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The 1996  
CANADIAN UFO SURVEY:  
an analysis of UFO reports  
in Canada

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Compiled by  
Chris A. Rutkowski

Contributors:

Roy Bauer, UFOROM  
Rod Bodner, UFOROM  
Paul Boucher, Quebec Insolite  
Jacques Bourbeau, OVNI Alerte  
Brian Bower, MUFON Ontario, Brantford  
Errol Bruce-Knapp, MUFON Ontario  
Grant Cameron, UFOROM  
Jean Casault, CEIPI  
Graham Conway, UFO\*BC  
David Creighton, SEEKERS  
Michel Deschamps, MUFON Ontario, Sudbury  
Geoff Dittman, UFOROM  
June Ferris, SEEKERS  
Brian Fidler, SEEKERS  
Tannis Fidler, SEEKERS  
Todd Fraser, [Independant] MUFON Ontario  
Jenny Hoover, UFOROM  
Jennifer Jarvis, CSETI  
Cindy Kettler, UFOROM  
Sue Kovios, MUFON Ontario  
Rhea Labrie, St. Paul UFO Hotline  
Don Ledger, MUFON Nova Scotia  
Dorothy Lewis, MUFON Ontario, Sarnia  
Victor Lourenco, MUFON Ontario  
Mike McLarty  
Mike Mikulak, CONTACT  
Bill Oliver, UFO\*BC  
Christian Page, SOS OVNI  
David Pengilly, UFO\*BC  
Jacques Poulet, SOS OVNI  
Barb Reimer, UFOROM  
Ivan "Bud" Sherlock, MUFON Ontario, Thunder Bay  
Cory Sine, AUFORA  
Mark Smith, NOUFORS  
Tom Theofanous, MUFON Ontario  
Blaine Wasylkiw  
David Watanabe, AUFORA  
Drew Williamson, MUFON Ontario, Toronto

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## **The 1996 Canadian UFO Survey**

### **Overview**

Since 1989, UFOROM has solicited UFO case data from all known and active investigators and researchers in Canada for analyses and comparison with other compilations.

Individual researchers normally maintain their own files with little or no communication with others. In fact, representatives of major UFO organizations often do not regularly submit case data, and the parent organizations themselves tend not to do much analyses with the data they *do* receive, although this is slowly changing.

It always has been felt that the dissemination of such data is of great advantage to researchers, although the collection and organization of the data is not yet standardized. However, in 1996, UFO data researchers began discussing database development on the Internet through several LISTSERVs, and it appears that some standards may be in place within a few years.

Allan Hendry, in his landmark book *The UFO Handbook* (Doubleday, 1979), pointed out flaws in such studies and asked:

... do UFO statistics represent a valid pursuit for more knowledge about this elusive phenomenon, or do they merely reflect frustration that none of the individual reports are capable of standing on their own two feet? (1979, p. 269)

Hendry offered six questions to ask of statistical ufology:

- 1) Does the report collection reflect truly random sampling?
- 2) Have the individual cases been adequately validated?

- 3) Are apples and oranges being compared? Are NLs necessarily the same kind of UFO as DDs?
- 4) Are differing details among cases obscured through simplification for the purpose of comparisons?
- 5) Does the study imply the question: "Surely this mass of data proves UFOs exist?"
- 6) Do the correlations really show causality?

*The Canadian UFO Survey* was undertaken with these and other critical comments in mind. Hendry's questions will be addressed later in this report. Readers are left to judge for themselves the value of these statistical analyses.

### **The Collection of Canadian UFO Data**

It is recognised that UFO clubs and groups tend to be rather transient. This is because many members join and leave with the waxing and waning of popular interest in the subject. Furthermore, UFO buffs tend to be loners, and group dynamics within UFO groups often lead to major rifts or splits within the ranks. Something as simple as a difference of opinion regarding the 'reality' of a particular UFO sighting can lead to significant disagreements.

These and other factors tend to make the annual collection of UFO data problematic. For example, in the 1990s, MUFON Canada experienced some rather divisive problems which resulted in the creation and dissolution of parallel, breakaway or shadow UFO groups. Maintaining contact with all the various factions is sometimes a careful exercise in diplomacy. Even then, it is difficult to estimate how many good researchers and good sets of UFO case data have been lost in the shuffling of membership.

An added problem is the rapid increase in the number of individuals collecting UFO cases through the Internet. Every few days, it seems another Website is announced, heralding yet another location for witnesses to report and record their sightings from around the world. Tracking down all UFO cases from a given geographical region is therefore very time-consuming.

Further, although it would appear that there are many very active ufologists and ufology groups in Canada, some exist, it seems, only to garner media attention and massage delicate egos, without actually doing any research or in-depth investigation of cases. This is certainly a product of the non-professional nature of the UFO field, where post office clerks

and truck drivers can claim expertise as well as astronomers and psychologists. This may be frustrating to serious researchers, but must be accepted as an artefact of the subject area.

Some researchers do not maintain useable case files and do not retain quantitative criteria in their investigations (for example, contactee groups). Further, it is now known that only a small fraction of "active" ufologists and self-proclaimed "researchers" actually investigate cases *and* maintain useable records.

Many individuals, associations, clubs and groups claim to investigate UFO reports or otherwise solicit reports from the general public. However, very few of them actually participate in any kind of information sharing or data gathering for scientific programs. Many are only interest groups, perhaps based in museums, planetariums, church basements or members' homes, and do virtually *nothing* with the case reports they receive. Indeed, because there is no way to enforce standards in UFO report investigations, the quality of case investigations varies considerably.

Further complicating this problem was the cessation of the collection of UFO reports by the National Research Council of Canada (NRC). The NRC routinely received UFO reports from private citizens and from RCMP, civic police and military personnel. Included among the NRC reports were many observations of meteors and fireballs, and these had been added into the UFO report database since 1989. However, in 1995, due to budget restraint and the lack of continuing research in meteoritics at the NRC as a result of retirements, deaths and other staff changes, the NRC announced it would no longer be accepting UFO reports as a matter of course. In addition, RCMP reports of UFOs and fireballs to the NRC summarily ceased.

This has resulted in an increase in Access to Information (AI) requests filed by ufologists with various government and military agencies in Canada. These have yielded some UFO cases, but the process is very time-consuming, costly and may not uncover all the cases needed for study.

