



International Boundary Commission,
United States and Canada

Joint Annual Report 2011

Maintaining a Peaceful Boundary for more than a Century



**International
Boundary
Commission**



**Commission
de la frontière
internationale**



**The Honorable John Kerry
The Secretary of State for the United States
Washington, D.C.**

**The Honorable John Baird
Minister of Foreign Affairs
Ottawa**

Dear Mr. Kerry and Mr. Baird:

We have the honor to submit herewith to each government a joint report of the Commissioners regarding the maintenance and regulatory work performed in the calendar year 2011 with respect to the International Boundary between the United States and Canada.

This is the 87th annual joint report submitted by the Commissioners under the provision of Article IV of the Treaty of Washington, February 24, 1925. This report contains a summary of all boundary inspection and maintenance work executed.

Respectfully submitted,

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Acting United States Commissioner

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Canadian Commissioner

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Joint Annual Report 2011

This is the 87th Annual Joint Report of the International Boundary Commission (IBC). The IBC has a mandate to maintain the Canada/U.S. boundary that is rooted in years of diplomacy and negotiation and is documented in over 20 agreements, conventions and treaties dating from the 1783 Treaty of Peace between Great Britain and the newly formed United States of America.

Introduction

The US/CANADA boundary was defined and delineated in sections from east to west across the continent and then north to south along the Alaska boundary as exploration, settlement and economic activity expanded. The boundary is long, over 8,891 km or 5,525 miles. The boundary is also extraordinarily diverse; the section separating Southeast Alaska and British Columbia is defined as straight lines between mountain peaks; the boundary separating the Province of Quebec from its neighbouring states was defined after settlement and passes through the centre of towns and in fact individual buildings in some areas. In other sections, the boundary was originally defined as running *ad medium filium* – equidistant between two banks- through water bodies as large as the St. Lawrence River and the Great Lakes and as small as Halls Stream and the St. Croix Rivers. Over the years and through negotiations, the two countries have agreed that the boundary would consist of a series of straight line segments joining well defined boundary points, the majority of which have now been marked directly with IBC monuments or are referenced to nearby IBC monumentation (primarily where the boundary runs through the centre of watercourses). This does not mean the work of the IBC is complete.

While the definition and demarcation of the boundary is complete, the IBC is now occupied with the tasks of maintaining the visibility of the line and ensuring that its location is easily discerned by all. This does not mean that the work of the Commission is complete, the boundary must be maintained.

Allowing the boundary to become lost to vegetation growth, disrepair or encroachment from adjacent activity would result in conflict, confusion and difficulty enforcing the laws of each nation. Loss of the boundary would also compromise the incredible efforts involved in negotiating the treaties and agreements that settled the boundary. The work of the Commission is therefore to help enable peaceful co-existence along the world's longest shared boundary.

This report provides an overview of the IBC's activities in 2011 in support of these tasks and how this work fits in with the longer term maintenance plan for the boundary. While the boundary itself does not move, neither is it static. New human activities require new boundary monuments; the meandering of boundary watercourses means that sections that were once in midstream now cross dry land; boundary monuments deteriorate and vegetation grows obscuring the location of the line. Within this report you will find how the IBC is addressing these challenges.

Mission Statement

“The Commissioners appointed under the provisions of the Treaty of April 11, 1908, are hereby jointly empowered and directed: to inspect the various sections of the boundary line between the Dominion of Canada and the United States and between the Dominion of Canada and Alaska at such times as they shall deem necessary; to repair all damaged monuments and buoys; to relocate and rebuild monuments which have been destroyed; to keep the boundary vistas open; to move boundary monuments to new sites and establish such additional monuments and buoys as they shall deem desirable; **to maintain at all times an effective boundary line** between the Dominion of Canada and the United States and between the Dominion of Canada and Alaska” ([International Boundary Treaty 1925](#))¹

An “effective” boundary is one that is easily identifiable by not only the IBC and its stakeholders but by all citizens of our respective countries. This results in a variety of maintenance techniques.



