

**Prairie Adaptation Research Collaborative (PARC)
Subcomponent of the
Climate Change Action Fund (CCAF)**

FINAL PROJECT EVALUATION REPORT

PLEASE NOTE: All project leaders are asked to complete this form as part of their final report to the CCAF.

1. Background Information

Project title: A Framework for Determining the Ability of the Forest Sector to Adapt to Climate Change

PARC Project number: QS-07 and PARC-05

Principal investigator(s) and affiliation(s): Dr. Lawrence Martz, Department of Geography, University of Saskatchewan, Saskatoon, SK; Dr. Mark Johnston, Saskatchewan Research Council, Saskatoon, SK

Collaborators and affiliations: (collaborator refers to anyone other than the PIs who were actively involved in conducting the research) Ms. Elaine Wheaton, Saskatchewan Research Council, Saskatoon, SK; Dr. Ken Van Rees, Department of Soil Science, University of Saskatchewan, Saskatoon, SK; Mr. Paul LeBlanc and Ms. Margaret Donnelly, LP Corporation, Swan River MB.

Start date: 01 January, 2000

Completion date: 16 December, 2001

2. Plain language summary

Provide a plain language (understandable by the general public) summary of your project, focusing on its main findings or outcomes as related to the original planned objectives. Maximum length: 500 words.

Research on climate change impacts indicates that boreal forests in Western Canada have significant potential vulnerabilities in the areas of moisture stress, insects and disease, and fire, particularly near the forest-grassland boundary. This area is the site of the majority of industrial forest management in the prairie provinces. However, currently available information about the potential impacts of climate change is not available at spatial and temporal scales relevant to forest resource planning and management. In addition, options available to the forest industry for adapting to these changes have not been investigated. This project developed a framework for identifying climate change impacts and potential adaptation options available to forest managers, and was based on work with individual companies on how to apply these options to their specific land base and forest operations. In the first phase of the project, we worked with forest companies across the prairie provinces, identifying potential impacts and adaptation options through questionnaires and interviews. In the second phase, we carried out a case study with LP Corporation (a forest products company in Swan River MB) to identify adaptation options relevant to the characteristics of their land base (e.g., soils, vegetation, hydrology) and their operations (e.g., harvest techniques, season of harvest, regeneration systems). We concluded from the consultations and the case study that the forest management sector in the prairie provinces does have the ability to successfully adapt to climate change. However, there needs to be much better communication between the scientific community and forest managers, and climate change impacts research must be carried out at temporal and spatial scales relevant to forest managers' planning activities. The methods developed in this project should be applicable to identifying adaptation options for other resource management sectors in the prairie provinces.

3. Project Objectives and Scope

- (a) Describe the extent to which you met, did not meet or exceeded the objectives of your project as approved. If the objectives were not met, please explain why.**

The objectives of consulting with the forest industry across the prairie provinces and developing the adaptation assessment framework were met.

- (b) List the stakeholders who were engaged in this project and specify their role (i.e. funding partners, participants in research design, end users of research, etc.).**

The primary stakeholder was LP (formerly Louisiana-Pacific) Corporation, Swan River MB which worked intensively with us on the case study. Other stakeholders involved with consultations included a number of forestry companies across the prairie provinces, Prince Albert National Park, the Prince Albert Model forest and forest managers with Saskatchewan Environment and Resource Management. These stakeholders will also be the end users of this results of this project. Prince Albert Model Forest provided logistical support for a workshop on adaptation in the forest sector funded by this project.

- (c) Please describe how the stakeholders were engaged (i.e. presentations, special publications, other).**

All stakeholders were directly involved in interviews and questionnaires, and participated in a workshop on adaptation in the forest industry. LP Corp also hosted the case study.

- (d) Please describe any feedback received from stakeholders on your project.**

Feedback from stakeholders was extensive through interviews, questionnaires and a 2-day workshop. Substantive discussions related to knowledge of climate change impacts, ability to obtain information on climate change that is relevant to their operations, lack of communication between scientists and forest managers, how to determine whether their operations can be modified to adapt to climate change impacts. Generally, feedback was positive as to the value of the adaptation framework.

4. Products

- (a) What products have been generated to date as part of the project (publications, web sites)? (Copies should be included with your report)**

MSc thesis, Department of Geography, University of Saskatchewan; copy of thesis on the PARC web site (<http://www.parc.ca>)

(b) Are there plans for additional products to be generated from this project in the future? (e.g. journal publications etc.)

Preparing a paper for the Forestry Chronicle

(c) Once published, where will your project data sets be stored? If not in a publicly accessible product or web site, please identify the contact person.

Data will be archived at PARC.

(d) Describe how your project contributed to building capacity in the field of climate change impacts and adaptation. Where students were involved, indicate number, level and degree of participation (e.g. thesis research, report writing, data analysis, etc.)