As an unfortunate consequence of all these factors, what has been adopted for this present study is a requirement for an "official" status regarding UFO reports. If UFO sightings are reported to groups or individuals who do not share their case data with serious researchers, those sightings are effectively *lost* to scientific analyses. The reports may accumulate in impressive numbers claimed by some organizations, but without the data being available for study, they are of no value whatsoever.

Therefore, for the purposes of this and other scientific studies of UFO data, only those UFO sightings which have been made to contributing and participating groups, associations,

organizations or individuals can be given any kind of official status. Cases reported to any other group, association, club or individual cannot be considered *officially* reported.

These factors made collection of Canadian UFO data rather challenging. Certainly, because of the changes in the way in which reports have been received, the results of the 1996 survey cannot be compared easily with earlier annual analyses. However, it will be shown that the data obtained for the present analysis yields similar results to previous studies and is still useful in understanding the nature of UFO reports in Canada, and can shed light on the nature of UFO reports elsewhere in the world.

### **UFO Reports in Canada**

For this study, the working definition of a UFO is *an object seen in the sky which its observer cannot identify*.

In 1989, 141 UFO reports were obtained for analysis. In 1990, 194 reports were recorded. In 1991, 165 reports were received and in 1992, 223 cases were examined. In 1993, 489 reports were obtained. There were 189 reports received in 1994 and 183 in 1995. In 1996, however, there was a large increase in reports; 258 cases were obtained for study.

| Year | Number of cases | Cumulative total |
|------|-----------------|------------------|
| 1989 | 141             | 141              |
| 1990 | 194             | 335              |
| 1991 | 165             | 500              |
| 1992 | 223             | 723              |
| 1993 | 489             | 1212             |
| 1994 | 189             | 1401             |
| 1995 | 183             | 1584             |

Although some researchers have suggested that the numbers of UFO cases have declined around the world in recent years, this does not appear to be the case in Canada. Numbers have risen and decreased from year to year, but if anything, there appears to be a slight overall increase in the numbers of sightings reported. Admittedly, the yearly figures are greatly dependent on many factors, including the cooperation of contributors to the survey. The all-time high count in 1993 was almost entirely due to a single major fireball event which was reported by hundreds of independent observers across the country.

There are several reasons for including IFOs such as fireballs and bolides in the UFO report database. First, previous studies of UFO data have included meteor and fireball reports. In many instances, observers fail to recognize stars, aircraft and bolides, and therefore report them as UFOs. That is why some UFO investigators often spend many hours sorting IFOs from UFOs. Historically, analyses of UFO data such as American projects Grudge, Sign and Blue Book all included raw UFO data which later resolved into categories of UFOs and IFOs. Another reason is that observed objects are sometimes quickly assigned a particular IFO explanation even though later investigation suggests such an explanation was unwarranted.

With the exception of 1993, the number of Canadian UFO reports appeared to remain constant at an average of about 190 cases per year, if we discard the 1993 figure as an aberration. If we include the 1993 data, the Canadian average is about 230 cases per year.

The most interesting implication of this event was that the UFO reports from 1993 actually reflected a *real* event that had occurred. This lends some credence to the belief that when a UFO is reported, a real object has been seen and was not just a fantasy of a witness' imagination. Therefore, it can be said that UFO reports usually imply actual observations of something out of the ordinary.

### **Close Encounters of the Fourth Kind**

Each year, a few Close Encounters of the Fourth Kind (CE4) are included in the UFO data. CE4s are the sensational "alien abduction" cases which currently receive wide attention in the media. Some researchers have speculated that thousands of such abductions occur each year, based on various surveys and the number of witnesses ("abductees") coming

forward. Since abductions are often reported long after the fact, exact times and dates are meaningless as UFO data. Similarly, since witnesses' memories often are clouded or obscured, other data such as colour, duration and even location may be impossible to ascertain.

Some skeptics suggest that abductions may be a psychological rather than a "real" phenomenon. For these reasons, CE4s do not seem appropriate for inclusion in UFO databases. And, if they really are true close encounters, their complexity decrees that their inclusion in a raw data listing might be inappropriate as well. The few that were included were accepted only because they were reported to an official reporting body. It is likely that annual surveys eventually will not include CE4s as data.

## **Method**

Data for each case was received by UFOROM from participating researchers across Canada. The information then was coded by members of UFOROM and entered into a Microsoft Access database and then exported into a Microsoft Excel file format where it was statistically analysed.

An example of the coding key is as follows:

Example: 994 01 09 1530 Vernon BC dd 900 silver 2 ps 6 5 MUFON p four obj. seen

Field: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Field 1 is a default YEAR for the report (UFOROM is now coding to allow for the next millennium).

Field 2 is the MONTH of the incident.

Field 3 is the DATE of the sighting.

Field 4 is the local TIME, on the 24-hour clock.

Field 5 is the geographical LOCATION of the incident.

Field 6 is the PROVINCE where the sighting occurred.

Field 7 is TYPE of report.

Field 8 is the DURATION of the sighting, in seconds (a value of 600 thus represents 10 minutes)..

Field 9 is the primary COLOUR of the object(s) seen

Field 10 is the number of WITNESSES

Field 11 is the SHAPE of the object(s) seen

Field 12 is the STRANGENESS of the report.

Field 13 is the RELIABILITY of the report.

Field 14 is the SOURCE of the report.

Field 15 is the EVALUATION of the case.

Field 16 includes any COMMENTS noted about the case.

## Analyses of the Data

### Distribution of UFO Reports Across Canada

In previous analyses, British Columbia garnered between 30% and 40% of the total number of cases per year. In 1994-95, the percentage dropped to 24% and in 1996 this dropped to 16.67%. Ontario and Quebec together constitute more than 60% of Canada's population, but had only 38% of the total number of UFO reports in 1994-95. In 1996, they had about 42% of the total cases.

If we consider that UFOs are a function of population, then the percentages of UFO reports per province works out, except for an over-representation of cases in British Columbia, Manitoba and the Northwest Territories, and under-representation in New Brunswick and Newfoundland. Some of these distribution effects are certainly due to the active solicitation of UFO reports from the public by regional investigators and groups. Other anomalies, particularly the large increase in cases in the Northwest Territories, are due to regional UFO flaps.