Kyle Hipsley
Acting United States
Commissioner

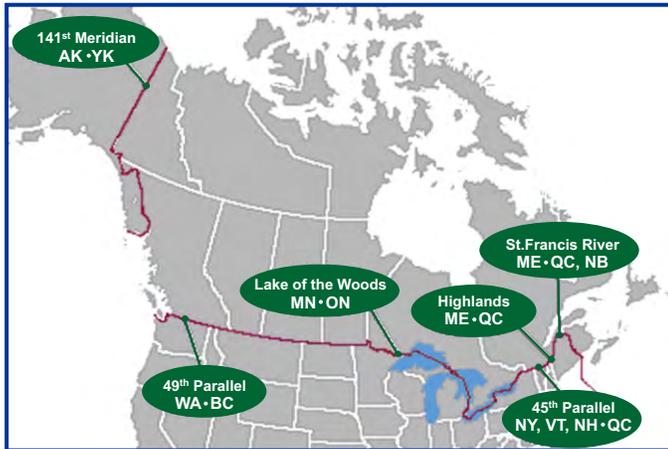


Peter Sullivan
Canadian
Commissioner

¹ Treaty regarding the Demarcation of the Boundary between the United States and Canada. –Signé le 24 février 1925. Ratifié à Washington le 17 juillet 1925.

2011 Highlights

Maintenance activities focused on six (6) sections this year: the 141st Meridian along the Alaska/Yukon border; the 49th Parallel along the British Columbia/Washington border; the Lake of the Woods along the Ontario/Minnesota border; the 45th parallel (West Line) along the New York and Vermont/Quebec border; the Highlands along the Maine/Quebec border; and the St. Francis river along the Maine/Quebec border.



Major Maintenance Activities

141st Meridian

This is the second year of a multi-year project conducted by the U.S. Section to clear the boundary vista of trees and brush along this 650 mile/1,045 km section lying between the Yukon Territory and Alaska. The weather and the difficulty of accessing the boundary in this area made this a challenging project.

Last year 33.5 mi./54 km. was cleared. This year the weather was more cooperative and the U.S. Section was able to clear 76mi/123 km of vista of a 100mi/160km contract before winter arrived. The remainder of the contract will be completed in the spring.

Lake of the Woods to Lake Superior

The Lake of the Woods Section of the boundary is primarily a water boundary defined by 1,562 Turning Points referenced to 1,100 Reference Monuments.

This year's project was focussed on repairing, painting and clearing the Reference Monuments in this section. The U.S. section conducted the project in which 254 Reference Monuments were recovered with 233 requiring repair.

49th Parallel



The U.S. Section worked at several locations along the B.C/Washington State section of the boundary this year. The work consisted of:

- Surveying 57 boundary monuments
- Clearing 26 miles of vista
- Marking the centre line of the vista through Glacier Park 3miles
- Rebuilding the monument at Lake Koochanusa
- Placing a plaque on a Range Tower at Point Roberts.

West Line



The renewal and densification of monuments along the West Line portion of the boundary between Quebec and New York/Vermont and New Hampshire continued this year. Under the supervision of the Canadian Section 35mi/56 km. of vista was cleared of brush and trees, 30 monuments were rebuilt, and 38 monuments cleaned and painted.

136 monuments in all were visited and it was found that nearly half of them are in such bad condition that they will need to be rebuilt in the coming years.

The surveying of the West Line in order to produce coordinates for the boundary on the most current NAD83 datum continued. 138 points were surveyed and tied into both the Canadian and U.S. geodetic control networks.

Highlands (Southwestern Section)



The Highlands portion of the boundary runs along the water shed that divides Quebec and New Hampshire/Maine.

Under the supervision of the Canadian Section 156 km/96.9 mi of vista was cleared of trees and brush, from the top of Moose Hill and following the boundary southwesterly to the head of Halls Stream. This project completes the clearing of this section which is cleared every 6 years.

