

NZ COMMERCIAL SKI AREA INCIDENT REPORT 2009

➔ A compilation of ski area incident data from the National Incident database for June 1st 2009 - November 1st 2009

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**Mountain Safety Council
Research Programme
December 2009**



NEW ZEALAND MOUNTAIN SAFETY COUNCIL

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NZ Ski Field Incident Report 2009

Date range: **June 1st 2009 - November 1st 2009**

Visitor Numbers for the period: **1, 408, 000**

Total Number of all incidents: 5455

Injury rate 3. 87

Introduction

This report presents data drawn from the ski field section of the National Incident Database. The National Incident Database is a collaborative project between a number of key outdoor sector organisations. The NID functions and reporting is managed by the Mountain Safety Council on behalf of the partner organisations.

Data Sources

The original data source for the NID is a completed medical incident form filled out by ski field staff including medics and ski patrol, with the assistance of the injured party. This data is then entered into the National Database. Registered ski fields are able to access their own incident records and generate reports from the National Incident Database to assist with operational decision making. This annual combined ski field report contains anonymous collated data to gain a wider understanding of snow sport incidents for the benefit of those who work and manage the snow sport sector and those who recreate in it. The injury data, visitor number data and the injury rate calculation is based upon the registered ski fields who contributed their injury data for the time period of this report. For 2009 this data is drawn from 8 commercial ski fields and 1 club field. This represents approximately 90% of ski fields within New Zealand. No heli- ski operations contributed data to the NID in this 2009 period.

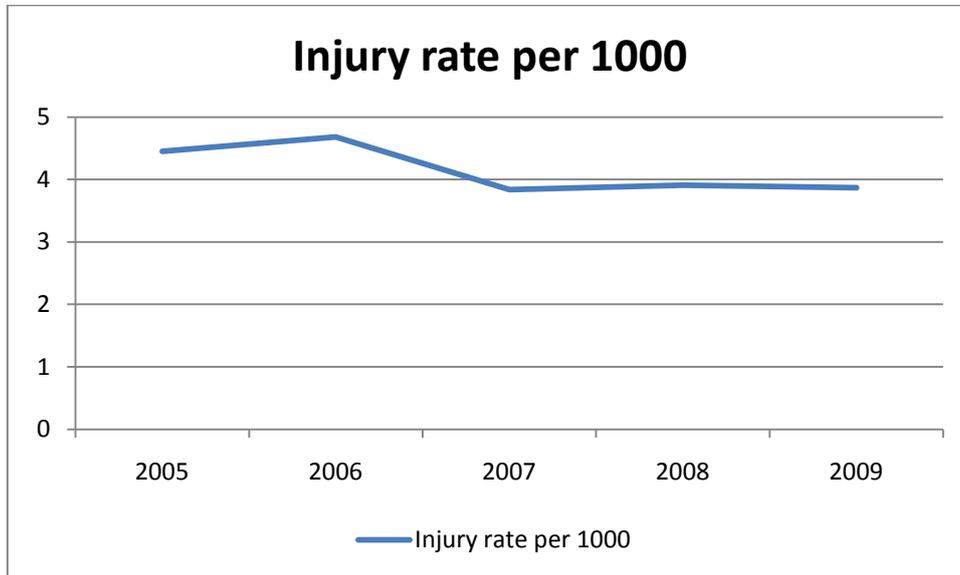
Features of this Report

This report is primarily presented in tables and graphs and no attempt is made to draw conclusions from this data.

The first section of this report presents information from combined snow sports while the later section deals with skiing and snowboarding separately.

Importantly:

The incident rate per 1000 skiers is continuing to track downwards. The line graph below graphically illustrates the figures over a five year period.



Graph 1 - Total injury rates for a five-year period

This year's report is the first to use the less complex system of indicating the body location of the injury and the body condition. The previous coding system had resulted in many incidents being coded as miscellaneous. You will see from the results section of this report that the new simplified system has meant that almost all incidents reported note the body condition and body location of the injury. This is a great improvement in the data gathering and the information that this report can provide.

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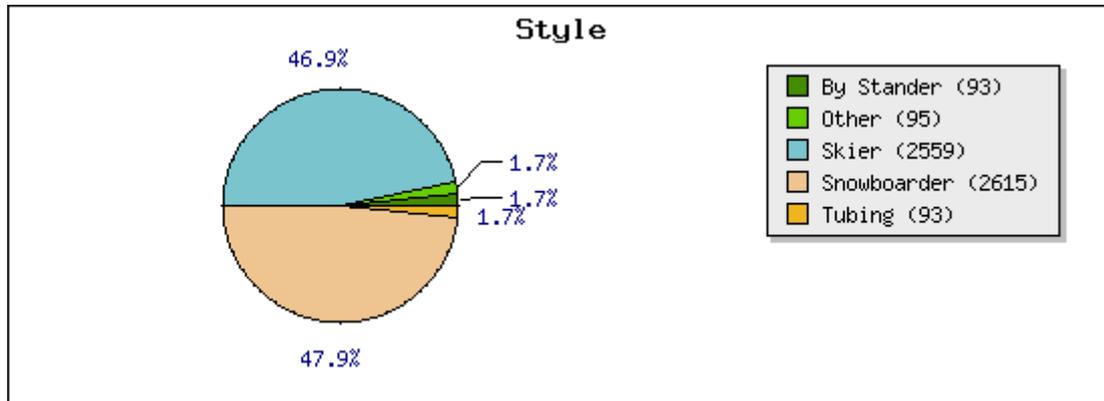
Snow boarding

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Combined Snow Sport Data

Total number of incidents: 5455

Graph 2 below illustrates the activity that people were engaged in when the injury occurred.

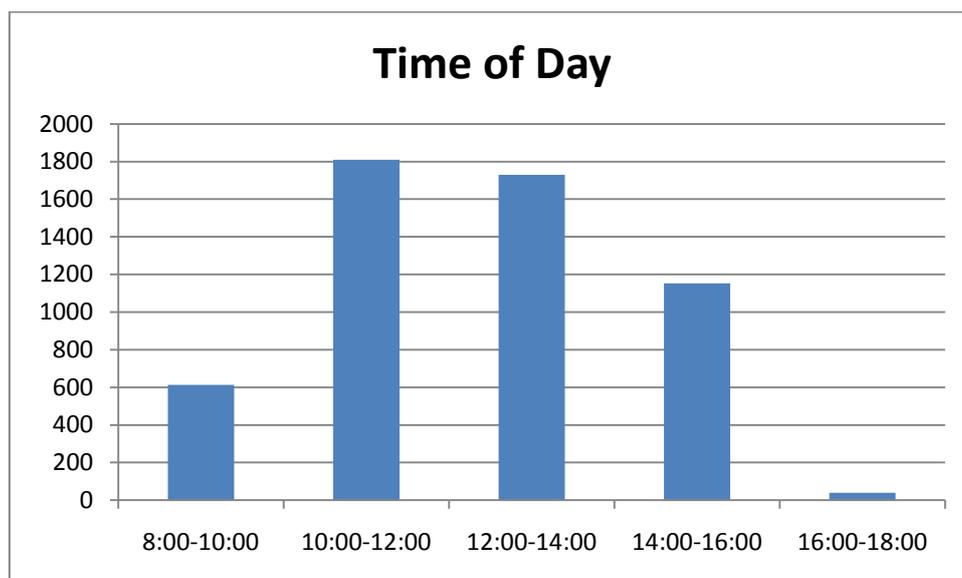


Graph 2 - Activity engaged in at time of injury

The time of day and the day of the week that all injuries occurred on is indicated on Table 1. Graph 2 provides an alternative graphic illustration of the time of day.

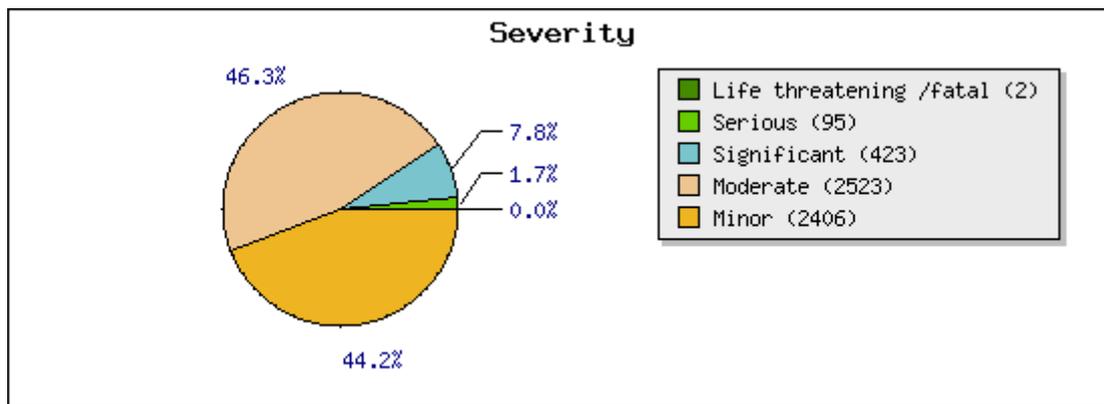
Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
8: 00-10: 00	96	74	74	73	91	87	118	613
10: 00-12: 00	289	231	227	240	282	234	306	1809
12: 00-14: 00	273	248	199	225	260	215	309	1729
14: 00-16: 00	170	142	113	161	181	163	223	1153
16: 00-18: 00	0	5	3	8	5	8	10	39

Table 1 - Time of Day and Day of Week Injuries Occurred



Graph 3 - Time of Day Incident Occurred

The severities of the injuries are illustrated in graph 3 which is followed by a definition of the terms used within these categories.



Graph 4 - Severity of Injury¹

Glossary of Severity Scale

Immediate threat to life/fatal: Requires external resources, additional medical resources, with consideration for advanced medical care onsite.

Serious: Requires multiple ski area resources, will require additional patrol and/or advanced medical resources. Patient will require immediate transport (by ambulance, air, etc) to an appropriate medical facility.