**TABLE 1**

### Distribution of UFO Reports by Province

|      | BC  | AB | SK | MB | ON | PQ | NB | PEI | NS | NF | YK | NWT |
|------|-----|----|----|----|----|----|----|-----|----|----|----|-----|
| 1989 | 15  | 16 | 18 | 22 | 34 | 28 | 1  | -   | 3  | 3  | -  | 1   |
| 1990 | 76  | 9  | 10 | 20 | 21 | 36 | 7  | 3   | 5  | 4  | 1  | 2   |
| 1991 | 59  | 22 | 7  | 6  | 30 | 16 | 9  | 1   | 7  | 4  | 1  | -   |
| 1992 | 90  | 8  | 9  | 23 | 56 | 10 | 9  | -   | 3  | 4  | 3  | 1   |
| 1993 | 157 | 56 | 93 | 74 | 51 | 32 | 3  | 1   | 3  | 7  | -  | 5   |

|      |    |    |    |    |    |    |   |   |   |   |   |    |
|------|----|----|----|----|----|----|---|---|---|---|---|----|
| 1994 | 14 | 39 | 8  | 10 | 51 | 34 | 6 | - | 9 | 6 | 3 | 3  |
| 1995 | 45 | 10 | 11 | 48 | 41 | 20 | - | - | 1 | 1 | - | 4  |
| 1996 | 43 | 10 | 11 | 39 | 63 | 45 | 1 | - | 9 | 1 | - | 35 |

### Monthly Trends in UFO Reports

The monthly breakdowns of reports during each year show slightly different patterns from those of previous years. In 1989, there was a significant increase in UFO reports in the late fall, with other months maintaining what appeared to be a fairly constant "normal" level of reports. 1990 saw two major increases in report numbers in two months: April and August. The "normal" level of monthly report numbers appeared to be constant in other months, with minor fluctuations. In 1991, reports peaked in August, but there was no single obvious trough.

The 1992 breakdown again showed no clear peaks in monthly report numbers. This is most curious, because UFO reports often are said to peak in summer and trough in winter, presumably due to the more pleasant observing conditions during the summer months, when more witnesses are outside. In 1993, the opposite of what is usually imagined was true: there were peaks in winter, and troughs in summer. The October 1993 peak is easily explained as due to the fireball. Even taking this into account, there were more cases in fall that year than in summer, and more in winter than spring and early fall. In 1994, there was a noticeable increase in UFO reports in the late spring and early summer, whereas in 1995, the peak months were in the late summer and early fall.

In 1996, there were three separate peak months for UFO sightings in Canada: January, July/August and November. The January peak was almost entirely due to the flap in the Northwest Territories.

We can observe that there appears to be no *definite* monthly trend in UFO reports across Canada. However, there does appear to be some regional fluctuation in report numbers. When selected provinces are examined, it can be seen that the general monthly distribution contains many localized fluctuations. These fluctuations (flaps) reflect local increases in UFO sightings as opposed to national or global increases, called waves. The

distribution of UFO reports in BC showed a very significant peak in September 1995, whereas UFOs were generally more common in Alberta in 1994 and almost nonexistent in 1995. Ontario and Quebec, on the other hand, shared two clear peaks in June 1994 and July/August 1995. And, in 1996, October and November had unusually high report numbers.

**TABLE 2**

**Monthly Report Numbers**

|      | J  | F  | M  | A  | M  | J  | J  | A  | S  | O   | N  | D  |
|------|----|----|----|----|----|----|----|----|----|-----|----|----|
| 1989 | 13 | 9  | 6  | 9  | 5  | 9  | 5  | 5  | 12 | 32  | 27 | 9  |
| 1990 | 17 | 7  | 6  | 47 | 10 | 10 | 9  | 47 | 15 | 16  | 10 | -  |
| 1991 | 13 | 7  | 17 | 12 | 7  | 12 | 16 | 25 | 16 | 12  | 11 | 17 |
| 1992 | 15 | 16 | 27 | 16 | 22 | 16 | 23 | 19 | 11 | 16  | 21 | 21 |
| 1993 | 59 | 15 | 20 | 22 | 14 | 38 | 27 | 49 | 41 | 152 | 24 | 21 |
| 1994 | 16 | 12 | 15 | 21 | 15 | 37 | 19 | 8  | 15 | 10  | 7  | 13 |
| 1995 | 14 | 12 | 13 | 9  | 9  | 10 | 28 | 33 | 28 | 11  | 11 | 5  |
| 1996 | 37 | 18 | 20 | 16 | 8  | 20 | 30 | 32 | 10 | 22  | 30 | 11 |

In a historical analysis of 480 Manitoba UFO cases in UFOROM's MANUFOCAT, a distinct June peak and December trough was found. Analyses of 13,000 cases in Project Blue Book found a similar June peak and December trough, though Hendry suggested that this was a statistical artefact. It is felt that further studies are needed to fully understand the monthly distribution of UFO data.

## UFO Report Types

An analysis by report type shows a similar breakdown to that found in previous years. The percentage of cases of a particular type remains roughly constant from year to year, with minor variations. Nocturnal lights (NLs), for example, comprised 60% of all reports in 1989, 73% in 1990, 67% in 1991, 61% in 1992, a high of 76% in 1993, 63% in 1994-95 and 67% in 1996. The average of these is 67%, which agrees well with the meta-analysis conducted by Hendry (1979), which found that NLs comprised 70% of the cases studied. But, because he was using the original standard Hynek classification system, he did not have the present category of Nocturnal Discs (NDs). These were probably distributed between NLs and DDs in his study.

In 1996, out of 255 cases coded, nocturnal discs comprised 67% of the total. That is, one in three UFOs were objects seen at night and thought to have discernable shapes. NL and ND cases comprised 82.35% of all 1996 UFO reports. That is, the vast majority of cases occur at night. Only 5.88% of all cases were close encounters.

