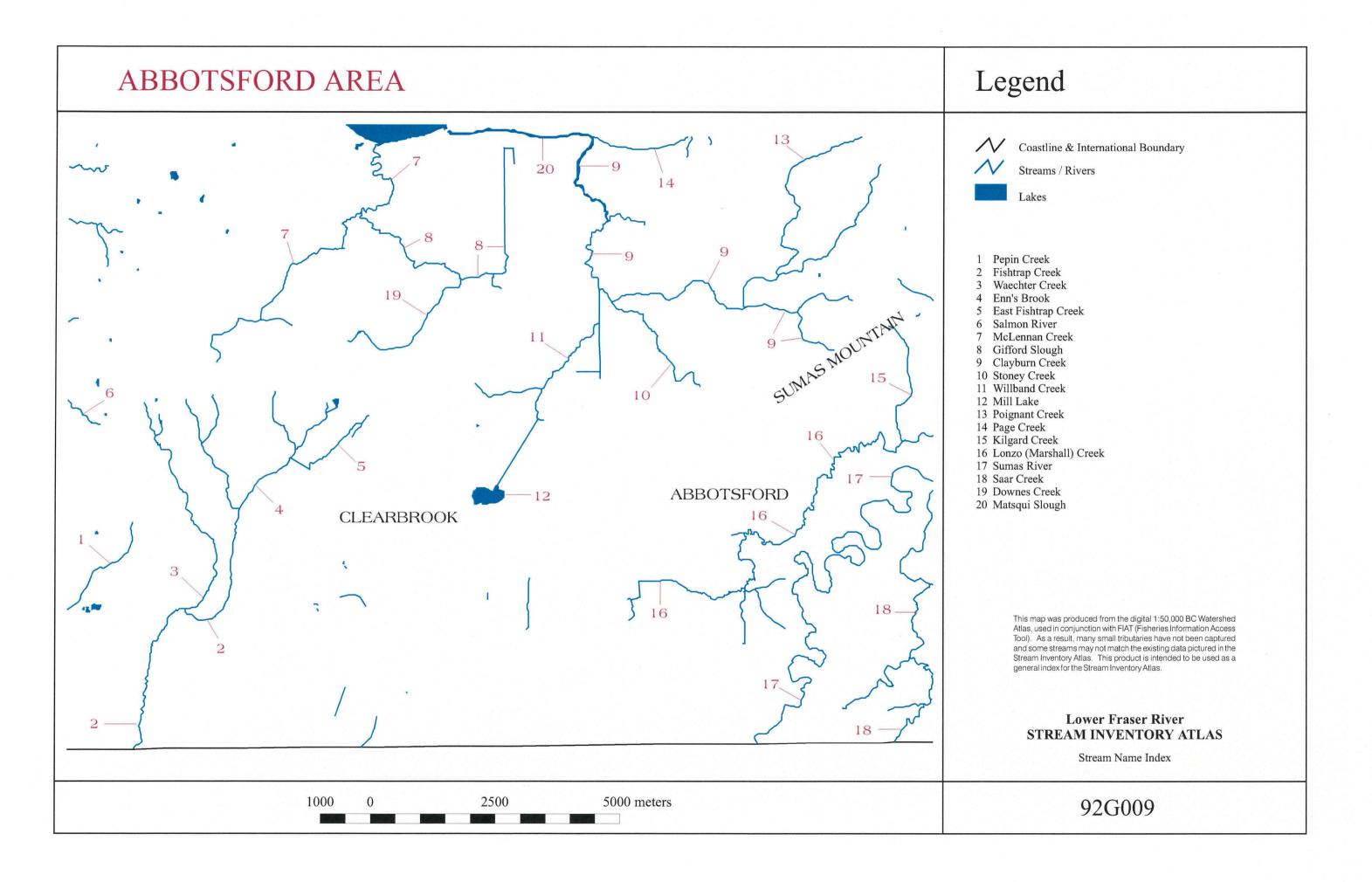
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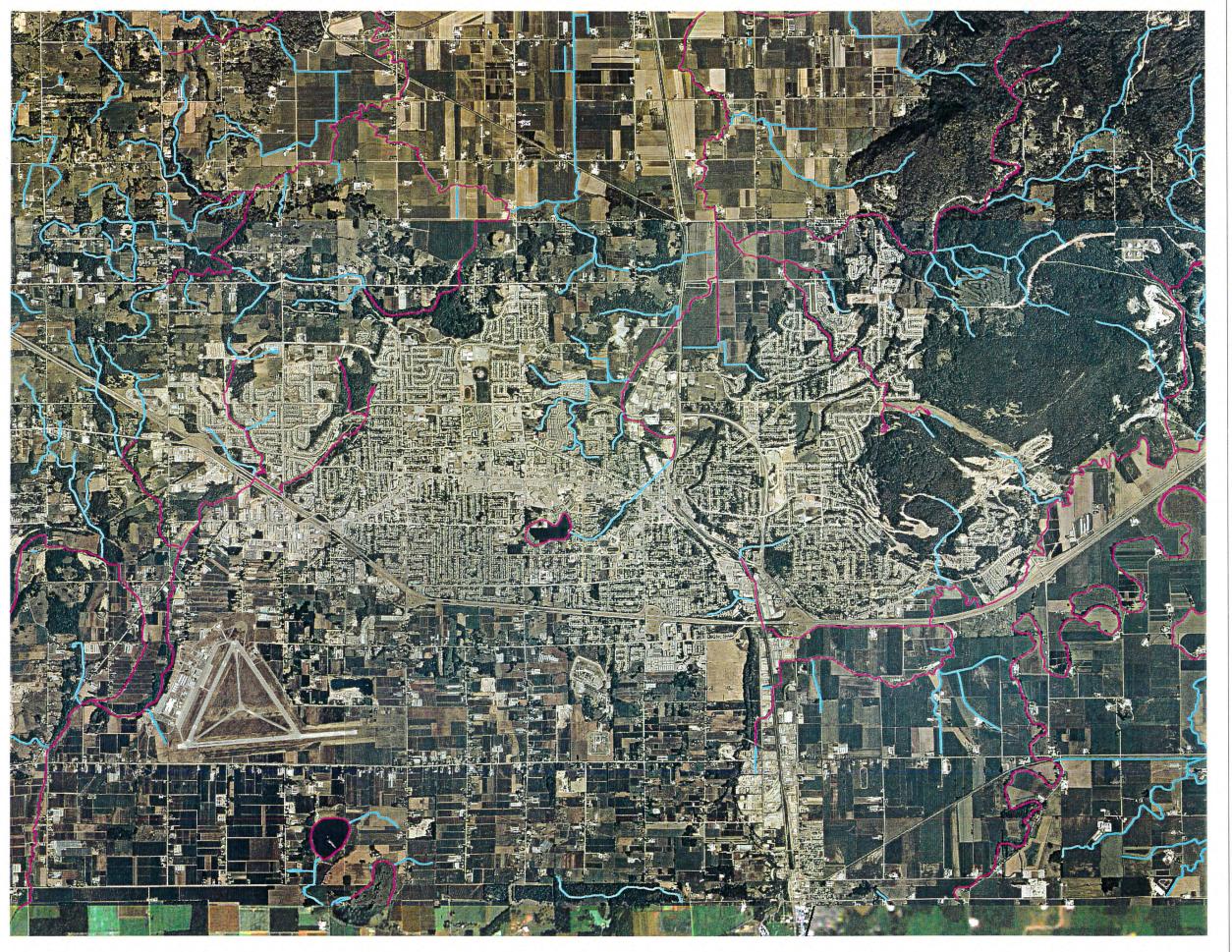


