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**TECHNICAL REPORT**

# **Print Media Survey of the Eastern Canadian Drought of 2001 and 2002**

**Adaptation and Impacts Research Division (AIRD)  
Rebecca Stranberg, 2005**

**Prepared for the Government of Canada's  
Climate Change Impact and Adaptation Program  
Project A932**

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## **ACKNOWLEDGEMENTS**

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## **EXECUTIVE SUMMARY**

This technical report was based on Print Media Survey analyses of English and French articles from April 2001 to December 2002. The provinces surveyed include Ontario, Québec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Some articles from western provinces were also included if there was a link between drought impacts or adaptations taking place in Eastern Canada. The sources of print media publications included national newspapers, newswires, local and regional newspapers, and agricultural community publications (including periodicals, newsletters, and national and provincial crop conditions reports).

The analyses were classified by keywords and geographical and timing identifiers. Each theme was divided into sub-themes, and each sub-theme had several keywords. In terms of geographical identifiers, the articles were classified according to the Standard Geographical Classification system used by Statistics Canada: a) Provinces, b) Census Agricultural Regions, and c) Census Divisions (normally county-level). Duplicate documents occurred frequently since regional newspapers often use national newswires as a source. Duplicate articles were removed with the original source article kept. This resulted in a total of 3270 unique articles that were collected. These articles were then analyzed for information on drought impacts/adaptations that occurred in 2001 and 2002. Main impacts identified included effects on crop yields, disease and nutrient management impacts, livestock impacts, water impacts, economic impacts, social/health impacts and adaptation options. The main findings from the analysis are summarized below.

### **Number of Articles Ranked by Province (All)**

In 2001, Ontario had 1286 articles, followed by Prince Edward Island (375), Alberta (297), New Brunswick (280), Saskatchewan (254), Nova Scotia (239), Manitoba (178), Québec (145), and Newfoundland and Labrador (97).

In 2002, there were generally fewer articles in each province. Ontario again had the most unique articles at 1153, followed by Prince Edward Island (333), Alberta (17), New Brunswick (251), Saskatchewan (11), Nova Scotia (197), Manitoba (7), Québec (120), and Newfoundland and Labrador (89).

### **Number of Province Specific Publications**

In total from both 2001 and 2002, Ontario had 38, followed by New Brunswick (8), Nova Scotia (6) and Prince Edward Island (2).

### **Adaptations (All Types)**

The top **five** types of adaptation options in each of 2001 and 2002 are listed in order of most cited to least cited for each province. New keywords cited or a marked increase in the citation of particular keywords will also be listed.

#### ▪ **Ontario:**

- 2001 – Irrigation, Crop insurance, Water conservation, Ontario Low Water Response (OLWR)/Water Response Teams (WRT), Net Income Stabilization Programs (NISA)
- 2002 – Irrigation, Ontario Low Water Response (OLWR)/Water Response Team (WRT), Crop insurance, Water Conservation, Mulch
- New citations in 2002 – Healthy futures, Crop rotation, Rotational grazing, Tree planting, Water metering, Planting reed canary grass, Planting methods

#### ▪ **New Brunswick:**

- 2001 – Water conservation, Irrigation, Net Income Stabilization Account (NISA), tied in fourth are Using winter feed, Crop insurance
- 2002 – New water sources, Water conservation, Tax deferral, and tied in fourth are Crop insurance, Research needs, Wetland conversion/enhancement, Water metering and Organic production
- New citations in 2002 – New water sources, Tax deferral, Wetland conversion/enhancement, Water metering and Organic production

#### ▪ **Nova Scotia**

- 2001 – Irrigation, Canadian Farm Income Program (CFIP), tied in third are Crop insurance and Water management, tied in fifth are Net Income Stabilization Account (NISA) and Drought-tolerant/resistant crops

- 2002 – Irrigation, Water management, tied in third are Crop insurance and Mulch, and tied in fifth are Water storage, Water conservation, Monitoring, Organic production, Watering systems, and Spring Credit Advance Program (SCAP)
- New citations in 2002 – Water storage, Water conservation, Monitoring, Organic production, Watering systems, and Spring Credit Advance Program (SCAP)
  
- **Prince Edward Island**
  - 2001 – Irrigation, Crop insurance, Canadian Farm Income Program (CFIP), tied in fourth are Hay exchange, Net Income Stabilization Account (NISA), Water conservation, and Disaster assistance
  - 2002 – Irrigation, Vegetative buffers, Net Income Stabilization Account (NISA), and tied in fourth are Crop insurance, Canadian Farm Income Program (CFIP), Watering systems, Monitoring, Planting methods, Drought tolerant/resistant crops, and Water management
  - New citations in 2002 – Vegetative buffers, Water management, Crop rotations, Water storage, Agricultural Disasters Insurance Program, Spring Credit Advance Program (SCAP)

### **Comparison between Provinces**

- **Top Crops affected:**
  - Ontario:
    - 2001 – Corn, Soybeans, Hay
    - 2002 – Soybeans, Corn, Hay
  - New Brunswick:
    - 2001 – Potatoes, Apples, Cabbage
    - 2002 – Potatoes, Hay, Barley, Peas, and Canola
  - Nova Scotia:
    - 2001 – Hay, Potatoes, Blueberries
    - 2002 – Potatoes, Hay, Apples
  - Prince Edward Island:

- 2001 – Potatoes, Cauliflower, Cole crops
- 2002 – Potatoes, Barley, Corn
  
- **Top Effects on Crops:**
  - Ontario:
    - 2001 – Diminished crop yield, Lower crop quality, Crop growth
    - 2002 – Diminished crop yield, Crop growth, Lower crop quality
  - New Brunswick:
    - 2001 – Diminished crop yield, Lower crop quality, Moisture/crop stress, Crop growth
    - 2002 – Diminished crop yield, Moisture/crop stress, Problems with harvesting/storage
  - Nova Scotia:
    - 2001 – Diminished crop yield, Moisture/crop stress, Lower crop quality
    - 2002 – Diminished crop yield, Lower crop quality, Moisture/crop stress
  - Prince Edward Island:
    - 2001 – Diminished crop yield, Lower crop quality, Crops and soil
    - 2002 – Diminished crop yield, Lower crop quality, Crops and soil
  
- **Top Pest, Disease and Nutrient Management Issues:**
  - Ontario:
    - 2001 – Aphids, Spider mites, Problems with fertilizer application
    - 2002 – Aphids, Spider mites, Nematodes
  - New Brunswick:
    - 2001 – Potato beetles, Army worm, Potato scab
    - 2002 – Army worm
  - Nova Scotia:
    - 2001 – Army worm, Late Blight, Earthworms, Brown Spot/Black Dot (Potatoes)
    - 2002 – Army worm, Spider mites, Aphids
  - Prince Edward Island:

- 2001 – Army worm, Brown Spot/Black Dot (Potatoes), Aphids
- 2002 – Aphids, Army worm, Mosaic virus, Potato beetles
  
- **Top Livestock:**
  - Ontario:
    - 2001 – Livestock, Cattle, Dairy
    - 2002 – Cattle, Livestock, Pigs
  - New Brunswick:
    - 2001 – Dairy, Cattle, Livestock
    - 2002 – Cattle, Livestock, Dairy, Pigs
  - Nova Scotia:
    - 2001 – Livestock, Dairy, Beef
    - 2002 – Dairy, Cattle, Livestock
  - Prince Edward Island:
    - 2001 – Livestock, Pigs, Dairy
    - 2002 – Pigs, Cattle, Dairy
  
- **Livestock Impacts:**
  - Ontario:
    - 2001 – Feed quality/vitamin deficiencies, Feed quantity, Nitrate poisoning
    - 2002 – Feed quality/vitamin deficiencies, Feed quantity, Sunburns
  - New Brunswick:
    - 2001 –Milk yield, Feed quantity
    - 2002 – None
  - Nova Scotia:
    - None for 2001 or 2002
  - Prince Edward Island:
    - 2001 and 2002 – Feed quantity
  
- **Top Water Impacts:**
  - Ontario:

- 2001 – Rivers, Low precipitation, Streams
- 2002 – Rivers, Streams, Low precipitation
- New Brunswick:
  - 2001 and 2002 – Low precipitation, Reservoirs, Low water levels
- Nova Scotia:
  - 2001 – Low precipitation, Rivers, Low water levels
  - 2002 – Low precipitation, Rivers, Timing of precipitation, Water table
- Prince Edward Island:
  - 2001 – Low precipitation, Water table, Wells
  - 2002 – Low precipitation, Water table, Rivers
- **Top Economic Impacts:**
  - Ontario:
    - 2001 – Aid/Relief and Subsidies, Higher crop prices
    - 2002 – Aid/Relief, Subsidies, Higher crop prices
  - New Brunswick:
    - 2001 – Decreasing profit margins, Losses, Loans, Food processing plant closures/slow-downs, Energy prices
    - 2002 – Aid/Relief, Food processing plant closures/slow-downs, Energy prices, Seed prices, Higher feed prices, Higher crop prices, Subsidies
  - Nova Scotia:
    - 2001 – Aid/Relief, Loans, Bankruptcy
    - 2002 – Aid/Relief, Subsidies, Loans, Higher crop prices, Seed prices, Feed import, CP/CN rail
  - Prince Edward Island:
    - 2001 – Aid/Relief, Losses, Failure to meet contract
    - 2002 – Higher crop prices, Decreased farm income, Aid/Relief, Subsidies

In conclusion, the Print Media Survey indicated that most citations of drought impacts and adaptations of Atlantic Canada occurred in 2001 and decreased sharply in 2002. For Ontario, the citations were almost equal for both years. The impacts and adaptations revealed by this survey were

congruent with those documented in other sources of information (Richards and Burridge 2006, Truong 2006a, b, c, d, e).

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## LIST OF TERMS

Term	Abbreviations / Acronyms	Explanation
Excluding All Keywords	EK	Excluded Keywords refer to keywords that identify articles as : not relevant to drought : 'end of drought' OR 'no drought or dry weather or dry spell or no rain' not within the geographical boundaries of this analysis: 'exclusively Western Canada' pertain to Eastern Canada to Western Canada transport of goods, such as hay, to mitigate the impacts of drought in Western Canada: "Hay West" refer to impacts of past droughts (not the current production year): '2001 drought', '1998 drought'.
Census Agricultural Regions	CARs	
	ID	2002 articles that refer to 2001 drought

## **TABLES LEGEND**

	<b>Represents the presence of a new keyword in 2002</b>
	<b>Represents a major decrease in keyword occurrence from 2001 to 2002</b>
	<b>Represents a major increase in keyword occurrence from 2001 to 2002</b>



## **INTRODUCTION AND METHODOLOGY**

This Print Media Survey reviewed English and French articles from April 2001 to December 2002 from Ontario, Québec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. The sources for the documents included national newspapers, newswires, local and regional newspapers, agricultural community publications including periodicals, newsletters and national and provincial crop conditions reports.

See Table 94 for list of publications used.

In order to find relevant articles, Boolean searches for the following keywords were performed in the full text of the document: 'drought' OR 'dry weather' OR 'dry spell' OR 'no rain'. The retrieved articles were further filtered to eliminate such terms as hockey OR baseball OR Afghanistan, etc.

This methodology resulted in over 15,000 articles being retrieved, of which approximately 3300 were considered relevant. Duplicate articles were a frequent occurrence, e.g., since regional newspapers use national newswires as a regular source. Duplicate articles were removed, as much as possible, and the original source document, i.e., Canadian Press Newswire were preserved. Sometimes, it was not possible to identify an original source. The article from the earliest date was kept, and when this was not distinct, the article from the geographical region that was in closest proximity to the content of the article was kept.

The articles were originally stored in an AskSam free text database. The large number of articles retrieved was not anticipated. AskSam could not handle the complexity of analysis desired and did not have the data management functionality required to handle the total number of articles retrieved. As a result, the AskSam database was transferred to Microsoft Access with relative ease.

The main basis for the Print Media Survey analyses was classification by keywords and geographical and timing identifiers.

### ***Keywords***

Keywords were classified into five main themes, each theme was divided into sub-themes, and each sub-theme had several keywords. The classification of keywords can be found in Table 93 below.

A further filtering was done using the ND'keyword' classification in order to identify keyword occurrences in a document not related to drought conditions. For example, crop conditions reports will discuss several crops, some of which are not affected by drought. In an article that discussed strawberries and spinach, spinach was affected by drought, but strawberries were not. In this case, keyword coding would be *NDstrawberries* and *Spinach*.

### ***Geographical Identifiers***

The documents were classified according to the Standard Geographical Classification system used by Statistics Canada. These classifications are:

- a. Provinces
- b. Census Agricultural Regions
- c. Census Divisions (normally county-level)

One of the database modules permitted the searching of StatsCan information on localities and census subdivisions in order to determine their classification in a census division.

*Coding Anomalies*

Query results that produce unexpected results, such as “Great Lakes” in the Atlantic provinces, have been highlighted in red. These anomalies will be verified or corrected in the Print Media Survey Database at a later date.

## RESULTS

A total of 3270 articles were retrieved. The breakdown of articles by provinces is presented in Table 1 below.

**Table 1 Number of Articles Ranked by Province (ALL)**

Province	# of Articles	# of Articles and (ranking) EK	# of Articles and (ranking) ID
Ontario	1286	1148 (1)	1153 (1)
Prince Edward Island	375	248 (2)	333 (2)
Alberta	297	15 (7)	17 (7)
New Brunswick	280	238 (3)	251 (3)
Saskatchewan	254	9 (8)	11 (8)
Nova Scotia	239	191 (4)	197 (4)
Manitoba	178	6 (9)	7 (9)
Québec	145	120 (5)	120 (5)
Newfoundland and Labrador	97	86 (6)	89 (6)

The number of publications by specific province is indicated in Table 2.

**Table 2 Number of Province Specific Publications**

Province	# of Publications
Ontario	38
New Brunswick	8
Nova Scotia	6
Prince Edward Island	2

### ***Provinces by Keyword<sup>1</sup>***

#### Ontario

##### *Crops*

Table 3 shows that in 2001, the most cited as affected crops were: corn, soybeans and hay. In 2002, soybeans occur most commonly, followed by corn and hay. This is consistent with the technical report on field crops yields in Ontario.

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1 . The order in the tables is ranked as per the number of occurrences in the 2001 drought.

**Table 3 Ontario: Crop Types (excluding summary classifications)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Corn	136	1	2	1	106	2
Soybeans	120	2	1	3	118	1
Hay	37	3	-	-	47	3
Tomatoes	31	4	-	-	29	4
Grapes	26	5	-	-	24	5
Potatoes	18	6	1	3	-	-
Sweet/Market Corn	17	7	-	-	8	12
Green/Snap/String/Wax Beans	14	8	-	-	3	25
Peaches	13	9	-	-	-	-
Tobacco	13	9	-	-	16	6
Wine	13	9	-	-	12	8
Winter Wheat	13	9	-	-	16	6
Vineyard	12	13	-	-	12	8
Carrots	12	13	-	-	4	24
Apples	12	13	-	-	12	8
Barley	11	16	-	-	7	16
Pumpkins	10	17	-	-	9	11
Raspberries	9	18	-	-	3	25
Strawberries	9	18	-	-	6	19
Peas	8	20	-	-	6	19
Blueberries	7	21	-	-	2	34
Cucumber	7	21	-	-	7	16
Broccoli	7	21	-	-	-	-
Peppers	6	24	-	-	8	12
Spring Wheat	6	24	-	-	5	22
Onions	5	26	-	-	-	-
Lettuce	5	26	-	-	-	-
Cabbage	4	28	-	-	2	34
Wheat	4	28	-	-	-	-
Ginseng	4	28	-	-	6	19
White/Edible Beans	4	28	-	-	3	25
Canola	4	28	-	-	-	-
Cauliflower	3	33	-	-	-	-
Oats	3	33	-	-	8	12
Maple Syrup	3	33	-	-	-	-
Canola	-	-	-	-	8	12
Zucchini	-	-	-	-	-	-
Potatoes	-	-	-	-	7	16
Peaches	-	-	-	-	5	22
Maple syrup	-	-	-	-	3	25
Sugar beets	-	-	-	-	3	25
Cole crops	-	-	-	-	3	25
Asparagus	-	-	-	-	3	25

Celery	-	-	-	-	3	25
Onions	-	-	-	-	3	25
Honey	-	-	-	-	2	34
Cabbage	-	-	-	-	2	34
Garlic	-	-	-	-	1	38
Fodder corn	-	-	-	-	1	38
Durum	-	-	-	-	1	38
Dry beans	-	-	-	-	1	38
Cranberries	-	-	-	-	1	38
Cherries	-	-	-	-	1	38
Wheat	-	-	-	-	1	38
Turnips	-	-	-	-	1	38

Table 4 shows that in 2001, the summary crop types cited as most affected as ‘vegetables’, then ‘grains’ and ‘fruits’. In 2002, the types cited as most affected are ‘grains’, then ‘fruits’ and ‘vegetables’.

