# Southern Foothills Study

# Written Survey

## Results

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**Prepared by:**

**Praxis Research**

**For the:**

**Southern Alberta Land Trust Society**

## TABLE OF CONTENTS

## 1.0 BACKGROUND AND STUDY PURPOSE

Starting in the fall of 2005, a group of concerned local people and organizations sponsored a study by Dr. Brad Stelfox to assess the cumulative effects of the rapid landscape changes taking place within the Southern Foothills area. Dr. Stelfox undertook the study using a model he had developed (ALCES®) designed to capture historical trends, both man-made and natural, and project these trends into the future.

The results of the "Business as Usual" scenario of the Southern Foothills Study were presented to the public at seven meetings around the study area in October and November of 2006. The total attendance at these meetings was just over 600 people which indicated a high degree of interest in the future of this important landscape. Attendees were asked to complete a two-page survey pertaining to the quality, clarity, and effectiveness of the presentation, as well as questions about the participant's degree of understanding of the issues and their perceptions and attitudes towards cumulative effects and ecosystem health.

The following report presents the analysis of the results from the written survey.

The Southern Alberta Land Trust Society (SALTS) is a locally-based, rancher-driven, non profit organization dedicated to preserving the ecological, productive, scenic, and cultural values of Alberta's Eastern Slopes, prairie, and foothill regions. SALTS was organized under the belief that the most effective and lasting conservation solutions both originate and are maintained at the community level through empowering individuals with the necessary tools and vision.

## 2.0 EVALUATION OF THE PRESENTATION

Participants enjoyed the meeting and thought that it was valuable to their understanding of the issues, that Dr. Stelfox provided a balanced perspective, that it demonstrated the concept of cumulative effects, and that the material was presented in an unbiased and scientific manner. All of these factors received very high mean scores; all above 4.50 out of 5.00

**TABLE 1.0 MEANS – AGREEMENT WITH PRESENTATION FACTORS**

| **Questions on Presentation** [Scale - strongly disagree (1) to strongly agree (5)] | **Mean** | **N total = 344** Valid | Missing |
|---|---|---|---|
| The presentation was valuable to my understanding of the development pressures facing the southern foothills landscape. | 4.70 | 341 | 3 |
| The presentation showed a balanced view of all development pressures facing the southern foothills landscape | 4.45 | 339 | 5 |
| The presentation clearly demonstrated the concept of cumulative effects. | 4.57 | 340 | 4 |
| The speaker presented the material in an unbiased and scientific manner | 4.58 | 341 | 3 |

Respondents were asked to indicate what, if anything, they found **surprising or disturbing about the presentation.** The main theme focused on the surprising and disturbing end result of the current situation. The lack of a plan to deal with and mitigate the situation was also a common theme.

175 participants provided comments. The main themes were:

- current situation and likely future is disturbing
- lack of a plan is surprising and disturbing
- the current and future water situation is disturbing
- population growth projection is alarming
- the rate of change is surprising
- the information was biased, exaggerated, not believable
- the density or amount of development / oil and gas activity is surprising / disturbing

Participants were asked to provide additional comments about the presentation. Most of the responses praised the presentation. Participants were thankful for the information and thought the information was useful and well presented. Educating the rest of the public, including students, was also mentioned. The need for a plan to deal with the current situation and the call to involve politicians were also themes brought forth by the respondents.

192 participants provided comments. The main themes were:

- it was excellent / thank you
- many provided general comments about what they learned but there were no common themes
- be sure to keep spreading the word
- get the politicians involved
- there is a need to develop a plan
- be sure to educate students with this information
- a few participants indicated the results were not accurate or there was information missing