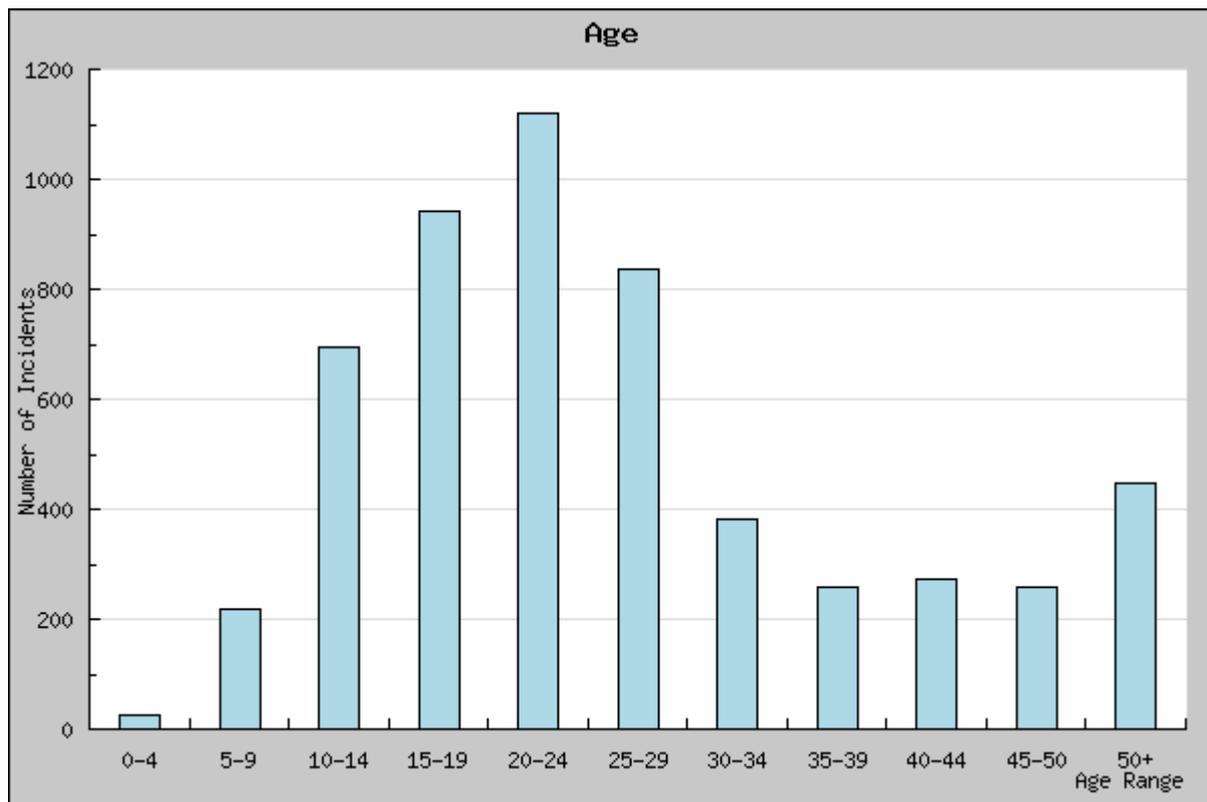
Significant: Requires patrol transportation and will need specialist medical care – quite often beyond what can be administered on the mountain. There is the potential for this patient to deteriorate.

Moderate: Requires patrol assistance, the patient requires medical intervention and will require further treatment at a core medical or treatment facility.

Minor: Will generally not require further medical assistance beyond that delivered on the mountain.

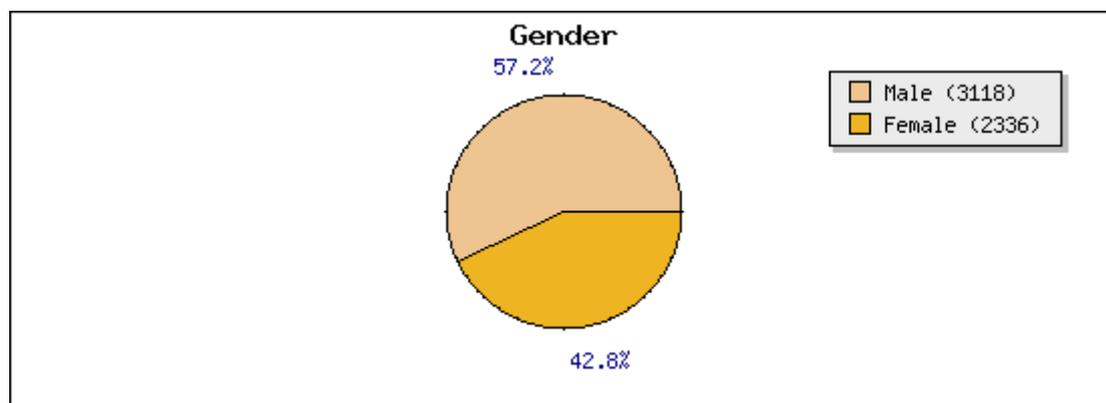
¹ Only counts the incidents where Severity has been entered. For older data use event codes.

Graph 5 indicates the age range of injured people across all of the collated data.



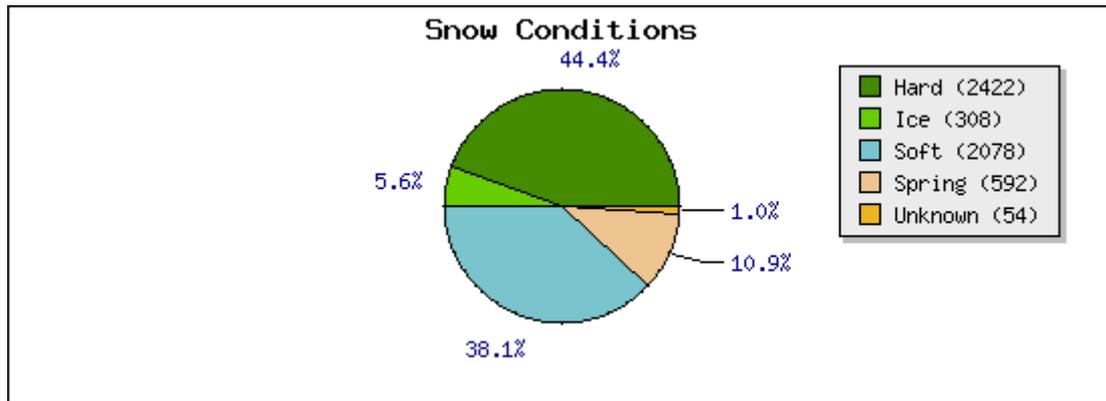
Graph 5 - Age Range of Injured Participants

Graph 6 illustrates the gender split of those receiving injuries across all of the collated data.



Graph 6 - Gender Split of Injured Participants

Graph 7 gives an indication of the snow conditions present at the time and location of the incident across all collated data.



Graph 7 - Snow Conditions During Incidents

Glossary of Snow conditions:

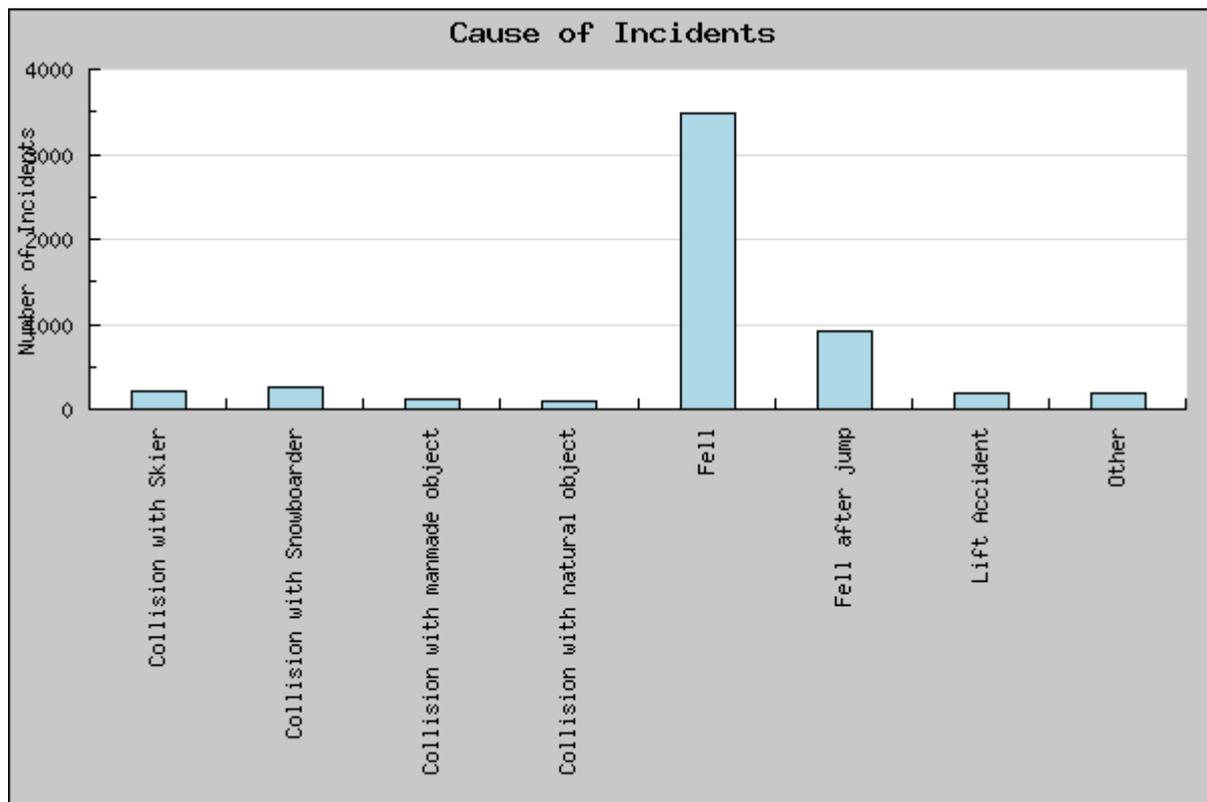
Soft: unconsolidated new snow.

Spring: Melt forms in either a frozen or wet state or combination of the two.

Hard: Dry, consolidated snow.