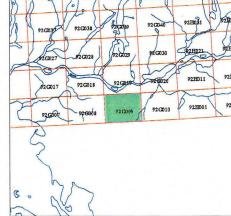
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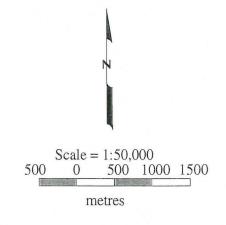




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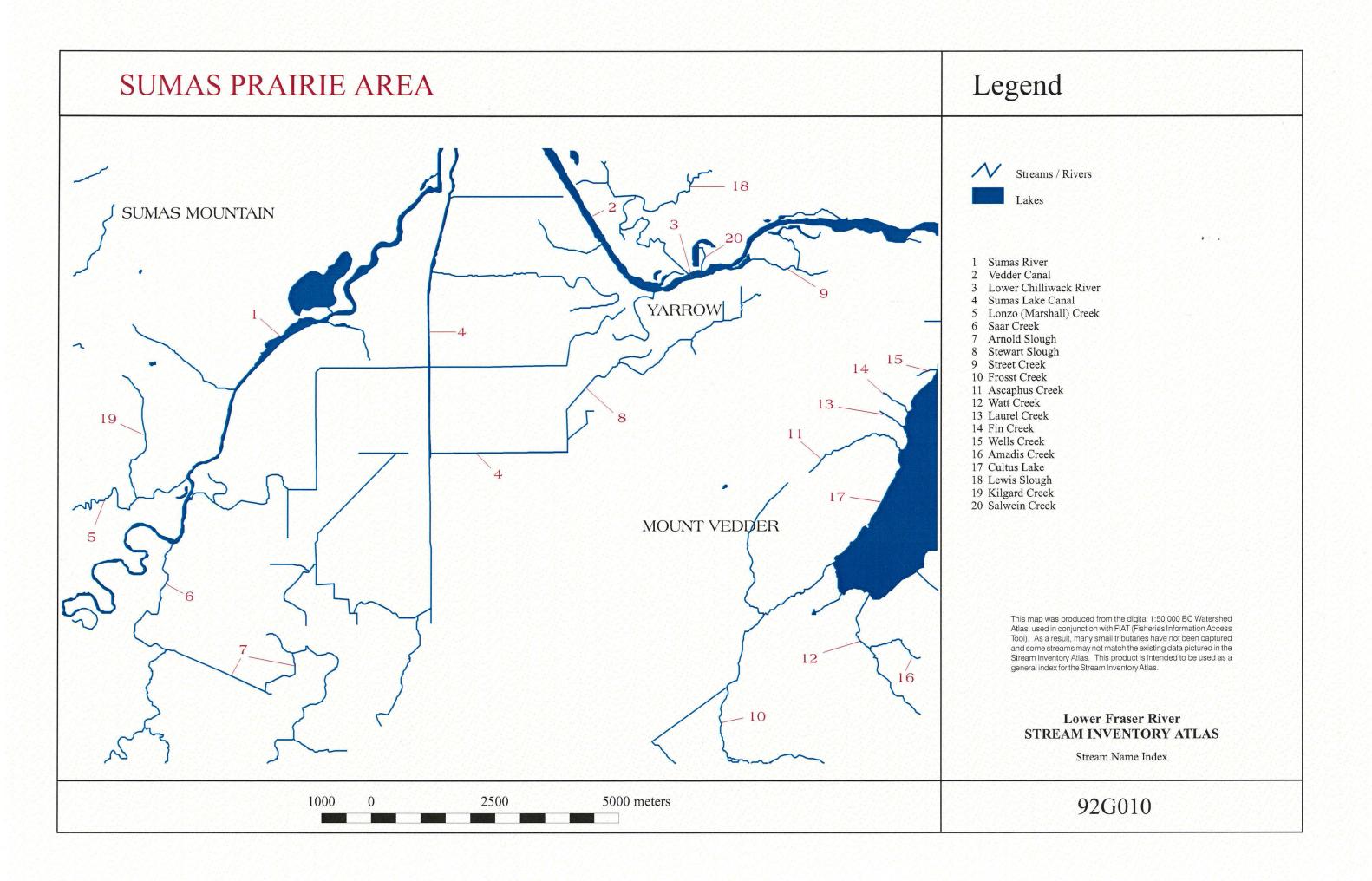
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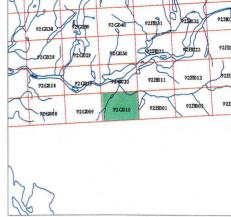
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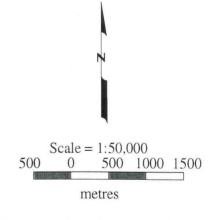