St. Francis River



The St. Francis River section of the boundary is a water boundary section. It is one of the areas particularly susceptible to stream meandering, much like Halls Stream section.

The IBC has been working in and around the St. Francis River on related projects since 1999. This year the IBC undertook the following activities to mark the boundary in this area:

- 45 Line Marks were established
- 14 Turning Points that were now located on dry land were monumented
- 180 feet of boundary vista was cleared.

Additional Maintenance Activities

In addition to these major projects, the IBC undertook several smaller projects to address specific issues.

Rebuild Monument at Lake Kooconusa



Boundary Monument 244-1970 on the east shore of Lake Kooconusa was rebuilt in preparation for the David Thompson commemorative ceremony. A plaque created for the David Thompson Brigade was placed on the east side of the monument.

Install Plaque on Point Roberts Range Tower

A U.S./CANADA boundary plaque was installed on the east Range Tower in Point Roberts to mark the boundary on the beach at the request of the U.S. Border Patrol.

Move Monument 5C at Peace Garden

Monument 5C at the International Peace Garden on the boundary between Washington and British Columbia was replaced with a disk that is flush to the ground and a new IBC monument was built several metres away. This work was undertaken to facilitate the creation of a new walkway between customs and the Peace Garden.

Reclear the Vista at request of Border Patrol

The U.S. Border Patrol contacted the U.S. Section of the IBC to request that a section of the vista along the 45th parallel be recleared. Border Patrol provided \$20,000 in funding to support the work.

Marking trans-boundary waterways

In preparation for the marking of trans-boundary waterways at Lake Champlain, Richelieu River and lake Memphremagog, topographic surveys were performed. The topographic information collected will then be used to design Range Towers that will help to mark the boundary where it traverses those waterways.

Field Inspections

The IBC Commissioners and Deputy Commissioners conducted three inspections of the boundary and the work of the field crews along the boundary this year.

Commissioner Sullivan and A/Commissioner Hipsley inspected the 49th Parallel in the vicinity of Lake Kookanusa in conjunction with the David Thompson Brigade celebration during the week of June 6. During the week of July 11th, both Commissioners also inspected the Halls Stream section. Later in July, Deputy Commissioners Fortin and A/Commissioner Hipsley conducted an inspection of the St. Francis River boundary.

A Look Ahead to 2012

Canadian Section

West Line:

- Clearing of the West Line vista will be completed by contract.
- Survey and generation of NAD 83 coordinates will be completed.
- Monument repair along the West Line will continue. (2nd year of a 4 year project).
- Check survey of the St. Francis River will be completed.

Highlands :

- Inspection and replacement of 6 IBC monuments that were destroyed during the construction of a road in the Highlands will proceed.

GIS/Mapping:

- Investigation of imagery from various sources to fill in the remaining blanks in the IBC mapping project (primarily along the 141st Meridian and for small scale mapping of the Great Lakes).
- Development and refinement of GIS tools to automate processes.
- Development of tools to make the GIS more available to the IBC's end users and managers.

United States Section

St. Francis River

- Complete a field survey of the new monuments they installed along this section of the boundary and adjust and produce NAD 83 CSRS coordinates for all IBC points along the St. Francis.

45th Parallel

- Finish clearing of the section of the 45th parallel for which Border Patrol contributed funding.

Lake of the Woods

- Complete the recovery and repair of the Lake of the Woods Reference Monuments.

49th Parallel

- Clear 3 miles of boundary vista in Glacier National Park.

- Finish clearing the boundary vista east of Osoyoos, BC.

- Complete the surveying project from Osoyoos to Glacier National Park.

141st Meridian

- Incomplete clearing project to be finished, and additional clearing contract to be awarded.

Regulatory Items

The IBC must authorize any construction taking place within the 20 foot vista. As part of this mandate, authorization was granted by the Commissioners for the following projects.

Bridge Replacement at Langley, British Columbia

The city of Langley, B.C. requested permission to replace a bridge on 0 Avenue. The IBC approved this request.