**Table 4 Ontario: Summary Crop Classifications**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Vegetables	63	1	-	-	44	3
Grains	60	2	1	1	59	1
Fruits	53	3	-	-	47	2
Forage	18	4	-	-	18	4
Oilseeds	15	5	-	-	17	5
Cereals	5	6	-	-	8	2

Table 5 indicates that in both 2001 and 2002 the pattern for the most cited effects on crops is the same: ‘diminished crop yield’, ‘crop quality’, ‘crop growth’ and ‘moisture/crop stress’. In 2002 we see the emergence of ‘green bean syndrome’ in soybeans.

**Table 5 Ontario: Effects on Crops**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Diminished Crop Yield	160	1	2	1	132	1
Lower Crop Quality	57	2	-	-	30	3
Crop Growth	31	3	1	3	33	2
Moisture/Crop Stress	29	4	-	-	27	4
Crops and Soil	22	5	2	1	17	6
Problems w Harvesting/Storage	21	6	1	3	15	7
Wilt Damage	19	7	-	-	18	5
Pollination Problems	18	8	1	3	15	7
Silage	12	9	-	-	7	9
Better Crop Quality	11	10	-	-	7	9
Crop loss	10	11	-	-	3	13

Ground Level Ozone	8	12	-	-	2	16
Nutrient deficiency	3	13	-	-	5	12
Sun Scald	2	14	-	-	3	13
Crop size	2	14	-	-	1	17
Lodging	1	16	-	-	3	13
Seed shortages	1	16	-	-	-	-
Dry soybeans	-	-	-	-	1	17
Green bean syndrome	-	-	-	-	6	11
Boron deficiency	-	-	-	-	1	17

Table 6 highlights the most commonly cited pest and nutrient management issues for crops . In 2001 they were: ‘aphids’, ‘spider mites’, and ‘problems with fertilizer application’<sup>2</sup>. In 2002, the issues of the most concern were: ‘aphids’, ‘spider mites’ and ‘fusarium’. In 2002 there were over 10 new pest, disease and nutrient management impacts cited (highlighted in yellow in Table 6)

**Table 6 Ontario: Pest, Disease and Nutrient Management**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Aphids	35	1	-	-	29	1
Spider Mites	10	2	-	-	6	2
Problems with fertilizer application	5	3	-	-	2	9
Earthworms	4	4	-	-	1	16
Fusarium	3	5	-	-	4	3
Lady Bugs	3	5	-	-	2	9
Problems with herbicide/pesticide application/performance	3	5	-	-	3	5
Two-Spotted Spider Mites	2	8	-	-	1	16
Soybean Systematode	2	8	-	-	-	-
Soybean Mosaic Virus	2	8	-	-	1	16
Powdery Mildew	2	8	-	-	-	-
Potato Beetles	1	12	-	-	1	16
White Apple Leafhopper	1	12	-	-	2	9
Verticillium Wilt	1	12	-	-	1	16
Root rot	1	12	-	-	3	5
Potato Leafhopper	1	12	-	-	3	5
Nematodes	1	12	-	-	4	3
Late Blight	1	12	-	-	-	-
Herbicide carryover	1	12	-	-	2	9
Early Blight	1	12	-	-	-	-
Dry Rot	1	12	-	-	-	-
Blossom-End Rot	1	12	-	-	2	9
Army Worm	1	12	-	-	-	-
Black Rot	-	-	-	-	3	5
Blossom Drop	-	-	-	-	2	9
Angular Leaf Spot	-	-	-	-	2	9
Stewart’s Wilt	-	-	-	-	1	16

Alfalfa Weevil	-	-	-	-	1	16
Pea Leafminer	-	-	-	-	1	16
Black Soot	-	-	-	-	1	16
Brown Spot/Black Dot (Potatoes)	-	-	-	-	1	16
Apple Rust Mites	-	-	-	-	1	16
European Red Mites	-	-	-	-	1	16
Early Blight	-	-	-	-	1	16
Cutworms	-	-	-	-	1	16

Table 7 indicates the most commonly cited wildlife impacts in 2001 were: ‘fish’, ‘mosquitoes’ and ‘bears’. In 2002 the trend was: ‘fish’, ‘ducks’ and a tie between ‘mosquitoes’ and ‘bears’.

**Table 7 Ontario: Wildlife Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fish	26	1	-	-	23	1
Mosquitoes	14	2	-	-	1	3
Bears	12	3	-	-	1	3
Ducks	3	4	-	-	2	2
Other wildlife	1	5	-	-	-	-
Deer	1	5	-	-	-	-
Botulism	1	5	-	-	-	-

Table 8 indicates that in 2001, the most common pasture/soil impacts were: ‘pastures’, ‘soil moisture’ and ‘soil compaction’. In 2002, it was: ‘soil moisture’, ‘pastures’ and ‘soil compaction’.

**Table 8 Ontario: Pasture/Soil Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Pastures	23	1	-	-	15	2
Low Soil moisture	16	2	1	1	18	1
Soil compaction	3	3	-	-	3	3

Table 9 highlights in 2001 and 2002, the most commonly cited impacts on other vegetation were: ‘grass/lawns/turf/sod’, ‘trees’ and ‘woodlots’.

**Table 9 Ontario: Other Vegetation Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Grass/lawns/turf/sod	133	1	-	-	108	1

Trees	82	2	-	-	69	2
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### *Livestock*

Table 10 indicates that in 2001, ‘livestock’, ‘cattle’ and ‘dairy’ were cited as the most affected livestock type. In 2002, ‘cattle’, ‘livestock’ and ‘pigs’ were cited as the most affected livestock types.

**Table 10 Ontario: Livestock Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Livestock	37	1	1	1	39	2
Cattle	28	2	-	-	46	1
Dairy	19	3	-	-	14	4
Pigs	14	4	1	1	22	3
Beef	11	5	-	-	9	6
Horses	6	6	-	-	13	5
Poultry	2	7	-	-	6	8
Sheep	1	8	-	-	9	6

illustrates that for 2001, the cited common impacts were: ‘feed quality/vitamin deficiencies’, ‘feed quantity’ and ‘nitrate poisoning’. For 2002, the cited common impacts were: ‘feed quality/vitamin deficiencies’, ‘feed quantity’ and ‘sunburns’.

Table 11 illustrates that for 2001, the cited common impacts were: ‘feed quality/vitamin deficiencies’, ‘feed quantity’ and ‘nitrate poisoning’. For 2002, the cited common impacts were: ‘feed quality/vitamin deficiencies’, ‘feed quantity’ and ‘sunburns’.

**Table 11 Ontario: Livestock Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Feed quality / vitamin deficiencies	10	1	-	-	5	1
Feed Quantity	4	2	-	-	3	2
Nitrate poisoning	3	3	-	-	1	4
Milk yield	2	4	-	-	-	-
Abandoned livestock	1	5	-	-	-	-
Other feed poisoning	-	-	-	-	1	4
Sunburns	-	-	-	-	2	3

### *Water Impacts*

Table 12 highlights that in 2001 the most commonly cited water impacts were: ‘rivers’, ‘low precipitation’ and ‘streams’. In 2002 the trend was ‘rivers’, ‘streams’ and ‘low precipitation’. In 2002 the keyword ‘beach closures’ emerged.

**Table 12 Ontario: Water Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Rivers	78	1	-	-	86	1
Low Precipitation	55	2	1	1	61	3
Streams	53	3	-	-	62	2
Watering Ban	47	4	-	-	31	11
Reservoirs	43	5	-	-	46	5
Wells	41	6	1	1	42	7
Water Restrictions	35	7	-	-	51	4
Low Water Levels	31	8	-	-	39	8
Great Lakes	31	8	1	1	46	5
Timing of Precipitation	27	10	1	1	34	9
Groundwater	20	11	-	-	33	10
Low water flow	17	12	-	-	31	11
Ponds	16	13	-	-	20	13
Wetlands	14	14	-	-	8	15
Lake levels	10	15	-	-	8	15
Water table	10	15	-	-	8	15
Surface water	6	17	-	-	7	18
Low snow cover	2	18	1	1	9	14
Water quantity	1	19	-	-	-	-
Beach closures					2	19

*Fire Impacts*

Table 13 shows that for both 2001 and 2002, the most commonly cited fire impacts were: ‘fire ban’, ‘forest fires’, ‘fires’ and ‘grass fires’.

**Table 13 Ontario: Fire Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fire ban	42	1	-	-	14	1
Forest fires	32	2	-	-	13	2
Fires	26	3	-	-	6	3
Grass fires	13	4	-	-	4	4

*Economic Impacts*

Table 14 indicates that for both 2001 and 2002, the most commonly cited economic impacts were ‘government intervention’, ‘markets’ and ‘financial’.

**Table 14 Ontario: Economic Impacts (by Type)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Government Intervention	36	1	1	1	46	1
Markets	15	2	1	1	19	2
Financial	8	3	1	1	9	3

Table 15 demonstrates that in 2001, the most commonly cited economic impacts were: ‘subsidies’, ‘aid/relief’ and ‘higher crop prices’. In 2002 ‘aid/relief’ becomes more prevalent than ‘subsidies’. Also in 2002, the occurrence of ‘insurance premium increases’ becomes more common.

**Table 15 Ontario: Economic Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Subsidies	18	1	1	1	22	2
Aid/Relief	18	1	-	-	24	1
Higher crop prices	4	3	-	-	6	3
Insurance premium increase	3	4	-	-	5	4
Loans	3	4	-	-	5	4
Lower crop prices	2	6	-	-	4	6
Higher feed prices	2	6	-	-	1	8
Failure to meet contract	2	6	-	-	-	-
Bankruptcy	2	6	-	-	1	8
Higher anticipated prices	1	10	-	-	2	7
Feed import	1	10	-	-	-	-
Losses	1	10	1	1	-	-
Decreasing profit margins	1	10	-	-	1	8
Decreased farm income	1	10	-	-	-	-
Debt	-	-	-	-	1	8
Higher fertilizer prices	-	-	1	1	-	-

### *Health Impacts*

Table 16 indicates that in 2001, there only health impact cited was ‘silo gas’. In 2002, there were mentions of the following impacts: ‘silo gas’, ‘allergies’ and ‘mental health/suicide’.

**Table 16 Ontario: Health Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Silo Gas	6	1	-	-	3	1
Stress	-	-	-	-	1	2
Mental health/suicide	-	-	-	-	1	2
Allergies	-	-	-	-	1	2

*Adaptations*

Table 17 demonstrates that both in 2001 and 2002, the most common adaptation types are: ‘water adaptations’, ‘insurance and support’, and ‘crop and soil adaptations’. In 2002, the use of ‘community based initiatives’ become more common, perhaps indicating a trend towards better organization and a perception of drought as a longer term problem.

**Table 17 Ontario: Adaptation Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water Adaptations	113	1	1	3	139	1
Insurance and Support	84	2	1	3	66	2
Crops and Soil Adaptations	25	3	3	1	42	3
Policy/Irrigation	22	4	-	-	38	4
Research and Technology	6	5	-	-	7	6
Livestock Adaptation	6	5	-	-	8	5
Community Based Initiatives	4	7	-	-	7	6
Other Adaptation	2	8	-	-	-	-

Table 18 shows that in 2001, the most commonly cited adaptations are: ‘irrigation’, ‘crop insurance’ and ‘water conservation’. In 2002, the most frequently cited adaptations are: ‘irrigation’, the ‘Ontario Low Water Response’ program, and ‘crop insurance’. In 2002, the use of ‘Irrigation Advisory Committees’ emerges more frequently. Also in 2002, there were seven new cited adaptations.

**Table 18 Ontario: Adaptations (All Types)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Irrigation	64	1	1	1	66	1
Crop insurance	51	2	1	1	35	3
Water Conservation	28	3	-	-	31	4
Ontario Low Water Response (OLWR)/Water Response Teams (WRT)	22	4	-	-	38	2
Net Income Stabilization Account (NISA)	9	5	-	-	-	-
Water management	7	6	-	-	8	9
Market Revenue Insurance Program (MRIP)	7	6	-	-	8	9
Mulch	7	6	-	-	15	5
Disaster Assistance	6	9	-	-	1	29
Drought-tolerant/resistant crops	5	10	-	-	9	8
Monitoring	4	11	-	-	3	19
Ontario Farm Income Disaster Program	4	11	-	-	1	29
Feed supplementation	3	13	-	-	4	14

Water hauling/trucking	3	13	-	-	4	14
Stress/Help/Farm Lines	3	13	-	-	1	29
Adjusting harvesting times	3	13	-	-		
Water storage	2	17	-	-	12	6
Forage insurance	2	17	-	-	4	14
Pond and Pump Irrigation Systems	2	17	-	-	2	23
Planting according to soil type	2	17	-	-	1	29
Drip Irrigation	2	17	-	-	10	7
Selling livestock	2	17	-	-	-	-
Grey/waste-water irrigation	2	17	-	-	-	-
Tax deferral	2	17	-	-	5	13
Apply foliar sprays to offset limited nutrient uptake	2	17	-	-	-	-
Conservation tillage	1	26	-	-	-	-
Planting clover	1	26	-	-	2	23
Soil compression/compaction (adaptation)	1	26	-	-	-	-
Adjusting planting times	1	26	1	1	3	19
No-till (Zero-till)	1	26	1	1	2	23
Vegetative buffers	1	26	-	-	2	23
Canadian Farm Income Program (CFIP)	1	26	-	-	1	29
(IAC) Irrigation Advisory Committees	1	26	-	-	6	12
Spring Credit Advance Program (SCAP)	1	26	-	-	1	29
Wetland conversion/enhancement	1	26	-	-	2	23
Using winter feed	1	26	-	-	1	29
Organic production	1	26	-	-	-	-
Stop farming	1	26	-	-	-	-
Hybrids	1	26	-	-	4	14
New infrastructure	1	26	-	-	-	-
New Water Sources	1	26	-	-	-	-
Subirrigation	1	26	-	-	3	19
Reinsurance	1	26	-	-	-	-
Healthy Futures	-	-	-	-	7	11
Crop rotation	-	-	-	-	4	14
Rotational grazing	-	-	-	-	3	19
Tree planting	-	-	-	-	2	23
Water metering	-	-	-	-	1	29
Planting reed canarygrass	-	-	-	-	1	29
Planting methods	-	-	1	1	1	29

## New Brunswick

### *Crops*

Table 19 shows that in 2001, the most cited as affected crops were: ‘potatoes’, ‘apples’ and ‘cabbage’. In 2002, ‘potatoes’ occur most commonly, followed by ‘hay’, ‘barley’, ‘peas’ and ‘canola’.

**Table 19 New Brunswick: Crop Types (excluding summary classifications)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Potatoes	34	1	2	1	4	1
Apples	12	2	-	-	-	-
Cabbage	8	3	-	-	-	-
Blueberries	7	4	-	-	-	-
Hay	6	5	-	-	1	2
Corn	3	6	-	-	-	-
Cauliflower	3	6	-	-	-	-
Broccoli	3	6	-	-	-	-
Rutabaga	3	6	-	-	-	-
Strawberries	3	6	-	-	-	-
Green/Snap/String/Wax Beans	2	11	-	-	-	-
Pumpkins	2	11	-	-	-	-
Tomatoes	2	11	-	-	-	-
Barley	2	11	-	-	1	2
Oats	2	11	-	-	-	-
Peas	-	-	-	-	1	2
Canola	-	-	-	-	1	2

Table 20 indicates that in 2001, the summary crop types cited as most affected as ‘vegetables’, then ‘grains’, ‘fruits’ and ‘forage’. In 2002, the types cited as most affected are ‘forage’, then ‘grains’ and ‘fruits’.

**Table 20 New Brunswick: Summary Crop Classifications**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Vegetables	8	1	-	-	-	-
Grains	3	2	-	-	1	2
Fruits	1	3	-	-	1	2
Forage	1	3	-	-	4	1

Table 21 indicates that in 2001 the pattern for the most cited effects on crops is: ‘diminished crop yield’, ‘lower crop quality’ and ‘moisture/crop stress’. In 2002 the pattern is ‘diminished crop yield’, ‘moisture/crop stress’ and ‘problems with harvesting/storage’.