## 3.0 UNDERSTANDING OF DEVELOPMENT PRESSURES

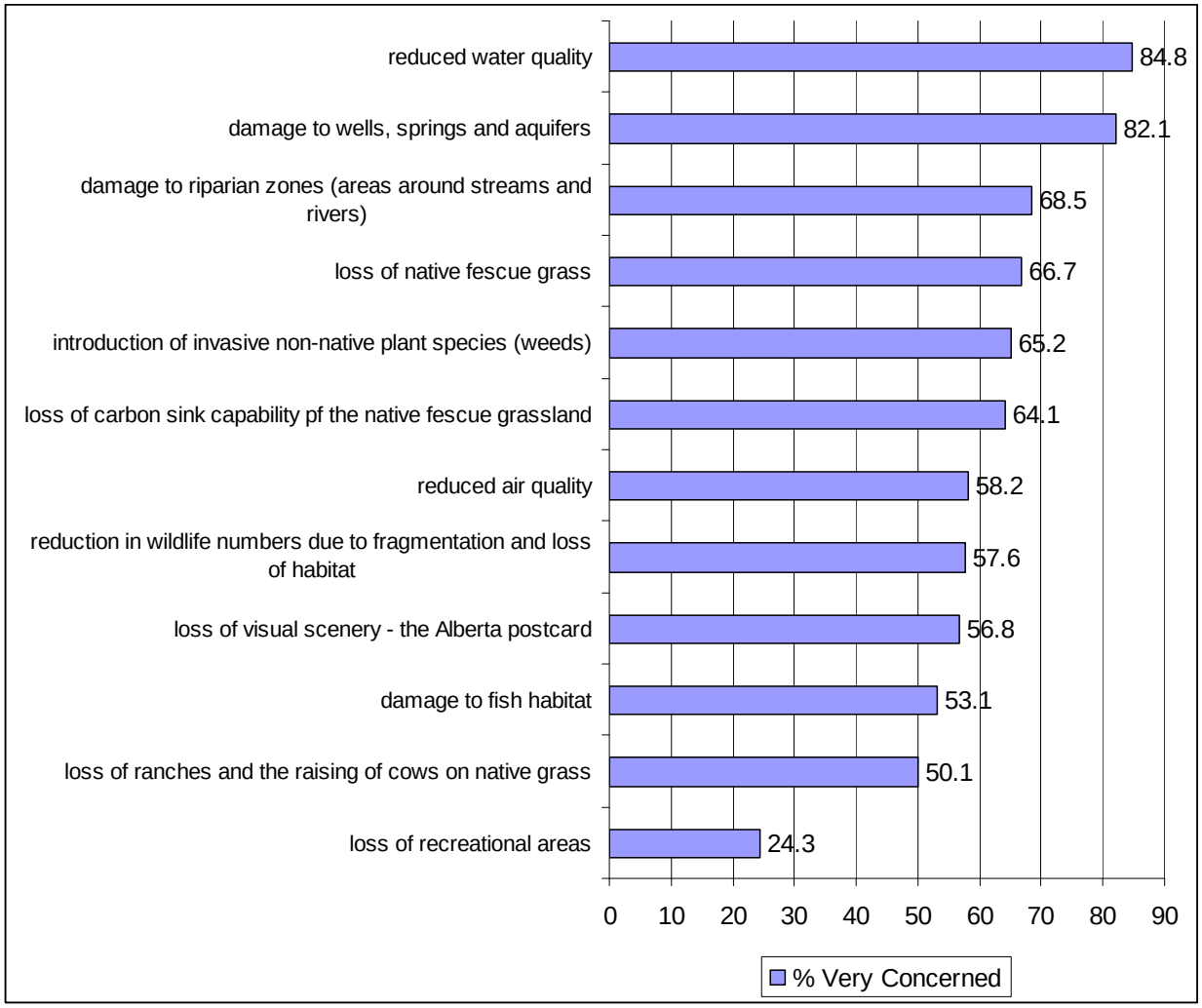
Table 2.0 illustrates that participants are quite concerned with the state of most of the listed ecological goods and services. Respondents were asked to rate their level of concern for 12 attributes as '1=not at all concerned', '2=not too concerned', '3=concerned' or '4=very concerned'. The mean scores ranged from 2.9 to 3.8 on a 4.0 scale of concern. The loss of recreational areas received the lowest concern (2.86) while reduced water quality (3.84) and damage to wells, springs, and aquifers (3.79) received scores of the highest concern.