FAST Truck Priority System, Pacific Highway Border Crossing

The British Columbia Ministry of Transportation and Infrastructure requested permission to bury a 15 mm PVC pipe across the vista to facilitate their operations. The IBC approved this request.

Ethane Pipeline at Tioga, North Dakota

Permission was requested to excavate a ditch and lay a 10 inch ethane pipeline across the vista between Tioga, North Dakota and Empress, Alberta. The IBC approved this request.

Upgrade of Utilities Service, Pittsburgh, NH Port of Entry

The U.S. Department of the Army, Fort Worth District, requested permission to upgrade the electrical services connected to the Land Port of Entry at Pittsburg, New Hampshire. The work included new utility poles and wires. The IBC approved this request.

Ambassador Bridge Enhancements

A Michigan company, requested the IBC's approval for a project to replace and repair the main deck of the Ambassador Bridge between Detroit and Windsor. The IBC approved this request.

Road Work at Emerson Border Crossing

Manitoba Infrastructure and Transportation requested the IBC's approval for a project to widen the southbound lanes of Highway PTH 29 at the Emerson, Manitoba border crossing. The IBC approved this request.

Road Improvement, Hyder

The Alaska Statewide Transportation Improvement Program asked for IBC approval of a project to upgrade and pave Salmon River Road near Hyder, Alaska. The IBC approved this request.

Geographic Information System

Map Creation:

At the end of 2011 the GIS had produced 80 new boundary maps and related boundary coordinates that were ready for the Commissioners' approval and signature. A further 164 map sheets have been compiled and are awaiting the completion and release of the adjustment of survey data to allow the final cartography to be completed. 63 additional map sheets will require imagery in order to be completed. Along the 141st meridian between the Yukon and Alaska there is no imagery available for the mapping and for the small scale maps of the Great Lakes, the IBC's current imagery is not appropriate for this use.

Operational Support

The GIS has been used for the production of reports and data sets in support of field operations as well as the generation of reports for management reporting functions.

Stakeholder Communications

Halls Stream

The IBC held two meetings with local officials to present an overview of the movement of Halls Stream and to open communications with local municipal officials, surveyors and other interested parties. One meeting was held at Coaticook, Quebec, the other meeting was held in Pittsburgh, New Hampshire.

David Thompson Brigade

The IBC attended an event held by the David Thompson Brigade to celebrate the life and accomplishments of the famed surveyor/geographer/explorer David Thompson. As part of the events surrounding the celebration, a plaque commemorating David Thompson was affixed to the IBC monument located on the shores of Lake Koocanusa.

Quebec Cadastral Reform Project

This year, the IBC has collaborated with the Government of Quebec by providing data regarding the position of the International Boundary in the municipalities of Huntingdon and Hemingford in support of the Quebec cadastral reform project.

Financial Report

The financial report presents the accurate statement of the total amount expended by both sections to March 31, 2011 in the joint maintenance of the International boundary line under Article IV of the Treaty of 1925.