**TABLE 3**

### Report Types (Modified Hynek Classifications)

|         | NL  | ND | DD | C1 | C2 | C3 | C4 | EV | RD | PH |
|---------|-----|----|----|----|----|----|----|----|----|----|
| 1989    | 84  | 20 | 16 | 10 | 7  | -  | 2  | 2  | -  | -  |
| 1990    | 141 | 24 | 15 | 2  | 1  | -  | 4  | 3  | -  | -  |
| 1991    | 110 | 26 | 13 | 7  | 4  | 1  | 2  | -  | 1  | 1  |
| 1992    | 136 | 44 | 20 | 15 | 5  | 2  | 3  | -  | -  | 1  |
| 1993    | 372 | 77 | 26 | 8  | 2  | 1  | 1  | 1  | -  | -  |
| 1994-95 | 234 | 78 | 28 | 21 | 1  | 1  | 5  | 1  | -  | -  |
| 1996    | 170 | 40 | 27 | 8  | 3  | 4  | 1  | 2  | -  | -  |

For those unfamiliar with the classifications, a summary follows:

NL (Nocturnal Light) - light source in night sky

ND (Nocturnal Disc) - light source in night sky that appears to have a definite shape

DD (Daylight Disc) - unknown object observed during daytime hours

C1 (Close Encounter of the First Kind) - ND or DD occurring within 200 metres of a witness

C2 (Close Encounter of the Second Kind) - C1 where physical effects left or noted

C3 (Close Encounter of the Third Kind) - C1 where figures/entities are encountered

C4 (Close Encounter of the Fourth Kind) - an alleged "abduction" or "contact" experience

EV (Evidence) - a case where physical traces left by an event are the primary claim

RD (Radar) - UFOs observed on radar

PH (Photograph) - photographs of a UFO, but no actual sighting

The category of **Nocturnal Disc** was created by UFOROM for differentiation within its own report files. Similarly, **Evidence** is also an *ad hoc* creation, and may not be applicable by other researchers. Normally, **Evidence** would include such physical traces as "crop circles", "landing rings" and "saucer nests." However, in 1990, there was a great increase in the numbers of such traces discovered in North America, and it was decided by UFOROM to treat these as separate from UFO reports in these annual surveys, except where reported

to an official investigating body such as the NRC. For this reason, two EV cases classified as "CC" were added as data in the 1996 analysis.

## Hourly Distribution

The hourly distribution of cases has usually followed a similar pattern each year, with a peak at 2200 hours local and a trough around 1000 hours local. Most sightings occur between 9:00 p.m. and midnight. Since most UFOs are nocturnal lights, this is not unexpected. The number of possible observers drops off sharply near midnight, and we would expect that the hourly rate of UFO reports would vary with two factors: potential observers and darkness.

However, in 1996, this smooth, bell-shaped curve was not as strongly evident. There was a general trough centred around 12 noon and a three peaks at 6:00 p.m., 9:00 p.m. and 11:00 p.m. There is a smaller peak at about 2:00 a.m. This uneven pattern is quite unusual, although it can be smoothed to show a general peak at 11 p.m. and a trough at about 9 a.m. It is not known why the hourly distribution was so irregular this year.

While the majority of UFO sightings are nocturnal, many are daylight observations. Many, too, are detailed and well-recorded observations of objects at night that do not automatically seem to be dismissable purely on the grounds they were observed at night under poor observing conditions.

## Duration

The category of **Duration** is interesting in that it represents the *subjective* length of time the UFO experience lasted. Naturally, these times are greatly suspect because it is known that people tend to misjudge the flow of time. However, some people *can* be good at estimating time, so this value has some meaning. Although an estimate of "one hour" may be in error by several minutes, it is unlikely that the correct value would be, for example, one *minute* (disregarding the claims of "missing time" during the abduction category of experiences). Furthermore, there have been cases when a UFO was observed and clocked accurately, so that we can be reasonably certain that UFO events can last considerable periods of time.

The average duration of a sighting can be calculated as the summation of all given durations divided by the number of cases with a stated duration. The resulting value for 1991 was about 12 minutes, down from 19 minutes in 1990. In 1992 and 1993, the average

duration was again about 12 minutes. In 1994-95, the value was down considerably to approximately seven minutes. But in 1996, the average length of time witnesses observed a UFO was up to a remarkable 26 minutes! This is very long time for a witness to be observing an unusual object in the sky.

In 1996, 30 cases (23%) of all sightings were briefer than 30 seconds, and 48 cases (37%) were of two minutes or less. But 36 cases (28%) were longer than half an hour in duration.

Previous analyses have shown that long-duration sightings tend to occur in the early morning hours, from about midnight until 6:00 a.m. It is probable that the majority of observations at this time are those of astronomical objects, moving slowly with the rotation of the Earth.

It should be noted that **Duration** data by itself is not wholly useful in analysing UFO behaviour. Hendry describes **Duration** data this way:

Duration is a powerful feature of identity when it refers to extremely short and long events, but is otherwise mostly a reflection of the witness's behaviour during the event, coupled with the fluctuating behaviour of the objects watched. (1979, p. 249)

Extremely short duration events are usually fireballs or bolides, while very long duration events of an hour or more are very probably astronomical objects. In between, there can be no way to distinguish conventional objects from UFOs solely with **Duration** data. (Hendry also cites a Canadian study by an Ontario UFO group which timed aircraft observations and found that the duration of such sightings varied between 15 seconds to more than 8 minutes.) There seems not to be a clear relationship between the number of reports and the **Duration** of UFO sightings.

## **Colour**

In cases where a colour of an object was reported in 1996, the most common colour was white (27%), followed by 'multicoloured' (22%) and then blue (12.4%). Since most UFOs are nocturnal starlike objects, the abundance of white objects is not surprising. Other colours such as red, blue and green often are associated with bolides (fireballs). It should not be surprising that daylight discs are most commonly described as black or silver.

The 'multicoloured' designation is problematic in that it literally covers a wide range of possibilities. Some studies of UFO data have adjusted the category of colour to include

both "primary" and "secondary" colours in cases where the observed UFO had more than one colour.

The multicoloured label has been used, for example, when witnesses described their UFOs as having white, red and green lights. For the present study, the **Colour** classification refers only to the primary colour in the witness' description.

## **Witnesses**

The average number of witnesses per case went down from a value of 2.12/case in 1989 to 1.40/case in 1990, then up again to 1.91/case in 1991. In 1992, this value was up slightly to 2.36/case. The average number of witnesses in 1993 was 2.07/case and for 1994-95 the value was 1.98/case.