**TABLE 2.0 MEANS – CONCERN WITH ECOLOGICAL GOODS AND SERVICES**

| **Ecological goods and services are those things of value provided by an intact and healthy ecosystem. Clean, abundant water is just one example.**<br>**Based on your understanding of the development pressures facing the foothills landscaped please indicate your degree of concern for each of the following:**<br>1=not at all concerned 2=not too concerned 3=concerned4=very concerned | **Mean** | **N total = 344**<br>Valid | Missing |
|---|---|---|---|
| reduced water quality | 3.84 | 341 | 3 |
| damage to wells, springs and aquifers | 3.79 | 337 | 7 |
| damage to riparian zones (areas around streams and rivers) | 3.67 | 340 | 4 |
| introduction of invasive non-native plant species (weeds) | 3.62 | 339 | 5 |
| loss of native fescue grass | 3.61 | 339 | 5 |
| loss of carbon sink capability pf the native fescue grassland | 3.56 | 326 | 18 |
| loss of visual scenery - the Alberta postcard | 3.5 | 329 | 15 |
| reduction in wildlife numbers due to fragmentation and loss of habitat | 3.48 | 342 | 2 |
| damage to fish habitat | 3.46 | 339 | 5 |
| reduced air quality | 3.45 | 335 | 9 |
| loss of ranches and the raising of cows on native grass | 3.35 | 336 | 8 |
| loss of recreational areas | 2.86 | 338 | 6 |

Figure 1 illustrates the areas of greatest concern. The figure plots the percentages of respondents who indicated they are very concerned. Consistent with the mean scores shown in Table 2, the greatest concern is around water. Eight-five percent (85%) of respondents are very concerned about reduced water quality and 82% are very concerned about damage to wells, springs and aquifers. The least concern is around loss of recreational areas (24.3%).

**FIGURE 1 – AREAS OF GREATEST CONCERN**



Respondents were asked to list any other issues that concern them. Respondents reinforced their concern over water within the comments section. Apart from water, the most frequent response to the open-ended question was related to urban sprawl and the lack of government involvement in managing growth.

181 participants provided comments. The main themes were:

- water quantity / quality
- urban sprawl
- lack of government involvement in growth management
- lack of concern by the public
- amount of ATV usage
- coal bed methane
- damage to protected areas

## 4.0 MANAGING THE CUMULATIVE EFFECTS OF GROWTH

Participants were asked to indicate their level of agreement with statements regarding management of cumulative effects. All the mean scores were above 4.5 on a 1.0 to 5.0 scale indicating there is strong agreement with all the statements (see Table 3.0). The results suggest that participants are willing to restrict or limit their activities to ensure a healthy ecosystem and adequate water supply. It also suggests that new developments should take into account the cumulative effects on the ecosystem and show beyond a reasonable doubt that their activity will not pose a risk to the supply of clean water to southern Alberta.

**TABLE 3.0 MEANS – CUMULATIVE EFFECTS AND ENVIRONMENTAL HEALTH**

| **The results of the study show that the indicators of environmental health in the study area have declined over the past decades and will continue to decline if past and current trends continue. This is not necessarily due to any one activity, but the cumulative effect of all activities on the landscape.**<br>**With this in mind, please indicate your level of agreement or disagreement with the following statements:**<br>[Scale - strongly disagree (1) to strongly agree (5)] | **Mean** | **N total = 344**<br>Valid | <br>Missing |
|---|---|---|---|
| Cumulative effects on the ecosystem should be taken into account by planning and regulatory agencies when reviewing new development applications. | 4.78 | 334 | 10 |
| I would be willing to restrict or limit my own activity on the landscape in order to ensure the health of the overall ecosystem. | 4.55 | 334 | 10 |
| I would be willing to restrict or limit my own activity on the landscape in order to ensure the supply of water. | 4.64 | 332 | 12 |
| Planning and regulatory agencies should require new developments in the southern foothills watersheds to show beyond a reasonable doubt that their activity will not pose a risk to the supply of clean water to southern Alberta. | 4.70 | 333 | 11 |

Participants were asked what about the landscape, in either a visual or productive sense, they thought society could NOT afford to lose over the next few decades. The most mentioned theme was water. The previous data supports this high concern for the future of water in southern Alberta. Grasslands, specifically fescue grass, and visual landscape / scenery were the next most mentioned items that participants thought society could NOT afford to lose.