**Table 21 New Brunswick: Effects on Crops**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Diminished crop yield	32	1	1	1	4	1
Lower crop quality	8	2	-	-	-	-

Moisture/crop stress	4	3	-	-	1	2
Silage	2	4	-	-	-	-
Heat stress (livestock)	2	4	-	-	-	-
Effects on next year's crops	2	4	-	-	-	-
Problems w harvesting/storage	1	7	-	-	1	2
Potassium deficiency	1	7	-	-	-	-
Pollination problems	1	7	-	-	-	-
Crop growth	1	7	-	-	-	-
Better crop quality	1	7	1	1	-	-

Table 22 highlights the most commonly cited pest and nutrient management issues for crops. In 2001, they were: 'potato beetles', 'army worm' and 'potato scab'. In 2002, there was only one reported pest issue: 'army worm'.

**Table 22 New Brunswick: Pest, Disease and Nutrient Management**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Potato Beetles	6	1	1	1	-	-
Army Worm	3	2	-	-	1	1
Potato Scab	2	3	-	-	-	-
Earthworms	1	4	-	-	-	-
Aphids	1	4	-	-	-	-

Table 23 indicates that there was only wildlife impacts recorded in 2001 for New Brunswick. The most cited impacts were 'fish', 'other wildlife' and 'angling ban/closure'.

**Table 23 New Brunswick: Wildlife Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fish	9	1	-	-	-	-
Other wildlife	3	2	-	-	-	-
Angling ban/closure	3	2	-	-	-	-
Mosquitoes	1	4	-	-	-	-
Deer	1	4	-	-	-	-
Bears	1	4	-	-	-	-

Table 24 indicates that in 2001, the most common pasture/soil impacts were: 'low soil moisture' and 'pastures'. In 2002, only 'low soil moisture' was cited as an issue.

**Table 24 New Brunswick: Pasture/Soil Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Low soil moisture	3	1			1	1

Pastures	1	2			-	-
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Table 25 highlights in 2001 and 2002, the most commonly cited impacts on other vegetation were: ‘grass/lawns/turf/sod’ and ‘trees’. In 2002 only ‘trees’ were cited as an issue.

**Table 25 New Brunswick: Other Vegetation Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Grass/lawns/turf/sod	10	1	-	-	-	-
Trees	3	2	-	-	3	1

*Livestock*

Table 26 indicates that in 2001, ‘dairy’, ‘cattle’ and ‘livestock’ were cited as the most affected livestock type. In 2002, ‘cattle’, ‘livestock’, ‘pigs’ and ‘dairy’ were cited as the most affected livestock types.

**Table 26 New Brunswick: Livestock Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Dairy	3	1	-	-	1	3
Cattle	3	1	-	-	2	1
Livestock	2	3	-	-	2	1
Eggs	1	4	-	-	-	-
Pigs	-	-	-	-	1	3
Beef					-	-

Table 27 illustrates that 2001 ‘milk yield’ and ‘feed quantity’ were cited as livestock impacts. No livestock impacts were cited in 2002.

**Table 27 New Brunswick: Livestock Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Milk yield	1	1	-	-	-	-
Feed quantity	1	1	-	-	-	-

*Water Impacts*

Table 28 highlights that in 2001 and 2002, the most commonly cited water impacts were: ‘low precipitation’, ‘reservoirs’ and ‘low water levels’.

**Table 28 New Brunswick: Water Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Low precipitation	27	1	-	-	11	1
Reservoirs	23	2	-	-	10	2
Low water levels	19	3	-	-	9	3
Wells	10	4	-	-	5	4
Low water flow	10	4	-	-	1	10
Streams	7	6	-	-	5	4
Water quantity	4	7	-	-	1	10
Water quality/boil-orders	4	7	-	-	2	7
Rivers	4	7	-	-	1	10
Timing of precipitation	3	10	-	-	1	10
Watering ban	1	11	-	-	-	-
Water table	1	11	-	-	2	7
Lake levels	1	11	-	-	2	7
Groundwater	1	11	-	-	1	10
Beach closures	1	11	-	-	-	-
Water restrictions	-	-	-	-	3	6

*Fire Impacts*

Table 29 shows that in 2001 ‘forest fires’, ‘fire ban’ and ‘fires’ were the most cited fire impacts. For 2002, the most cited fire impacts were ‘forest fires’, ‘cancellation of controlled burn’ and ‘fire ban’.

**Table 29 New Brunswick: Fire Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Forest fires	32	1	-	-	3	1
Fire ban	9	2	-	-	1	3
Fires	2	3	-	-	-	-
Cancellation of controlled burn					2	2

*Economic Impacts*

Table 30 indicates that in 2001, the most cited types of economic impacts were ‘markets’, ‘government intervention’ and ‘financial’. In 2002, the most cited types were a tie between ‘markets’ and ‘government intervention’, followed by ‘financial’.

**Table 30 New Brunswick: Economic Impacts (by Type)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Markets	8	1	1	1	3	1
Government Intervention	7	2	1	1	3	1
Financial	6	3	-	-	2	3

Table 31 demonstrates that in 2001, the most commonly cited economic impacts were: ‘decreasing profit margins’, ‘losses’, ‘loans’, ‘food processing plant closures/slow-downs’ and ‘energy prices’. In 2002 the most cited issue was aid/relief. Also in 2002 ‘seed prices’, ‘higher feed prices’, ‘higher crop prices’ and ‘subsidies’ were cited for the first time.

**Table 31 New Brunswick: Economic Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Decreasing profit margins	2	1	-	-	-	-
Losses	1	2	-	-	-	-
Loans	1	2	-	-	-	-
Food processing plant closures/slow-downs	1	2	-	-	1	2
Energy Prices	1	2	-	-	1	2
Aid/relief	-	-	1	1	2	1
Seed prices	-	-	-	-	1	2
Higher feed prices	-	-	-	-	1	2
Higher crop prices	-	-	1	1	1	2
Subsidies	-	-	-	-	1	2

*Health Impacts*

Table 32 indicates that there was only one cited health impact, ‘allergies’, that occurred in 2002 in reference to the 2001 drought.

**Table 32 New Brunswick: Health Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Allergies	-	-	1	1	-	-

*Adaptations*

Table 33 demonstrates that in 2001, the most common adaptation types cited were: ‘water adaptations’, ‘insurance and support’, and ‘livestock adaptations’. In 2002, the most cited adaptation types were: ‘water adaptations’, ‘insurance and support’, and a tie between ‘research and technology’ and ‘other adaptations’.

**Table 33 New Brunswick: Adaptation Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water Adaptations	18	1	-	-	13	1
Insurance and Support	12	2	-	-	3	2
Livestock Adaptation	4	3	-	-	-	-
Community Based Initiatives	3	4	-	-	-	-

Research and Technology	2	5	-	-	1	3
Crops and Soil Adaptations	1	6	-	-	-	-
Other Adaptations	-	-	-	-	1	3

Table 34 shows that in 2001, the most commonly cited adaptations are: ‘water conservation’, ‘irrigation’ and the ‘Net Income Stabilization Account’. In 2002, the most frequently cited adaptations are: ‘new water sources’ (did not occur in 2001), ‘water conservation’ and ‘tax deferral’ (did not occur in 2001).

**Table 34 New Brunswick: Adaptations (All Types)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water Conservation	9	1	-	-	4	2
Irrigation	7	2	-	-	-	-
Net Income Stabilization Account (NISA)	5	3	-	-	-	-
Using winter feed	3	4	-	-	-	-
Crop insurance	3	4	-	-	1	4
Canadian Farm Income Program (CFIP)	3	4	-	-	-	-
Research needs	2	7	-	-	1	4
Hay exchange	2	7	-	-	-	-
Water storage	1	9	-	-	-	-
Water hauling/trucking	1	9	-	-	-	-
Watering systems	1	9	-	-	-	-
Disaster Assistance	1	9	-	-	-	-
Conservation tillage	1	9	-	-	-	-
Stress/Help/Farm Lines	1	9	-	-	-	-
New water sources	-	-	-	-	7	1
Tax deferral	-	-	-	-	2	3
Wetland conversion/enhancement	-	-	-	-	1	4
Water metering	-	-	-	-	1	4
Organic production	-	-	-	-	1	4

## Nova Scotia

### *Crops*

Table 35 shows that in 2001, the most cited as affected crops were: ‘hay’, ‘potatoes’ and ‘blueberries’. In 2002, ‘potatoes’ were most commonly cited, followed by ‘hay’ and ‘apples’.

**Table 35 Nova Scotia: Crop Types (excluding summary classifications)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Hay	17	1	-	-	3	2

Potatoes	16	2	2	1	6	1
Blueberries	12	3	-	-	1	4
Corn	9	4	-	-	1	4
Apples	6	5	1	2	2	3
Broccoli	5	6	-	-	-	-
Cabbage	5	6	-	-	1	4
Green/Snap/String/Wax Beans	5	6	-	-	1	4
Strawberries	5	6	-	-	1	4
Cauliflower	4	10	-	-	1	4
Carrots	4	10	-	-	1	4
Peas	3	12	-	-	1	4
Barley	2	13	-	-	1	4
Lettuce	2	13	-	-	-	-
Wine	2	13	-	-	-	-
Rutabaga	2	13	-	-	-	-
Cucumber	2	13	-	-	1	4
Vineyard	2	13	-	-	-	-
Tomatoes	2	13	-	-	-	-
Grapes	2	13	-	-	-	-
Canola	-	-	-	-	1	4
Cole Crop	-	-	-	-	1	4
Soybeans	-	-	-	-	1	4

Table 36 shows that in 2001, the summary crop types cited as most affected as ‘vegetables’, then ‘fruits’ and ‘forage’. In 2002, the types cited as most affected ‘fruits’, then ‘forage’ and ‘vegetables’.

**Table 36 Nova Scotia: Summary Crop Classifications**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Vegetables	21	1			5	3
Fruits	10	2			7	1
Forage	10	2			6	2
Grains	6	4			3	4
Cereals	-	-			1	5

Table 37 indicates that in 2001 the pattern for the most cited effects on crop is: ‘diminished crop yield’, ‘lower crop quality’, ‘moisture/crop stress’ and ‘crop growth’. It was the same for 2002 except for ‘crop growth’.

**Table 37 Nova Scotia: Effects on Crops**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Diminished crop yield	17	1	2	1	11	1
Lower crop quality	6	2	-	-	4	2

Moisture/crop stress	6	2	-	-	3	3
Crop growth	6	2	-	-	2	4
Crops and soil	5	5	-	-	-	-
Silage	3	6	-	-	-	-
Problems w harvesting/storage	3	6	-	-	2	4
Potassium deficiency	1	8	-	-	-	-
Pollination problems	1	8	-	-	1	6
Wilt damage	1	8	-	-	1	6
Better crop quality	-	-	1	2	-	-

Table 38 highlights the most commonly cited pest and nutrient management issues for crops. In 2001, they were: ‘army worm’, followed by ‘late blight’, ‘earthworms’ and ‘brown spot/black dot (potatoes)’. In 2002, the issues of the most concern were: ‘army worm’, ‘spider mites’(new), and ‘aphids’ (new).

**Table 38 Nova Scotia: Pest, Disease and Nutrient Management**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Army Worm	12	1	1	1	1	1
Late Blight	1	2	-	-	-	-
Earthworms	1	2	-	-	-	-
Brown Spot/Black Dot (Potatoes)	1	2	-	-	-	-
Spider Mites	-	-	-	-	1	1
Aphids	-	-	-	-	1	1

Table 39 indicates that in 2001, the only cited wildlife impact was ‘fish’. In 2002, the most cited impacts were ‘fish’ and ‘mosquitoes’ (new).

**Table 39 Nova Scotia: Wildlife Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fish	7	1	-	-	3	1
Mosquitoes	-	-	-	-	2	2

indicates that in 2001, the most common pasture/soil impacts were: ‘pastures’, ‘low soil moisture’ and ‘soil compaction’. In 2002, it was: ‘low soil moisture’, and ‘pastures’.

Table 40 indicates that in 2001, the most common pasture/soil impacts were: ‘pastures’, ‘low soil moisture’ and ‘soil compaction’. In 2002, it was: ‘low soil moisture’, and ‘pastures’.

**Table 40 Nova Scotia: Pasture/Soil Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Pastures	9	1	-	-	1	2
Low soil moisture	4	2	-	-	4	1
Soil compaction	1	3	-	-	-	-

Table 41 highlights in 2001 the most commonly cited impacts on other vegetation were: ‘trees’, ‘grass/lawns/turf/sod’, and ‘woodlots’. In 2002, only ‘trees’ and ‘grass/lawns/turf/sod’ were cited as impacted.

**Table 41 Nova Scotia: Other Vegetation Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Trees	9	1	1	1	8	1
Grass/lawns/turf/sod	8	2	-	-	3	2
Woodlots	1	3	-	-		

*Livestock*

Table 42 indicates that in 2001, ‘livestock’, ‘dairy’, ‘beef’ and ‘cattle’ were cited as the most affected livestock type. In 2002, ‘dairy’, ‘cattle’ and ‘livestock’ were cited as the most affected livestock types.

**Table 42 Nova Scotia: Livestock Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Livestock	16	1	-	-	4	3
Dairy	7	2	1	1	6	1
Beef	5	3	-	-	3	4
Cattle	5	3	-	-	5	2
Sheep	2	5	-	-	-	-
Pigs	2	5	-	-	-	-
Poultry	2	5	-	-	1	5
Eggs	1	8	-	-	-	-

**Table 43 Nova Scotia: Livestock Impacts**

- None reported

*Water Impacts*

Table 44 highlights that in 2001 the most commonly cited water impacts were: ‘low precipitation’, ‘rivers’ and ‘low water levels’. In 2002, ‘low precipitation’, followed by ties between ‘rivers’, ‘timing of precipitation’ and ‘water table’ were the most commonly cited water impacts. In 2002, newly cited impacts were: ‘wells’, ‘beach closures’ and ‘wetlands’.

**Table 44 Nova Scotia: Water Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Low precipitation	11	1	1	1	9	1
Rivers	10	2	-	-	4	2
Low water levels	5	3	-	-	1	8
Streams	4	4	-	-	1	8
Ponds	4	4	-	-	3	5
Wells	3	6	-	-	-	-
Timing of precipitation	3	6	-	-	4	2
Surface water	3	6	-	-	-	-
Water table	2	9	-	-	4	2
Watering ban	2	9	-	-	-	-
Reservoirs	2	9	-	-	1	8
Lake levels	1	12	-	-	1	8
Groundwater	1	12	1	1	2	7
Dugouts	1	12	-	-	-	-
Water restrictions	1	12	-	-	-	-
Wells	-	-	-	-	3	5
Beach closures	-	-	-	-	1	8
Wetlands	-	-	-	-	1	8
Water quantity	-	-	1	1	-	-

*Fire Impacts*

Table 45 shows that for both 2001, the most commonly cited fire impacts were: ‘fire ban’, ‘forest fires’, ‘fires’ and ‘grass fires’.

**Table 45 Nova Scotia: Fire Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fire ban	15	1	-	-	4	2
Forest fires	14	2	-	-	11	1
Fires	3	3	-	-	1	3
Grass fires	1	4	-	-	-	-

*Economic Impacts*

Table 46 indicates the types of economic impact cited most often in 2001 were: ‘government intervention’, ‘financial’ and ‘markets’. In 2002, this trend changed to ‘government intervention’, followed by ‘markets’ and ‘financial’.

**Table 46 Nova Scotia: Economic Impacts (by Type)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Government Intervention	12	1	1	1	10	1
Financial	7	2	-	-	1	3
Markets	2	3	-	-	4	2

Table 47 demonstrates that in 2001, the most commonly cited economic impacts were: ‘aid/relief’, ‘loans’ and ‘bankruptcy’. In 2002, the trend was: ‘aid/relief’, followed by ‘subsidies’ and ties between ‘loans’, ‘higher crop prices’, ‘seed prices’ (new), ‘feed import’ (new) and ‘CP/CN rail’ (new).