In 1996, the average number of witnesses varies between a high of 3.125 and a low of 1.7 witnesses per case. The variance is due to the difference in interpreting a coded value of "many" witness, which in the database is indicated by a value of 20. The real number of witnesses in some cases has been as high as 100, and this would skew the values greatly. If we interpret the "20" coding as being approximately 10, the 18 cases with this value combine to yield an overall case average of 2.4 witnesses per case. If we look only at those cases with between one and five witnesses per case (which comprise more than 90% of the total cases), the average value resolves to 1.70 witnesses/case.

The eight-year average is 1.87 witnesses per case, using the highest figure of 1996 data. This indicates that a typical UFO experience has **more than one witness**, and supports the contention that UFO sightings represent observations of physical phenomena since there is usually a corroborator present to support the sighting.

In 1996, 115 cases had only one witness. All the others had more than one. In fact, 18 cases had more than 10 witnesses, and 53.4% of all cases have more than one witness.

## **Shape**

Although witnesses' descriptions of the shapes of UFOs varied greatly, the overwhelming majority of cases (43%) are of 'point sources' - that is, starlike objects. The next most common shape is a triangular, or 'delta-shaped' object (12%) followed by discs (9%), ovals

(7%) and 'round' (6%).

## **Strangeness**

The assigning of a **Strangeness** rating to a UFO report is based on a classification adopted by some researchers who note that the inclusion of a subjective evaluation of the degree to which a particular case is in itself unusual might yield some insight into the data. For example, the observation of a single, stationary, starlike light in the sky, seen for several hours, is not particularly unusual and might likely have a prosaic explanation such as that of a star or planet. On the other hand, a detailed observation of a saucer-shaped object which glides slowly away from a witness after an encounter with grey-skinned aliens would be considered highly strange.

The numbers of UFO reports according to strangeness rating show an inverse relationship such that the higher the strangeness rating, the fewer reports. The one exception to this relationship occurs in the case of very low strangeness cases, which are relatively few in number compared to those of moderate strangeness. It is suggested this is the case because in order for an observation to be considered a UFO, it must usually rise above an *ad hoc* level of strangeness, otherwise it would not be considered strange at all.

The average strangeness rating for UFOs during 1996 was 4.4, where 1 is considered not strange at all and 9 is considered exceptionally unusual. This would seem to suggest that most UFOs reported are of objects which do not greatly stretch the imagination. Hollywood-inspired flying saucers are, in reality, relatively uncommon in UFO reports.

## **Reliability**

The average **Reliability** rating of reports in 1996 was 4.73, indicating that there were slightly more of lower than higher quality, although the typical report is of medium reliability. Low reliability was assigned to reports with minimal information on the witness, little or no investigation and incomplete description of the object(s) observed. Higher reliability cases might include actual interviews with witnesses, a detailed case investigation, multiple witnesses and other supporting evidence.

The **Reliability** and **Strangeness** ratings varied together in classic bell-shaped curves. In other words, there very few cases which were both highly unusual and well-reported. Most cases were of medium strangeness and medium reliability. However, there were also very few low-strangeness cases with low reliability. Low-strangeness cases, therefore, tended to

be well-reported and probably had explanations.

## **Conclusions/Evaluations**

The breakdown by **Evaluation** for 1996 cases was similar to results from previous years. There were four operative categories: **Explained, Insufficient Information, Possible or Probable Explanation**, and **Unknown (or Unexplained)**. Readers are cautioned that a classification of **Unknown** does *not* imply that an alien spacecraft or mysterious natural phenomenon was observed; no such interpretation can be made with certainty, based on the given data (though the probability of this scenario is admittedly never zero).

In most cases, evaluations are made subjectively by both the contributing investigators and the compiler of this report. The category of **Unknown** is adopted if the contributed data or case report contains enough information such that a conventional explanation cannot be satisfactorily proposed. This does *not* mean that the case will never be explained, but only that a viable explanation is not immediately obvious.

The average proportion of **Unknowns** since 1989 has been about 13%, a high figure, considering that this would imply that more than one in ten UFOs cannot be explained. However, there are several factors which affect this value. The level and quality of UFO report investigation varies because there are no explicit standards for ufologists. Some "believers" might be biased to consider most UFO sightings as mysterious, whereas those with more of a sceptical predisposition might tend to subconsciously (or consciously) reduce the **Unknowns** in their files.

As can be seen, during the first few years of these studies, an evaluation of **Explained** was almost nonexistent. This likely is because contributors at first tended to ignore UFO sightings that had a simple explanation and deleted them as actual *UFO* data. However, because many IFO cases such as fireballs and meteors are initially reported as UFOs, the **Explained** category is necessary for a full review of UFO data. Early American studies of UFO data included such cases, so present-day comparative studies should include such data as well. Furthermore, since there are no absolutes, the subjective nature of assigning **Evaluations** is actually an interpretation of the facts by individual researchers.

## **TABLE 4**

### **Evaluation of Canadian UFO Data**

|         | Explained |      | Insuf. Info. |      | Poss. Explan. |      | Unexplained |      |
|---------|-----------|------|--------------|------|---------------|------|-------------|------|
|         | #         | %    | #            | %    | #             | %    | #           | %    |
| 1989    | 0         | 0    | 74           | 52.5 | 47            | 33.3 | 20          | 14.2 |
| 1990    | 0         | 0    | 90           | 46.4 | 78            | 40.2 | 26          | 13.4 |
| 1991    | 2         | 1.2  | 80           | 48.5 | 69            | 41.8 | 14          | 8.5  |
| 1992    | 17        | 8    | 83           | 37   | 74            | 33   | 49          | 22   |
| 1993    | 154       | 31.5 | 170          | 34.8 | 115           | 23.5 | 50          | 10.2 |
| 1994-95 | 71        | 19.1 | 124          | 33.3 | 131           | 35.2 | 46          | 12.4 |
| 1996    | 24        | 9.3  | 105          | 40.7 | 87            | 33.7 | 42          | 16.3 |
| Total   | 268       | 14.5 | 726          | 39.4 | 601           | 32.6 | 247         | 13.4 |

If we look only at those **Unknowns** with a quality or **Reliability** rating of six or greater, we then are left with 27 higher-quality **Unknowns** in 1996 (10.5% of the total). Of these, only 18 had a **Strangeness** rating of seven or greater (7% of the total). This value is comparable with other years: 4.9% in 1989, 4.6% in 1990, 7.3% in 1991 and 7.6% in 1992. As a comparison, USAF Blue Book studies found only three to four percent of their cases were "excellent" **Unknowns**.