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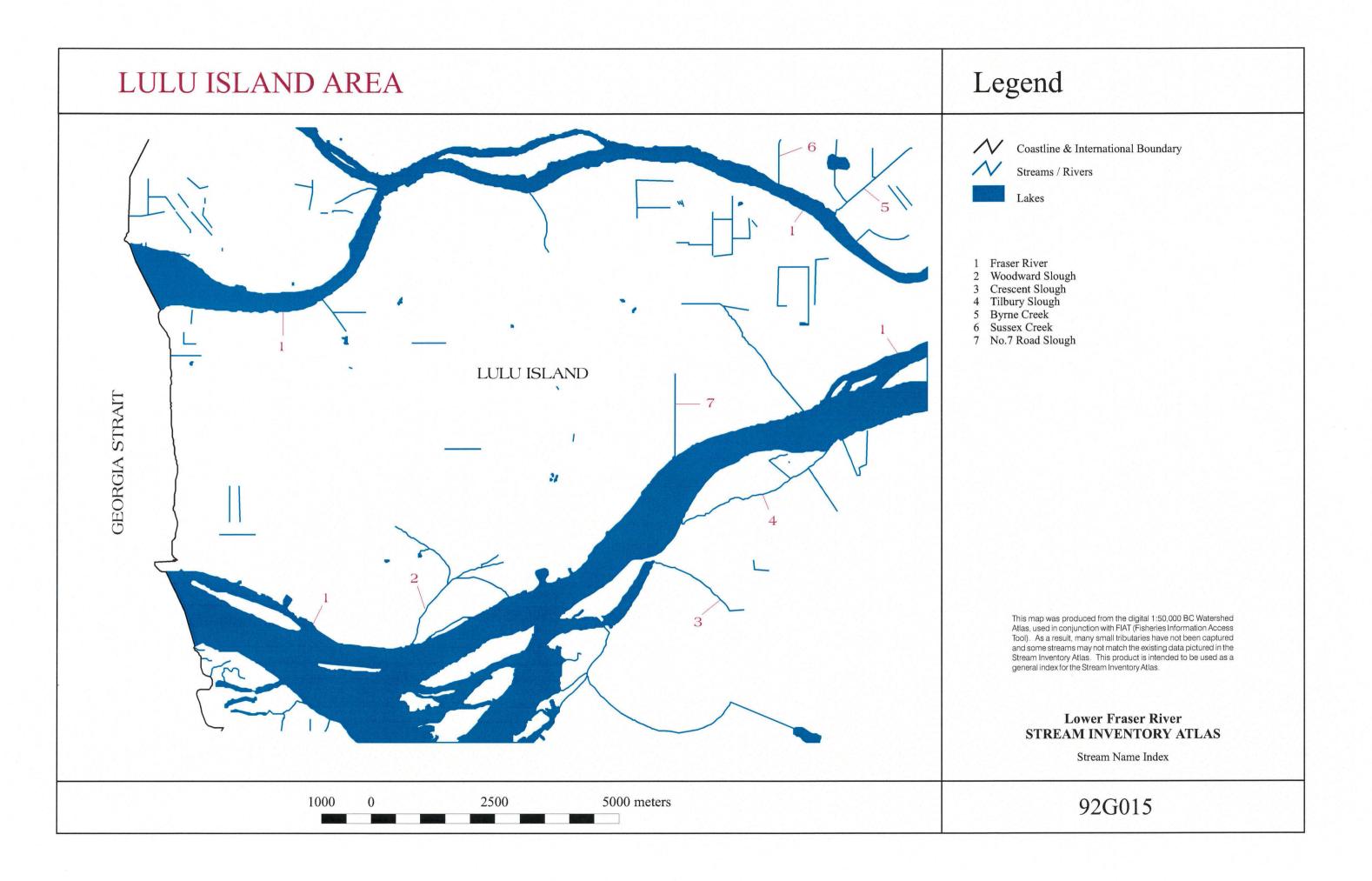
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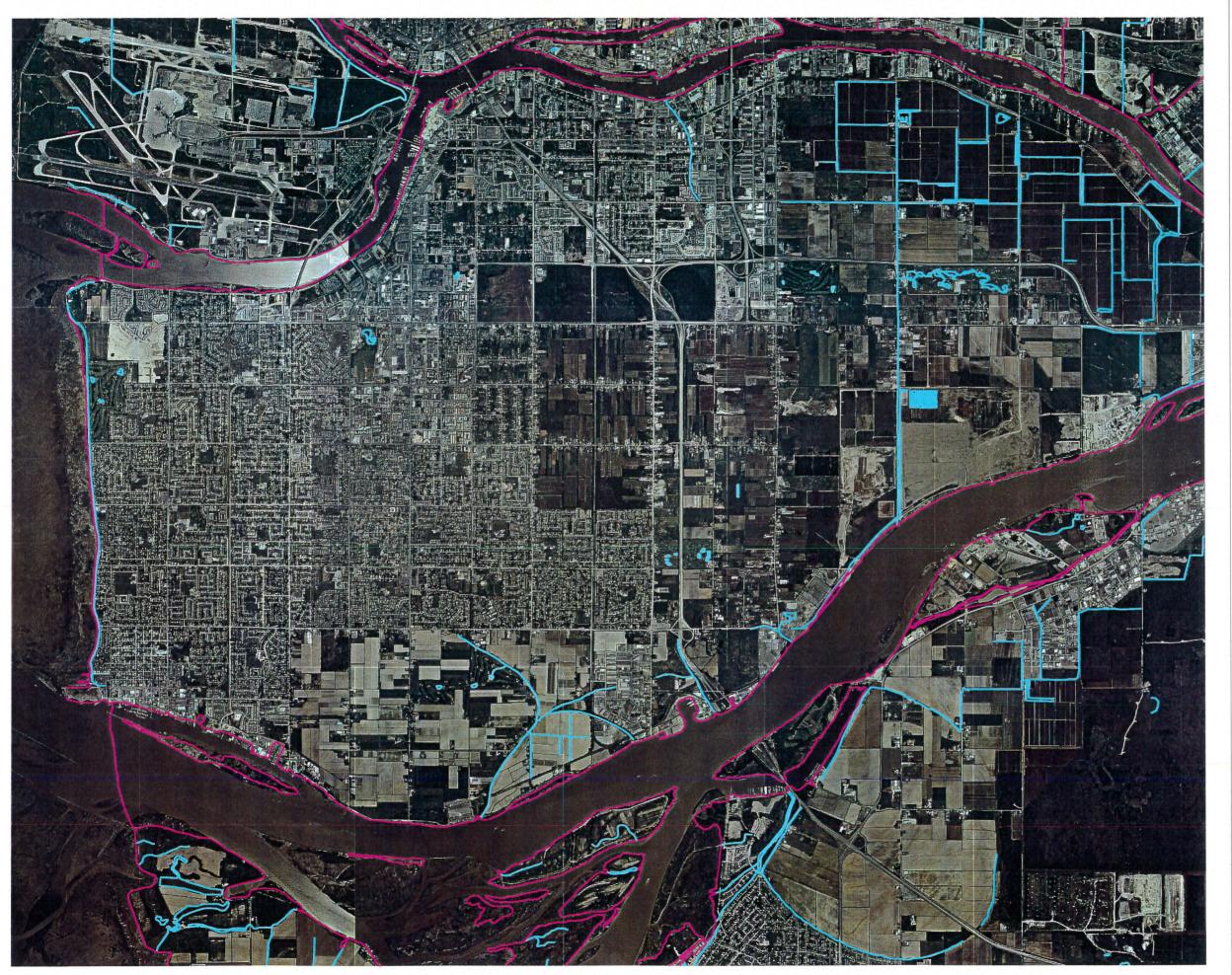


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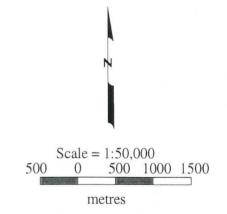