**Table 47 Nova Scotia: Economic Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Aid/Relief	11	1	1	1	6	1
Loans	3	2	-	-	1	3
Bankruptcy	2	3	-	-	-	-
Higher crop prices	1	4	-	-	1	3
Decreasing farmland values	1	4	-	-	-	-
Subsidies	1	4	-	-	4	2
Losses	1	4	-	-	-	-
Decreasing profit margins	1	4	-	-	-	-
Seed prices	-	-	-	-	1	3
Feed import	-	-	-	-	1	3
CP/CN rail	-	-	-	-	1	3

*Health Impacts*

- None reported

*Adaptations*

Table 48 demonstrates that in 2001 the most common adaptation types are: ‘water adaptations’, ‘insurance and support’, ‘crop and soil adaptations’ and ‘community based initiatives’. 2002 was the same except that it didn’t have ‘community based initiatives’.

**Table 48 Nova Scotia: Adaptation Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water Adaptations	26	1	3	1	21	1
Insurance and Support	15	2	2	2	5	2
Crops and Soil Adaptations	4	3	-	-	2	3
Community Based Initiatives	4	3	-	-	-	-
Livestock Adaptation	3	5	-	-	1	4

Other Adaptation	2	6	-	-	1	4
Research and Technology	1	7	-	-	1	4

Table 49 shows that in 2001, the most commonly cited adaptations are: 'irrigation', the 'Canadian Farm Income Program (CFIP)', followed by a tie between 'crop insurance' and 'water management'. In 2002, the most frequently cited adaptations are: 'irrigation', 'water management' and 'crop insurance'. In 2002, there are several new adaptations cited: 'mulch', 'water storage', 'water conservation', 'monitoring', 'organic production', 'watering systems', and the 'Spring Credit Advance Program (SCAP)'.

**Table 49 Nova Scotia: Adaptations (All Types)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Irrigation	20	1	1	2	13	1
Canadian Farm Income Program (CFIP)	6	2	1	2	-	-
Crop insurance	4	3	-	-	2	3
Water management	4	3	2	1	6	2
Net Income Stabilization Account (NISA)	3	5	1	2	-	-
Drought-tolerant/resistant crops	3	5	-	-	-	-
Stress/Help/Farm Lines	2	7	-	-	-	-
Stop farming	2	7	-	-	-	-
Hay exchange	2	7	-	-	-	-
Crop stress protectants	1	10	-	-	-	-
Disaster Assistance	1	10	-	-	-	-
Selling livestock	1	10	-	-	-	-
Shared pastures	1	10	-	-	-	-
Using winter feed	1	10	-	-	-	-
Research needs	1	10	-	-	-	-
Aquifers	1	10	-	-	-	-
New Water Sources	1	10	-	-	-	-
Tax deferral	1	10	-	-	-	-
Mulch	-	-	-	-	2	3
Water storage	-	-	-	-	1	4
Water conservation	-	-	-	-	1	4
Monitoring	-	-	-	-	1	4
Organic production	-	-	-	-	1	4
Watering systems	-	-	-	-	1	4
Spring Credit Advance Program (SCAP)	-	-	-	-	1	4

Prince Edward Island

*Crops*

Table 50 indicates that 2001 the most commonly cited impact crops are: potatoes, cauliflower and cole crops. In 2002, this changes to: potatoes, barley and corn.

**Table 50 Prince Edward Island: Crop Types (excluding summary classifications)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Potatoes	96	1	67	1	56	1
Cauliflower	12	2			1	6
Cole Crops	9	3	1	4	1	6
Hay	8	4	1	4	2	4
Broccoli	8	4	1	4	-	-
Cabbage	6	6	1	4	-	-
Corn	6	6	3	3	3	3
Carrots	5	8	-	-	-	-
Turnips	5	8	-	-	1	6
Blueberries	4	10	3	3	-	-
Lettuce	4	10	-	-	1	6
Barley	3	12	5	2	6	2
Apples	3	12	1	4	-	-
Raspberries	3	12	-	-	-	-
Rutabaga	3	12	-	-	-	-
Strawberries	3	12	-	-	2	4
Green/Snap/String/Wax Beans	2	17	-	-	-	-
Soybeans	2	17	-	-	-	-
Peppers	2	17	-	-	-	-
Peas	2	17	-	-	1	6
Parsnips	2	17	-	-	-	-
Brussel Sprouts	1	22	-	-	-	-
Cucumber	1	22	-	-	-	-
Grapes	1	22	-	-	-	-
Wheat	1	22	3	3	1	6
Spring Wheat	1	22		-	-	-
Durum	1	22	1	4	-	-
Wine	1	22	-	-	-	-
Oats	1	22	-	-	-	-
Canola	-	-	1	4	1	6
Cranberries	-	-	-	-	1	6
Dry beans	-	-	1	4	-	-
Soybeans	-	-	1	4	-	-

Table 51 shows that in 2001, the summary crop types cited as most affected as vegetables, then fruits and forage. In 2002, the types cited as most affected are vegetables, grains, followed by a tie between fruit, forage and oilseeds.

**Table 51 Prince Edward Island: Summary Crop Classifications**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Vegetables	22	1	2	3	4	1
Fruits	12	2	4	1	1	3
Forage	9	3	3	2	1	3
Grains	7	4	4	1	3	2
Oilseeds	1	5	1	4	1	3

Table 52 indicates that in 2001 the most cited effects on crops are: ‘diminished crop yield’, ‘lower crop quality’, and ‘crops and soil’. In 2002, the pattern is: ‘diminished crop yield’, followed by a tie between ‘lower crop quality’ and ‘crops and soil’, followed by ‘problems with harvesting/storage’.

**Table 52 Prince Edward Island: Effects on Crops**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Diminished crop yield	41	1	14	1	21	1
Lower crop quality	17	2	12	2	5	2
Crops and soil	9	3	2	4	5	2
Problems w harvesting/storage	8	4	9	3	3	4
Crop growth	8	4	1	5	2	5
Moisture/crop stress	6	6	-	-	1	7
Crop loss	4	7	-	-	-	-
Silage	3	8	-	-	-	-
Better crop quality	1	9	1	5	-	-
Nutrient deficiency	1	9	-	-	-	-
Potassium deficiency	1	9	-	-	-	-
Crop loss	-	-	2	4	2	5
Silage	-	-	1	5	1	7
Pollination problems	-	-	1	5	-	-

Table 53 highlights the most commonly cited pest and nutrient management issues for crops. In 2001, they were: ‘brown spot/black dot (potatoes)’, ‘aphids’ and ‘army worm’. In 2002, the issues of the most concern were: ‘aphids’, ‘army worm’, ‘potato beetles’ and ‘mosaic virus’.

**Table 53 Prince Edward Island: Pest, Disease and Nutrient Management**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Brown Spot/Black Dot (Potatoes)	2	1			1	5
Aphids	2	1	6	1	5	1
Army Worm	2	1	1	4	2	2

Earthworms	1	4		-	-	-
Potato Beetles	1	4	1	4	2	2
Potato Scab	1	4	-	-	-	-
Problems with fertilizer application	1	4	-	-	-	-
Mosaic Virus	-	-	4	2	2	2
Leaf Roll Virus	-	-	2	3	-	-
Soybean Mosaic Virus	-	-	-	-	1	5

Table 54 highlights that in 2001 and 2002 the only wildlife impact cited was ‘fish’.

**Table 54 Prince Edward Island: Wildlife Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fish	2	1	1	1	1	1
Mosquitoes	-	-	1	1	-	-

Table 55 indicates that in 2001, the most common pasture/soil impacts were ‘pasture’ and ‘low soil moisture’. In 2002, the only cited impact was ‘pastures’.

**Table 55 Prince Edward Island: Pasture/Soil Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Pastures	5	1	-	-	2	1
Low soil moisture	2	2	-	-	-	-

Table 56 highlights in 2001 the most cited other vegetation impacts were ‘grass/lawn/turf/sod’, then ‘trees’. In 2002, ‘trees’ became the most cited impact, followed by ‘grass/lawn/turf/sod’.

**Table 56 Prince Edward Island: Other Vegetation Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Grass/lawns/turf/sod	10	1	-	-	2	2
Trees	1	2	-	-	3	1

*Livestock*

Table 57 indicates that in 2001, ‘livestock’, ‘pigs’ and ‘dairy’ were cited as the most affected livestock type. In 2002, ‘pigs’, followed by a tie between ‘dairy’ and ‘cattle’, were cited as the most affected livestock types.

**Table 57 Prince Edward Island: Livestock Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Livestock	5	1	-	-	1	4
Pigs	3	2	3	1	5	1
Dairy	2	3	-	-	2	2
Cattle	1	4	-	-	2	2
Beef			1	2		-

Table 58 illustrates that only cite impact for both 2001 and 2002 is ‘feed quantity’.

**Table 58 Prince Edward Island: Livestock Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Feed quantity	3	1	-	-	1	1

#### *Water Impacts*

Table 59 highlights that in 2001, the most cited water impacts were: ‘low precipitation’, ‘water table’ and ‘wells’. In 2002, the most cited water impacts were: ‘low precipitation’, ‘water table’ and ‘rivers’.

**Table 59 Prince Edward Island: Water Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Low precipitation	16	1	-	-	6	1
Water table	11	2	-	-	5	2
Wells	8	3	-	-	-	-
Reservoirs	4	4	-	-	-	-
Streams	4	4	-	-	-	-
Timing of precipitation	4	4	-	-	-	-
Rivers	3	7	-	-	3	3
Low water levels	2	8	-	-	-	-
Watering ban	1	9			-	-
Groundwater	1	9	-	-	1	5
Low snow cover	1	9	-	-	-	-
Lake levels	-	-	-	-	1	5
Great Lakes	-	-	-	-	2	4

#### *Fire Impacts*

Table 60 shows that for 2001 the most cited fire impacts were: ‘forest fires’, ‘fire ban’ and ‘fires’. In 2002, the same pattern occurred, except there were no citations of ‘fires’.

**Table 60 Prince Edward Island: Fire Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Forest fires	8	1	1	1	2	1
Fire ban	7	2	-	-	1	2
Fires	1	3	-	-	-	-

*Economic Impacts*

Table 61 demonstrates that in 2001, the most commonly cited types of economic impacts were: ‘financial’, ‘market’ and ‘government intervention’. In 2002, the trend changed to: ‘market’, ‘government intervention’, followed by ‘financial’.

**Table 61 Prince Edward Island: Economic Impacts (by Type)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Financial	30	1	22	2	11	3
Market	20	2	24	1	19	1
Government Intervention	14	3	16	3	12	2

Table 62 indicates that in 2001, the most cited economic impacts were: ‘aid/relief’, ‘losses’ and ‘failure to meet contract’. In 2002, the trend was ‘higher crop prices’, followed by ‘decreased farm income’ and ties between ‘aid/relief’ and ‘subsidies’.

**Table 62 Prince Edward Island: Economic Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Aid/Relief	13	1	8	3	6	3
Losses	11	2	9	2	2	7
Failure to meet contract	9	3	5	4	2	7
Higher crop prices	6	4	14	1	10	1
Decreased farm income	6	4		1	7	2
Loans	4	6	4	5	3	5
Payments	3	7	1	7	2	7
Higher feed prices	2	8	1	7	3	5
Bankruptcy	2	8	1	7	1	11
Job loss	2	8	1	7	2	7
High fertilizer prices	1	11	-	-	-	-
Feed import	1	11	-	-	-	-
Subsidies	1	11	8	3	6	3
Product import	1	11	-	-		
Food processing plant closures/slow-downs	1	11	-	-	-	-
Debt	1	11	2	6	-	-
Lower livestock prices	-	-			2	6

Seed prices	-	-			1	11
Lower crop prices	-	-	2	6	1	11
Higher milk prices	-	-	1	7	1	11
Feed import	-	-	1	7	-	-
Decreasing farm equipment sales	-	-	1	7	-	-
Decreasing profit margins	-	-	1	7	-	-
Product import	-	-	1	7	-	-

### *Health Impacts*

- None reported

### *Adaptations*

Table 63 demonstrates that in 2001, the most common adaptation types were: ‘water adaptations’, ‘insurance and support’, and ‘crop and soil adaptations’. In 2002, the most frequently cited adaptation types were: ‘water adaptations’, ‘crop and soil adaptations’ and ‘insurance and support’.

**Table 63 Prince Edward Island: Adaptation Types**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water adaptations	22	1	15	1	13	1
Insurance and support	21	2	12	2	4	3
Crop and soil adaptations	4	3	3	3	8	2
Community based initiatives	3	4	-	-	-	-
Research and technology	2	5	-	-	1	4
Livestock adaptations	1	6	-	-	1	4

Table 64 shows that in 2001, the most commonly cited adaptations were: ‘irrigation’, ‘crop insurance’ and the ‘Canadian Farm Income Program (CFIP)’. In 2002, the most frequently cited adaptations were: ‘irrigation’, ‘vegetative buffers’ and the ‘Net Income Stabilization Account (NISA)’ program.

**Table 64 Prince Edward Island: Adaptations (All Types)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Irrigation	19	1	13	1	12	1
Crop insurance	13	2	6	2	1	4
Canadian Farm Income Program (CFIP)	3	3	1	5	1	4
Hay exchange	2	4				
Net Income Stabilization Account (NISA)	2	4	3	3	2	3
Water Conservation	2	4	1	5		
Disaster Assistance	2	4	-	-	-	-
Watering systems	1	8	-	-	1	4

Tax deferral	1	8	-	-	-	-
Water storage	1	8	-	-	-	-
Monitoring	1	8	-	-	1	4
Research needs	1	8	-	-	-	-
Planting methods	1	8	-	-	1	4
Mulch	1	8	-	-	-	-
Harvesting methods	1	8	-	-	-	-
Drought-tolerant/resistant crops	1	8	1	5	1	4
Stress/Help/Farm Lines	1	8	-	-	-	-
Vegetative buffers	-	-	2	4	5	2
Water management		-	-		1	4
Crop rotations		-	-		-	-
Water storage	-	-	1	5	-	-
Agricultural Disasters Insurance Program	-	-	1	5	-	-
Spring Credit Advance Program (SCAP)		-	1	5	-	-

### *All Provinces Summary*

#### Geographically

There were a total of 1001 articles for 2001 and 801 articles for 2002 for Ontario, New Brunswick, Prince Edward Island, and Nova Scotia.

Table 65 identifies the number of articles per year by province. For all provinces, there were more articles for 2001 than 2002. In Ontario, it appears that the mention of drought or related keywords only decreases slightly from 2001 to 2002. In Atlantic Canada, the decrease from 2001 to 2002 is much more marked. For PEI, there were numerous mentions of the 2001 drought in 2002 (95) perhaps highlighting the seriousness of the drought there.

**Table 65 Number of Articles by Province and Year**

	2001 EK	2002 ID	2002 EK
Ontario	573	5	567
New Brunswick	163	13	72
Nova Scotia	118	8	71
Prince Edward Island	147	95	91
TOTAL	1001	121	801

Table 66 highlights the number of front page articles by year. For all provinces (except for Nova Scotia), there were more articles for 2001 than 2002. Again for PEI, there were numerous front page articles concerning 2001 drought impacts in 2002, again possibly underlining the drought intensity then.

**Table 66 Number of Articles by Province and Year (Front Page)**

	2001 EK	2002 ID	2002 EK
Ontario	126	2	42
New Brunswick	42	1	22

Nova Scotia	12	-	13
Prince Edward Island	59	33	52
TOTAL	239	35	129

Table 67 indicates that in 2001, all provinces experienced the highest number of articles in August 2001. As well, for all provinces the highest number of front page articles occurred in August 2001. In 2002, Ontario had the highest number of articles (130) in July 2002, while New Brunswick had its highest number of articles (16) in January 2002 (during the urban drought in Moncton and Fredericton). In 2002, Nova Scotia had the highest number of articles in August 2002 (16), and Prince Edward Island had its highest number of articles (13) in October 2002. Front page articles for 2002 were highest for Ontario in July (25), New Brunswick (4) in February 2002, Nova Scotia (2) in June and July and for Prince Edward Island (2) in March, May and June.