It is interesting to speculate how the number of **Unknowns** would change if the Insufficient Information category was reduced. More than 40% of all reported UFO sightings in 1996 had insufficient information for researchers to make a proper identification of the objects observed. This large proportion is due to several factors, including lack of witness cooperation and sparsity of data in the original report. It must be remembered that case data was obtained from a variety of sources with varying views and investigative abilities. What may be "Unknown" to one might be "Explained" to another. The subjective

interpreting of the minimal case data received from contributors has naturally increased the number of cases in the **Insufficient Information** category. Because contributors almost never send in-depth case reports for each of the cases they contribute, it is difficult to second-guess the quality of the case based on minimal coded case data received. By adopting a subjective standard during actual data entry, a better balance of evaluations is expected. However, this does not eliminate the possibility that some high-quality unknowns could be down-graded at some point in the data entry process. It is hoped that with more intense research on the subject of UFO case data, a better solution might be realized.

It should be emphasized again that even high-quality **Unknowns** do not imply alien visitation. Each case may still have an explanation following further investigation. And of those that remain unexplained, they may remain unexplained, but still are not incontrovertible proof of extraterrestrial intervention or some mysterious natural phenomenon.

### **Additional Analysis of Unknowns**

In order to gain a greater understanding of cases classified as **Unknown**, UFOROM members and associates held a special meeting to study and discuss these reports. Available information about each of the 42 cases originally listed as **Unknown** was discussed in detail and the cases re-assessed. Original classifications of **Strangeness** and **Reliability** were also re-examined for each case. Through this process, the identification of only 13 higher-reliability and higher-strangeness cases was made. This re-evaluation therefore left only 5% of the total number of 1996 cases as "good" unknowns.

It was the consensus of the group that this process was most revealing in that a better appreciation of the difficulties in using UFO data was gained. Many reports were good as "stories" but seemed to have possible or probable explanations. Some witnesses' descriptions were deemed less than accurate and a significant fraction of cases appeared to need more investigation.

In short, the exercise showed that the analysis of UFO reports is a very tricky procedure, relying heavily upon mere text of subjective estimates and interpretations of witnesses' less-than-accurate observations. Members of the group recommended that accounts of UFO sightings should not be taken at face value and that caution be used in interpreting what was "really" seen.

## Earthquakes and UFOs

One popular theory regarding the identity of UFOs is that they are "earth lights." These are poorly-understood natural phenomena with yet-to-be-determined characteristics and mechanisms that occur due to geological or geophysical forces. Some earth lights are thought to occur in areas near seismic activity or active fault zones. The implication is that stresses within the Earth generate electromagnetic energy which may become luminous and be observed by witnesses. It should be noted that no such mechanism has been determined and recognised by the geologic and geophysical community. However, independent studies by some researchers suggest there are correlations between seismic events and UFOs.

With this in mind, 1996 Canadian seismic data was obtained from geophysical sources. There were 51 earthquakes of magnitude 4 or greater in Canada in 1996. Seven were of magnitude 5 or greater. One was of magnitude 6 or greater. Almost without exception, all earthquakes were located along the coast of British Columbia or in southern Quebec, both areas of high seismic activity. Few were strong enough and near enough to population centres to be significantly noticed.

In previous earth lights and related tectonic strain theory (TST) studies, earthquakes and UFOs were not directly linked. That is, earthquakes and UFO sightings did not occur simultaneously nor in geographical proximity. In some studies, seismic events and UFOs were geographically separated by more than 700 kilometres. In terms of time correlations, UFO and seismic data were considered correlated if events occurred within six months of each other.

Given that a large number of UFOs were reported from both Quebec and British Columbia, many Canadian UFO cases *could* be correlated with weak to moderate seismic events within the country. In fact, 40% of all Canadian cases occurred in earthquake-prone regions in BC and Quebec. If we allow that southern Ontario is within a few hundred kilometres of seismically-active regions in Quebec, then more than 60% of all cases fall easily within these parameters. If no direct causality is required, and if large time separations are allowed, the majority of cases could be explained as earth lights or TST effects.

One problem with this interpretation is that most UFOs already have plausible conventional explanations such as misidentifications of aircraft, fireballs and stars. If a misidentified airplane is "correlated" with a distant, weak earth tremor, one could wonder

whether this was in fact a significant result beyond the statistics.

## Summary of Results

As with previous annual surveys, the *1996 Canadian UFO Survey* does not offer any positive proof that UFOs are either alien spacecraft or a specific natural phenomenon. However, it does show that some phenomenon which is called a UFO is continually being observed by witnesses.

*The typical UFO sighting is that of two people together observing a moving, distant white or red light for several minutes.* In most cases, the UFO is likely to be eventually identified as a conventional object such as an aircraft or astronomical object. However, in a small percentage of cases, some UFOs do not appear to have an easy explanation and they may be given the label of "unknown."

What are these "unknowns?" From a completely scientific standpoint, we have no way of extrapolating a definitive explanation based on this data. Biases for or against the view that UFOs are extraterrestrial spacecraft often hinder the scientific process and cloud the issue. A 'debunker' who has a strong belief that UFO reports are all fabrications or misinterpretations may tend to dismiss a truly unusual case out of hand, whereas a 'believer' who believes aliens are indeed visiting Earth may read something sinister into a case with a conventional explanation.

All that a study of this kind can do is present the data and some rudimentary analyses. The recognition that there really are only a handful of true unknowns among the UFO cases might lead a debunker to believe they, too, might find an explanation if enough effort were to be expended, but to a believer this might be the required proof that some UFOs have no explanations.

The **Evaluation** value is a subjective value imposed by the investigator or compiler (or both) with a scale such that the low values represent cases with little information content and observers of limited observing abilities and the higher values represent those cases with excellent witnesses (pilots, police, etc.) and also are well-investigated. Naturally, cases with higher values are preferred.

