

UPDATE

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The McGill Inter-University Research Group must assess more than 3,000 people in this "blue ribbon study".

Comparison Communities Selected for Medical Diagnostic Review

Critical to the scientific validity and successful completion of the Medical Diagnostic Review (MDR) now underway in the Twin Butte area is the co-operation of two comparison communities in Alberta.

Elected officials in the areas of Raymond-Stirling (excluding the town of Raymond) and an area north of Calgary including the towns of Didsbury, Carstairs, Crossfield, Balzac and Irricana have given their full support and co-operation in serving as comparison communities for the \$3 million health study. The two areas were chosen because the population characteristics of the residents are most comparable to those of residents in Twin Butte, Hillspring, Glenwood and Mountain View. These four communities are known as the

Index Area for the MDR or main study area.

An exhaustive search among communities throughout Alberta including sociodemographic and geographic analyses was conducted by consultants at York University and Statistics Canada. Principal Investigator for the study, Dr. Walter Spitzer, met with the candidate communities, explained the scope of their involvement and asked for their support. The first two areas suggested by consultants and approached by Dr. Spitzer agreed to taking part in the study.

Dr. Spitzer, an internationally-recognized scientist in population health, is with the McGill Inter-University Health Research

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Crossfield Area and Fortress Mountain Sites for Biophysical Research Program

An area just south of Crossfield and a site at Fortress Mountain have been selected by scientists and researchers as a first step in determining the potential impact of acid deposition on Alberta's environment.

Earlier this year, the ADRP awarded a \$2.9 million contract to a university/private sector team headed by the Kananaskis Centre for Environmental Research of the University of Calgary. Results of the first phase of research work, which span a 32-month period, will allow the ADRP to assess what additional scientific work will be required to determine whether acid-forming gases are causing a problem in Alberta.

The research work at the Crossfield site will include local and regional air quality assessments and agricultural crops and soils evaluation with respect to acidic deposition. The Fortress site is used as a "background" or comparison area, to determine the quality of air entering Alberta.

The Scientific Advisory Board, nine independent scientists from across North America who advise the ADRP on scientific matters, approved the Crossfield site for this work for a number of important reasons:

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Group who is conducting the study. The study is being funded by Alberta Social Services and Community Health, and administered under the auspices of the Acid Deposition Research Program (ADRP). As many as 80 medical experts and support personnel will be involved in Alberta in this "blue ribbon study". Data analyses and report preparation will take place over the fall and winter. Research results are expected some time in 1986, and they will be subject to international, scientific peer comments. Results will be made public.

Residents of the Index Area have had long-standing health complaints. The question the MDR is designed to answer is whether the residents of Twin Butte, Mountain View, Hill Spring and Glenwood experience health problems in greater or lesser measure than do residents of other communities in

Alberta. The study will not be addressing cause-effect relationships. To answer this question residents will undergo a rigorous scientific evaluation, including two full physical examinations, laboratory studies and health questionnaires.

For the study to be scientifically valid at least 90 per cent participation is needed in the Index Area. A community advisory group has been working with Dr. Spitzer, assisting in contacting residents, and providing input on relevance of the study. According to Dr. Spitzer, the McGill team is encouraged by the level of participation. As of mid July, the team had seen 1,500 of the 2,100 residents in the Index Area.

The total MDR participants in all areas will be more than 3,000. In each of the comparison communities, at least 600 residents will undergo the same scientific evaluations as in the Index Area.

After enumeration of residents in the comparison communities, random computer selection will be made of 300 adults and 300 children.

Participation is just as critical in the comparison communities, and Dr. Spitzer has formed community advisory groups in each area to assist the team in enumeration and study logistics.

The McGill Inter-University team was awarded the contract this May. A scientific evaluation of the McGill proposal was done by a panel of independent senior investigators from several universities in North America who made their recommendations to the ADRP. The McGill team includes scientists, consultants and clinicians from North American universities and research groups including the University of British Columbia, the University of Rochester (New York), Laval University, York University, University of Texas, Harvard and Yale.

Public Advisory Board Encourages Public Input

The Public Advisory Board (PAB) was established in the spring of 1985 as a reflection of the ADRP's commitment "to encourage and include opportunities for public representation".

The PAB consists of six members, representing agriculture, health care, environmental groups, municipal districts and counties, the general public and a voting member of the ADRP's Members Committee.

Early in 1985, ADRP wrote to associations and agencies representing these groups and asked them to nominate a representative. At the PAB's first meeting in April, the group determined the means of advising the public of the need for a public representative, and the subsequent selection process.

The PAB's mandate is to provide a broad spectrum of public input to the Members Committee, exchange information, and offer advice on public involvement, information and communications. In June, the PAB elected its chairman, Dr. Martha Kostuch from its membership. The chairman sits as a non-voting member of the ADRP's Members Committee.