**Table 67 Number of Articles by Province and Month (Front Page)**

Month	ON		ON EK		NB		NB EK		NS		NS EK		PEI		PEI EK	
	All	FP	All	FP	All	FP	All	FP	All	FP	All	FP	All	FP	All	FP
04/2001	0	0	8	2	1	1	1	1	7	2	4	1	0	0	0	0
05/2001	9	1	7	0	7	2	4	2	4	0	3	0	5	0	3	0
06/2001	18	3	13	1	5	0	3		5	1	5	1	3	0	2	0
07/2001	67	17	67	17	7	1	5	1	9	0	7	0	10	2	7	2
08/2001	289	73	280	71	78	24	78	24	49	5	46	5	50	18	49	18
09/2001	86	14	83	14	38	6	37	6	25	1	23	1	33	13	32	13
10/2001	62	10	61	10	22	5	20	5	15	2	12	2	26	11	25	11
11/2001	25	2	25	2	9	2	9	2	8	0	8	0	21	10	16	9
12/2001	32	4	31	4	7	1	7	1	11	1	9	1	19	5	12	0
01/2002	40	6	39	5	17	4	16	3	4	1	4	1	22	7	11	2
02/2002	18	2	16	2	17	4	14	4	7	1	5	1	31	8	17	4
03/2002	20	3	18	3	15	0	14	0	7	1	7	1	19	6	10	2
04/2002	34	3	32	3	3	0	3	0	2	0	2	0	16	3	5	0
05/2002	22	5	18	5	6	0	3	0	11	0	5	0	13	6	6	2
06/2002	24	7	20	7	7	0	5	0	11	2	11	2	18	5	9	2
07/2002	141	26	130	25	4	0	0	0	10	3	7	2	10	1	3	0
08/2002	126	22	77	14	15	1	5	1	29	5	16	1	25	5	12	0
09/2002	103	15	76	12	7	2	4	0	7	1	4	0	7	3	1	0
10/2002	72	10	65		9	0	6	0	10	1	5	0	23	5	13	0
11/2002	46	3	42	2	3	0	1	0	5	0	4	0	14	2	8	0
12/2002	40	4	36	3	2	0	1	0	8	1	3	1	10	1	7	0

*Analysis by Census Agricultural Region*

Table 68 indicates that in 2001 and 2002 for New Brunswick, the CARs most cited were Agricultural Region 3 followed by Agricultural Region 4 (northeast) and Agricultural Region 1 (southwest). In 2001 and 2002, Southern Ontario followed by Western Ontario and Eastern Ontario were the most cited CARs in Ontario. For Nova Scotia, in 2001 and 2002, the most frequently cited CARs were NS Agricultural Regions 2&3 (central). There was not enough geographical information to determine accurately the most affected CAR for PEI in either year.

**Table 68 Top Census Agricultural Region and Year**

Province	Census Agricultural Region	2001		2001 EK		2002		2002 EK		2002 ID	
	CAR	###	Rank	###	Rank	###	Rank	###	Rank	## #	Rank
New Brunswick	NB Agricultural Region 3	48	1	47	1	25	1	22	1	23	6
New Brunswick	NB Agricultural Region 1	15	2	12	3	2	3	1	3	1	13
New Brunswick	NB Agricultural Region 4	15	2	12	3	2	3	1	3	1	13
New Brunswick	NB Agricultural Region 2	14	3	13	2	9	2	7	2	7	9
Nova Scotia	NS Agricultural Region 2	38	1	37	2	39	1	27	1	30	1
Nova Scotia	NS Agricultural Region 3	38	1	38	1	32	2	20	2	22	2
Nova Scotia	NS Agricultural Region 1	9	3	9	3	4	5	3	5	4	4
Nova Scotia	NS Agricultural Region 4	8	4	8	4	5	4	4	4	4	4
Nova Scotia	NS Agricultural Region 5	6	5	6	5	7	3	7	3	7	3
Ontario	Southern Ontario	246	1	240	1	263	1	239	1	239	1
Ontario	Western Ontario	132	2	128	2	170	2	136	2	136	2
Ontario	Eastern Ontario	103	3	96	3	98	3	69	3	69	3
Ontario	Central Ontario	55	4	54	4	50	4	46	4	47	4
Ontario	Northern Ontario	40	5	40	5	32	5	20	5	20	5
Prince Edward Island	PEI Agricultural Region 2	1	1	1	1	0	1	0	1	0	1
Prince Edward Island	PEI Agricultural Region 3	1	1	1	1	0	1	0	1	0	1

Keywords*Crops*

Table 69 indicates that in 2001, the crops most frequently cited as affected were: ‘potatoes’, ‘corn’, ‘soybeans’ and ‘hay’. In 2002, these crops were: ‘corn’, ‘soybeans’, ‘potatoes’ and ‘hay’.

**Table 69 Articles by Crop Types and Year (Top 10)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Potatoes	164	1	72	1	96	3
Corn	154	2	5	2	146	1
Soybeans	123	3	2	4	137	2
Hay	68	4	-	-	71	4
Tomatoes	35	5	2	4	29	6
Apples	33	6	-	-	33	5
Blueberries	30	7	3	3	7	10
Grapes	29	8	-	-	8	9
Broccoli	23	9	1	6	27	7
Cabbage	23	9	1	6	10	8
Green/Snap/String/Wax Beans	23	9	-	-	-	-

highlights that vegetables, grains and fruits were the most frequently cited summary crop types in 2001. In 2002, these were grains, fruits and vegetables.

Table 70 highlights that vegetables, grains and fruits were the most frequently cited summary crop types in 2001. In 2002, these were grains, fruits and vegetables.

**Table 70 Articles by Summary Crop Types and Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Vegetables	114	1	3	3	53	3
Grains	76	2	5	1	66	1
Fruits	76	2	5	1	55	2
Forage	38	4	3	3	29	4
Oilseeds	16	5	1	5	18	5
Cereals	6	6	-	-	11	6

Table 71 indicates that for 2001 and 2002 the top cited crop impacts were: ‘diminished crop yield’, ‘crop quality’, ‘crop growth’ and ‘moisture/crop stress’. In 2002, the mention of ‘green bean syndrome’, ‘dry soybeans’ and ‘boron deficiency’ emerged for the first time.

**Table 71 Crop Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Diminished crop yield	250	1	19	1	168	1

Lower crop quality	88	2	12	2	39	2
Crop growth	46	3	2	6	37	3
Moisture/crop stress	46	3	-	-	33	4
Crops and soil	36	5	4	4	22	5
Problems w harvesting/storage	33	6	10	3	21	6
Wilt damage	21	7	-	-	19	7
Pollination problems	20	8	2	6	16	8
Silage	20	8	1	8	8	9
Crop loss	14	10	-	-	5	12
Better crop quality	13	11	3	5	7	10
Ground Level Ozone	8	12	-	-	2	16
Nutrient deficiency	4	13	-	-	5	12
Potassium deficiency	3	14	-	-	-	-
Effects on next year's crops	2	15	-	-	-	-
Crop size	2	15	-	-	1	17
Sun Scald	2	15	-	-	3	14
Seed shortages	1	18	-	-	-	-
Lodging	1	18	-	-	3	14
Green bean syndrome	-	-	-	-	6	11
Boron deficiency	-	-	-	-	1	17
Dry soybeans	-	-	-	-	1	17

Table 72 highlights that in 2001, the most frequently cited disease, pest and nutrient management impacts were ‘aphids’, ‘army worms’ and ‘spider mites’. In 2002, the trend was ‘aphids’, ‘spider mites’ and ‘army worms’. In 2002, there were several new keywords cited: ‘black rot’, ‘blossom drop’ and ‘Angular Leaf Spot’.

**Table 72 Disease, Pest and Nutrient Management Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Aphids	38	1	6	1	35	1
Army Worm	18	2	2	3	4	3
Spider Mites	10	3	-	-	7	2
Potato Beetles	8	4	2	3	3	6
Earthworms	7	5	-	-	1	21
Problems with fertilizer application	6	6	-	-	2	10
Potato Scab	3	7	-	-	-	-
Lady Bugs	3	7	-	-	2	10
Problems with herbicide/pesticide application/performance	3	7	-	-	3	6
Fusarium	3	7	-	-	4	3
Brown Spot/Black Dot (Potatoes)	3	7	-	-	2	10
Late Blight	2	12	-	-	-	-

Soybean Mosaic Virus	2	12	-	-	2	10
Powdery Mildew	2	12	-	-	-	-
Two-Spotted Spider Mites	2	12	-	-	-	-
Soybean Systematode	2	12	-	-	-	-
Verticillium Wilt	1	17	-	-	-	-
Dry Rot	1	17	-	-	-	-
Early Blight	1	17	-	-	-	-
Potato Leafhopper	1	17	-	-	3	6
White Apple Leafhopper	1	17	-	-	2	10
Blossom-End Rot	1	17	-	-	2	10
Herbicide carryover	1	17	-	-	2	10
Root rot	1	17	-	-	-	-
Nematodes	1	17	-	-	4	3
Mosaic Virus	-	-	4	2	2	10
Leaf Roll Virus	-	-	2	3	-	-
Black Rot	-	-	-	-	3	6
Blossom drop	-	-	-	-	2	10
Angular Leaf Spot	-	-	-	-	2	10

Table 73 indicates that the most cited wildlife impacts for 2001 were: ‘fish’, ‘mosquitoes’ and ‘bears’. For 2002, the trend was: ‘fish’, ‘mosquitoes’ and ‘ducks’. ‘Snakes’ emerged for the first time as a cited wildlife impact in 2002.

**Table 73 Wildlife Impacts**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Fish	44	1	1	1	27	1
Mosquitoes	15	2	1	1	3	2
Bears	13	3	-	-	1	4
Other wildlife	4	4	-	-	-	-
Angling ban/closure	3	5	-	-	-	-
Ducks	3	5	-	-	2	3
Deer	2	7	-	-	-	-
Botulism	1	8	-	-	-	-
Snakes			-	-	1	4

Table 74 identifies the most cited pasture/soil impacts for 2001 as ‘pastures’, ‘low soil moisture’ and ‘soil compaction’. In 2002 ‘low soil moisture’ replaced ‘pastures’ as the most cited impacts.

**Table 74 Pasture/Soil Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Pastures	38	1	-	-	18	2
Low soil moisture	25	2	1	1	23	1

Soil compaction	4	3	-	-	2	3
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*Livestock*

Table 75 indicates that in 2001 the most frequently cited livestock type were ‘livestock’, ‘cattle’ and ‘dairy’. In 2002 these were ‘cattle’, ‘livestock’ and ‘pigs’.

**Table 75 Livestock Type by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Livestock	60	1	1	2	46	2
Cattle	37	2	-	-	55	1
Dairy	31	3	1	2	23	4
Pigs	19	4	4	1	28	3
Beef	16	5	1	2	14	5
Horses	7	6	-	-	13	6
Poultry	4	7	-	-	7	8
Sheep	3	8	-	-	9	7
Eggs	2	9	-	-	2	9

Table 76 highlights that in ‘feed quality/vitamin deficiencies’, ‘feed quantity’, ‘nitrate poisoning’, ‘milk yield’ and ‘heat stress (livestock)’ were cited most frequently. In 2002, the trend was ‘feed quality/vitamin deficiencies’ and ‘feed quantity’, followed by ties between ‘nitrate poisoning’ and ‘breeding problems’ (new) and sunburns (new) and ‘other feed poisoning’ (new).

**Table 76 Livestock Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Feed quality / vitamin deficiencies	10	1	-	-	5	1
Feed quantity	8	2	-	-	4	2
Nitrate poisoning	3	3	-	-	1	3
Milk yield	3	3	-	-	-	-
Heat stress (livestock)	3	3	-	-	1	3
Abandoned livestock	1	6	-	-	-	-
Breeding problems	-	-	-	-	1	3
Sunburns	-	-	-	-	1	3
Other feed poisoning	-	-	-	-	1	3

*Other Vegetation*

Table 77 indicates the most frequently cited vegetation types affected were ‘grass/lawn/turf/sod’, ‘trees’ and ‘woodlots’ in 2001 and 2002.

**Table 77 Other Vegetation Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Grass/lawns/turf/sod	161	1	-	-	113	1
Trees	95	2	1	1	82	2
Woodlots	7	3	-	-	6	3

*Water Impacts*

Table 78 highlights that in 2001 the most frequently cited water impacts were: ‘low precipitation’, ‘rivers’ and ‘reservoirs’. In 2002 these were ‘rivers’, ‘low precipitation’ and ‘streams’.

**Table 78 Water Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Low precipitation	109	1	4	3	86	2
Rivers	95	2	-	-	94	1
Reservoirs	72	3	1	6	56	5
Streams	68	4	2	4	67	3
Wells	62	5	10	2	60	4
Low water levels	57	6	-	-	49	8
Watering ban	51	7	-	-	31	12
Timing of precipitation	37	8	2	4	39	9
Water restrictions	36	9	-	-	54	6
Great Lakes	32	10	1	6	52	7
Low water flow	27	11	-	-	32	11
Water table	24	12	11	1	19	14
Groundwater	23	13	2	4	37	10
Ponds	20	14	-	-	23	13
Wetlands	14	15	-	-	9	17
Lake levels	12	16	-	-	12	15
Surface water	9	17	2	4	7	18
Water quantity	5	18	1	6	1	21
Water quality/boil-orders	4	19	-	-	2	20
Low snow cover	3	20	2	4	10	16
Beach closures	1	21	-	-	3	19
Dugouts	1	21	-	-	-	-

*Fire Impacts*

Table 79 highlights that in 2001 and 2002 the most frequently cited fire incidences were ‘forest fires’, ‘fire ban’ and ‘fires’ (generic). In 2002, the first citation of ‘cancellation of controlled burns’ occurs.

**Table 79 Fire Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Forest fires	86	1	1	1	29	1
Fire ban	73	2	-	-	20	2
Fires	32	3	-	-	7	3
Grass fires	14	4	-	-	4	4
Cancellation of controlled burns	-	-	-	-	2	5

*Economic Impacts*

Table 80 highlights that in 2001 the most cited economic impact types were: ‘government intervention’, ‘financial’ and ‘markets’. In 2002, this trend was ‘government intervention’, ‘markets’ and ‘financial’.

**Table 80 Economic Impact Types by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Government Intervention	69	1	19	3	71	1
Financial	51	2	23	2	23	3
Markets	45	3	28	1	45	2

Table 81 indicates in 2001 and 2002, the most frequently cited economic impacts were ‘aid/relief’, ‘subsidies’, and ‘higher crop prices’. In 2002, there were several new cited economic impacts (highlighted in yellow in Table 81).

**Table 81 Economic Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Aid/Relief	49	1	10	2	38	1
Subsidies	20	2	9	4	33	2
Higher crop prices	19	3	17	1	18	3
Losses	14	4	10	2	2	9
Failure to meet contract	11	5	5	5	2	9
Loans	11	5	4	6	9	4
Decreased farm income	7	7	1	9		
Bankruptcy	6	8	1	9	2	9
Higher feed prices	4	9	1	9	5	5
Decreasing profit margins	4	9	1	9	1	16
Insurance premium increase	3	11			5	5
Payments	3	11	1	9	2	9
Feed import	2	13	1	9	1	16
Lower crop prices	2	13	2	7	5	5
Job loss	2	13	1	9	2	9

Food processing plant closures/slow-downs	2	13	-	-	1	16
Debt	1	17	2	7	1	16
Decreasing farmland values	1	17	-	-	-	-
Product import	1	17	1	9	-	-
Higher anticipated prices	1	17	-	-	2	9
High fertilizer prices	1	17	1	9		
Energy Prices	1	17	-	-	1	16
Seed prices			-	-	4	8
Decreasing farm equipment sales	-	-	1	9		
Lower livestock prices	-	-	-	-	2	9
Higher milk prices	-	-	1	9	1	16
CP/CN Rail	-	-	-	-	1	16
Off-farm employment	-	-	-	-	1	16

### Health Impacts

Table 82 highlights only 'silo gas' as cited in 2001. In 2002, 'silo gas', 'allergies', 'mental health/suicide' and 'stress' were all cited as health impacts.

**Table 82 Health Impacts by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Silo Gas	6	1	-	-	3	1
Allergies	-	-	1	1	1	2
Stress	-	-	-	-	1	2
Mental health/suicide	-	-	-	-	1	2

### Adaptations

highlights the top adaptations types cited for 2001 and 2002 as 'water adaptations', 'insurance and support', and 'crops and soil'.

Table 83 highlights the top adaptations types cited for 2001 and 2002 as 'water adaptations', 'insurance and support', and 'crops and soil'.

**Table 83 Adaptation Types by Year**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Water Adaptations	179	1	19	1	186	1
Insurance and Support	132	2	19	1	78	2
Crops and Soil Adaptations	34	3	6	3	52	3
Policy/Irrigation	22	4	-	-	38	4
Livestock Adaptation	14	5	-	-	10	5

Community Based Initiatives	14	5	-	-	7	7
Research and Technology	11	7	-	-	10	5
Other Adaptations	4	8	-	-	2	8

Table 84 indicates that ‘irrigation’, ‘crop insurance’ and ‘water conservation’ were the most frequently cited adaptations in 2001. In 2002, ‘irrigation’, ‘crop insurance’ and ‘Ontario Low Water Response (OLWR)/Water Response Team (WRT)’ were cited the most. Some new adaptations mentioned in 2002 were: the ‘Agricultural Disasters Insurance Program’ (federal-provincial, part of Agriculture Income Disaster Assistance, PEI), ‘planting clover’, ‘Healthy Futures’, ‘crop rotation’, ‘rotational grazing’, ‘tree planting’, ‘water metering’ and ‘planting reed canarygrass’.