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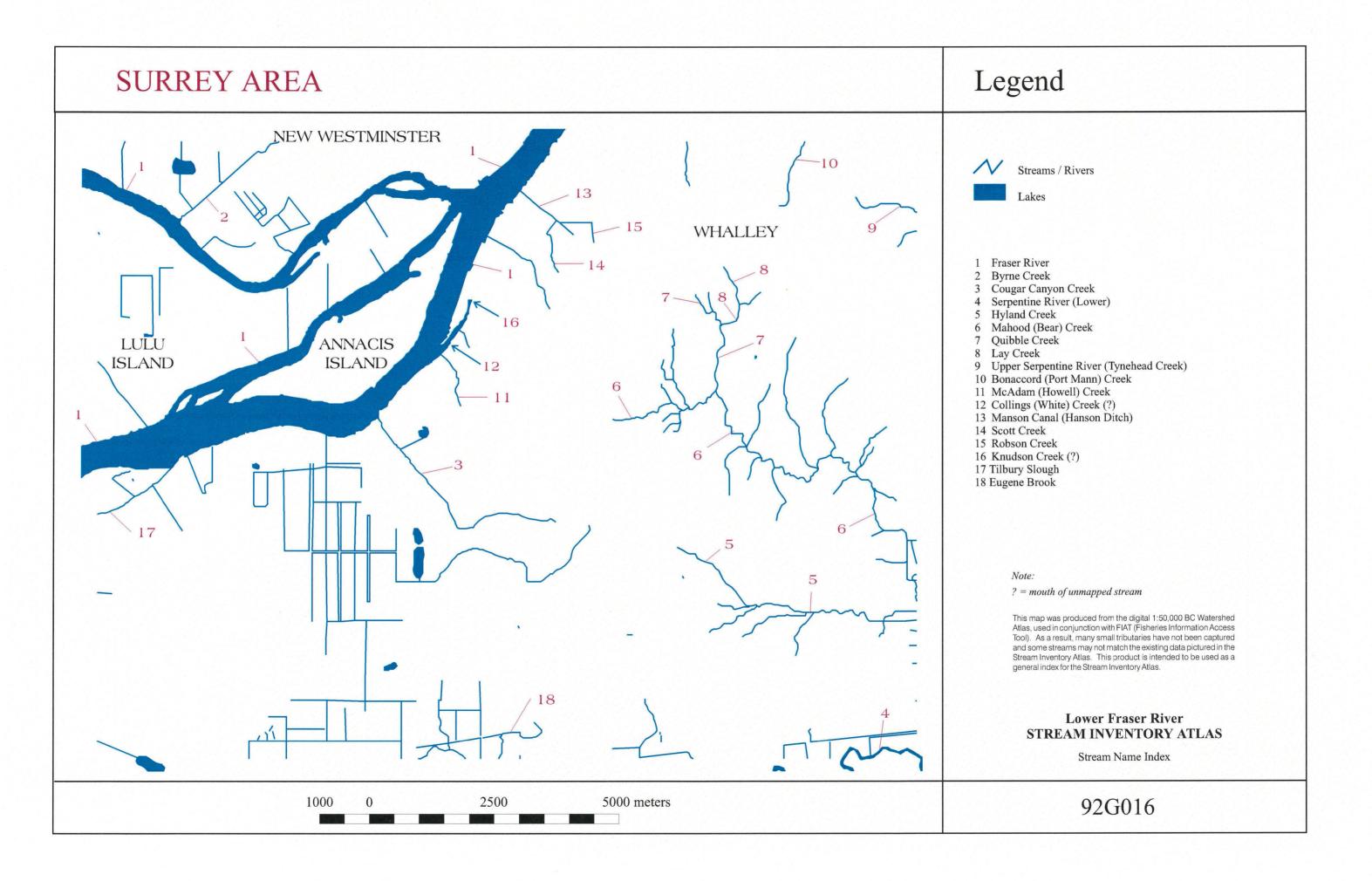
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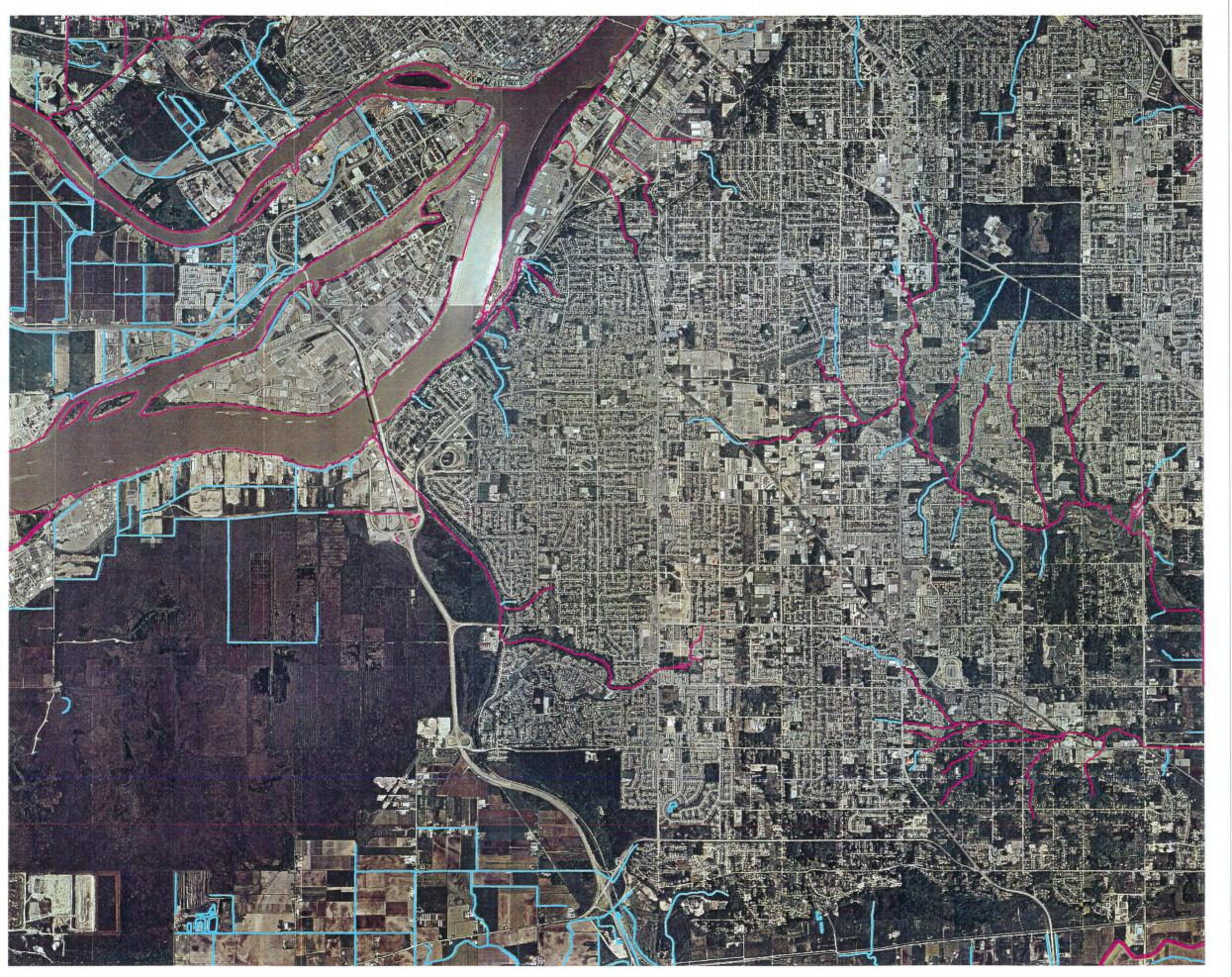


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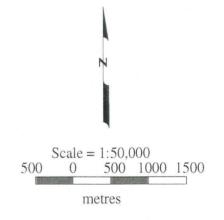