If you have any comments or suggestions please contact one of these members:

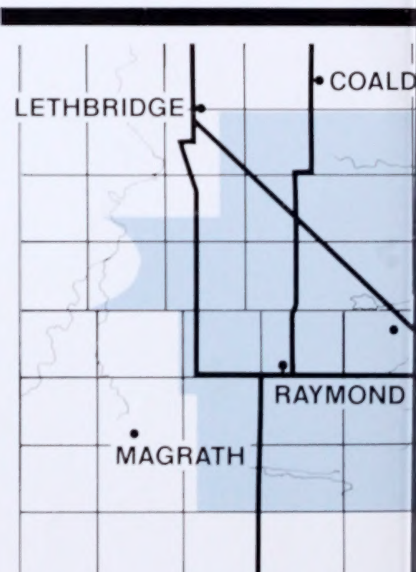
- Herman Bulten, Leduc - agricultural community, 986-3846;



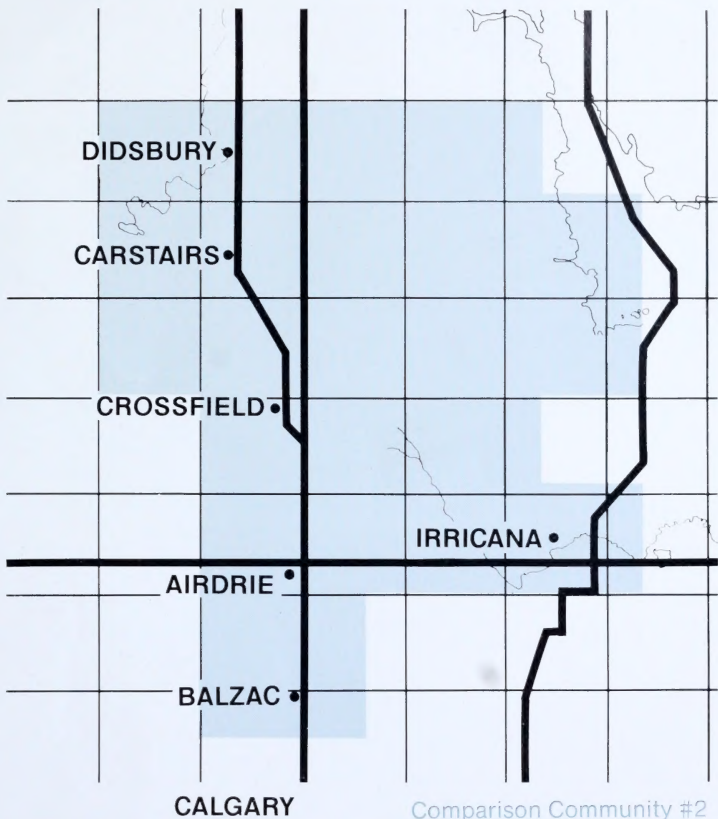
PAB Chairman Dr. Kostuch

- William Janssen, Woking - municipal districts, 774-2283;
- Dr. Nicholas Bayliss, Edson - health associations, 723-4421;
- Sophie Taylor, Twin Butte, general public, 627-4532;
- Dr. Martha Kostuch, Rocky Mountain House - environmental groups, 845-3668;
- Dr. John Railton, Calgary - ADRP Members Committee, 267-3637

The towns of Raymond and Airdrie are excluded from the comparison study areas to make these two areas comparable to the Index Area where the town of Pincher Creek is not included.



Comparison



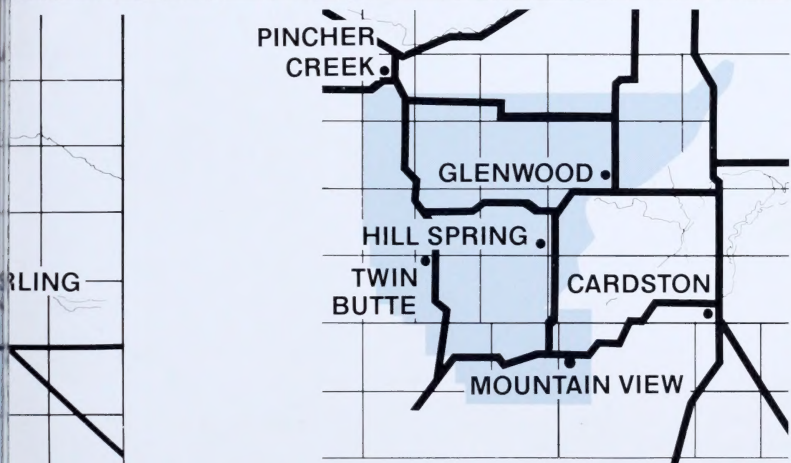
Comparison Community #2

1. Research information already exists on the effects of acidic-forming gases on forest vegetation in Alberta, but there has been no organized research effort to determine the effects on agricultural crops. The best potential for observing agricultural crop effects exists where both urban and industrial emissions mix. The proximity to Calgary, Highway 2 north, local and regional industrial emissions and appropriate wind patterns, were key factors leading to Crossfield's selection.