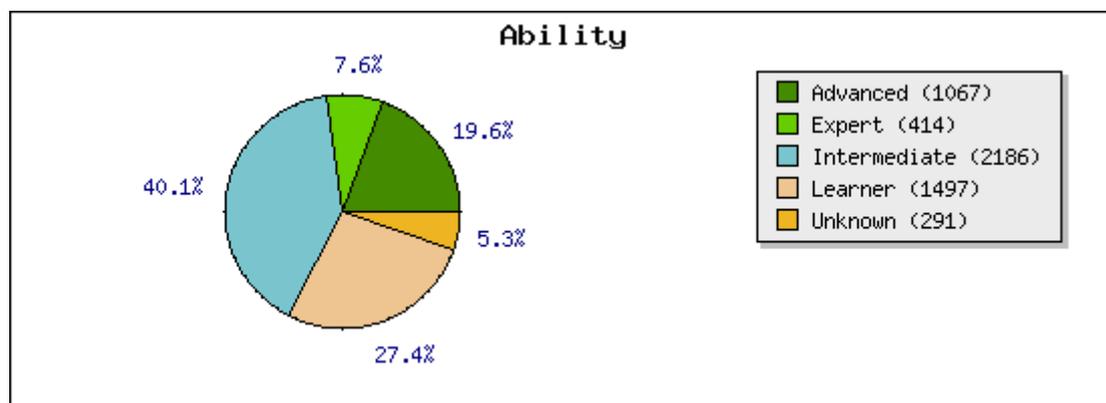
Ice: Ice from, mass or layer on the surface.

Graph 8 illustrates the cause of the collated incident as identified by the injured party.



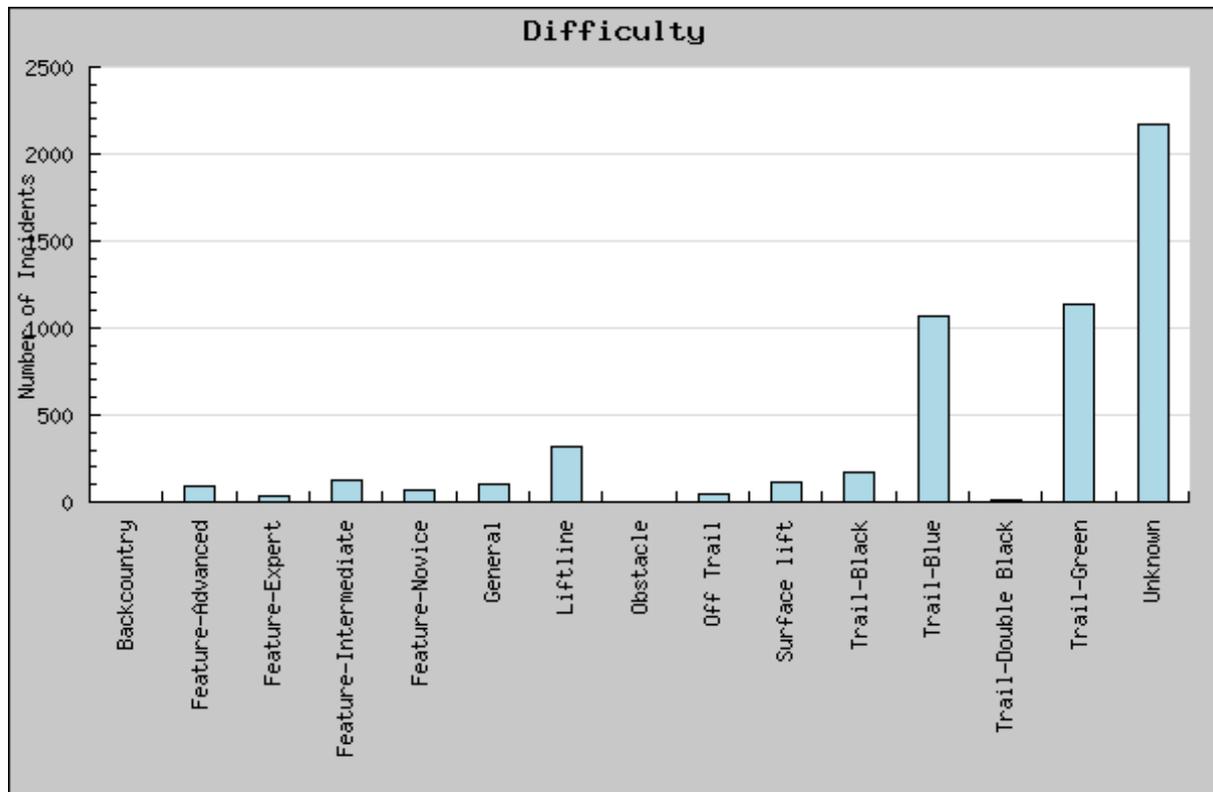
Graph 8 - Cause of Incidents

Graph 9 illustrates the self identified ability of the injured party across all collated data.



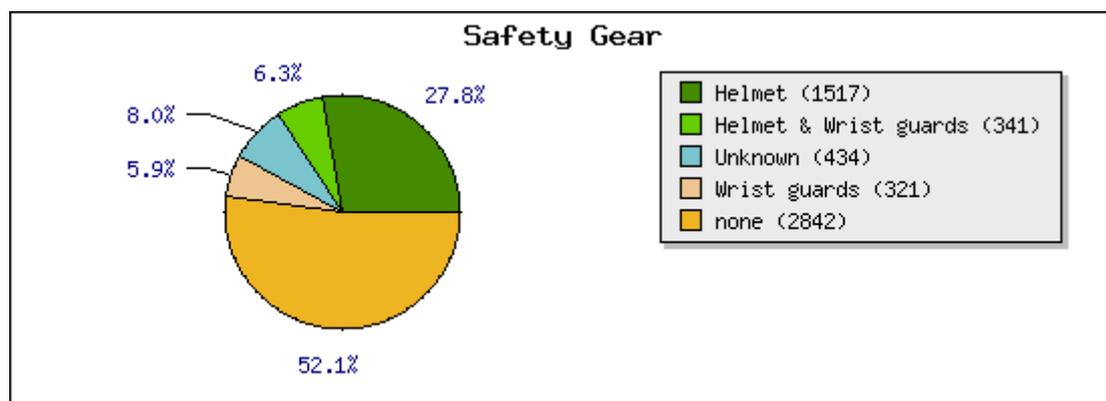
Graph 9 - Participant Ability

Graph 10 below draws upon ski field terrain data which enables ski field staff to assess and record the difficulty of the route or feature that the injured party was utilising when the injury occurred. The high rate of the “unknown “ category is potentially a combination of skiers and snowboarders not knowing the location of the incident and the fact that some ski fields have entered the term unknown when the difficulty of a designated feature or area is unable to be described. For example some ski field lifts have been rated as unknown difficulty. This anomaly may require some alteration in the future.



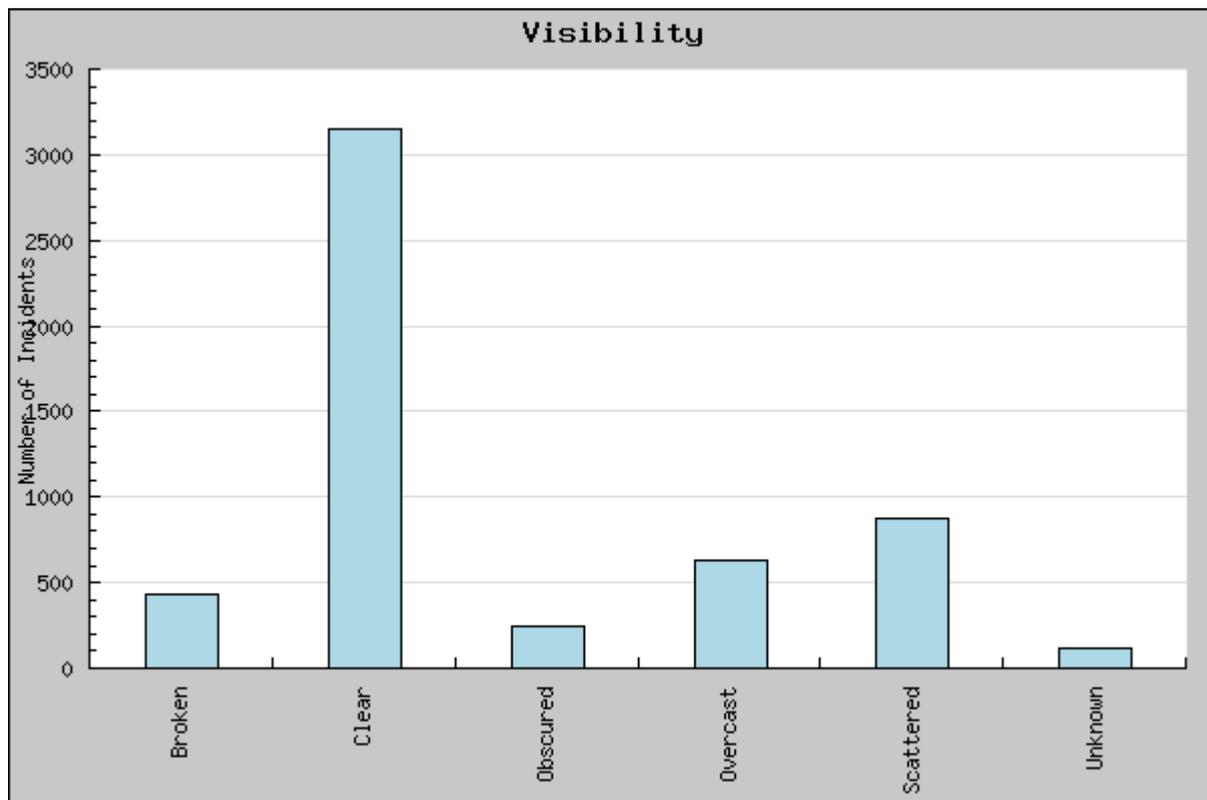
Graph 10 - Difficulty

Graph 11 gives an indication of the safety equipment worn by skiers and snowboarders when they were injured.



Graph 11 - Safety Equipment used by Participants

Graph 12 illustrates the sky conditions at the time of the injury across all collated data. A definition of the terms is provided below.



Graph 12 - Sky Condition at Time of Incident

Glossary Sky Conditions

Clear: No clouds.

Scattered: Partially cloudy; half or less of the sky is covered with clouds (more than 0/8 but less than 4/8).

Broken: Cloudy; more than half but not all of the sky is covered with clouds (more than 4/8 but less than 8/8 cover).

Cloudy: more than half but not all of the sky is covered with clouds (more than 0/8 but less than 4/8).

