

## **EXECUTIVE SUMMARY AND RECOMMENDATIONS**

### **Survey Results: Air Quality Impacts on Animal Health**

#### **Background**

The purpose of this survey was to compile a thorough list of the issues and concerns related to the impacts of air quality on animal health in Alberta.

The survey was conducted by the Animal Health Project Team of the Clean Air Strategic Alliance (CASA) to ensure that all of the members of the Team share a common knowledge of the range of issues and concerns, and to help set the direction of the Team's work.

#### **Distribution of Survey**

The survey was distributed in May 2000 to approximately 1590 individuals from government, industry, non-governmental organizations, and the public. This was not a random sample of the Alberta population, but instead this survey was sent to members of the Clean Air Strategic Alliance (CASA), Small Explorers and Producers Association of Canada (SEPAC), Wild Rose Agricultural Producers and the National Farmers Union.

#### **The Respondents**

There were 154 respondents to the survey. 30 of the respondents indicated that they had experienced problems regarding air quality on animal health, hereto after referred to as 'The 30 Subset.'

#### **Survey Analysis**

The question-by-question analysis of the survey, summarized below, focused on both the total number of responses, and on The 30 Subset.

It is important to note, that the accuracy of the results of the survey is limited by the inconsistency of the respondents' methods in ranking.

For example, in question 2 the respondents were instructed to rank a list of emission sources. They were to rank the source they saw as most significant as 1, the second most significant as 2 and so on; and to rank as many as they wished. However, some respondents ranked one source as 1, another source as 2, up until perhaps 5 or perhaps until all on the list were ranked. Other respondents marked three different sources as 1, one source as 2, and four sources as 3. And yet other respondents simply checked off a number of sources. In this case, the recorder entered all checked sources as 1. For example, if five were checked, they were all recorded as 1.

#### **Question 1: Air Quality**

*"How would you rate the air quality in your region? (circle one): very good good average poor very poor don't know no answer"*

### **Results for Total Respondents (154)**

65% responded that the air quality was very good or good, 24% responded that it was average, while 11% responded that it was poor or very poor. 10% responded as "Don't Know" or "No Answer."

### **Results for The 30 Subset**

13% responded that the air quality was good, 50% said average, and 30% said poor.

## **Question 2: Emission Sources\***

*"What emission sources, if any, do you see affecting the current air quality in your region?"*

### **Results for Total Respondents (154)**

The Respondents were asked to select and rank emission sources and were not limited in the number of emission sources they could select. The total number of emission selections was 792. Of that the highest percentage of selections was *Road Dust* at 10%. *Vehicles* accounted for 9% of the selections and *Oil and Gas Processing Plants* received 8% of the selections.

### **Results for The 30 Subset**

Total number of emission selections was 214. *Oil and Gas Processing Plants* and *Well Test Flaring* received 10% of selections. *Sour Gas Release* received 8%. *Road Dust*, *Vehicles*, and *Spills and Leaks-Oil and Gas* each received 6%.

### **Grouping Analysis**

The results for question two were also analysed by grouping the individual emission sources by sector.

**Total Respondents (154):** *Oil and Gas* (30%), *Vehicles* (19%), *Agriculture* (17%), *Forest Fires* (6%), *Waste* (5%).

**The 30 Subset:** *Oil and Gas* at 48%, *Agriculture* at 14%, *Vehicles* at 12%, *Forest Fires* at 5%, *Waste* at 4%, etc.

## **Question 3: Animal Health Impact**

*"Have you experienced any problems regarding air quality impacts on animal health? (circle one):* Yes No (go to Q.6) Don't Know (go to Q.6) No Answer (go to Q.6)"

### **Results for Total Respondents (154)**

30 respondents (19%) indicated that they had experienced problems regarding air quality effecting animal health. This is the group referred to as The 30 Subset.

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25% did not know or did not answer. 56% reported they had not experienced problems.

The 30 Subset who did experience problems, were asked to indicate what health effects were experienced (question 4) and under what conditions did the effects occur (question 5).

#### **Question 4: Effects\***

*“What are the effects that you are aware of regarding air quality impacts on animal health?”*

##### **Results for The 30 Subset**

The TOTAL number of health effect selections was 245.

Irritated eyes accounted for the most selections at 8%. *Fertility Problems-Female, Abortions, and Decreased Productivity* each accounted for 7% of selections.

##### **Grouping Analysis**

The individual health effects selected were also grouped according to health effect categories. The top four categories were: *Reproductive* (31%), *Irritations* (20%), *Unthriftiness/Reduced Productivity* (16%) and *Suppressed Immune System/Deformities* (9%).

#### **Question 5: Conditions\***

*“In your experience, which of the conditions below have contributed to air pollution impacts on animal health?”*

##### **Results for The 30 Subset**

The total number of condition selections was 145. *Nearness to Emission Source* accounted for the largest number of selections at 16%. *Combined Emissions, Type of Pollutant, Severity of Emission, and Wind Direction* each received 12% of selections.

#### **Question 6:**

Responses received to question 6 are discussed in the main report.

#### **Question 7**

Responses received to question 7 are discussed in the main report.

#### **Question 8: Demographics and Location**

Respondents were asked to provide demographic information according to the following: *Agricultural, Oil and Gas, Concerned Citizen, Other*. They could mark more

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than one. The respondents were also asked to indicate location. 146 responses were given regarding location: 20% urban and 80% rural.

### **Results for Total Respondents (154)**

169 responses were given: 59% of the respondents reported they were *Agricultural*, 12% - *Oil and Gas*, 20% - *Concerned Citizen*, and 10% - *Other*.

### **Results for The 30 Subset**

38 responses were given: 71% - *Agricultural*, 11% - *Oil and Gas*, 13% - *Concerned Citizen*, and 5% - *Other*. Location - 7% urban and 93% rural.

### **Written Comments**

Respondents were given the opportunity to provide additional comments regarding emissions sources, health effects, and conditions. They were also asked to suggest action(s) the project team should consider taking in order to address the issue of air quality impacts on animal health.

The following list represents a summary of the written comments received:\*

- ❑ Address issues associated with intensive livestock operations (from manure handling, to conditions etc)
- ❑ Improve air quality monitoring (more parameters, high-tech, continuous, ppb)
- ❑ Conduct comprehensive chemical analysis of flare gas as well as emissions from other industrial facilities
- ❑ Take into consideration/assess animal husbandry practices
- ❑ Continue with existing studies/conduct credible scientific studies - epidemiology, exposure, toxicology.
- ❑ Improve air quality by reducing and/or eliminating emissions
- ❑ Conduct research into effects of fertilizers, pesticides, herbicides (consider alternates to spraying etc)
- ❑ Improve monitoring and inspection of facilities and enforcement of standards/regulations
- ❑ Continue to have input to the Western Canada Cattle Study; monitor the study closely to ensure correct question is being asked
- ❑ Establish system of better record keeping for herds

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\* The complete list of additional comments is contained in Section 4.0 of the report.

### **Recommendations of the Survey Subgroup to the AHPT**

- ❑ Accept the final survey report as complete.
- ❑ Accept the content of the report as information with the recognition that the purpose of the survey was to compile a thorough list of the issues and concerns related to the impacts of air quality on animal health in Alberta.
- ❑ Review the written comments received from Respondents and ensure that any issues raised that do not fall within the scope of the work of the AHPT be forwarded to the appropriate government agency or stakeholder.
- ❑ Publicly release the results of the survey final report and make the appendix of the survey available upon request.
- ❑ Send a copy of the final survey report to all Respondents that indicated an interest in being kept informed about the progress of the AHPT.