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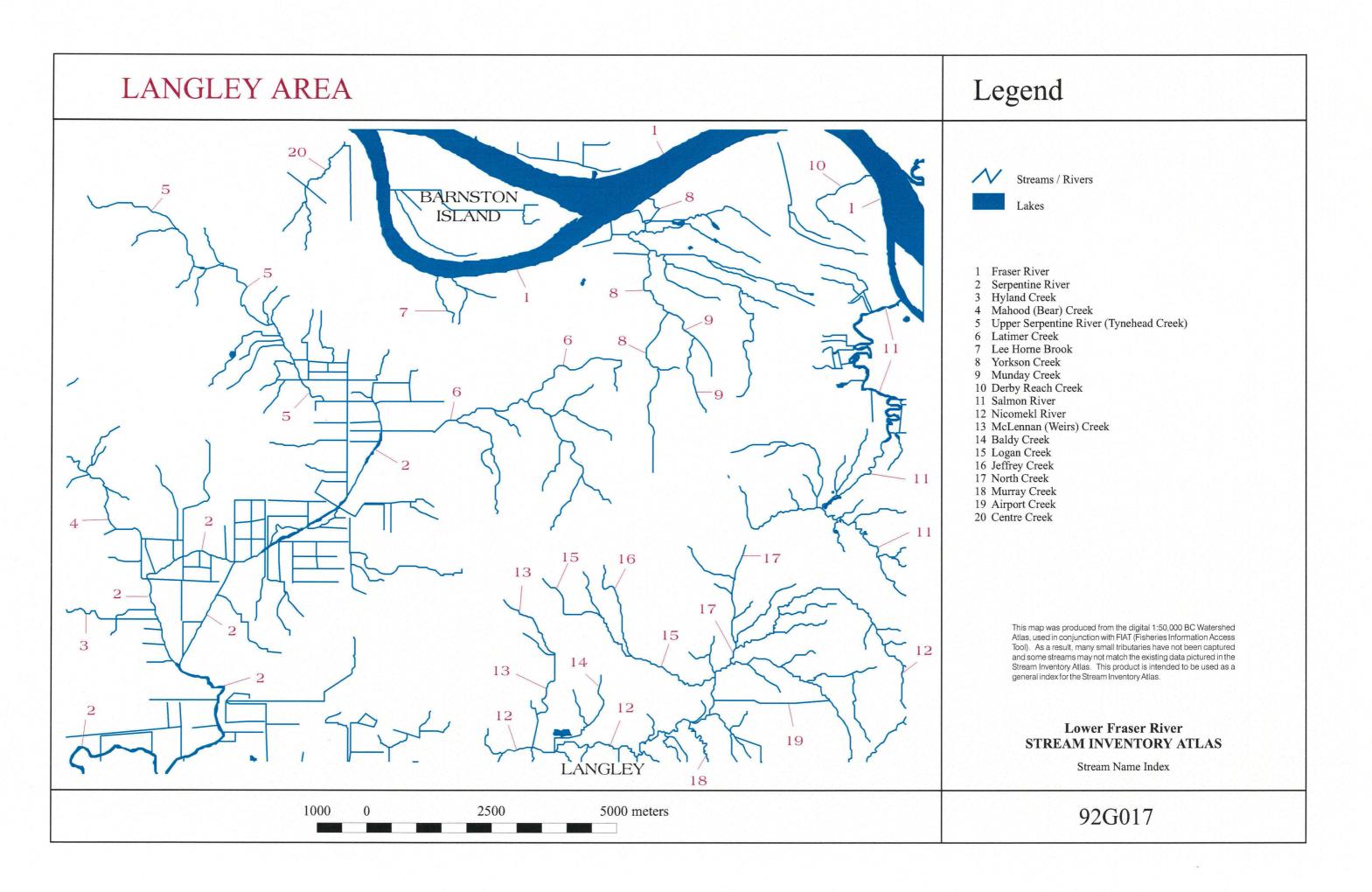
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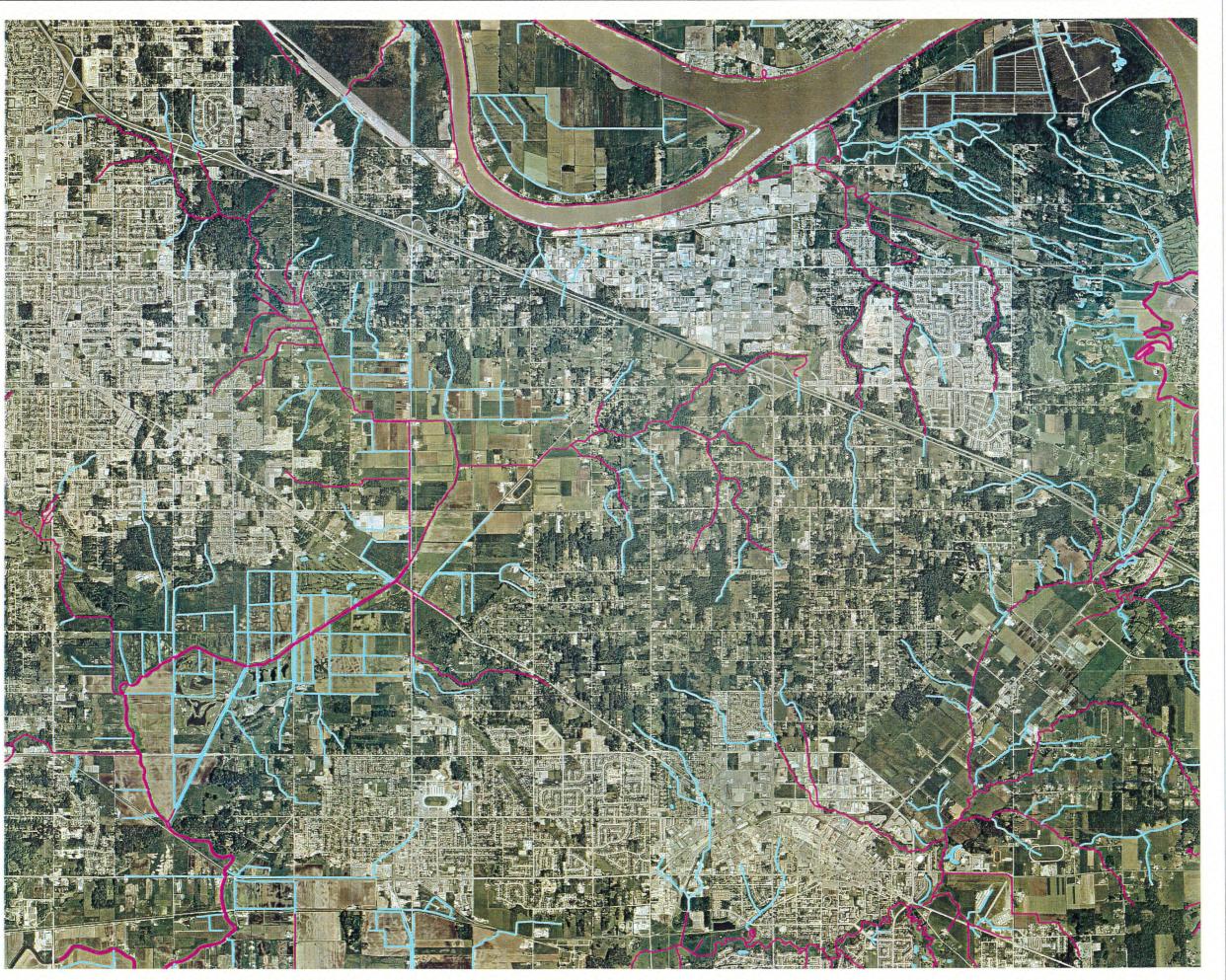


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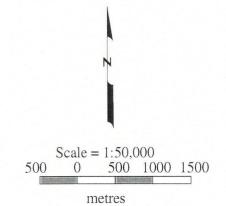