296 participants provided comments. Many participants provided more than one response. The main themes for comments mentioned first were:

- water
- visual landscape / scenery
- grasslands / fescue grass
- wide open spaces

162 participants provided a second response. The main themes for comments mentioned second were:

- grasslands / fescue grass
- water
- visual landscape / scenery
- wildlife
- air quality
- forests
- farming

72 participants provided a third response. The main themes for comments mentioned third were:

- grasslands / fescue grasses
- water
- wildlife
- ranching
- visual landscape / scenery

Participants were also asked what about the landscape, in either a visual or productive sense, they thought society COULD afford to lose over the next few decades. The most mentioned theme was that 'nothing could afford to be lost'. Suggestions as to what could be lost included oil and gas developments, recreational use of the ecosystem (specifically ATV / OHV use), and urban sprawl, including acreages.

259 participants provided comments. Many participants provided more than one response. The main themes for comments mentioned first were:

- nothing
- oil and gas
- recreational usage
- ATV / OHV usage
- urban sprawl
- feedlots

- economic development

67 participants provided a second response. The main themes for comments mentioned second were:

- ATV / OHV usage
- oil and gas
- acreages
- urban sprawl
- recreation usage

24 participants provided a third response. The main themes for comments mentioned third were:

- acreages
- ease of access

## APPENDIX A: DEMOGRAPHICS OF SURVEY PARTICIPANTS

## Location of Meeting

| Location | Frequency | Percent |
|---|---|---|
| Nanton | 45 | 13.1 |
| Cowley | 47 | 13.7 |
| Black Diamond | 35 | 10.2 |
| Chain Lakes | 33 | 9.6 |
| Claresholm | 47 | 13.7 |
| Pincher Creek | 61 | 17.7 |
| High River | 75 | 21.8 |
| unknown | 1 | 0.3 |

## Participants - Years living in Alberta

| | Mean | Valid | Missing |
|---|---|---|---|
| Years Alberta resident | 33.4 years | 344 | 0 |

## Participants - Age distribution

| Age Range | Frequency | Valid Percent |
|---|---|---|
| less than or equal to 18 yrs | 4 | 1.2 |
| 19 to 30 yrs | 27 | 8.0 |
| 31 to 50 yrs | 97 | 28.7 |
| 51 to 65 yrs | 163 | 48.2 |
| greater than 65 yrs | 47 | 13.9 |
| Total | 338 | |
| Missing | 9 | |
| Total | 344 | |

## Participants - Gender

| Gender | Frequency | Valid Percent |
|---|---|---|
| male | 187 | 57.7 |
| female | 137 | 42.3 |
| Total | 324 | 100.0 |
| Missing | 20 | |
| Total | 344 | |

## Participants – Occupation submitted

| Occupation | Frequency | Percent |
|---|---|---|
| rancher / ranch hand | 82 | 23.8 |
| retired | 47 | 13.7 |
| farmer | 27 | 7.8 |
| office / professional | 20 | 5.8 |
| education / teacher | 19 | 5.5 |
| environment / conservation | 19 | 5.5 |
| self-employed | 14 | 4.1 |
| journalist / writer | 12 | 3.5 |
| agriculture | 8 | 2.3 |
| construction / carpenter / labourer | 8 | 2.3 |
| government / politician | 8 | 2.3 |
| oil and gas | 7 | 2.0 |
| medicine / health | 7 | 2.0 |
| engineer | 6 | 1.7 |
| homemaker | 6 | 1.7 |
| consultant | 6 | 1.7 |
| ecologist | 4 | 1.2 |
| student | 4 | 1.2 |
| sales | 3 | 0.9 |
| other | 9 | 2.6 |
| missing | 28 | 8.1 |
| Total | 344 | 100 |