Overcast: The sky is completely covered (8/8 cover).

Obscured: A surface based layer (e. g. fog) or a non-cloud layer (e. g. heavy snowfall) prevents observer from seeing cloud cover.

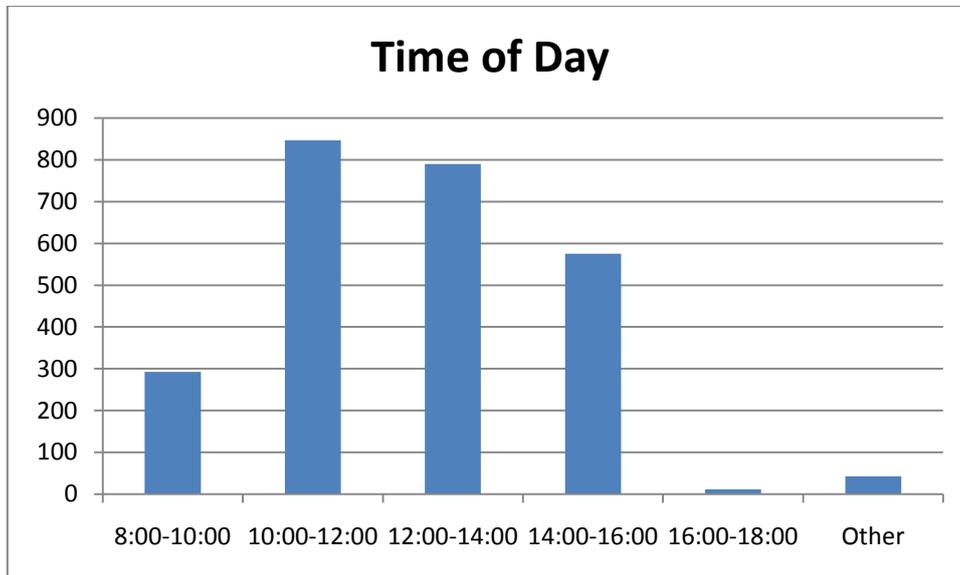
Skiing

Total number of incidents 2559

Table 2 indicates the time of day and the day of the week that skiing injuries occurred on.

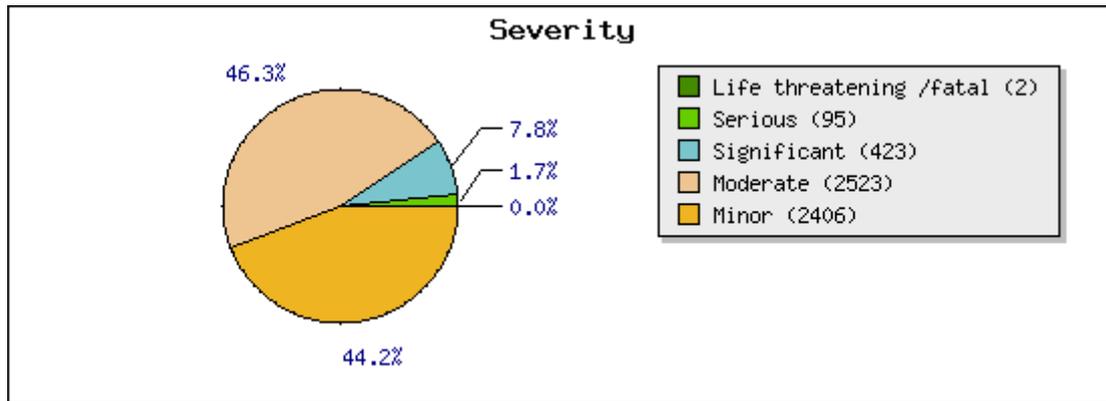
Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
8: 00-10: 00	38	37	39	34	52	35	58	293
10: 00-12: 00	132	107	103	121	135	111	137	846
12: 00-14: 00	126	112	81	111	121	105	134	790
14: 00-16: 00	75	72	61	93	94	82	98	575
16: 00-18: 00	-	1	-	4	-	1	6	12
Other	6	3	2	3	9	6	14	43

Table 2 - Time of Day and Day of Week Skiing Injuries Occurred



Graph 13 - Time of Day Skiing Incident Occurred

The severity of the skiing injuries is illustrated in graph 15 which is followed by a definition of the terms used within these categories.



Graph 14 - Severity of Skiing Injury²

Glossary of Severity Scale

Immediate threat to life/fatal: Requires external resources, additional medical resources, with consideration for advanced medical care onsite.

Serious: Requires multiple ski area resources, will require additional patrol and/or advanced medical resources. Patient will require immediate transport (by ambulance, air, etc) to an appropriate medical facility.

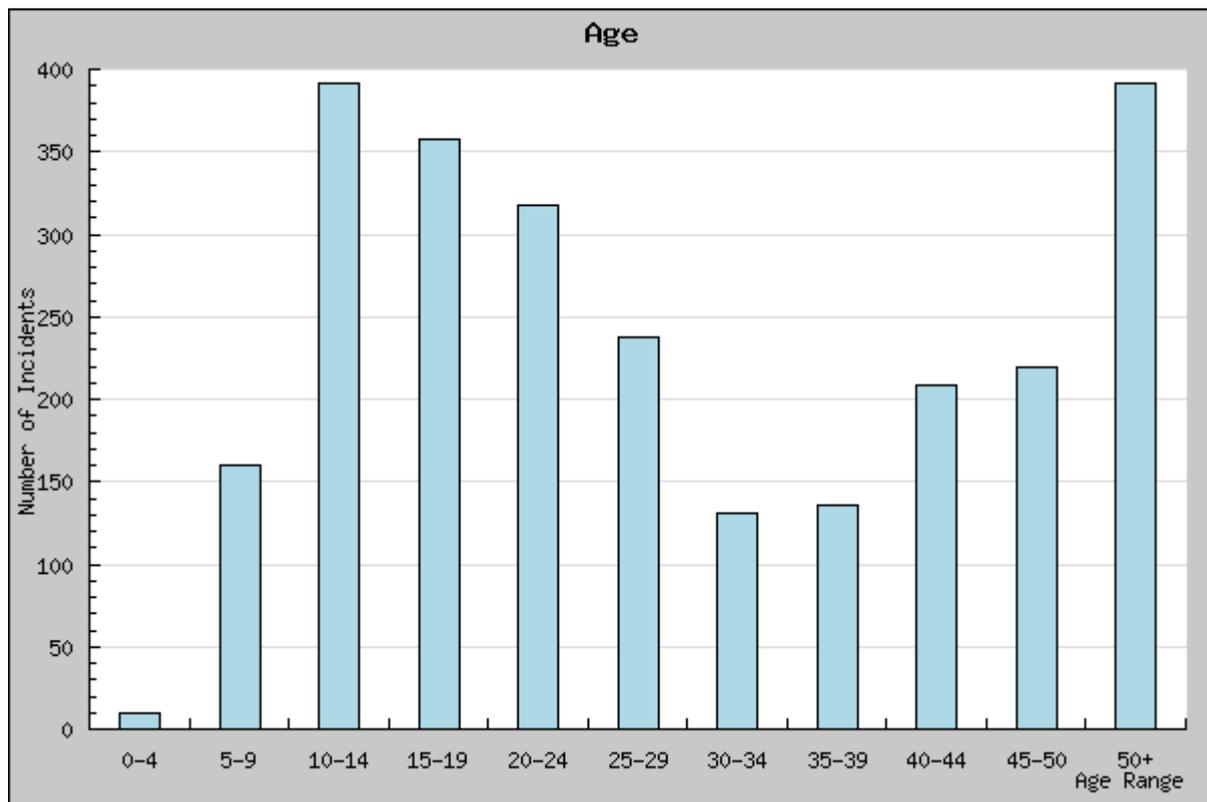
Significant: Requires patrol transportation and will need specialist medical care – quite often beyond what can be administered on the mountain. There is the potential for this patient to deteriorate.

Moderate: Requires patrol assistance, the patient requires medical intervention and will require further treatment at a core medical or treatment facility.

Minor. Will generally not require further medical assistance beyond that delivered on the mountain.

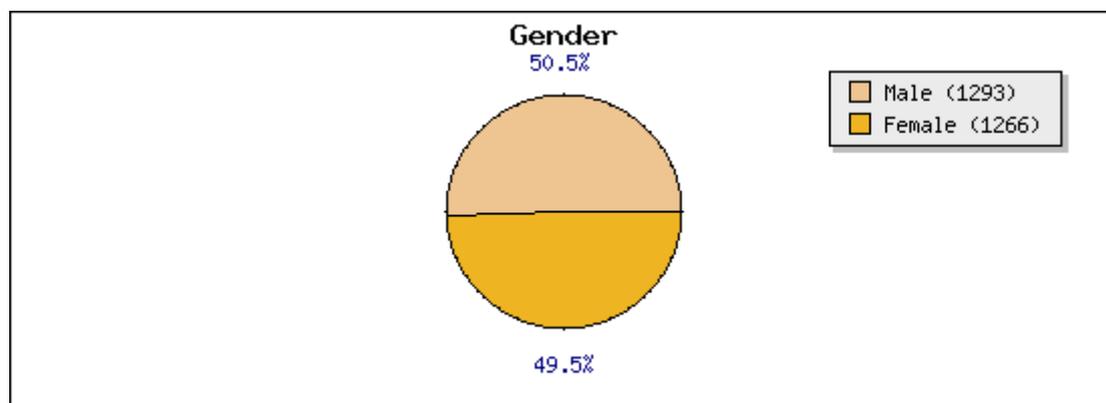
² Only counts the incidents where Severity has been entered. For older data use event codes.

Graph 15 indicates the age range of injured skiers.