	Expended By United States Section (US \$)	Expended By Canadian Section (Can \$)
<u>Total to March 31, 2010</u>	15,004,118.54 \$	18,806,189.77 \$
<u>From April 1, 2010 to March 31, 2011</u>		
<i>Montana - Alberta:</i> Glacier Park Clearing contract.....	28,938.25 \$	
<i>Maine - New-Brunswick:</i> Passamaquoddy Bay Range: Mark maintenance, Clearing Contract and Inspection.....	45,500.00 \$	
<i>Quebec - Vermont:</i> West Line Monument Inspection.....		116,662.52 \$
<i>Quebec - Vermont:</i> West Line Clearing Contract.....		248,040.00 \$
<i>Quebec - Vermont:</i> West Line Field Crew Monitoring and Vista Clearing Inspection.....		161,792.80 \$
<i>Quebec - Vermont:</i> West Line Survey Field Crew Monitoring.....		39,590.75 \$
<i>Maine - New-Brunswick:</i> North Line Golf Course Tree Removal and Monumentation.....	18,736.46 \$	
<i>Maine - Quebec:</i> Highlands Vista Clearing Contracts.....		243,502.50 \$
<i>Maine - Quebec:</i> St. Francis River and St. John River.....	142,361.16 \$	
<i>Alaska - Yukon:</i> 141 st Meridian Clearing Contract.....	706,121.00 \$	
<i>Alaska - British Columbia:</i> Portland Canal Survey.....	84,024.95 \$	
<i>Montana - Alberta:</i> Carsonite Installation.....	9,101.06 \$	
<i>Minnesota - Ontario:</i> Boundary Waters Recovery.....	51,562.15 \$	
 <u>Other Expenditures</u>		
<i>Mapping/GIS Development</i>		45,199.00 \$
<i>US Section database</i>	13,642.00 \$	
<i>ESRI GIS Development</i>		12,006.00 \$
<i>Stainless Steel Obelisk</i>	170,000.00 \$	
<i>GIS Mapping Software</i>		14,953.92 \$
<i>Truck Minnesota Field Office</i>	30,985.00 \$	
<i>2 ATVs Minnesota Field Office</i>	10,486.00 \$	
<i>Boundary monument/Reference Posts</i>		27,470.00 \$
<i>Tripods</i>		4,740.00 \$
<i>Vehicle (purchase pick-up truck)</i>		29,713.00 \$
<i>Vehicle maintenance</i>		29,133.68 \$
<i>Technical Field Equipment Support Service</i>		37,069.00 \$
<i>Landowners Database Compilation</i>		28,268.00 \$
	Sub-total for 2010-2011	1,311,458.03 \$
	Total to March 31, 2011	16,315,576.57 \$
		19,844,330.94 \$

15 Year Maintenance Plans

This section shows the percentage of completion vis-à-vis the fifteen-year maintenance plan. The plan is based on the experience of more than a century of the Commission on the status of the boundary and maintenance priorities. It is the preferred planning tool for managing maintenance activities. This year, significant progress against objectives of the plan is still noted, and increased efforts will be dedicated to uncompleted projects.

2011	Passamaquoddy Bay, inspection & clearing	Completed in 2010
	St. Francis River, vista clearing	Future Work
	Southwest and South Line, vista clearing (3 year project)	Future Work
	Highlands (S.W. Section), vista clearing (3 year project)	Completed in 2011
	West Line (Vt- Que), vista clearing & monumentation (3 year project)	80% Complete
	West Line (Vt- Que), vista clearing & monumentation (3 year project)	50% Complete
	Detroit River, inspection & monumentation	Deferred 2012
	Lake Sup. To Rainy River, monumentation & clearing (2 year project)	50% Complete
	49th Parallel (Pemb.-Turtle Mts.), vista clearing (2 year project)	Future Work
	St. Mary's River, inspection & monumentation	5% Complete
	West Line Resurvey	60% Complete
	Implementation of GIS Technology & Survey processing (3 year Project)	80% Complete
	Boundary Mapping (3 year Project)	40% Complete
	North Line & Monument Brook, vista clearing (2 year project)	95% Complete
	Rainy River, inspection & monumentation (2 year project)	80% Complete
	141st Meridian, vista clearing (4 year project)	50% Complete
	(Prairies), monumentation & 49th Parallel clearing	50% Complete
	49th Parallel Resurvey (MT-AB)	Future Work

2012	S.W. Branch of St. John River, insp. & monumentation	Future Work
	Highlands (S.W. Section), vista clearing (3 year project)	
	Halls Stream, vista clearing	
	West Line (VT- Que), vista clearing & monumentation (3 year project)	
	Lake Sup. To Rainy River, inspection & monumentation (2 year project)	50% Complete
	49 th Parallel (Pemb.- Turtle Mts.), vista clearing (2 year project)	Future Work
	Pt. Roberts Range Towers, inspection & refurbish	
	St. Lawrence River, inspection & monumentation	
	Niagara River, inspection & monumentation	
	141 st Meridian, vista clearing (4 year project)	
	Implementation of GIS Technology & Survey processing (3 year Project)	
	Boundary Mapping (3 year Project)	
	Demarcation of Transboundary Waters (2 year project)	
	GPS Survey 49 th Parallel (ID-MT to Glacier NP)	
	GPS Survey 141 st (2 year project)	
Pt. Roberts vista maintenance		