## Residential Community as submitted

| Community | Frequency | Percent |
|---|---|---|
| Airdrie | 1 | 0.3 |
| Aldersyde | 1 | 0.3 |
| Basin School District | 1 | 0.3 |
| Bellevue | 3 | 0.9 |
| Black Diamond | 11 | 3.2 |
| Bragg Creek | 3 | 0.9 |
| Burmis | 2 | 0.6 |
| Calgary | 23 | 6.7 |
| Calgary & Beaver Mines | 1 | 0.3 |
| Calgary and High River | 1 | 0.3 |
| Calgary and ranch south of Longview | 1 | 0.3 |
| Calgary/Millerville | 1 | 0.3 |
| Cardston | 2 | 0.6 |
| Cardston County | 1 | 0.3 |
| Caroline/Sundre | 1 | 0.3 |
| Carseland | 2 | 0.6 |
| Cayley | 2 | 0.6 |
| Chain Lakes | 1 | 0.3 |
| Claresholm | 24 | 7.0 |
| CNP | 1 | 0.3 |
| Cochrane | 2 | 0.6 |
| Coleman | 3 | 0.9 |
| Cowley | 9 | 2.6 |
| Crowsnest Pass | 3 | 0.9 |
| DeWinton | 1 | 0.3 |
| East Longview | 1 | 0.3 |
| Fort Macleod | 5 | 1.5 |
| Granum | 5 | 1.5 |
| Granum - Fort Macleod | 1 | 0.3 |
| High River | 28 | 8.1 |
| High River rural | 1 | 0.3 |
| Hill Spring | 4 | 1.2 |
| Kathyrn | 1 | 0.3 |
| Lethbridge | 4 | 1.2 |
| Lethbridge/Pincher Creek | 1 | 0.3 |
| LLG Porcupine Hills | 1 | 0.3 |
| Longview | 10 | 2.9 |
| Lundbreck | 3 | 0.9 |
| Lundsbruck | 1 | 0.3 |
| M.D. Ranchland | 1 | 0.3 |
| Maycroft | 1 | 0.3 |
| MD of Foothills | 6 | 1.8 |
| MD of Pincher Creek | 4 | 1.2 |

| | | |
|---|---|---|
| MD Willow Creek | 1 | 0.3 |
| Meadowbank | 1 | 0.3 |
| Millarville | 3 | 0.9 |
| MP Pincher Creek | 1 | 0.3 |
| Mt. Views | 1 | 0.3 |
| Nanton | 46 | 13.4 |
| Nanton East | 1 | 0.3 |
| Nanton SW | 1 | 0.3 |
| Nanton/Chain Lakes | 1 | 0.3 |
| Okotoks | 2 | 0.6 |
| Outside Black Diamond | 1 | 0.3 |
| P.C. | 1 | 0.3 |
| Parkland | 1 | 0.3 |
| Pekisko | 2 | 0.6 |
| Pincher Creek | 38 | 11.0 |
| Pincher Creek MD#9 | 2 | 0.6 |
| Porcupine Hills | 2 | 0.6 |
| Ranchlands | 5 | 1.5 |
| Retired RN | 1 | 0.3 |
| Rockyview near Calgary | 1 | 0.3 |
| Rosebud | 1 | 0.3 |
| Spring Point | 9 | 2.6 |
| Springbank, AB | 1 | 0.3 |
| Stavely | 3 | 0.9 |
| Strathmore | 1 | 0.3 |
| Turner Valley | 7 | 2.0 |
| Twin Butte | 5 | 1.5 |
| Vernon, BC but raised in SW Alberta | 1 | 0.3 |
| West of Stavely | 1 | 0.3 |
| Willow Creek | 3 | 0.9 |
| Willow Valley | 3 | 0.9 |
| Missing | 18 | 5.2 |
| Total | 344 | 100 |

## APPENDIX B: SURVEY INSTRUMENT

Praxis Research - Building B1, Room 242, 2451 Dieppe Ave. SW Calgary, AB T3E 7K1 www.praxis.ca


# Survey Questionnaire

The Southern Foothills Study wants to get your feedback. The presentation by Brad Stelfox provides a scientific projection of the probable future of the southwest Alberta foothills landscape if past and current trends continue. After listening to the presentation we would appreciate your participation by filling out the questionnaire below and leaving it at the table by the entrance. The information from this survey will help us understand if the presentation was of value, and give you the opportunity to express your thoughts about how you value these foothill landscapes. Thank you very much for your assistance.