Also in 2002 we see increased mention of ‘mulching’, ‘water management’, ‘tax deferral’, ‘drip irrigation’, ‘new water sources’, ‘forage insurance’, ‘subirrigation’, ‘vegetative buffers’ and ‘Irrigation Advisory Committees’.

**Table 84 Adaptations by Year (All Types)**

Keyword	2001 EK		2002 ID		2002 EK	
	#	Rank	#	Rank	#	Rank
Irrigation	110	1	15	1	91	1
Crop insurance	71	2	7	2	39	2
Water Conservation	39	3	1	7	36	4
Ontario Low Water Response (OLWR)/Water Response Teams (WRT)	22	4	-	-	38	3
Net Income Stabilization Account (NISA)	19	5	4	3	5	16
Canadian Farm Income Program (CFIP)	13	6	2	5	2	27
Water management	11	7	2	5	15	6
Disaster Assistance	10	8	-	-	1	37
Drought-tolerant/resistant crops	9	9	1	7	10	8
Mulch	8	10	-	-	17	5
Market Revenue Insurance Program (MRIP)	7	11	-	-	8	11
Stress/Help/Farm Lines	7	11	-	-	1	37
Hay exchange	6	13	-	-		
Monitoring	5	14	-	-	5	16
Using winter feed	5	14	-	-	1	37
Tax deferral	4	16	-	-	9	10
Ontario Farm Income Disaster Program	4	16	-	-	1	37
Research needs	4	16	-	-	1	37
Water storage	4	16	1	7	13	7
Water hauling/trucking	4	16	-	-	4	19
Stop farming	3	21	-	-		
Selling livestock	3	21	-	-		
Feed supplementation	3	21	-	-	4	19

Adjusting harvesting times	3	21	-	-		
Apply foliar sprays to offset limited nutrient uptake	2	25	-	-		
Planting according to soil type	2	25	-	-	1	37
Conservation tillage	2	25	-	-		
New Water Sources	2	25	-	-	7	12
Forage insurance	2	25	-	-	4	19
Grey/waste-water irrigation	2	25	-	-		
Watering systems	2	25	-	-	2	27
Pond and Pump Irrigation Systems	2	25	-	-	2	27
Drip Irrigation	2	25	-	-	10	8
Planting clover	1	34	-	-	2	27
Wetland conversion/enhancement	1	34	-	-	3	23
Subirrigation	1	34	-	-	3	23
No-till (Zero-till)	1	34	1	7	2	27
Adjusting planting times	1	34	1	7	3	23
Hybrids	1	34			4	19
Reinsurance	1	34				
Vegetative buffers	1	34	1	7	7	12
Spring Credit Advance Program (SCAP)	1	34	1	7	2	27
Harvesting methods	1	34	-	-	-	-
Crop stress protectants	1	34	-	-	-	-
Soil compression/compaction (adaptation)	1	34	-	-	-	-
New infrastructure	1	34	-	-	-	-
Organic production	1	34	-	-	2	27
Shared pastures	1	34	-	-	-	-
Aquifers	1	34	-	-	-	-
(IAC) Irrigation Advisory Committees	1	34			6	15
Planting methods	1	34	1	7	2	27
Agricultural Disasters Insurance Program	-	-	1	7	-	-
Healthy Futures	-	-	-	-	7	12
Crop rotation	-	-	-	-	5	16
Rotational grazing	-	-	-	-	3	23
Tree planting	-	-	-	-	2	27
Water metering	-	-	-	-	2	27
Plant reed canarygrass	-	-	-	-	1	37

### *Comparison between provinces*

This section will examine the top occurrence of keywords according to type for each province. If a keyword occurrence is considered insignificant (less than five occurrences), or there are multiple ties between keywords occurrence they will not be included in the table.

## Biophysical Impacts

### Crops

Table 85 indicates that in Ontario, ‘corn’ and ‘soybeans’ were the most affected crops, while for Atlantic Canada, ‘potatoes’ were cited as the most affected. In all provinces hay was cited in the top five for 2001.

**Table 85 Top Crops**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Corn	Soybeans	Potatoes	Potatoes	Hay	Potatoes	Potatoes	Potatoes
Soybeans	Corn	Apples	Hay	Potatoes	Hay	Cauliflower	Barley
Hay	Hay	Cabbage	Barley	Blueberries	Apples	Cole Crops	Corn
Tomatoes	Tomatoes	Blueberries	Peas	Corn		Hay	Hay
Grapes	Grapes	Hay	Canola	Apples		Broccoli	Strawberries

Table 86 indicates that for all years and provinces ‘diminished crop yield’ was the top cited impact. ‘moisture/crop stress’, ‘crop growth’ and ‘lower crop quality’ were also frequently cited.

**Table 86 Top Effects on Crops**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Diminished crop yield	Diminished crop yield	Diminished crop yield	Diminished crop yield	Diminished crop yield	Diminished crop yield	Diminished crop yield	Diminished crop yield
Lower crop quality	Crop growth	Lower crop quality	Moisture stress	Moisture/crop stress	Lower crop quality	Lower crop quality	Crops and soil
Crop growth	Lower crop quality	Moisture/crop stress	Problems w harvesting/storage	Lower crop quality	Moisture/crop stress	Crops and soil	Lower crop quality
Moisture/crop stress	Moisture/crop stress			Crop growth	Crop growth	Crop growth	Problems w harvesting/storage
Crops and soil	Wilt damage			Crops and soil	Problems w harvesting/storage	Problems w harvesting/storage	Crop growth

Table 87 highlights that in Ontario, ‘aphids’ and ‘spider mites’ were the most cited pest, disease and nutrient management issues, while in Atlantic Canada, ‘army worm’ was the major problem.

**Table 87 Top Pest, Disease and Nutrient Management Issues**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Aphids	Aphids	Potato Beetles	Army Worm	Army Worm	Army Worm	Army Worm	Aphids

Spider Mites	Spider Mites	Army Worm	-	Late Blight	Spider Mites	Brown Spot/Black Dot (Potatoes)	Army Worm
Problems with fertilizer application	Fusarium	Potato Scab	-	Earthworms	Aphids	Aphids	Mosaic Virus
Earthworms	Nematodes	Earthworms	-	-	-		Potato Beetles
-	-	Aphids	-	-	-		-

*Livestock*

Table 88 highlights that ‘cattle’, ‘dairy’ and ‘pigs’ were cited most consistently in all Eastern Provinces for both years.

**Table 88 Top Livestock**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Livestock	Cattle	Dairy	Cattle	Livestock	Dairy	Livestock	Pigs
Cattle	Livestock	Cattle	Livestock	Dairy	Cattle	Pigs	Cattle
Dairy	Pigs	Livestock	Dairy	Beef	Livestock	Dairy	Dairy
Pigs	Dairy	Eggs	Pigs	Cattle	Beef	Cattle	Livestock
Beef	Horses	-	-	-	Poultry	-	-

Table 89 indicates that in Ontario, for both 2001 and 2002, ‘feed quality / vitamin deficiencies’, followed by ‘feed quantity’ were the most cited livestock impacts. In PEI, ‘feed quantity’ was the most cited impact for both years.

**Table 89 Livestock Impacts**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Feed quality / vitamin deficiencies	Feed quality / vitamin deficiencies	Milk Yield	-	-	-	Feed quantity	Feed quantity
Feed quantity	Feed quantity	Feed quantity	-	-	-	-	-
Nitrate poisoning	Sunburns	-	-	-	-	-	-
Milk yield	Nitrate poisoning	-	-	-	-	-	-
Abandoned Livestock	Other feed poisoning	-	-	-	-	-	-

*Water*

Table 90 indicates that ‘rivers’, ‘low precipitation’ and ‘streams’ were the most cited water impacts in all provinces for both years.

**Table 90 Top Water Impacts**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Rivers	Rivers	Low precipitation	Low precipitation	Low precipitation	Low precipitation	Low precipitation	Wells
Low precipitation	Streams	Reservoirs	Reservoirs	Rivers	Rivers	Water table	Low precipitation
Streams	Low precipitation	Low water levels	Low water levels	Low water levels	Timing of precipitation	Wells	Water table
Watering ban	Water restrictions	Wells	Wells	Streams	Water table	-	Great Lakes
Reservoirs	Reservoirs	Low water flow	Streams	Ponds	-	-	-

Economic Impacts

Table 91 highlights that ‘aid/relief’ was the most consistently cited economic impacts.

**Table 91 Top Economic Impacts**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
2001	2002	2001	2002	2001	2002	2001	2002
Aid/Relief	Aid/Relief	Higher crop prices	Aid/Relief	Aid/Relief	Aid/Relief	Aid/Relief	Higher crop prices
Subsidies	Subsidies	Losses	-	Loans	Subsidies	Losses	Decreased farm income
Higher crop prices	Higher crop prices	Loans	-	Bankruptcy	-	Failure to meet contract	Subsidies
Insurance premium increase	Insurance premium increase	Food processing plant closures/slowdowns	-	-	-	Higher crop prices	Aid/Relief
Loans	Loans	Energy prices	-	-	-	Decreased farm income	-

Adaptations

highlights that ‘irrigation’, ‘crop insurance’ and ‘water conservation’ and ‘water management’ were the most commonly cited adaptations in the eastern provinces for both years.

Table 92 highlights that ‘irrigation’, ‘crop insurance’ and ‘water conservation’ and ‘water management’ were the most commonly cited adaptations in the eastern provinces for both years.

**Table 92 Top Adaptations**

<b>Ontario</b>		<b>New Brunswick</b>		<b>Nova Scotia</b>		<b>Prince Edward Island</b>	
<i>2001</i>	<i>2002</i>	<i>2001</i>	<i>2002</i>	<i>2001</i>	<i>2002</i>	<i>2001</i>	<i>2002</i>
Irrigation	Irrigation	Water Conservation	New Water Sources	Irrigation	Irrigation	Irrigation	Irrigation
Crop insurance	Ontario Low Water Response (OLWR) / Water Response Teams (WRT)	Irrigation	Water Conservation	Canadian Farm Income Program (CFIP)	Water management	Crop insurance	Vegetative buffers
Water Conservation	Crop insurance	Net Income Stabilization Account (NISA)	Tax deferral	Crop insurance	Crop insurance	Canadian Farm Income Program (CFIP)	Net Income Stabilization Account
Ontario Low Water Response (OLWR)/ Water Response Teams (WRT)	Water Conservation	-	-	Water management	Mulch	-	-
Net Income Stabilization Account (NISA)	Mulch	-	-	-	-	-	-

## CONCLUSIONS

The Print Media Survey highlighted that in Atlantic Canada, most citations of drought impacts/adaptations occurred in 2001 and decreased sharply in 2002. In Ontario, the citations of drought impacts/adaptations were about equal for both years.

The Survey indicated that the most cited crop types that were impacted were 'corn', 'soybeans', 'hay' and 'potatoes' (particularly in Atlantic Canada). The most commonly cited effects on crops were 'diminished crop yield', 'lower crop quality' 'moisture/crop stress' and 'crops and soil'. In 2002 there are some newly cited effects in relation to soybeans in Ontario. The most cited pest, disease and nutrient management impacts were 'aphids' (Ontario), 'army worm' (Atlantic Canada) and 'spider mites' (Ontario). In 2001, pastures and low soil moisture were cited most frequently, and reversed places in 2002. Types of other vegetations cited as frequently affected for 2001 and 2002 were 'grass/lawn/turf and sod' and 'trees'.

In 2001 and 2002 'cattle', 'livestock', 'dairy' were cited most frequently as affected. The top livestock drought impacts for both years were 'feed quality/vitamin deficiencies' and 'feed quantity'. 'Fish' (2001 & 2002), then 'mosquitoes' and 'bears' (2001) were the most cited wildlife impact across Eastern Canada.

The water impacts cited the most for 2001 were 'low precipitation', 'reservoirs', 'streams', and 'wells'. For 2002, these impacts were 'rivers', 'low precipitation', 'streams', 'wells' and 'reservoirs'.

For both 2001 and 2002 'forest fires' and 'fire ban' were the most cited fire impacts. In 2001 and 2002, the most frequently occurring economic impacts were 'aid/relief', 'subsidies' and 'higher crop prices'.

There was only negligible mention of social/health impacts of drought occurring in the survey. The only major recorded impact was the increased risk/occurrence of 'silo gas' poisoning.

Finally, in both years, 'irrigation' was the top adaptation, followed by 'crop insurance'. For Ontario, the 'Ontario Low Water Response (OLWR)/Water Response Teams (WRT)' programs also occurred frequently. In 2002, there was increased mention of several adaptation types and a number of new adaptations cited.

In conclusion, the Print Media Survey revealed novel impacts and adaptations and largely was in concurrence with other sources of information about the types, extent and severity of drought impacts and occurrences of adaptation (Richards and Burr ridge 2006, Truong 2006a, b, c, d, e).

## REFERENCES

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- Richards, W., E. Burrige. 2006. *Historical Drought Detection and Evaluation Using the Standardized Precipitation Index and Gridded Data*. CCIAP A932 “Canadian Agricultural Adaptations to 21<sup>st</sup> Century Droughts: Preparing for Climate Change”. Environment Canada. Saskatoon, SK.
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- Truong, A. 2006c *Ontario Fruit Crops 1979-2003 - Technical Report*. Adaptation and Impacts Research Group, Environment Canada, Toronto, ON, 30 pp.
- Truong, A. 2006d *Ontario Horticultural Crops - Technical Report*. Adaptation and Impacts Research Group, Environment Canada, Toronto, ON, 77 pp.
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## APPENDICES

**Table 93 List of Keywords and Classifications**

<b>Adaptations</b>	
<b>Main Keyword</b>	<b>Keyword</b>
Community Based Initiatives	(IAC) Irrigation Advisory Committees
Community Based Initiatives	Community Pastures
Community Based Initiatives	Hay exchange
Community Based Initiatives	Hay West
Community Based Initiatives	Stress/Help/Farm Lines
Crops and Soil Adaptations	Adjusting harvesting times
Crops and Soil Adaptations	Adjusting planting times
Crops and Soil Adaptations	Apply foliar sprays to offset limited nutrient uptake
Crops and Soil Adaptations	Conservation tillage
Crops and Soil Adaptations	Crop rotation
Crops and Soil Adaptations	Crop stress protectants
Crops and Soil Adaptations	Drought-tolerant/resistant crops
Crops and Soil Adaptations	Harvesting methods
Crops and Soil Adaptations	Mulch
Crops and Soil Adaptations	No-till (Zero-till)
Crops and Soil Adaptations	Planting according to soil type
Crops and Soil Adaptations	Planting clover
Crops and Soil Adaptations	Planting methods
Crops and Soil Adaptations	Planting reed canarygrass
Crops and Soil Adaptations	Soil compression/compaction (adaptation)
Crops and Soil Adaptations	Tree planting
Crops and Soil	Vegetative buffers

Adaptations	
Insurance and Support	Ad Hoc support
Insurance and Support	Agricultural Disasters Insurance Program
Insurance and Support	Canadian Farm Income Program (CFIP)
Insurance and Support	Crop insurance
Insurance and Support	Disaster Assistance
Insurance and Support	Forage insurance
Insurance and Support	Healthy Futures
Insurance and Support	Market Revenue Insurance Program (MRIP)
Insurance and Support	Net Income Stabilization Account (NISA)
Insurance and Support	No crop insurance
Insurance and Support	Ontario Farm Income Disaster Program
Insurance and Support	Reinsurance
Insurance and Support	Spring Credit Advance Program (SCAP)
Insurance and Support	Tax deferral
Livestock Adaptation	Feed supplementation
Livestock Adaptation	Rotational grazing
Livestock Adaptation	Selling livestock
Livestock Adaptation	Shared pastures
Livestock Adaptation	Using winter feed
Livestock Adaptation	Watering systems
Other Adaptation	Organic production
Other Adaptation	Other income sources
Other Adaptation	Stop farming
Policy/Irrigation	Ontario Low Water Response (OLWR)/Water Response Teams (WRT)
Research and Technology	Agro-meteorology
Research and Technology	DSS
Research and Technology	Hybrids
Research and Technology	Monitoring
Research and Technology	New infrastructure
Research and Technology	Research needs
Water Adaptations	Aquifers
Water Adaptations	Drip Irrigation
Water Adaptations	Grey/waste-water irrigation
Water Adaptations	Irrigation
Water Adaptations	New Water Sources
Water Adaptations	Pond and Pump Irrigation Systems
Water Adaptations	Subirrigation
Water Adaptations	Water Conservation