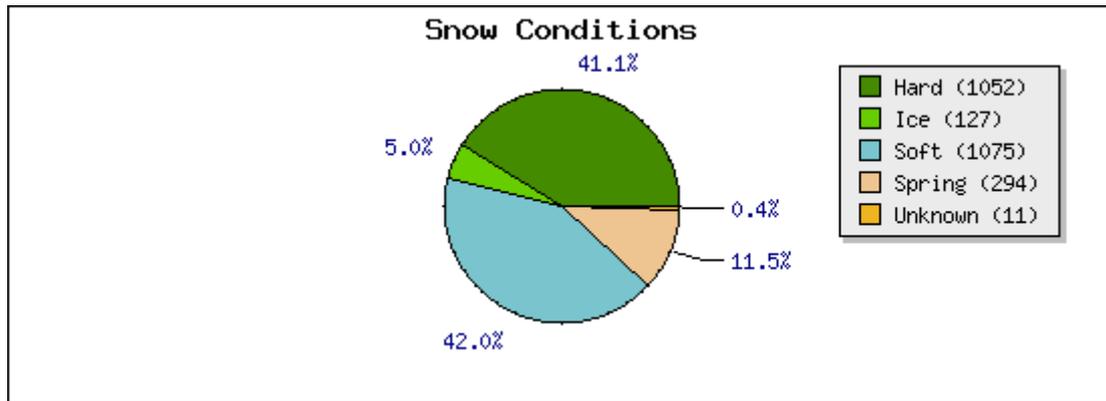
Graph 15 - Age Range of Injured Skiing Participants

Graph 16 illustrates the gender split of those receiving injuries while skiing.



Graph 16 - Gender Split of Injured Skiing Participants

Graph 17 gives an indication of the snow conditions present at the time and location of the incident for the skiing data.



Graph 17 - Snow Conditions During Skiing Incidents

Glossary of Snow Conditions:

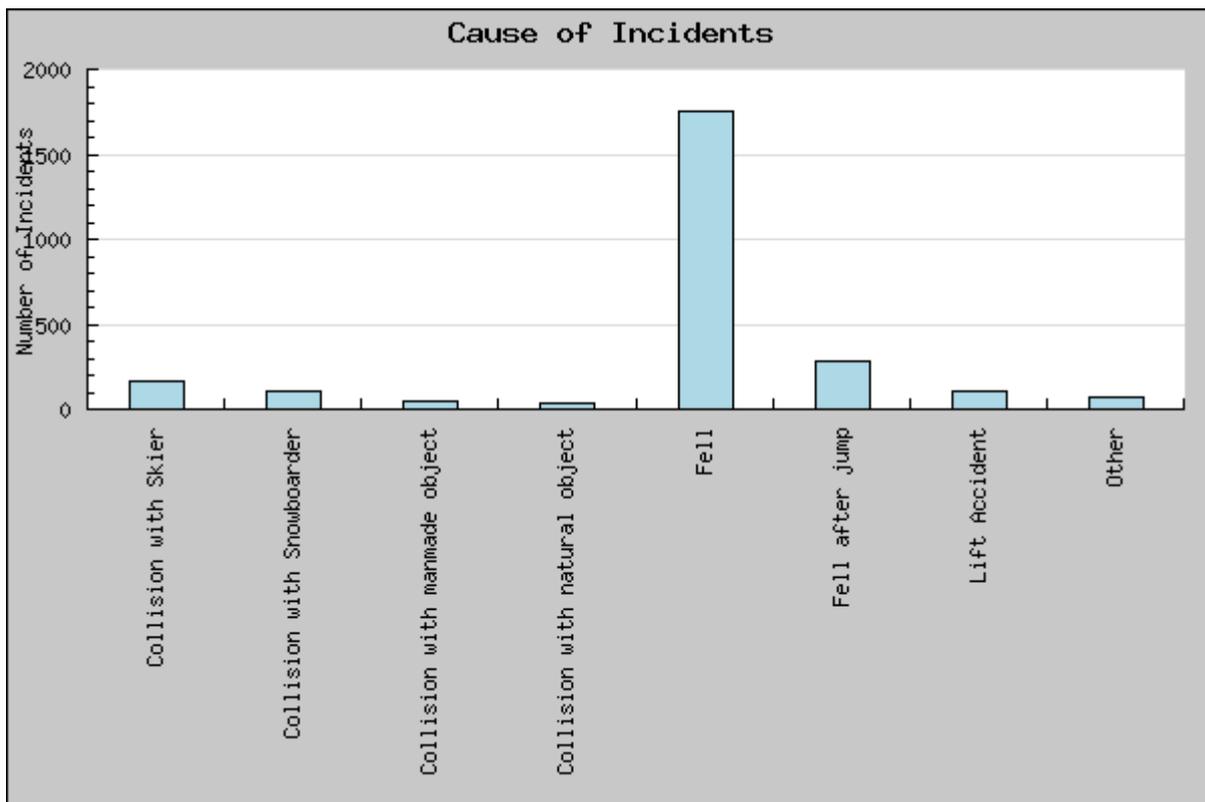
Soft: unconsolidated new snow.

Spring: Melt forms in either a frozen or wet state or combination of the two.

Hard: Dry, consolidated snow.

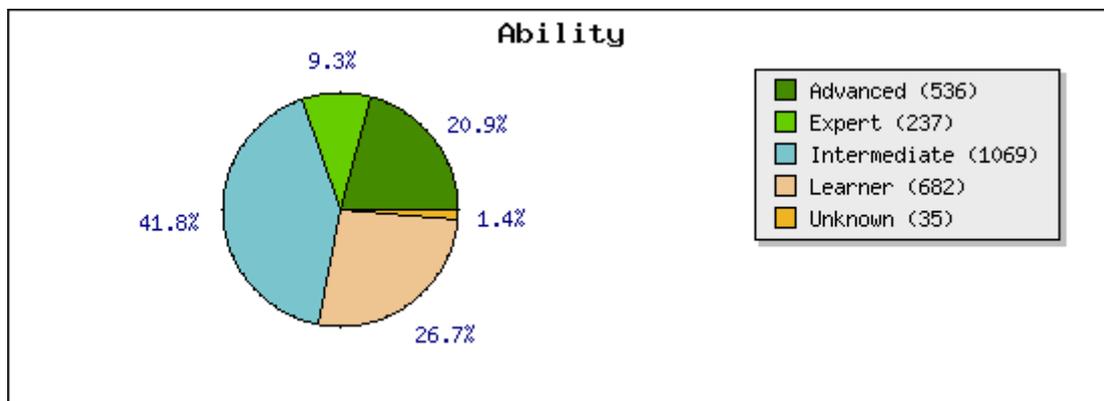
Ice: Ice from, mass or layer on the surface.

The causes of the skiing incidents as identified by the injured party are illustrated in graph 21.



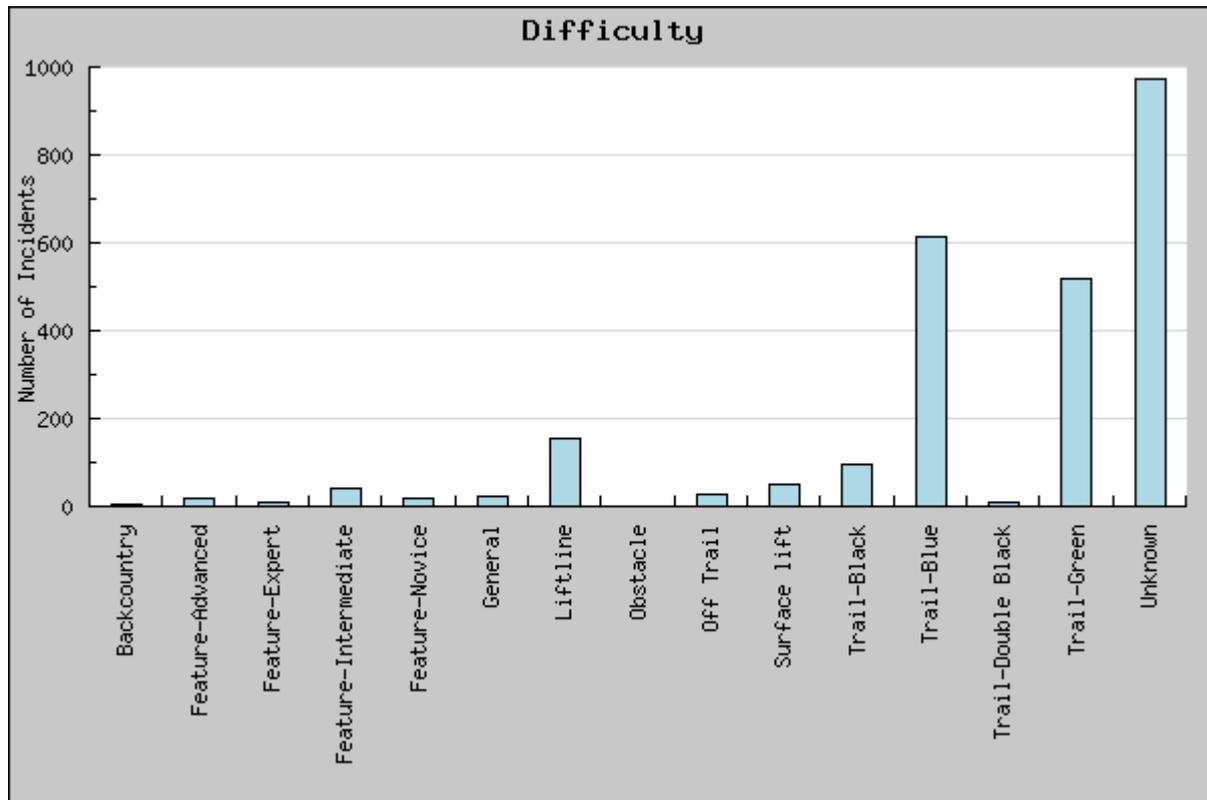
Graph 18 - Cause of Skiing Incidents

Graph 19 illustrates the self identified ability of the injured party for the skiing data.