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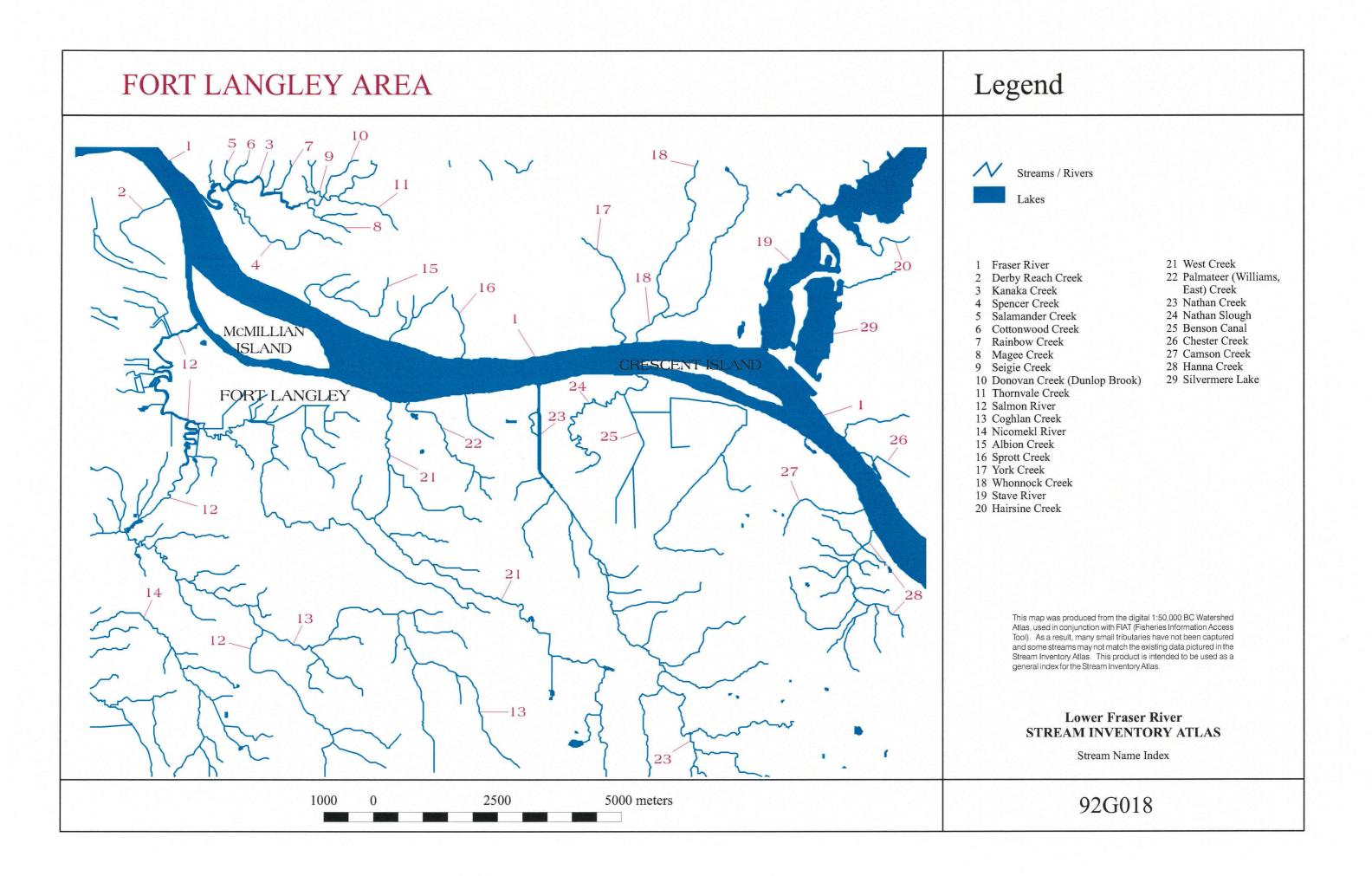
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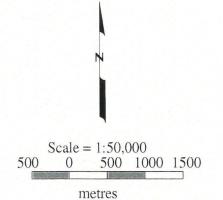






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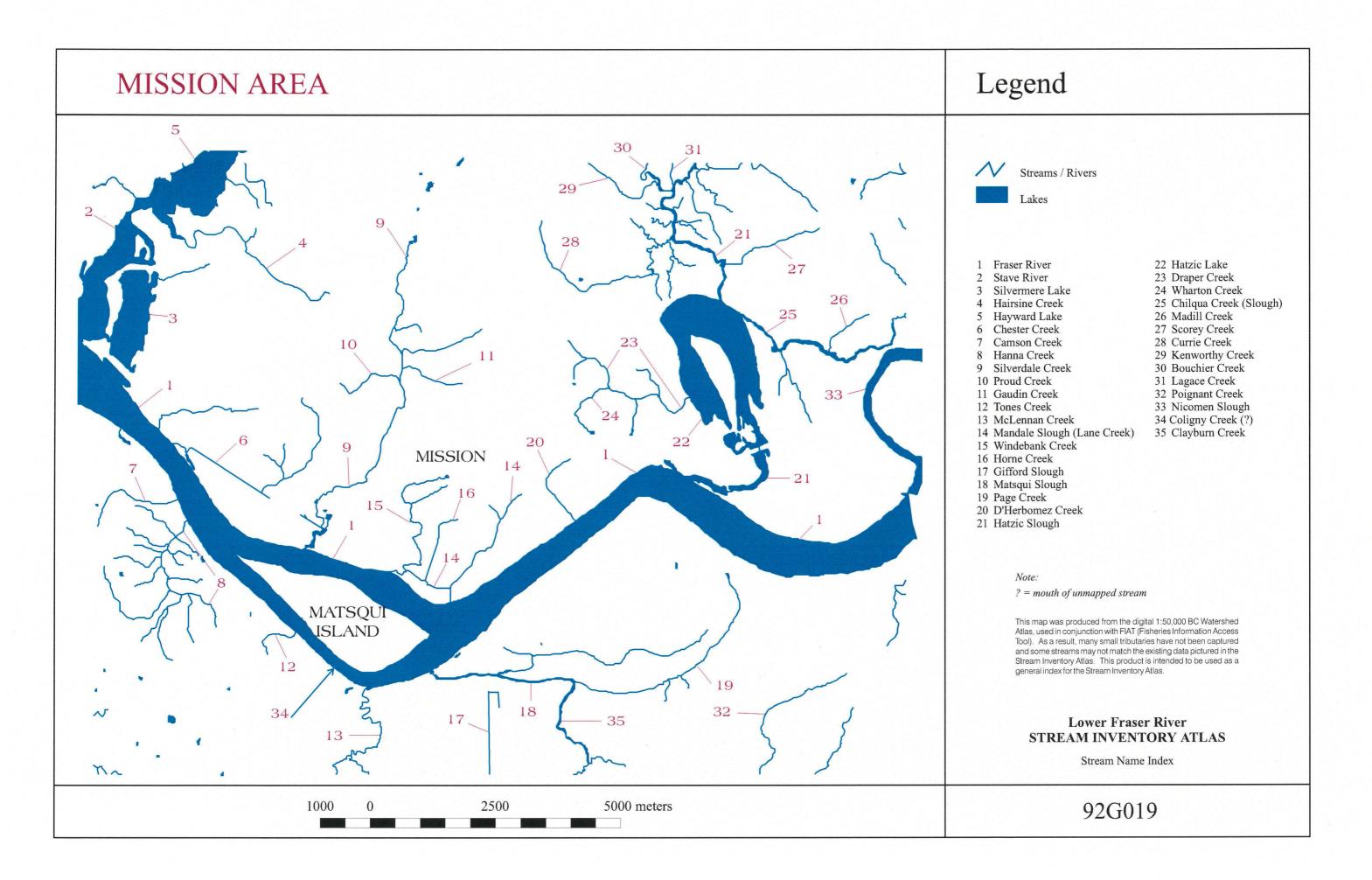
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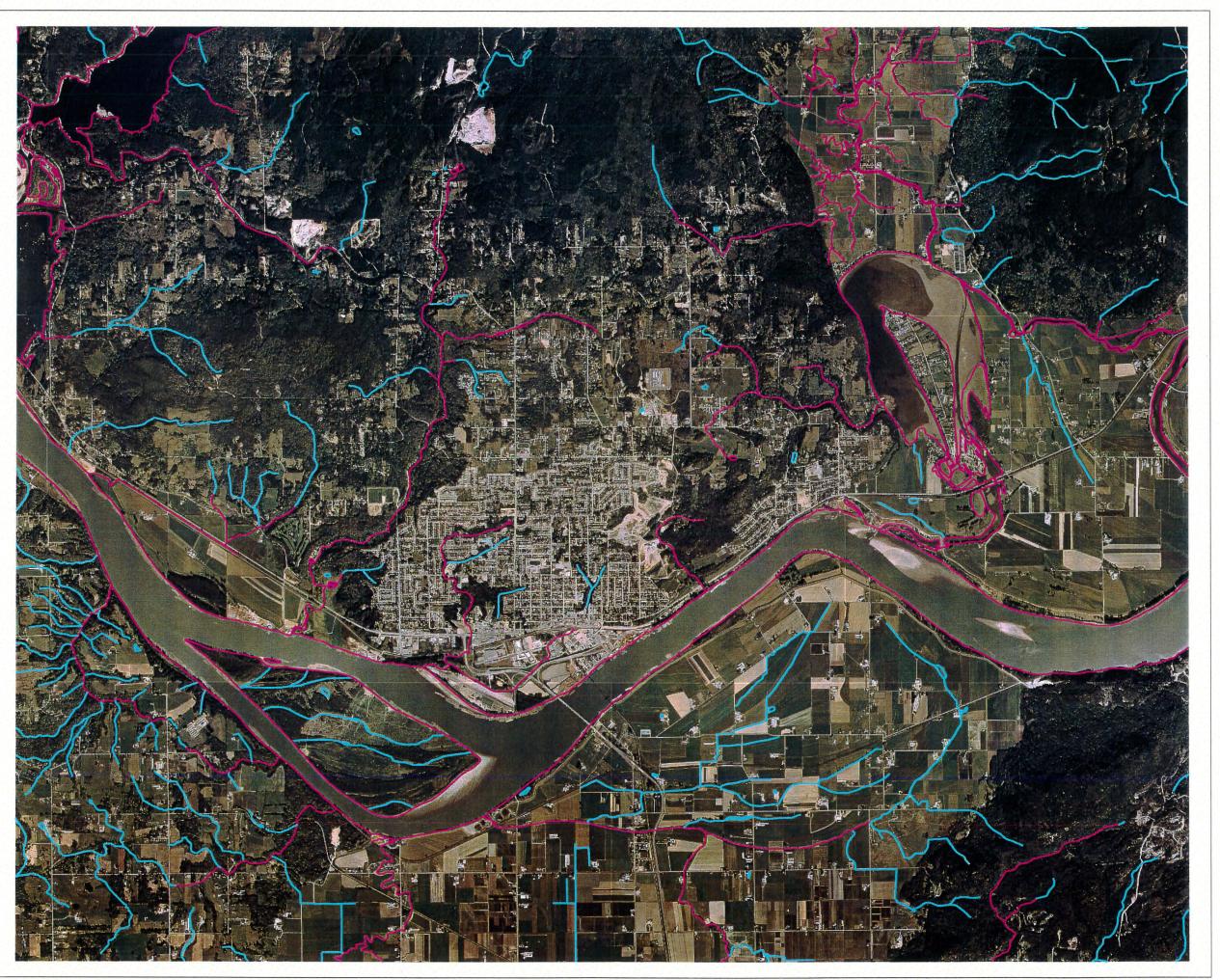