For the 1996 data, all cases given an **Unknown** label were reviewed by a group of UFO researchers, investigators and other interested individuals. Consensus was reached on the ultimate level to which each case could be described as "unexplained." This avoided later accusations that coding was done by one or two persons who may have had unconscious

biases in interpreting the UFO data. The group agreed upon 13 higher-quality, unexplained cases as the "best" of the year. The cases are summarized later in this report.

The interpretation of this baker's dozen is that these cases were among the most challenging of all the reports received in 1996. It should be noted that most UFO cases go unreported, and that there may be ten times as many UFO sightings that go unreported as those which get reported to public, private or military agencies. Furthermore, it should be noted that some cases with lower reliability ratings suffer only from incomplete investigations, and that they may well be more mysterious than those on the above list. And, above all, these cases are *not* proof of extraterrestrial visitation.

### **What does the UFO data tell us?**

We can now take another look at the questions posed by Hendry about the quality of UFO data:

1) Does the report collection reflect truly random sampling?

The randomness of the UFO sample is of course dependent on whether UFO reporting is itself random. Can we be sure that UFO witnesses represent a true cross-section of the population or is there some bias in favour of those who 'believe in UFOs' and therefore may report IFOs as UFOs? Are there other biases involved? We know, for example, that military observations of UFOs are not routinely made available to civilian UFO researchers. Are these cases somehow different from civilian-reported cases?

2) Have the individual cases been adequately validated?

In a perfect world, each UFO case would be documented fully and thoroughly investigated by trained researchers with unlimited time and expenses, as well as through perfect cooperation with civilian and military authorities. In reality, though, this hardly is the situation. UFO investigation is often done by untrained UFO enthusiasts with little free time and working in isolation from official sources of useful information. Many UFO investigators do not have backgrounds in astronomy, meteorology or aviation, each of which would be useful in evaluating reports of unidentified flying objects. Thus, there is no way to ensure that all cases contributed were 'adequately' validated.

3) Are apples and oranges being compared? Are NLs necessarily the same kind of UFO as DDs?

We do not know the answer to this question. However, since nocturnal objects constitute the vast majority of UFO cases in the sample, this may not be a problem. However, we can also ask if all nocturnal objects are themselves homogeneous. Is UFO data concurrently valid with itself?

4) Are differing details among cases obscured through simplification for the purpose of comparisons?

This is true to a certain extent. A witness who chooses red as a primary colour of a UFO with red and white lights may have made an error of judgement. Similarly, when the data is encoded, 'red and white' is considered differently from 'white and red'. So, in some categories, this would be a valid concern. In others, such as date and location, this is not a problem. However, when evaluations of cases are made, subjective interpretations will certainly cause some difficulties.

5) Does the study imply the question: "Surely this mass of data proves UFOs exist?"

No. The present study only shows that people are reporting sightings of unusual objects, some of which have no simple explanation.

6) Do the correlations really show causality?

No. No correlative studies were performed on the data.

### **Other comments**

UFOs were reported at a rate of about 21 per month across all of Canada in 1996. Throughout the past eight years, the rate has been approximately 19 per month.

UFO witnesses range from farmhands to airline pilots and from teachers to police officers. Witnesses represent all age groups and racial origin. What is being observed? In most

cases, only ordinary objects. However, this begs a question. If people are reporting things that can be explained, then the objects they observed were "really" there. Were the objects we can't identify "really" there as well? If so, what were they?

These are questions that only continued and rational research can answer, and only if researchers have the support and encouragement of both scientists and the public.

### **1996 Canadian UFO Survey: Summary of Results**

- The number of UFO reports made in Canada has increased slightly during the past eight years. There now are approximately 190 cases of unidentified flying objects reported each year, up slightly from previous years' calculations.
- The distribution of UFO reports in Canada was somewhat related to the distribution of population. Western Canada was over-represented in terms of UFO report numbers, while the Maritimes are under-represented.
- During the past eight years, there was no definite monthly trend found in Canadian UFO reports. Each year, there appear to be regional monthly fluctuations. UFOs seem to be as likely to be reported in summer as in winter.
- Approximately 80% of UFO sightings were merely observations of lights in the night sky.
- About 13% of all UFO reports are unexplained. This percentage of unknowns falls to about 5% when only higher-quality cases are considered.
- Most UFO sightings occurred between 9:00 pm and midnight.

- UFO incidents usually had more than one witness.
- In 1996, the typical UFO sighting lasted nearly half an hour, a dramatic increase from last year's average of seven minutes.
- Most reported UFOs were white in colour.

The most important findings of this study include the fact that UFO sightings have continued to be reported at a constant level over the past several years. People still report observing unusual objects in the sky, and some of these objects do not have obvious explanations. Many witnesses are pilots, police and other individuals with reasonably good observing capabilities and good judgement. Although most reported UFOs are simply lights in the night sky, a significant number are objects with definite shapes observed within the witnesses' frame of reference.

Popular opinion to the contrary, there is yet to be any incontrovertible evidence that some UFO cases involve extraterrestrial contact. However, the continued reporting of UFOs by the public suggests a need for further examination of the phenomenon by social, medical and/or physical scientists.

For further information, contact:

Ufology Research of Manitoba E-mail: [rutkows@cc.umanitoba.ca](mailto:rutkows@cc.umanitoba.ca)

### **Contributing Organizations**

Alberta UFO Research Association (AUFORA)

e-mail: [davew@aufora.org](mailto:davew@aufora.org)

<http://www.aufora.org>

CEIPI

C.P. Val-Tetreau

B.P. 77009

Hull, Quebec J9A 2V4

e-mail: [casault@magi.com](mailto:casault@magi.com)

Contact

[http:// www.autobahn.mb.ca/~mikem/index.html](http://www.autobahn.mb.ca/~mikem/index.html)

CSETI

e-mail: [jarvis@globalserve.net](mailto:jarvis@globalserve.net)

MUFON Nova Scotia

e-mail: [dledger@istar.ca](mailto:dledger@istar.ca)

MUFON Ontario

1395 Lawrence Avenue West, Suite 20030

Toronto, Ontario M6L 1A7

e-mail: [updates@globalserve.net](mailto:updates@globalserve.net)

[werd@interlog.com](mailto:werd@interlog.com)