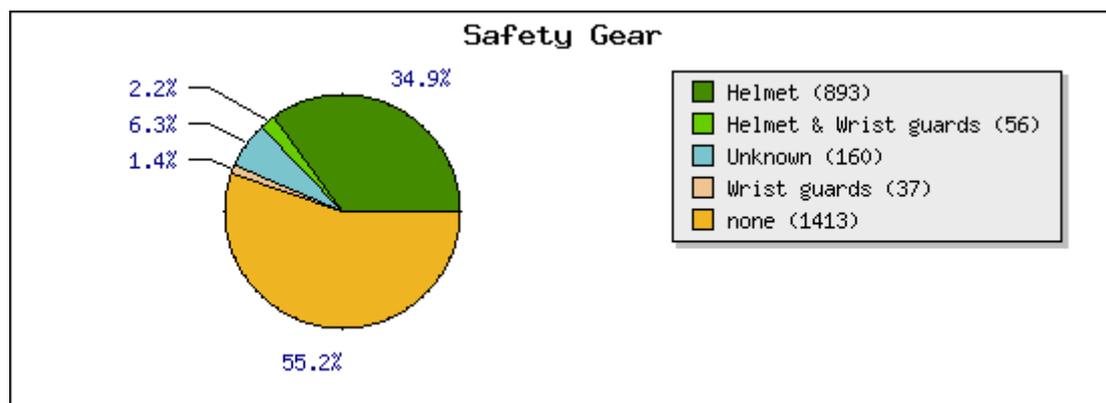
Graph 19 - Participant Skiing Ability

Graph 20 below draws upon ski field terrain data which enables ski field staff to assess and record the difficulty of the route or feature that the injured party was utilising when the skiing injury occurred.



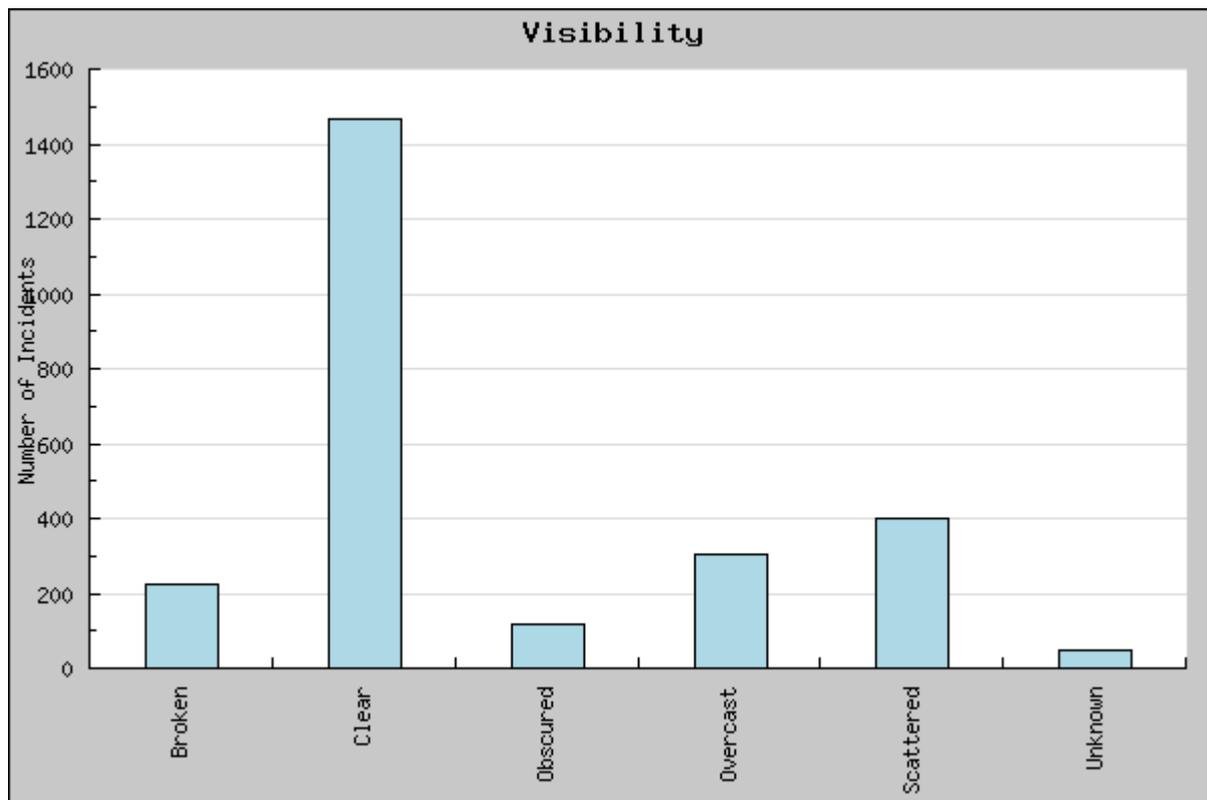
Graph 20 - Skiing Difficulty

Graph 21 gives an indication of the safety equipment worn by skiers when they were injured.



Graph 21 - Safety Equipment Used by Skiing Participants

Graph 22 illustrates the sky conditions at the time of the injury for the skiing data. A definition of the terms is provided below.



Graph 22 - Sky Conditions at Time of Skiing Incident

Glossary Sky Conditions

Clear: No clouds.

Scattered: Partially cloudy; half or less of the sky is covered with clouds (more than 0/8 but less than 4/8).

Broken: Cloudy; more than half but not all of the sky is covered with clouds (more than 4/8 but less than 8/8 cover).

Cloudy: more than half but not all of the sky is covered with clouds (more than 0/8 but less than 4/8).

Overcast: The sky is completely covered (8/8 cover).

Obscured: A surface based layer (e. g. fog) or a non-cloud layer (e. g. heavy snowfall) prevents observer from seeing cloud cover.

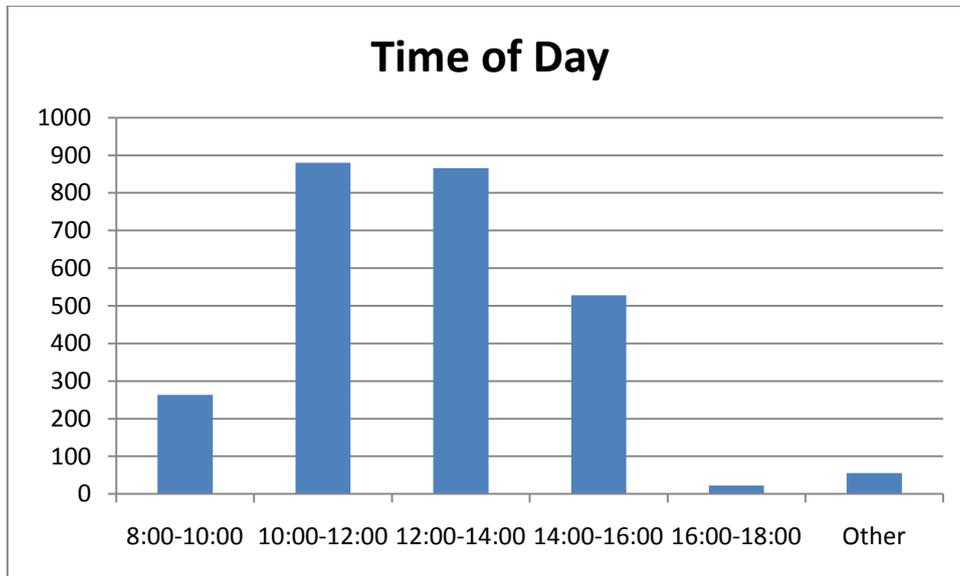
Snow boarding

Total number of incidents: 2615

Table 3 indicates the time of day and the day of the week that snowboarding injuries occurred on.

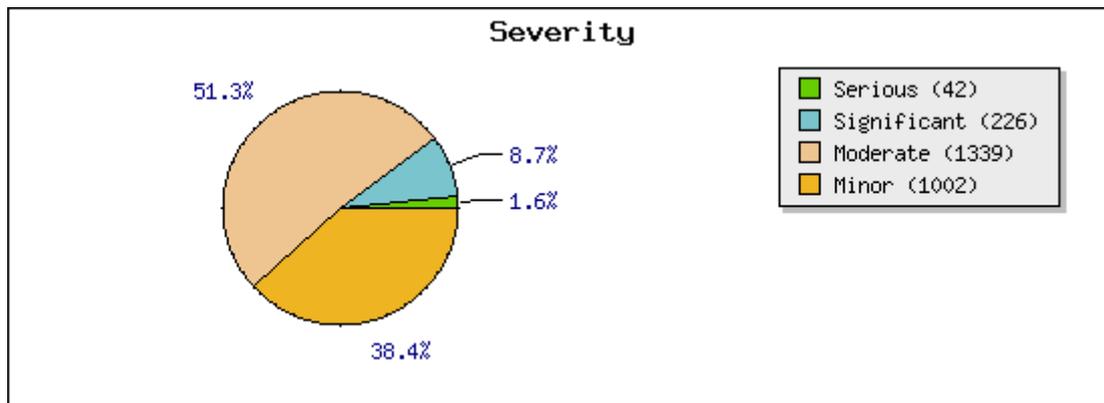
Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
8: 00-10: 00	48	33	32	32	33	43	42	263
10: 00-12: 00	146	118	111	112	135	110	148	880
12: 00-14: 00	133	126	112	103	134	101	157	866
14: 00-16: 00	81	67	45	62	83	76	114	528
16: 00-18: 00	0	4	2	4	4	4	4	22
Other	9	7	4	4	6	13	12	55

Table 3 - Time of Day and Day of Week Snow Boarding Injuries Occured



Graph 23 - Time of Day Snow Boarding Incident Occurred

The severities of the snowboarding injuries are illustrated in graph 27 which is followed by a definition of the terms used within these categories.



Graph 24 - Severity of Snow Boarding Injury

Glossary of Severity Scale

Immediate threat to life/fatal: Requires external resources, additional medical resources, with consideration for advanced medical care onsite.