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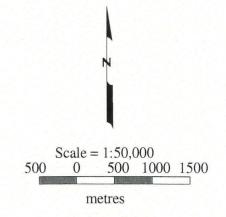




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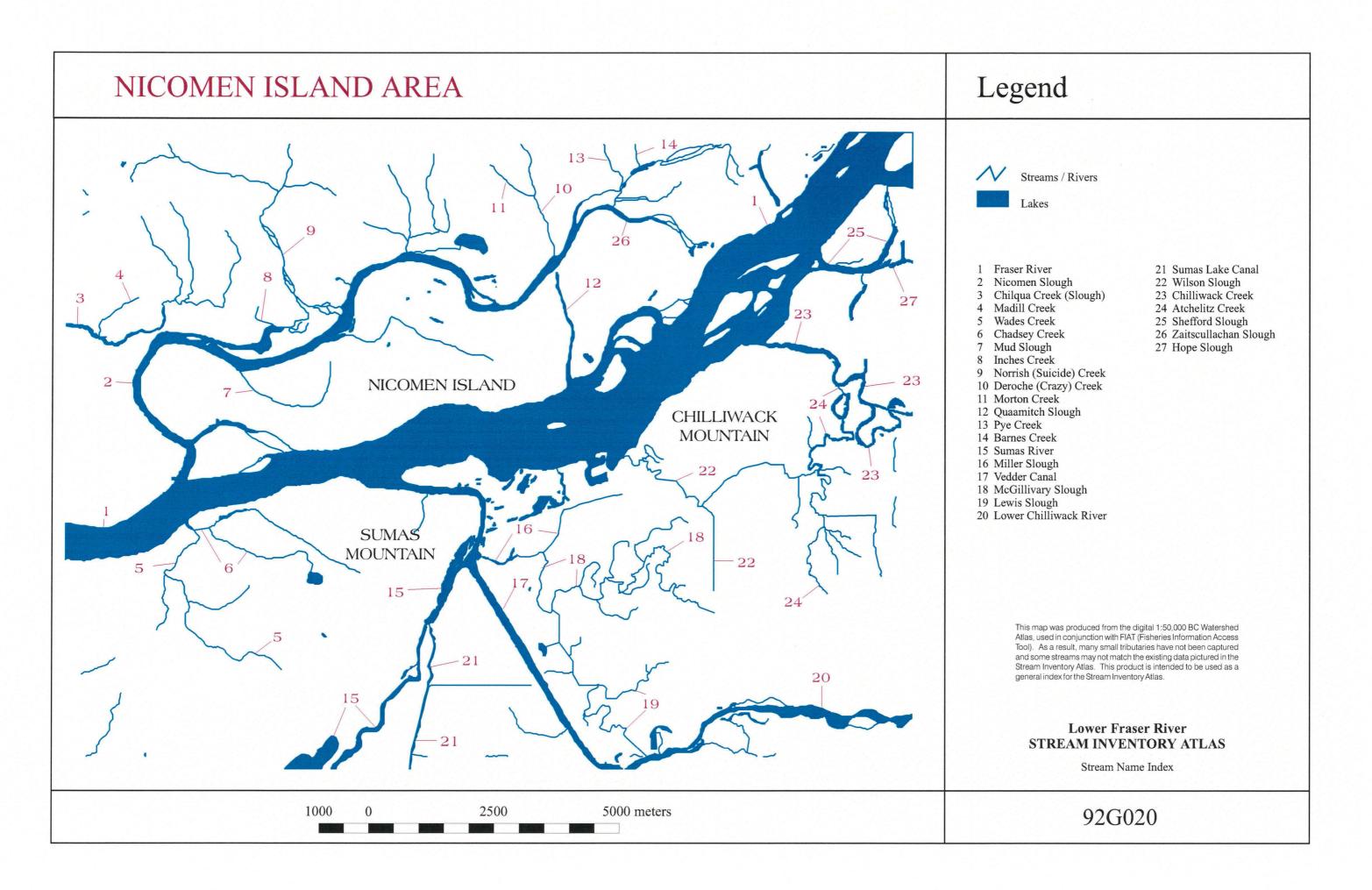
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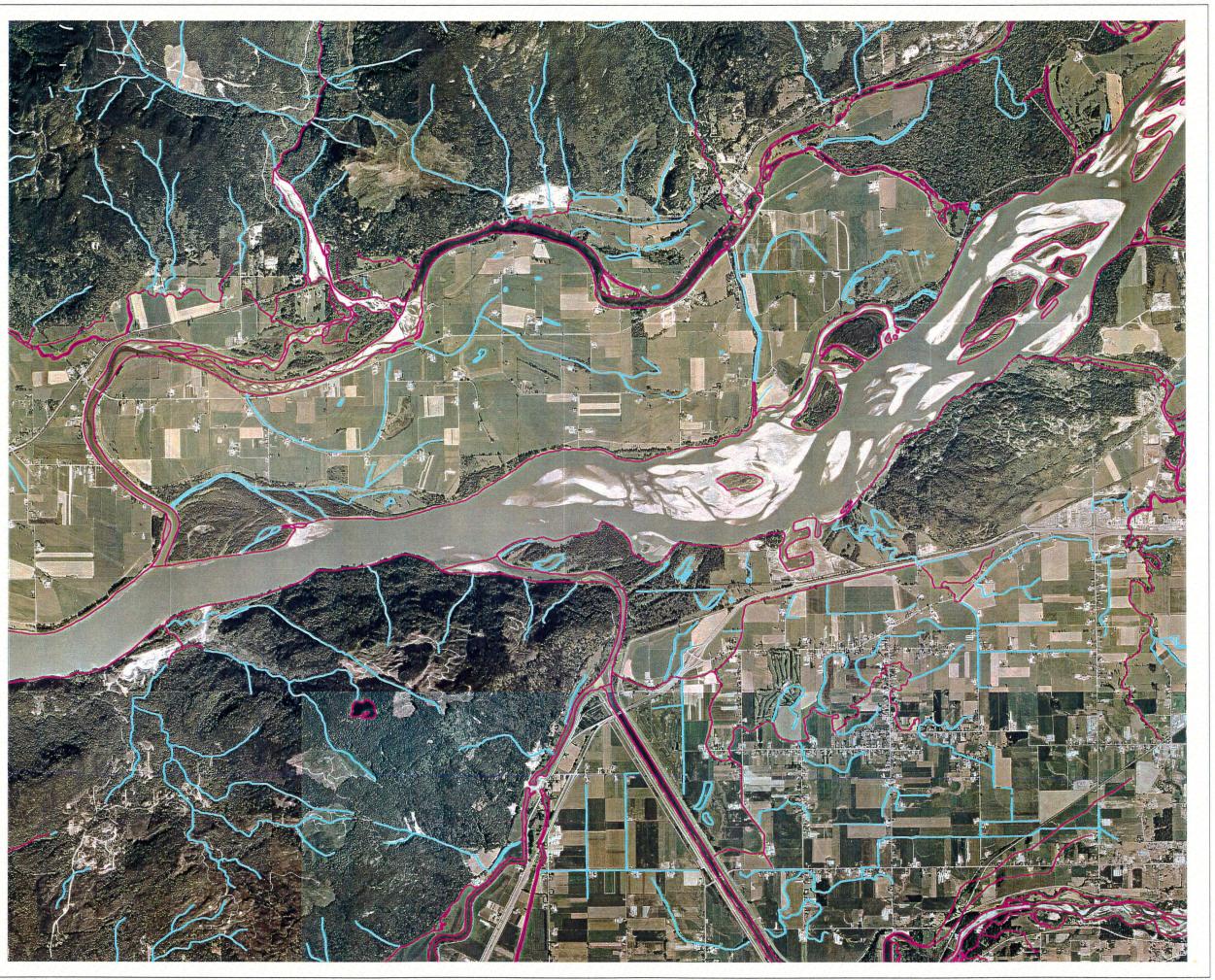