Water Adaptations	Water hauling/trucking
Water Adaptations	Water management
Water Adaptations	Water metering
Water Adaptations	Water storage
Water Adaptations	Wetland conversion/enhancement
<b>Biophysical Impacts</b>	
Main Keyword	Keyword
Crop Types Impacts	Apples
Crop Types Impacts	Asparagus
Crop Types Impacts	Barley
Crop Types Impacts	Blueberries
Crop Types Impacts	Broccoli
Crop Types Impacts	Brussel Sprouts
Crop Types Impacts	Cabbage
Crop Types Impacts	Canola
Crop Types Impacts	Carrots
Crop Types Impacts	Cauliflower
Crop Types Impacts	Celery
Crop Types Impacts	Cherries
Crop Types Impacts	Cole Crops
Crop Types Impacts	Corn
Crop Types Impacts	Cranberries
Crop Types Impacts	Crops
Crop Types Impacts	Cucumber
Crop Types Impacts	Dry Beans
Crop Types Impacts	Durum
Crop Types Impacts	Elk
Crop Types Impacts	Fodder Corn
Crop Types Impacts	Garlic
Crop Types Impacts	Ginseng
Crop Types Impacts	Grapes
Crop Types Impacts	Green/Snap/String/Wax Beans
Crop Types Impacts	Hay
Crop Types Impacts	Honey
Crop Types Impacts	Lettuce
Crop Types Impacts	Maple Syrup
Crop Types Impacts	Oats
Crop Types Impacts	Onions
Crop Types Impacts	Parsnips
Crop Types Impacts	Peaches
Crop Types Impacts	Pearl Millet
Crop Types Impacts	Peas
Crop Types Impacts	Peppers
Crop Types Impacts	Plums

Crop Types Impacts	Potatoes
Crop Types Impacts	Pumpkins
Crop Types Impacts	Raspberries
Crop Types Impacts	Rhubarb
Crop Types Impacts	Rutabaga
Crop Types Impacts	Soybeans
Crop Types Impacts	Spinach
Crop Types Impacts	Spring Wheat
Crop Types Impacts	Strawberries
Crop Types Impacts	Sugar Beets
Crop Types Impacts	Sweet/Market Corn
Crop Types Impacts	Tobacco
Crop Types Impacts	Tomatoes
Crop Types Impacts	Turnips
Crop Types Impacts	Vineyard
Crop Types Impacts	Wheat
Crop Types Impacts	White/Edible Beans
Crop Types Impacts	Wine
Crop Types Impacts	Winter Wheat
Crop Types Impacts	Zucchini
Disease, Pest and Nutrient Management	Alfalfa Weevil
Disease, Pest and Nutrient Management	Angular Leaf Spot
Disease, Pest and Nutrient Management	Aphids
Disease, Pest and Nutrient Management	Apple Rust Mites
Disease, Pest and Nutrient Management	Army Worm
Disease, Pest and Nutrient Management	Black Rot
Disease, Pest and Nutrient Management	Black Soot
Disease, Pest and Nutrient Management	Blossom drop
Disease, Pest and Nutrient Management	Blossom-End Rot
Disease, Pest and Nutrient Management	Brown Spot/Black Dot (Potatoes)
Disease, Pest and Nutrient Management	Cereal Leaf Beetle
Disease, Pest and Nutrient Management	Cutworms
Disease, Pest and Nutrient Management	Dry Rot
Disease, Pest and Nutrient Management	Early Blight

Nutrient Management	
Disease, Pest and Nutrient Management	Earthworms
Disease, Pest and Nutrient Management	European Red Mites
Disease, Pest and Nutrient Management	Fusarium
Disease, Pest and Nutrient Management	Grasshoppers
Disease, Pest and Nutrient Management	Herbicide carryover
Disease, Pest and Nutrient Management	Lady Bugs
Disease, Pest and Nutrient Management	Late Blight
Disease, Pest and Nutrient Management	Leaf Roll Virus
Disease, Pest and Nutrient Management	Mosaic Virus
Disease, Pest and Nutrient Management	Nematodes
Disease, Pest and Nutrient Management	Northern rootknot nematode
Disease, Pest and Nutrient Management	Pea Leafminer
Disease, Pest and Nutrient Management	Potato Beetles
Disease, Pest and Nutrient Management	Potato Leafhopper
Disease, Pest and Nutrient Management	Potato Scab
Disease, Pest and Nutrient Management	Powdery Mildew
Disease, Pest and Nutrient Management	Problems with fertilizer application
Disease, Pest and Nutrient Management	Problems with herbicide/pesticide application/performance
Disease, Pest and Nutrient Management	Root rot
Disease, Pest and Nutrient Management	Sooty Mould
Disease, Pest and Nutrient Management	Soybean Mosaic Virus
Disease, Pest and Nutrient Management	Soybean Systematode
Disease, Pest and Nutrient Management	Spider Mites
Disease, Pest and Nutrient Management	Spot damage

Disease, Pest and Nutrient Management	Stewart's Wilt
Disease, Pest and Nutrient Management	Two-Spotted Spider Mites
Disease, Pest and Nutrient Management	Verticillium Wilt
Disease, Pest and Nutrient Management	Weevils
Disease, Pest and Nutrient Management	White Apple Leafhopper
Effects on Crops	Better crop quality
Effects on Crops	Boron deficiency
Effects on Crops	Crop growth
Effects on Crops	Crop loss
Effects on Crops	Crop size
Effects on Crops	Crops and soil
Effects on Crops	Diminished crop yield
Effects on Crops	Dry soybeans
Effects on Crops	Effects on next year's crops
Effects on Crops	Green Bean Syndrome
Effects on Crops	Ground Level Ozone
Effects on Crops	Lodging
Effects on Crops	Lower crop quality
Effects on Crops	Moisture/crop stress
Effects on Crops	Nutrient deficiency
Effects on Crops	Pollination problems
Effects on Crops	Potassium deficiency
Effects on Crops	Problems w harvesting/storage
Effects on Crops	Seed shortages
Effects on Crops	Silage
Effects on Crops	Sun Scald
Effects on Crops	Wilt damage
Fires	Cancellation of controlled burn
Fires	Fire ban
Fires	Fires
Fires	Forest fires
Fires	Grass fires
Fisheries	Lobsters
Livestock Impacts	Abandoned livestock
Livestock Impacts	Breeding problems
Livestock Impacts	Feed quality / vitamin deficiencies
Livestock Impacts	Feed quantity
Livestock Impacts	Heat stress (livestock)
Livestock Impacts	Milk yield
Livestock Impacts	Nitrate poisoning

Livestock Impacts	Other feed poisoning
Livestock Impacts	Sunburns
Livestock Types	Beef
Livestock Types	Cattle
Livestock Types	Dairy
Livestock Types	Eggs
Livestock Types	Horses
Livestock Types	Livestock
Livestock Types	Pigs
Livestock Types	Poultry
Livestock Types	Sheep
Other Biophysical Impacts	Dry lightning
Other Vegetation	Grass/lawns/turf/sod
Other Vegetation	Trees
Other Vegetation	Woodlots
Pastures/Soils Impacts	Low soil moisture
Pastures/Soils Impacts	Pastures
Pastures/Soils Impacts	Soil compaction
Summary Crop Types	Cereals
Summary Crop Types	Forage
Summary Crop Types	Fruits
Summary Crop Types	Grains
Summary Crop Types	Oilseeds
Summary Crop Types	Vegetables
Water Impacts	Beach closures
Water Impacts	Dugouts
Water Impacts	Great Lakes
Water Impacts	Groundwater
Water Impacts	Lake levels
Water Impacts	Low precipitation
Water Impacts	Low snow cover
Water Impacts	Low water flow
Water Impacts	Low water levels
Water Impacts	Ponds
Water Impacts	Reservoirs
Water Impacts	Rivers
Water Impacts	Streams
Water Impacts	Surface water
Water Impacts	Timing of precipitation
Water Impacts	Water quality/boil-orders
Water Impacts	Water quantity
Water Impacts	Water restrictions
Water Impacts	Water table

Water Impacts	Watering ban
Water Impacts	Wells
Water Impacts	Wetlands
Wildlife	Angling ban/closure
Wildlife	Bears
Wildlife	Botulism
Wildlife	Deer
Wildlife	Ducks
Wildlife	Fish
Wildlife	Mosquitoes
Wildlife	Other wildlife
Wildlife	Snakes
Economic Impacts	
Main Keyword	Keyword
Financial	Bankruptcy
Financial	Debt
Financial	Decreased farm income
Financial	Decreasing Farm Equipment Sales
Financial	Decreasing profit margins
Financial	Energy Prices
Financial	Food processing plant closures/slow-downs
Financial	Higher milk prices
Financial	Job loss
Financial	Loans
Financial	Losses
Financial	Off-farm employment
Financial	Payments
Financial	Profit loss
Government Intervention	Aid/Relief
Government Intervention	Subsidies
Markets	CP/CN Rail
Markets	Decreasing farmland values
Markets	Failure to meet contract
Markets	Feed import
Markets	High fertilizer prices
Markets	Higher anticipated prices
Markets	Higher crop prices
Markets	Higher feed prices
Markets	Higher livestock prices
Markets	Insurance premium increase
Markets	Lower crop prices
Markets	Lower livestock prices

Markets	Product import
Markets	Seed prices
<b>Social/Health Impacts</b>	
<b>Main Keyword</b>	<b>Keyword</b>
Health Impacts	Allergies
Health Impacts	Mental health/suicide
Health Impacts	Silo Gas
Health Impacts	Stress
<b>Identifiers</b>	
<b>Keyword Name</b>	<b>Keyword</b>
Other Identifiers	Climate Change
Other Identifiers	Drought
Other Identifiers	Dry Spell
Other Identifiers	Dry Weather
Other Identifiers	EastWestTransfer
Other Identifiers	End of Drought
Other Identifiers	Exclusively Western Canada
Other Identifiers	Flooding
Other Identifiers	High temperatures
Other Identifiers	Impacts of Western Canada drought in Eastern Canada
Other Identifiers	Kyoto
Other Identifiers	No Rain
Other Identifiers	None
Timing	1997 Drought
Timing	1998 Drought
Timing	2000 Drought
Timing	2001 Drought

**Table 94 List of Publications**

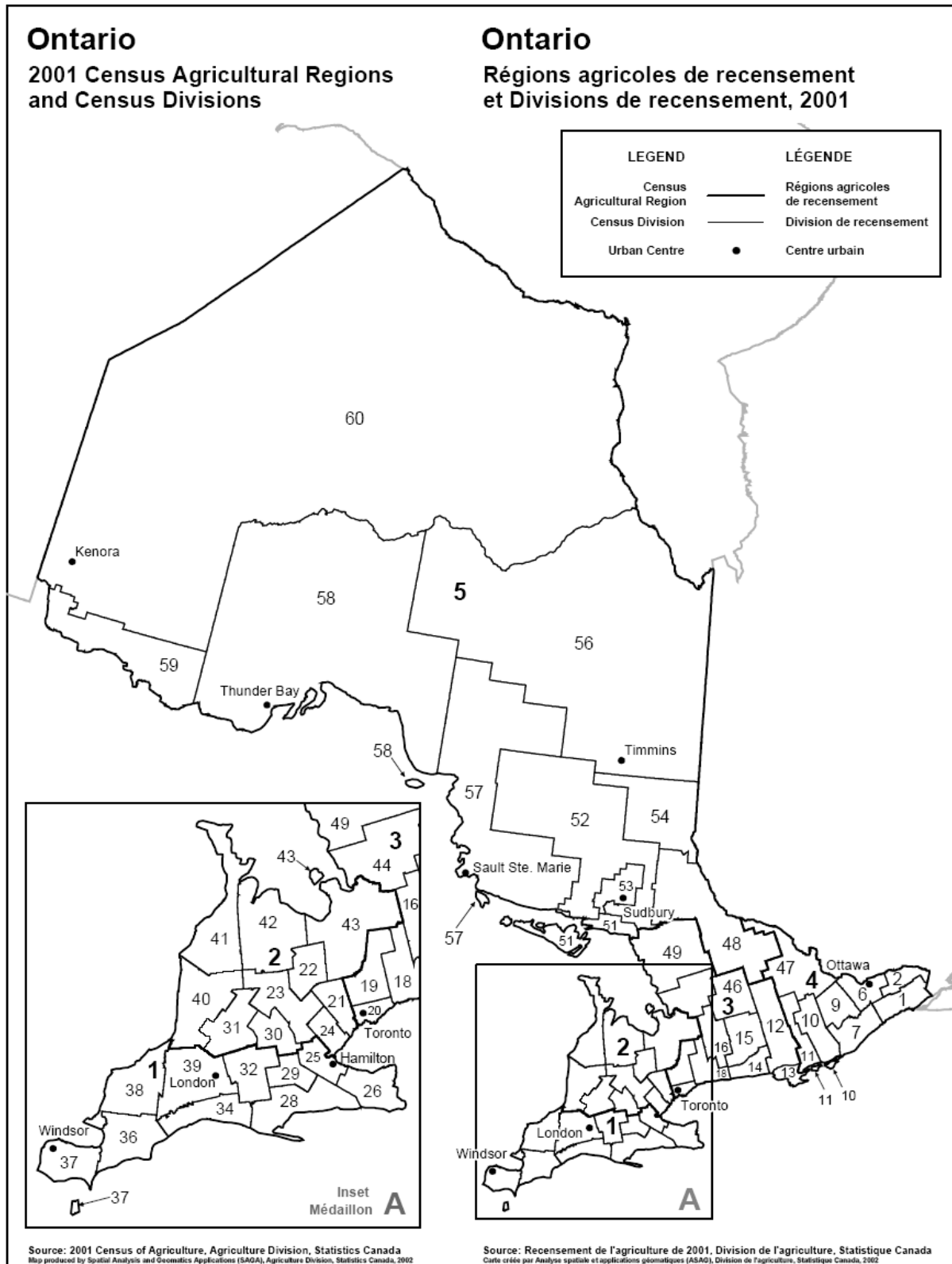
<b>Publication</b>	<b>Locality</b>	<b>Census Subdivision</b>	<b>Census Agricultural Region</b>	<b>Province</b>	<b>Country</b>
Ancaster News	Ancaster	Hamilton	Southern Ontario	Ontario	CANADA
Barrie Examiner		Barrie	Western Ontario	Ontario	CANADA
Cambridge Reporter		Cambridge	Southern Ontario	Ontario	CANADA
Cape Breton Post		Cape Breton	NS Agricultural Region 5	Nova Scotia	CANADA
Chatham Daily News		Chatham-Kent	Southern Ontario	Ontario	CANADA
Chronicle-Herald - Halifax		Halifax	NS Agricultural Region 3	Nova Scotia	CANADA
Coburg Daily Star		Coburg	Central Ontario	Ontario	CANADA
Colborne Chronicle	Colborne	Cramahe	Central Ontario	Ontario	CANADA
Daily Gleaner - Fredericton		Fredericton	NB Agricultural Region 1	New Brunswick	CANADA
Daily News - Halifax		Halifax	NS Agricultural Region 3	Nova Scotia	CANADA
Daily News - Truro		Truro	NS Agricultural Region 3	Nova Scotia	CANADA
Daily Press - Timmins		Timmins	Northern Ontario	Ontario	CANADA
Dundas Star News		Dundas	NB Agricultural Region 3	New Brunswick	CANADA
Eastern Ontario AgriNews			Eastern Ontario	Ontario	CANADA
Enterprise - Bulletin, Collingwood		Collingwood	Western Ontario	Ontario	CANADA
Evening Guide-Port Hope	Port Hope	Port Hope	Central Ontario	Ontario	CANADA
Expositor - Brantford		Brantford	Southern Ontario	Ontario	CANADA
Flamborough Review - Waterdown	Waterdown	Hamilton	Southern Ontario	Ontario	CANADA
Fredericton Daily Gleaner		Fredericton	NB Agricultural Region 1	New Brunswick	CANADA
Free Press - Midland	Midland	Chipman	NB Agricultural Region 2	New Brunswick	CANADA
Globe and Mail		Toronto	Central Ontario	Ontario	CANADA
Guardian - Charlottetown		Charlottetown	PEI Agricultural Region 2	Prince Edward Island	CANADA
Guelph Daily Mercury		Guelph	Western Ontario	Ontario	CANADA
Hamilton News		Hamilton	Central Ontario	Ontario	CANADA
Hamilton Spectator		Hamilton	Central Ontario	Ontario	CANADA
Hanover Post		Hanover	Western Ontario	Ontario	CANADA
Journal - Pioneer, Summerside		Summerside	PEI Agricultural Region 3	Prince Edward Island	CANADA