What was the town where you saw this presentation:

_____

1. Please rate your level of agreement with the following statements with regard to what you heard today.

| | | Strongly disagree | Somewhat disagree | Neither agree nor disagree | somewhat agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| (a) | The presentation was valuable to my understanding of the development pressures facing the southern foothills landscape | | | | | |
| (b) | The presentation showed a balanced view of all development pressures facing the southern foothills landscape | | | | | |
| (c) | The presentation clearly demonstrated the concept of cumulative effects | | | | | |
| (d) | The speaker (Brad Stelfox) presented the material in an unbiased and scientific manner | | | | | |

If you found anything about the presentation surprising or disturbing please tell us what that was:

_____

_____

2. Ecological goods and services are those things of value provided by an intact and healthy ecosystem. Clean, abundant water is just one example. Based on your understanding of the development pressures facing the foothills landscape please indicate your degree of concern by rating each of the following statements.

| | | Not at all concerned | Not too concerned | Concerned | Very Concerned | | Do Not Know |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| (a) | Reduced water quality | | | | | | |
| (b) | Damage to wells, springs and aquifers | | | | | | |
| (c) | Loss of visual scenery – the Alberta postcard | | | | | | |
| (d) | Loss of recreational areas | | | | | | |
| (e) | Introduction of invasive non-native plants species (weeds) | | | | | | |
| (f) | Reduction in wildlife numbers due to fragmentation and loss of habitat | | | | | | |
| (g) | Loss of the carbon sink capability of the native fescue grassland | | | | | | |
| (h) | Reduced air quality | | | | | | |
| (i) | Damage to riparian zones (areas around streams and rivers) | | | | | | |
| (j) | Damage to fish habitat | | | | | | |
| (k) | Loss of native fescue grass | | | | | | |
| (l) | Loss of ranches and the raising of cows on native grass | | | | | | |

Please tell us about any other issues that concern you, and your degree of concern:

_____

_____

We all understand that the foothills landscape is changing. Change is normal whether through natural disturbances (erosion, fire), or man-made modifications. With this change will come benefits and liabilities. Based on the presentation and your understanding of the foothills landscape please answer the following two questions.

3a) What is it about this landscape, in either a visual or productive sense, that you believe society **can NOT afford to lose** over the next few decades?

_____

_____

3b) What is it about this landscape, in either a visual or productive sense, that you believe society **can afford to lose (ie. sacrifice)** over the next few decades?

_____

_____

4. The results of the study show that the environmental indicators of health in the study area have declined over the past decades and will continue to decline if past and current trends continue. This is not necessarily due to any one activity, but the cumulative effect of all activities on the landscape. With this in mind, please indicate your level of agreement or disagreement with the following statements.

| | | Strongly disagree | Somewhat disagree | Neither agree nor disagree | somewhat agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| (a) | Cumulative effects on the ecosystem should be taken into account by planning and regulatory agencies when reviewing new development applications | | | | | |
| (b) | I would be willing to restrict or limit my own activity on the landscape in order to ensure the health of the overall ecosystem? | | | | | |
| (c) | I would be willing to restrict or limit my own activity on the landscape in order to ensure the supply of water | | | | | |
| (d) | Planning and regulatory agencies should require new developments in the southern foothills watersheds to show beyond a reasonable doubt that their activity will not pose a risk to the supply of clean water to southern Alberta | | | | | |

Are there any other comments you would like to make about the meeting, the presentation, or the results of the study?

_____

_____

In order to analyze the responses, please tell us something about yourself. No personal identifying information will be collected and all participants will remain anonymous. The data collected will also be used as part of a research project by a Masters student at the University of Calgary, and consent for this is given by filling out the form. If you have further questions please contact salts at: info@salts-landtrust.org or telephone 403-646-2600

My age range is: (less than 18) (18 to 30) (30 to 50) (50 to 65) (greater than 65)

My occupation is: _____ My gender is (Male) (Female)

I live in the community of: _____ My postal code is: _____

I have lived in southern Alberta for approximately _____ years.

It is important that you fill out this form now and **leave it at the entrance prior to leaving**. However, if for some reason you are unable to do so, please fill it out later and mail back to the Southern Alberta Land Trust Society at PO Box 45016, High River, Alberta, T1V 1R7 Every form is important. We thank you for your participation.