Project funding supported an MSc student in the department of Geography, University of Saskatchewan. PARC funding provided \$40,000 of the total \$50,000 project support (the additional \$10,000 was obtained from the Sustainable Forest Management Network, an NSERC Networked Centres of Excellence program at the University of Alberta, Edmonton, AB).

5. Communication of results

(a) Please list any other events (i.e. presentations, communications events, or media contacts etc.) which communicated this project beyond partners and direct stakeholders and the estimated number of people reached with each. Please include copies of any print media coverage with your report.

A workshop was held in Prince Albert, SK in January 2001 and was attended by approximately 30 representatives of the forest sector across the prairie provinces. Attendees represented the forest industry, federal and provincial forest and park management agencies, forestry consultants and non-governmental organizations. The MSc student did all of the organizing for the workshop as well as providing a presentation on the project. She also gave presentations on the project at the Arctic Science workshop in Whitehorse in September 2000, to SERM's internal climate change working group in January 2001, and for the University of Saskatchewan Geography Department's colloquium series in May 2001 and October 2001.

6. Recommendations and Comments

(a) What worked well in this project?

Direct consultations with forest managers allowed us to gauge the level of understanding of climate change impacts and adaptation options and to discuss ways in which they could assess their ability to adapt to these impacts. The workshop was well structured and allowed groups of managers to collectively decide how impacts and adaptation research can be applied to the forest sector.

(b) What would you do differently next time?

Broader consultation would have allowed a better representation of perspectives from other parts of the forest sector, e.g. more input from parks and tourism managers. Expansion of the case study could have included modeling of climate change impacts.

(c) Were there unexpected outcomes or surprises? If so, please elaborate.

- Not aware of the relatively high level of knowledge of climate change among managers
- Unexpectedly strong consensus that scientific information was needed but not available at appropriate spatial/temporal scales
- Strong consensus that scientists and managers needed to work together in a collaborative relationship rather than have the "experts" impose a solution.

8. Financial Summary

Please complete the following two tables, presenting forecast versus actual project support and expenditures.

The first "Summary" table mirrors Schedule B of your Contribution Agreement or Letter of Agreement. In the space below the table explain any significant differences between what the values forecast in the agreement and actual costs.

The second "CCAF" table provides more detailed information on expenditure of **PARC funds only**, using the same categories as presented in the Summary table.

Financial Summary Table 1 – Project Summary

Project Costs	Total Cost		Funding Source					
			PARC		Other sources:			
					Cash		In-Kind	
	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual
Salaries including benefits (e.g., PDFs, students)	72,655	65,939	27,655	20,939	10,000	10,000	35,000	35,000
Materials, supplies and equipment	2,195	4,819	2,195	4,819	0	0	0	0
Laboratory services	0	0	0	0	0	0	0	0
Computer support services	150	0	150	0	0	0	0	0
Travel / Accommodation (i.e. for field studies, visits, organizational meetings etc.)	9,300	9,430	8,000	8,130	0	0	650	650
Report Preparation	2,000	0	2,000	0	0	0	0	0
Administration/overhead (e.g. rental of space) – maximum 15% of total	0	51	0	51	0	0	0	0
All other expenditures approved by Adaptation Liaison Office	0	6,061 (Tuition)	0	6,061 (Tuition)	0	0	0	0
Total	86,300	86,300	40,000	40,000	10,000	10,000	35,650	35,650

a) Explanation of variance between forecast and actual values:

Salaries - overestimated time required for completion of program;

Materials - included purchase of laptop computer;

Report preparation - not required;

Other expenditures - included tuition payments.

Financial Summary Table 2 – Details of PARC expenditures

Category	Details			Cost	Totals
Salaries	Level				
	Researchers				
	PDFs				
	Graduate Students (MSc)			20,939	
	Technical Assistants				
	Undergraduate students				
	Other (specify)				
				TOTAL SALARIES	20,939
Materials, supplies & equipment	Broad categories by type				
	Field sampling equipment				
	Laboratory equipment				
	Office supplies				
	Other (specify) Laptop computer and software			4,819	
				TOTAL MATERIALS	4,819
Laboratory services	Type of service				
				TOTAL LABS	0.00
Computer support services	Type, total time				
				TOTAL COMPUTER SUPPORT	0.00
Travel / accommod.	Destination				
	Whitehorse			2,000	
	Prairie Provinces			500	
	Toronto			700	
	Hosting Workshop on Adaptation in the Forestry Sector			4,930	
				TOTAL TRAVEL	8,130

Report Preparation	Type of service, time involved		
	Word Processing		
	Graphics		
	Printing		
	Other (specify)		
		TOTAL REPORTS	0.00
Administration	Specify (rent, overhead, etc.)		
	overhead	51	
		TOTAL ADMIN	51
Other approved expenditures	Specify		
	Tuition	6,061	
			6,061
		TOTAL OTHER	

8. Signatures

Proponent

Date

Dr. Jan Boon,

Date

Director General, Earth Sciences Sector

Co-Chair CCAF Science, Impacts and Adaptation Technical Committee