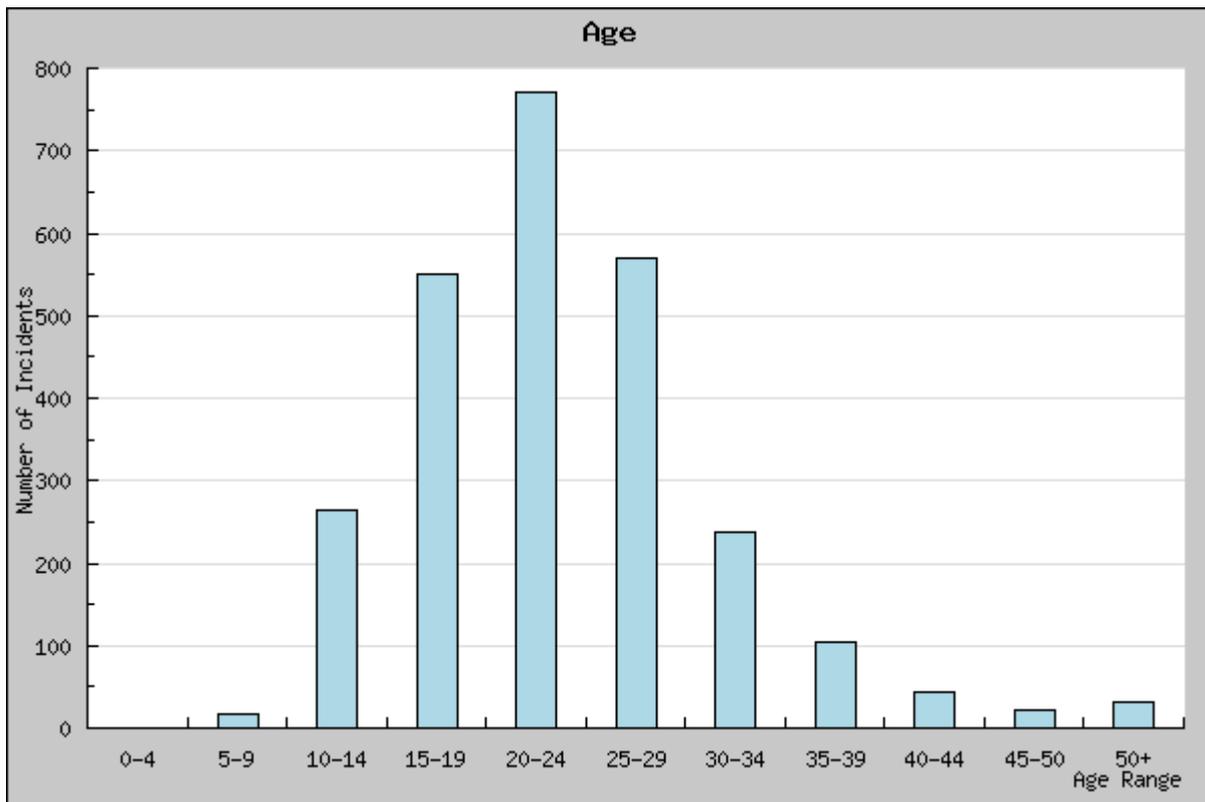
Serious: Requires multiple ski area resources, will require additional patrol and/or advanced medical resources. Patient will require immediate transport (by ambulance, air, etc) to an appropriate medical facility.

Significant: Requires patrol transportation and will need specialist medical care – quite often beyond what can be administered on the mountain. There is the potential for this patient to deteriorate.

Moderate: Requires patrol assistance, the patient requires medical intervention and will require further treatment at a core medical or treatment facility.

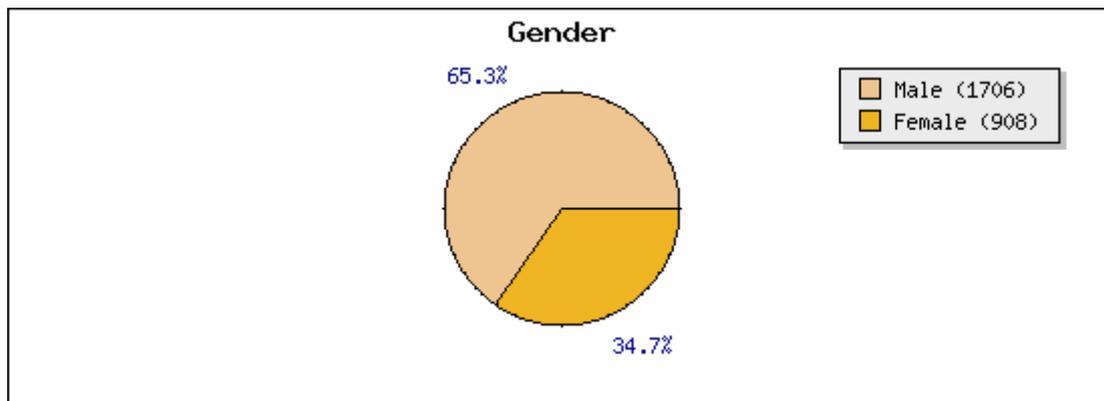
Minor: Will generally not require further medical assistance beyond that delivered on the mountain.

Graph 25 indicates the age range of injured people within the snowboarding data.



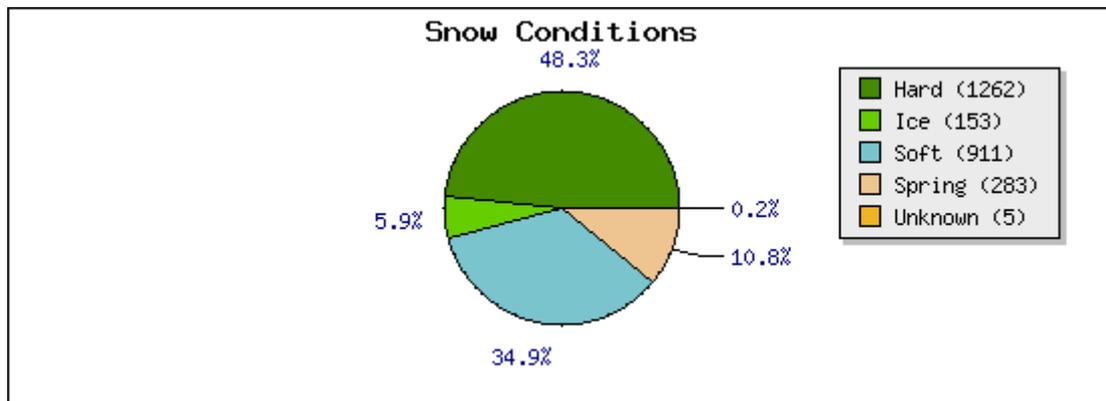
Graph 25 - Age Range of Injured Snow Boarding Participants

Graph 26 illustrates the gender split of those receiving injuries while snowboarding.



Graph 26 - Gender Split of Injured Snow Boarding Participants

Graph 27 gives an indication of the snow conditions present at the time and location of the incident for the snowboarding data.



Graph 27 - Snow Conditions During Snow Boarding Incident

Glossary Sky Conditions

Clear: No clouds.

Scattered: Partially cloudy; half or less of the sky is covered with clouds (more than 0/8 but less than 4/8).

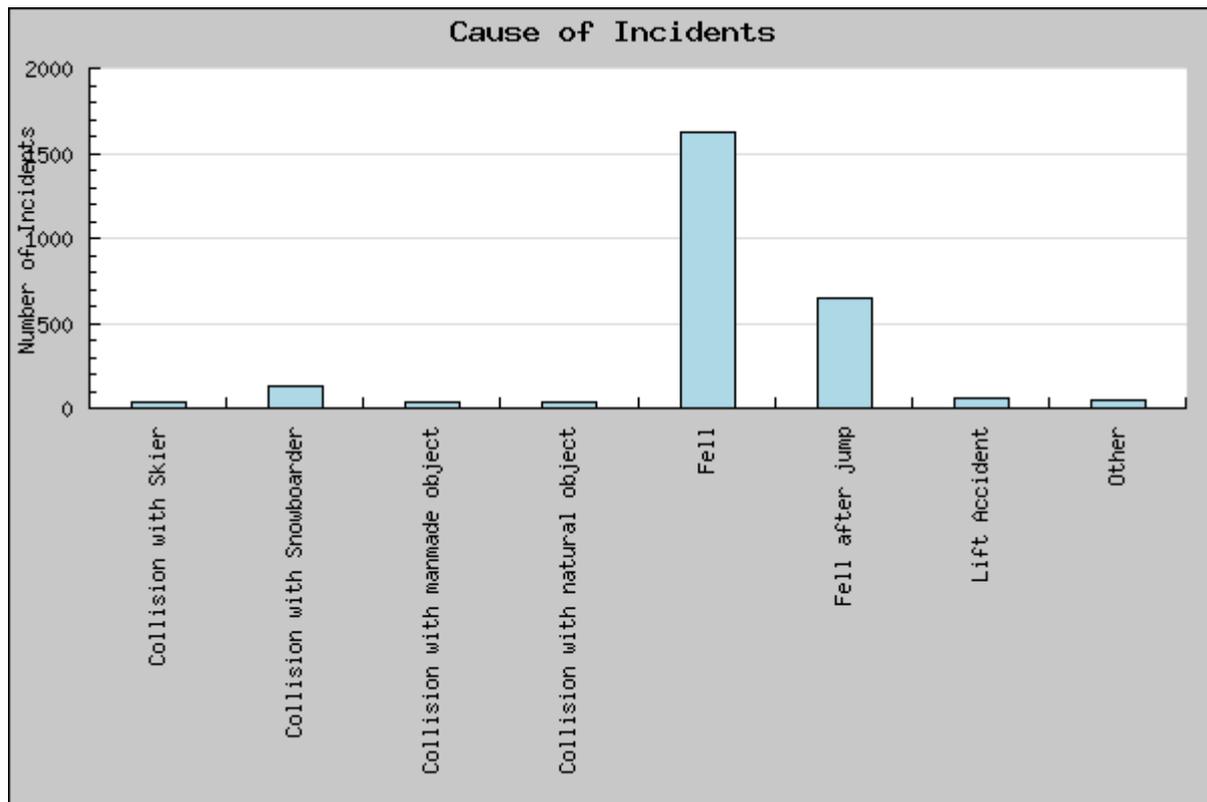
Broken: Cloudy; more than half but not all of the sky is covered with clouds (more than 4/8 but less than 8/8 cover).

Cloudy: more than half but not all of the sky is covered with clouds (more than 0/8 but less than 4/8).

Overcast: The sky is completely covered (8/8 cover).