Kingston Market News		Kingston	Eastern Ontario	Ontario	CANADA
Kingston Whig-Standard		Kingston	Eastern Ontario	Ontario	CANADA
Lindsay Daily Post	Lindsay	Kawartha Lakes	Central Ontario	Ontario	CANADA
National Post		Toronto	Central Ontario	Ontario	CANADA
New Hamburg Independent	New Hamburg	Wilmot	Southern Ontario	Ontario	CANADA
North Bay Nugget		North Bay	Northern Ontario	Ontario	CANADA
Northern Daily News		Kirkland Lake	Northern Ontario	Ontario	CANADA
Northumberland News	Port Hope	Port Hope	Central Ontario	Ontario	CANADA
Observer - Sarnia		Sarnia	Southern Ontario	Ontario	CANADA
Orangeville Banner		Orangeville	Western Ontario	Ontario	CANADA
Ottawa Citizen		Ottawa	Eastern Ontario	Ontario	CANADA
Packet and Times - Orillia		Orillia	Western Ontario	Ontario	CANADA
Pembroke Observer		Pembroke	Eastern Ontario	Ontario	CANADA
Peterborough Examiner		Peterborough	Central Ontario	Ontario	CANADA
Prescott Journal		Prescott	Eastern Ontario	Ontario	CANADA
Record - Kitchener/Waterloo		Kitchener	Southern Ontario	Ontario	CANADA
Record - Sherbrooke		Sherbrooke	Estrie	Québec	CANADA
Sault Star		Sault Ste. Marie	Northern Ontario	Ontario	CANADA
Standard - Freeholder, Cornwall		Cornwall	PEI Agricultural Region 2	Prince Edward Island	CANADA
Standard - St. Catharines		St. Catharines	Southern Ontario	Ontario	CANADA
Stoney Creek News	Stoney Creek	Hamilton	Southern Ontario	Ontario	CANADA
Sudbury Star	Sudbury	Greater Sudbury (Greater Sudbury / Grand Sudbury since Oct. 2004)	Northern Ontario	Ontario	CANADA
Sun - Ottawa		Ottawa	Eastern Ontario	Ontario	CANADA
Sun Times - Owen Sound		Owen Sound	Western Ontario	Ontario	CANADA
Telegram - St. John's		St. John's	NFLD Agricultural Region 1	Newfoundland and Labrador	CANADA
The Gazette - Montreal		Montréal	Montréal/Laval	Québec	CANADA
The Moncton Times and Transcript		Moncton	NB Agricultural Region 3	New Brunswick	CANADA
The Saint John Telegraph-Journal		Saint John	NB Agricultural Region 2	New Brunswick	CANADA

The Windsor Star		Windsor	Southern Ontario	Ontario	CANADA
Times - Cambridge		Cambridge	Southern Ontario	Ontario	CANADA
Times & Transcript - Moncton		Moncton	NB Agricultural Region 3	New Brunswick	CANADA
Toronto Star		Toronto	Central Ontario	Ontario	CANADA
Tribune - Guelph		Guelph	Western Ontario	Ontario	CANADA
Tribune - Welland		Welland	Southern Ontario	Ontario	CANADA
Waterloo Chronicle		Waterloo	Southern Ontario	Ontario	CANADA
Western Star		Corner Brook	NFLD Agricultural Region 3	Newfoundland and Labrador	CANADA
Ontario Farmer				Ontario	CANADA
The Grower				Ontario	CANADA
Ontario Federation of Agriculture				Ontario	CANADA
Ontario Corn Producer				Ontario	CANADA
OFA Insider				Ontario	CANADA
Agriculture Services Newsletter				Nova Scotia	CANADA
Agriculture Services Report				Ontario	CANADA
Canadian Farm Manager				Ontario	CANADA
Tender Fruit Grape Vine				Ontario	CANADA
Ontario Soybean Grower Newsletter				Ontario	CANADA
Ontario Milk Producer				Ontario	CANADA
Telegraph Journal - New Brunswick				New Brunswick	CANADA
Québec Crop Report				Québec	CANADA
Top Crop Manager					CANADA
Country Canada, CBC Television					CANADA
Canadian Press NewsWire					CANADA
CBC News					CANADA

Figure 1 Map of Ontario's Census Agricultural Regions

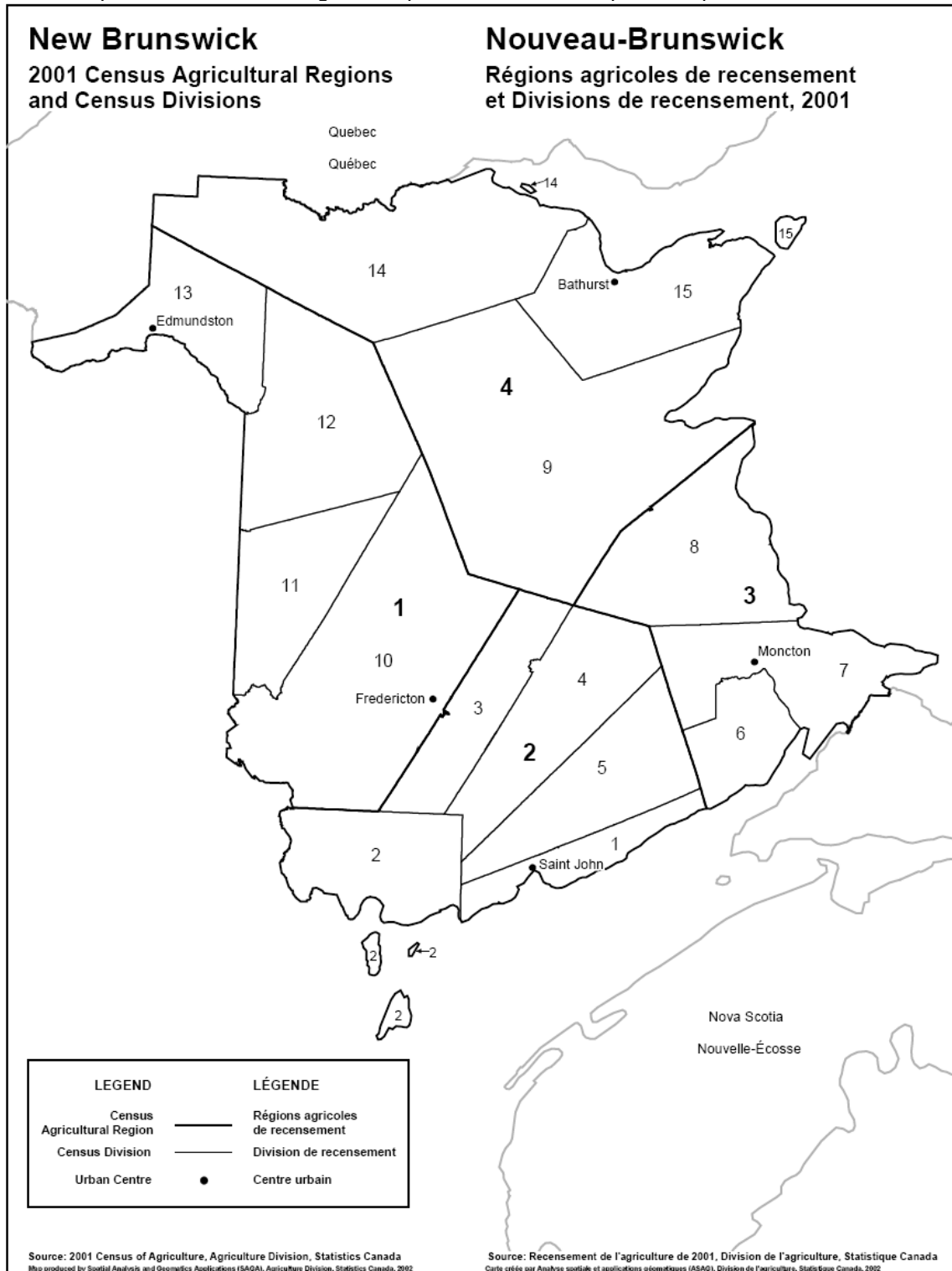
Source: <http://www.statcan.ca/english/freepub/95F0301XIE/maps/ontcar.pdf>



- 1 **Southern Ontario Region**  
**Région du Sud de l'Ontario**
  - 25 Hamilton Division
  - 26 Niagara Regional Municipality
  - 28 Haldimand-Norfolk Regional Municipality
  - 29 Brant County
  - 32 Oxford County
  - 34 Elgin County
  - 36 Chatham-Kent Division
  - 37 Essex County
  - 38 Lambton County
  - 39 Middlesex County
- 2 **Western Ontario Region**  
**Région de l'Ouest de l'Ontario**
  - 21 Peel Regional Municipality
  - 22 Dufferin County
  - 23 Wellington County
  - 24 Halton Regional Municipality
  - 30 Waterloo Regional Municipality
  - 31 Perth County
  - 40 Huron County
  - 41 Bruce County
  - 42 Grey County
  - 43 Simcoe County
- 3 **Central Ontario Region**  
**Région du Centre de l'Ontario**
  - 12 Hastings County
  - 13 Prince Edward Division
  - 14 Northumberland County
  - 15 Peterborough County
  - 16 Kawartha Lakes Division
  - 18 Durham Regional Municipality
  - 19 York Regional Municipality
  - 20 Toronto Division
  - 44 Muskoka District Municipality
  - 46 Haliburton County
  - 49 Parry Sound District
- 4 **Eastern Ontario Region**  
**Région de l'Est de l'Ontario**
  - 1 Stormont, Dundas and Glengary United Counties
  - 2 Prescott and Russell United Counties
  - 6 Ottawa Division
  - 7 Leeds and Grenville United Counties
  - 9 Lanark County
  - 10 Frontenac County
  - 11 Lennox and Addington County
  - 47 Renfrew County
- 5 **Northern Ontario Region**  
**Région du Nord de l'Ontario**
  - 48 Nipissing District
  - 51 Manitoulin District
  - 52 Sudbury District
  - 53 Greater Sudbury Division
  - 54 Timiskaming District
  - 56 Cochrane District
  - 57 Algoma District
  - 58 Thunder Bay District
  - 59 Rainy River District
  - 60 Kenora District

**Figure 2 Map of New Brunswick's Census Agricultural Regions**

Source: <http://www.statcan.ca/english/freepub/95F0301XIE/maps/nbcar.pdf>



- 1 Agricultural Region 1**  
**Région agricole 1**
- 10 York County
  - 11 Carleton County
  - 12 Victoria County
  - 13 Madawaska County

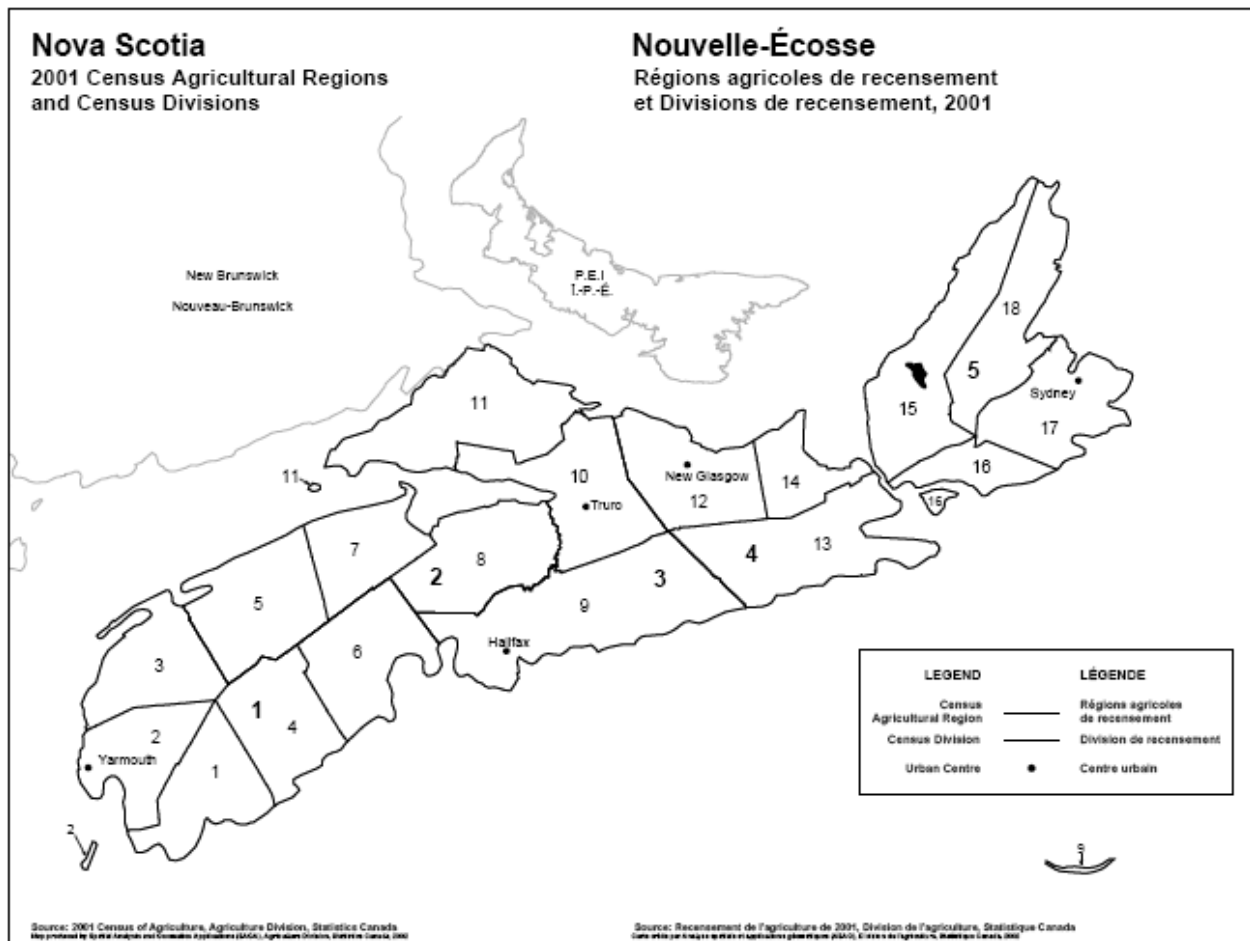
- 2 Agricultural Region 2**  
**Région agricole 2**
- 1 Saint John County
  - 2 Charlotte County
  - 3 Sunbury County
  - 4 Queens County
  - 5 Kings County

- 3 Agricultural Region 3**  
**Région agricole 3**
- 6 Albert County
  - 7 Westmorland County
  - 8 Kent County

- 4 Agricultural Region 4**  
**Région agricole 4**
- 9 Northumberland County
  - 14 Restigouche County
  - 15 Gloucester County

**Figure 3 Map of Nova Scotia's Census Agricultural Regions**

Source: <http://www.statcan.ca/english/freepub/95F0301XIE/maps/nsca.pdf>



- 1 Agricultural Region 1**  
**Région agricole 1**
  - 1 Shelburne County
  - 2 Yarmouth County
  - 3 Digby County
  - 4 Queens County
  - 6 Lunenburg County
- 2 Agricultural Region 2**  
**Région agricole 2**
  - 5 Annapolis County
  - 7 Kings County
  - 8 Hants County

- 3 Agricultural Region 3**  
**Région agricole 3**
  - 9 Halifax County
  - 10 Colchester County
  - 11 Cumberland County
- 4 Agricultural Region 4**  
**Région agricole 4**
  - 12 Pictou County
  - 13 Guysborough County
  - 14 Antigonish County

- 5 Agricultural Region 5**  
**Région agricole 5**
  - 15 Inverness County
  - 16 Richmond County
  - 17 Cape Breton County
  - 18 Victoria County

**Figure 4 Map of Prince Edward Island's Census Agricultural Regions**

Source: <http://www.statcan.ca/english/freepub/95F0301XIE/maps/pei1.pdf>