[tom@cnl.com](mailto:tom@cnl.com)

[gcorvil@cyberbeach.net](mailto:gcorvil@cyberbeach.net) (Michel Descamps)

[bradford@globalserve.net](mailto:bradford@globalserve.net) (Sue Kovios)

[bud.sherlock@oln.com](mailto:bud.sherlock@oln.com) (Bud Sherlock)

<http://auraland.com/mufon/index.html>

NOUFORS

OVNI-Alerte

C.P. 902

Drummondville, Quebec J2B 6X1

OVNI-Alerte Saugenay

2138 de Montfort

Jonquiere, Quebec G7X 4R3

Quebec Insolite

444 St. Martin

Montreal, Quebec H3J 1W2

e-mail: paul@generation.net

<http://www.generation.net/~paul>

SEEKERS

e-mail: seekers@mb.sympatico.ca

SOS OVNI Quebec

C.P. 143

St-Jean-sur-Richelieu, PQ J3B 6Z1

e-mail: sos.ovni.quebec@chucara.hexacom.com

[jpoulet@generation.net](mailto:jpoulet@generation.net)

<http://www.cam.org/~martinc/index.html>

St. Paul UFO Hotline

Star Trail UFO Group (Lansdown-5 UFO Study Group)

London, Ontario

e-mail: [ufojoe@cron-2.mco.net](mailto:ufojoe@cron-2.mco.net)

<http://cron-2.mco.net>

UFO\*BC

14673 - 101 A Avenue

Surrey, BC V3R 7E2

e-mail: [ufobc@renaissoft.com](mailto:ufobc@renaissoft.com)

<http://www.renaissoft.com/ufobc>

Ufology Research of Manitoba

Box 1918

Winnipeg, Manitoba R3C 3R2

e-mail: [rutkows@cc.umanitoba.ca](mailto:rutkows@cc.umanitoba.ca)

<http://www.freenet.mb.ca/ufo>

Blaine Wasylkiw

<http://www.ssimicro.com/~ufoinfo>

[www.sightings.org](http://www.sightings.org)

## **The Best Canadian UFO Cases of 1996**

March 12: Two hunters were snowmobiling near Trout Lake, NWT, when they came upon two metallic "spaceships" blocking their trail. Both objects were about 30 metres in diameter, with a bright light on their tops and windows on their sides. One stood on three tripod-like legs while the other hovered. As the hunters drove around the objects, the lights went out. Later, Trout Lake officials found large rectangular impressions in the snow. Note: this case was difficult to assess because of its isolation and the lack of experienced investigators in that area.

April 14: On this evening, many separate witnesses between Caplan and St-Alphonse, Quebec, reported seeing unusual objects at about 3:00 a.m. One frightened woman watched as a large object hovered over the road in front of her. Two people driving near St-Omer saw an object as large as a semi-trailer flying overhead. A pilot also made a report to Transport Canada regarding an object he encountered in the air.

July 17: At dusk, a woman near Langruth, Manitoba, was startled to see a disc-shaped object moving quietly and slowly through her farm yard. The object, 3 or 4 metres in diameter and half a metre in thickness, had slitlike lights along its edge. The next morning, the woman found three circular patches of deep green growth in the area where the object had first been seen. Analyses of samples taken from the patches were contaminated and therefore no explanation is available. The woman also thought her well water was affected by the incident.

July 30: Again, several separate witnesses reported unusual objects at about the same time, this time near Montreal. One woman described a small, green "flying saucer" approaching her home in La Prairie. After several minutes, it moved behind some trees and was lost to sight.

August 10: Two women camping at Lake Audy in Manitoba were surprised to see "a huge circle of lights," "as large as the ceiling in a room." Ten to 20 "comet-shaped" lights orbited the circle, then dashed together to form a compact mass in the center. They repeated this "dance" several times.

August 15: In Leduc, Alberta, a man went outside at 2:45 a.m. and saw five oval objects being paced by a sixth object, all heading east. A lightning storm was brewing at the time. Yet another object was observed, but this one was zig-zagging behind the others.

August 17: A couple camping in Riding Mountain National Park in Manitoba saw a "strange blue light dancing behind a hill." When they investigated, they found an object moving along the ground, occasionally emitting "flames" from its base. After a short while, it "zipped" into the sky, then it came back to hover near them. It then began "spot lighting" the countryside and shone its beam on them at one point.

October 4: As a witness in Vancouver watched the night sky, "the clouds parted," revealing a square metallic object hovering overhead. In each corner was a red and green light, with rows of dozens of smaller lights flashing in sequence. There was no sound. After two minutes, the "clouds closed in and the craft was lost from view."

October 15: At 11 p.m., a couple were driving near Trois Rivières when they saw three triangular objects flying near them in the northern sky. One object, shaped like a "topper" and much larger than an airplane, aimed an intense "terrible white light" at their car for 20 minutes. "It was like if time was stopped." Dozens of other people in the region reported seeing UFOs that same night, but Dorval and Mirabel airports said no planes were in the area.

October 22: A man in Calgary observed a bizarre, bright, "pipe-shaped," cloud-like object floating in the western sky. The "bowl" separated from the "stem" and became a bright point of light then rejoined the other part of the object. Then the "stem" performed the same manoeuvre and both parts disappeared from view. A dark object suddenly appeared, and was seen moving to the southwest before it, too, disappeared from sight.

November 4: A woman parked her car beside her home in Gatineau, Quebec, and was frightened when she saw a huge triangular object "five times bigger than the full moon" silently hovering an estimated 50 feet over her head. The object had three white lights on each corner and a small, blinking red light in its middle. She called for her husband who ran out and watched the object as it began moving south towards Ottawa.

November 17: Just after a power failure hit Vancouver, a woman and her son saw a square black object "about the size of two cars" glide overhead. A few hours later, they heard an unusual noise outside and saw another object flying nearby.

December 21: Several independent witnesses reported seeing a black, triangular object moving slowly through the air over the docks in Thunder Bay. Most insisted it was not a plane "or anything else recognisable." One witness suggested it had been a "large kite made out of dark garbage bag material," although this could not be substantiated. The Coast Guard, Harbour Commission, Air Traffic Control and Environment Canada were all asked for assistance, but no explanation was found.