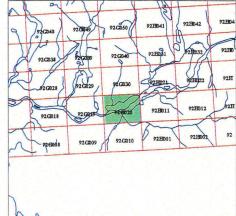
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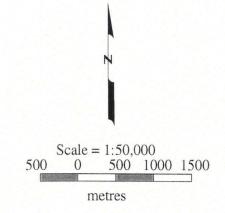




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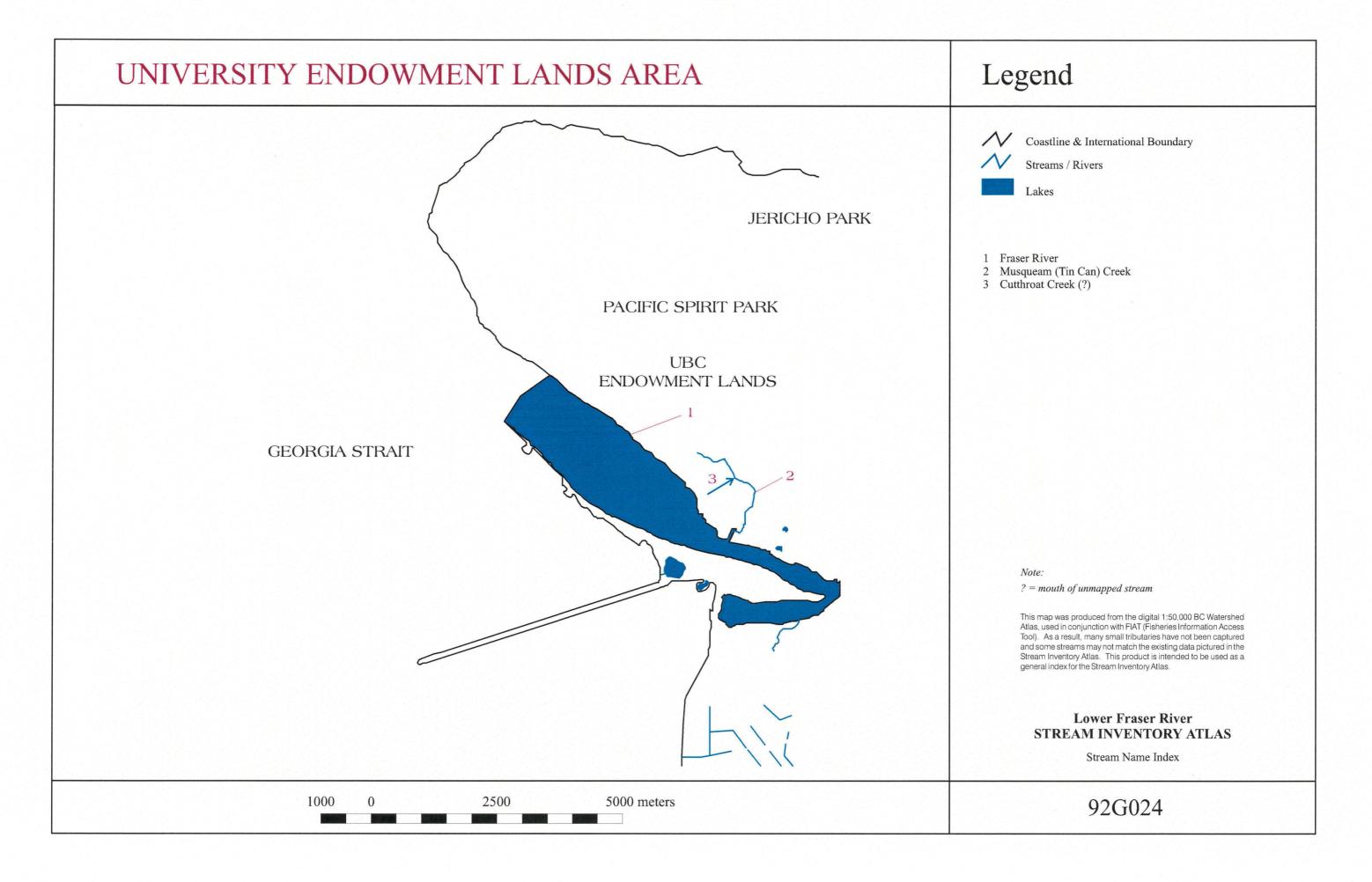
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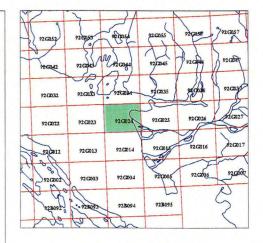
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Scale = 1:50,000 500 0 500 1000 1500

metres

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