2013	S.W. Branch of St. John River, insp. & monumentation	Future Work
	Highlands (N.E. Section), vista clearing (3 year project)	Completed in 2010
	West Line (N.Y.- Que), vista clearing & monumentation (2 year project)	Future Work
	49 th Parallel (Minn.- Man.), vista clearing (2 year project)	
	49 th Parallel (Fraser & Columbia V.), vista clearing	
	Boundary Mapping (3 year Project)	
	Implementation of GIS Technology & Survey processing (3 year Project)	
	Demarcation of Transboundary Waters (2 year project)	
GPS Survey 141st (2 year project)		

2014	Passamaquoddy Bay, inspection & clearing	Future Work
	Highlands (N.E. Section), vista clearing (3 year project)	Completed in 2010
	West Line (N.Y.- Que), vista clearing & monumentation (2 year project)	Future Work
	49 th Parallel (Minn.- Man.), vista clearing (2 year project)	

2015	Southwest & South Line, vista clearing (3 year project)	Future Work	
	Highlands (N.E. Section), vista clearing (3 year project)		Completed in 2010
	49 th Parallel (Foothills to W. Koot.), vista clearing		
	S.E. Alaska, vista clearing (3 year project)		
	Pt. Roberts Range Towers, inspection & refurbish		
St. Clair River, inspection & monumentation			

2016	Southwest and South Line, vista clearing (3 year project)	Future Work
	Highlands (S.W. Section), vista clearing (3 year project)	
	West Line (Vt- Que), vista clearing & monumentation (3 year project)	
	St. Lawrence River, inspection & monumentation	
	Rainy River, inspection & monumentation (2 year project)	
	49 th Parallel (Foothills to W. Koot.), vista clearing	
	49 th Parallel (Fraser & Columbia V.), vista clearing	
	S.E. Alaska, vista clearing (3 year project)	

2017	Passamaquoddy Bay, inspection & clearing	Future Work
	North Line & Monument Brook, vista clearing (2 year project)	
	St. John River, inspection & monumentation	
	St. Francis River, vista clearing & mapping	
	Southwest and South Line, vista clearing (3 year project)	
	Highlands (S.W. Section), vista clearing (3 year project)	
	West Line (Vt- Que), vista clearing & monumentation (3 year project)	
	St. Mary's River, inspection & monumentation)	
	Rainy River, inspection & monumentation (2 year project)	
	49 th Parallel (Pemb.-Turtle Mts.), vista clearing	
	49 th Parallel (Foothills to W. Koot.), vista clearing	
	S.E. Alaska, vista clearing (3 year project)	

2018	North Line & Monument Brook, vista clearing (2 year project)	Future Work
	Highlands (S.W. Section), vista clearing (3 year project)	
	Halls Stream, vista clearing & mapping	
	West Line (N.Y.- Que), vista clearing	
	49 th Parallel (Pemb.- Turtle Mts.), vista clearing	
	49 th Parallel (W. Koot. to Similk.), vista clearing	
	Pt. Roberts Range Towers, inspection & refurbish	

2019	Highlands (N.E. Section), vista clearing (3 year project)	Future Work
	West Line (N.Y.- Que), vista clearing (2 year project)	
	Niagara River, inspection & monumentation	
	49 th Parallel (Minn.- Man.), vista clearing	
	49 th Parallel (W. Koot. to Similk.), vista clearing	
	49 th Parallel (Similk. to Columbia V.), vista clearing	
	49 th Parallel (Fraser & Columbia V.), vista clearing	

(*) Completion percentages refer to the entire project. Some projects are multiyear (2 or 3 years)



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