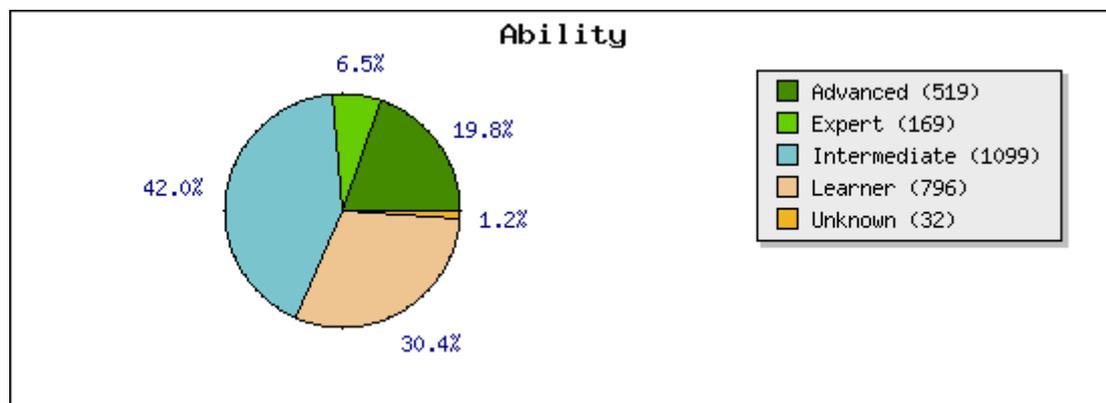
Obscured: A surface based layer (e. g. fog) or a non-cloud layer (e. g. heavy snowfall) prevents observer from seeing cloud cover.

Graph 28 illustrates the cause of the snowboarding incidents as identified by the injured party.



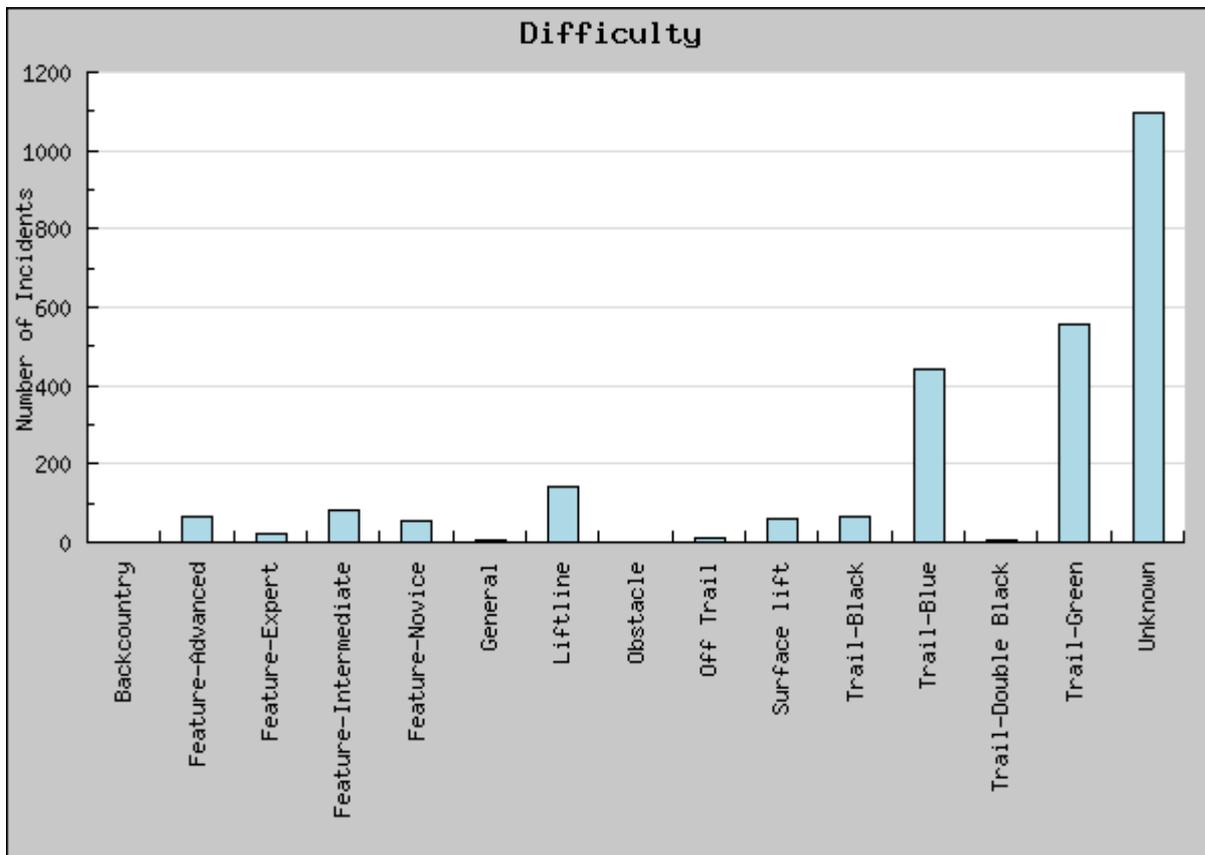
Graph 28 - Cause of Snow Boarding Incidents

Graph 29 illustrates the self identified ability of the injured party for snowboarding.



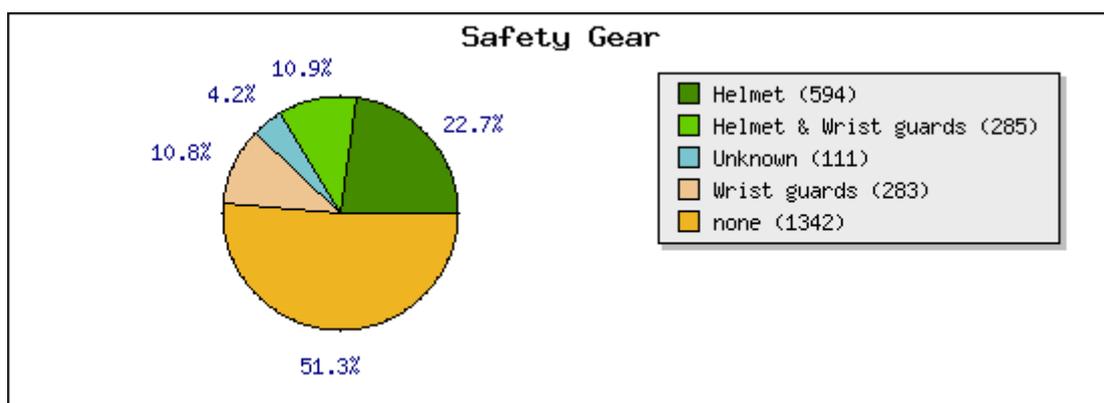
Graph 29 - Participant Snow Boarding Ability

Graph 30 below draws upon ski field terrain data which enables ski field staff to assess and record the difficulty of the route or feature that the injured party was utilising when the snowboarding injury occurred.



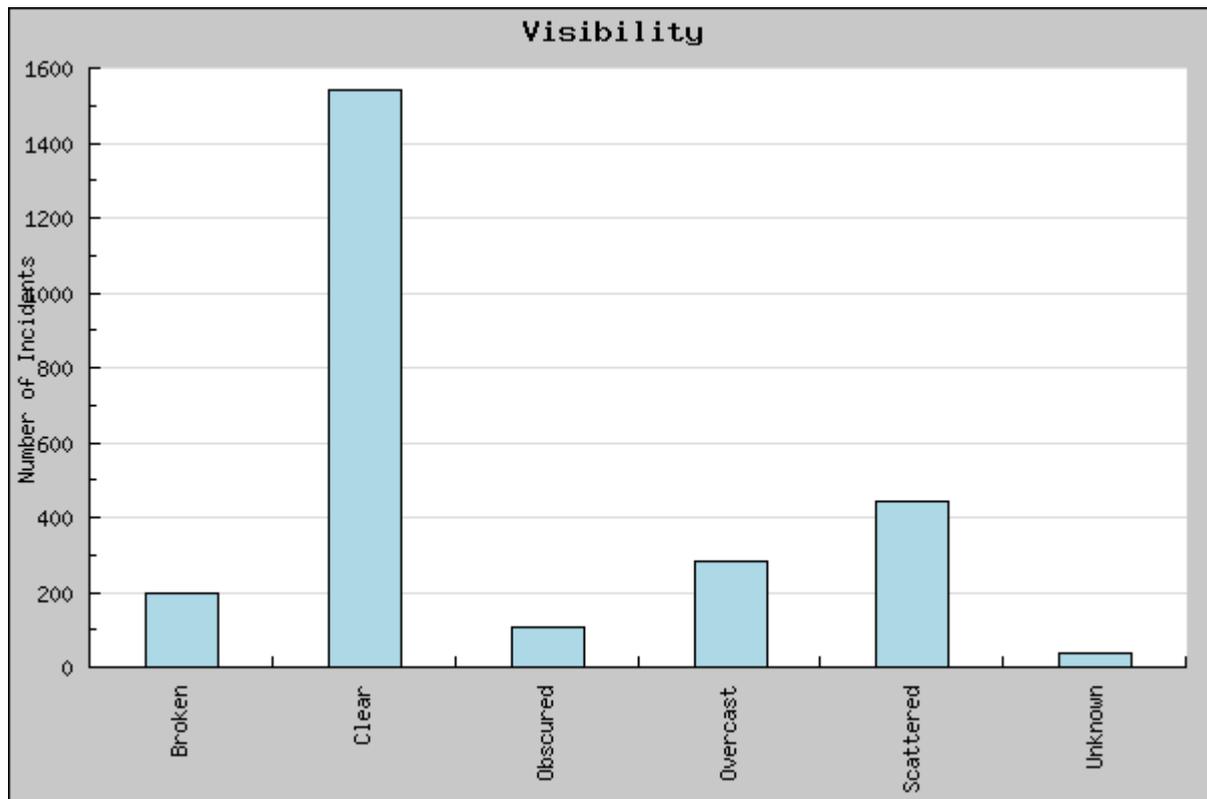
Graph 30 - Snow Boarding Difficulty

Graph 31 gives an indication of the safety equipment worn snowboarders when they were injured.



Graph 31 - Safety Equipment Used by Snow Boarding Participants

Graph 32 illustrates the sky conditions at the time of the injury for the snowboarding data. A definition of the terms is provided below.



Graph 32 - Sky Conditions at Time of Snow Boarding Incident

Glossary Sky Conditions

Clear: No clouds.

Scattered: Partially cloudy; half or less of the sky is covered with clouds (more than 0/8 but less than 4/8).

Broken: Cloudy; more than half but not all of the sky is covered with clouds (more than 4/8 but less than 8/8 cover).

Cloudy: more than half but not all of the sky is covered with clouds (more than 0/8 but less than 4/8).

Overcast: The sky is completely covered (8/8 cover).

Obscured: A surface based layer (e. g. fog) or a non-cloud layer (e. g. heavy snowfall) prevents observer from seeing cloud cover.



OUTDOOR SAFETY

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