2. Although the soil at Crossfield is not considered to be sensitive to acidic deposition, the scientists feel that the problem can be overcome by the use of "soil tanks" containing sensitive and tolerant soils from other agricultural areas in Alberta. Using these soils, crops which are sensitive or tolerant to acidic substances can be evaluated. This method has been used extensively in research work in the U.S. and Europe.

3. At this site the researchers will be able to evaluate sulphur dioxide, hydrogen sulphide, hydrocarbons, oxides of nitrogen, ozone, carbon dioxide and trace metals. This evaluation will help researchers integrate ADRP's biophysical and health research programs by describing and quantifying the chemical nature of the atmosphere in Southern Alberta.

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INDEX AREA (Main Study Area)

Please note: all boundaries are approximate.



Each assessment involves two thorough physicals, lab tests, and a detailed health questionnaire.

Community #1

Continued from Page 3 **Biophysical Research**

The 32 month research contract involves more than 50 professional and technical people. In addition to the resources of the Kananaskis Centre, the scientific expertise of individuals from these organizations and companies has been retained:

- The University of Calgary Departments of Physics, Biology, and Mathematics and Statistics;
- Ecosat Geobotanical Surveys Inc., Vancouver, British Columbia;
- Campbell Geoscience Ltd., Calgary, Alberta;
- Western Research, a division of Bow Valley Resource Services Ltd., Calgary, Alberta;
- Soils Department, Alberta Research Council;
- Nuclear Environmental Analysis Corp.; Beaverton, Oregon;
- Element Analysis Corporation, Tallahassee, Florida; and
- Lawrence Livermore Laboratory, University of California, Livermore, California.

Complementing the research team are internationally-recognized scientists from Canada and the U.S. in advisory roles throughout the research phases.

In addition to the work at the Crossfield site which will span a 17-month period from July of this year, the scientists are conducting an inventory of sulphur oxide and nitrogen oxide emissions in Alberta and a world literature review in the biological sciences on the effects of acid deposition on vegetation, soils, and surface and ground waters, and then placing these in an Alberta context.

The biological researchers will be submitting their first annual report to the ADRP Members Committee early in 1986.

An Overview of the Acid Deposition Research Program

Now in its third year, the Acid Deposition Research Program is a multi-million dollar undertaking by the Province, the petroleum industry and Alberta's electrical utilities to assess the environmental impact of acid-forming gases in Alberta.

Despite the fact that Alberta's industrial emissions and regulations are among the world's most stringent, public concern persists about the possible impact of emissions on air, water, land and human systems. The ADRP has as its goals to determine and clarify justification for public concern and to identify solutions. Research is focussing on two principal gas groups; oxides of sulphur (SO_x) and oxides of nitrogen (NO_x). In addition, the areas of human health research will include metals and other compounds present in acid emissions.

The program has begun to commission specific gas-related studies and will publish interim reports to the public as research progresses.

A distinctive feature of the ADRP is the development and funding of research in two major areas: biophysical and human health. By combining studies in these two components, the program will achieve a unique integration in scientific research. Since the program's inception, there has been an acknowledgement by all of those involved that a co-ordinated, interdisciplinary, holistic research plan is needed. The basic assumption behind this approach is that all components of ecosystems are interrelated. Thus, it is only by understanding chemical and biological processes within, between, and among ecosystems that researchers can hope to fully assess the impacts of acid deposition.

The biophysical research program is investigating the impact of acid deposition on vegetation, soils and water. The medical research program is looking into the effects on human health.

A major report outlining the program's findings, conclusions and recommendations will be released at the conclusion of the project.

Membership and Percentage Participation

Members	Percentage Participation for Voting and Funding
The Minister	50.00
Canadian Petroleum Association	34.60
Utilities Group	5.40
— TransAlta Utilities Corporation	
— Alberta Power Limited	
— The City of Edmonton	
Energy Resources Conservation Board	10.00
Public Member	—
TOTAL	100.00%

UPDATE

Acid Deposition Research Program

is published regularly to provide information on the progress of the human health and biophysical research programs.

The Acid Deposition Research Program is a multi-million dollar undertaking by the Province, the petroleum industry and Alberta's electrical utilities to assess the environmental impact of acid forming gases in Alberta.

For more information please contact:

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