

Evaluation of Parks Canada's National Park and National Historic Sites Symbols – Phase I

Draft Report

Submitted to:

Parks Canada



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BACKGROUND

As part of Parks Canada's corporate identity program, the Agency has developed, redesigned and modified a series of symbols that are used to convey either general, directional or safety information to visitors in national parks and national historic sites. Many of these symbols are either the same or similar to standard CSA approved symbols. However, neither the CSA symbols nor the new or modified Parks Canada specific symbols have been tested for comprehension among the public and potential users of the information conveyed. It is necessary therefore, to assess public comprehension of these symbols, some of which include variants of the same symbol.

METHODOLOGY

The project has been undertaken in two phases. Within Phase I, 182 symbols were evaluated covering the following three types of symbols:

- ↪ **Regulatory Symbols (59)** – consists of both *Prohibition* and *Mandatory* symbols;
- ↪ **Warning Symbols (2)**; and
- ↪ **Information and Guidance Symbols (121)** – includes both *Emergency* and *Information and Guidance* symbols).

This study was conducted using Ipsos-Reid's "I-Say" Internet panel. Surveys were administered using IPSOS-REID CONFIRMIT on-line fielding capabilities. Each potential survey respondent was e-mailed a survey URL as well as a personal identification number (PIN). Upon entering the URL, potential respondents were required to enter their unique PIN number. When completed, respondents were permitted to record their answers and complete the survey.

CONFIRMIT permits respondents who are interrupted before completing the questionnaire to access the survey again using their PIN number and finish the survey at their convenience. To ensure the integrity of the data, and to avoid a situation in which an individual could fill out the survey multiple times in an attempt to skew the

data, the PIN number provides password-protected entry to our site, which expires after the completion of a single survey (one survey for one PIN).

The sample for this survey was randomly divided into nine "blocks". Each block of panellists evaluated 20 symbols (21 for two blocks) that appeared to respondents in a randomized order. Additional care was taken to ensure that similar themed symbols or variations on the same symbol were not included within the same block. A total of 995 surveys (approximately 100 per block) were completed from January 8 to January 14, 2004.

Also included in the study were questions, based on the total sample size, on the incidence of visiting national parks and national historic sites in Canada, as well as which national parks and national historic sites have been visited.

The margin of error for the sample size overall, and for each the nine "blocks" are listed in the table below:

Block	Base	Margin of Error ±
One	115	9.1
Two	107	9.5
Three	119	9.0
Four	104	9.6
Five	123	8.8
Six	110	9.3
Seven	101	9.8
Eight	103	9.7
Nine	112	9.3
Total	995	3.1

Interpretation of Results – Symbol Evaluation

- Respondents were asked for their interpretation of the symbol and what action, if any would be appropriate in relation to the symbol;
- Responses were carefully coded against Parks Canada’s list of acceptable and unacceptable interpretations and actions;
- Nets were created for “Acceptable” and “Unacceptable” responses. Each of these nets included sub-nets for “action” and “response”¹;
- High incidence of “acceptable” responses – respondents made a correct interpretation or suggested a correct action;
- High incidence of “unacceptable” responses – respondents were less likely to make a correct interpretation or suggest a correct action;
- High incidence of “don’t know” responses – respondents were unable to identify a correct or an incorrect response or action.
- The following criteria, supplied by Parks Canada, was used in determining the success of each symbol:

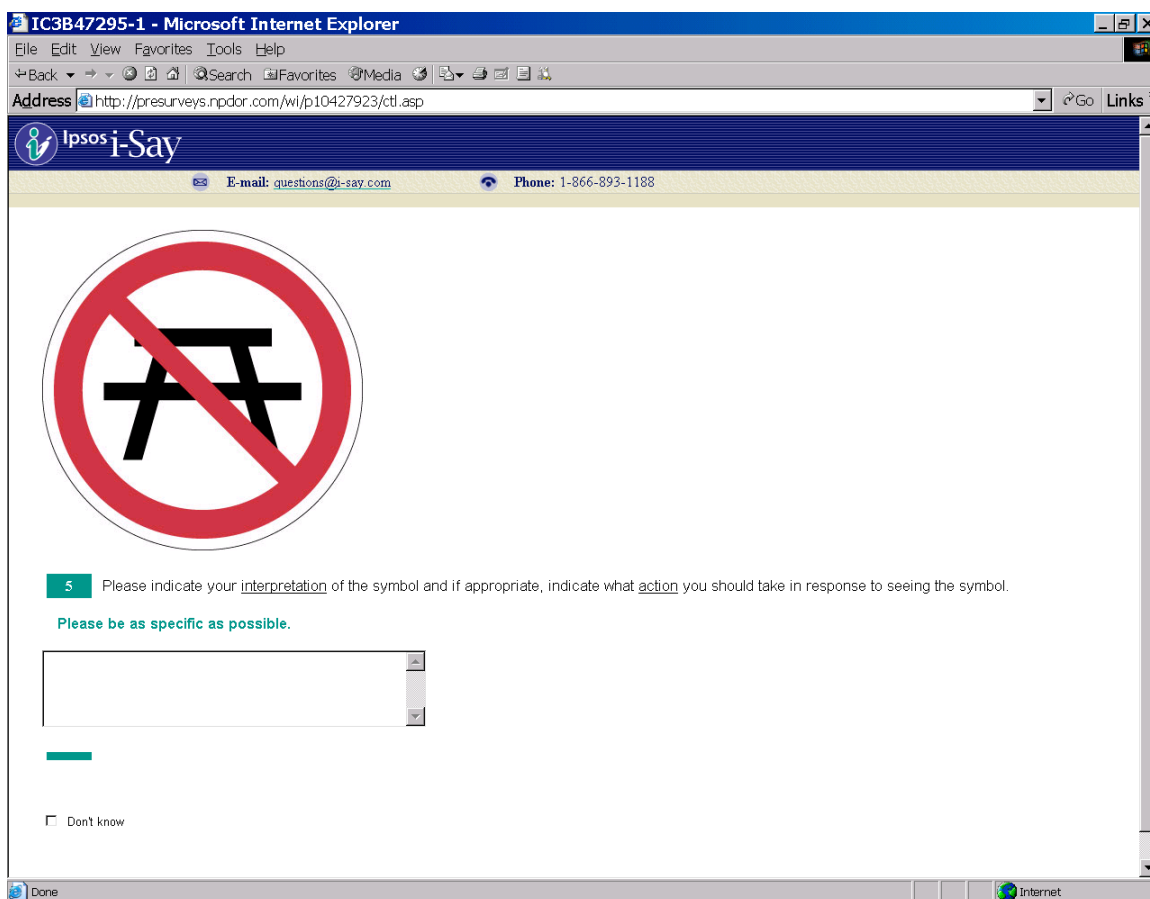
	% Acceptable Responses
Successful	100% to 80%
Needs reassessment	79% to 60%
Unsuccessful	<60%

¹ As multiple mentions were coded for this question (response and/or action), the total number of responses may exceed 100%.

IMAGES

The following is a screen capture of one of the symbols tested using IPSOS-REID CONFIRMIT on-line fielding capabilities. Detailed specifications were provided to Parks Canada regarding the size and type of images required for the study. Each image was received digitally in jpeg format with dimensions of 500 X 356 pixels at about the size of 50 Kilobytes, in order to achieve a desired pixel resolution.

These parameters were set to ensure that all of Ipsos-Reid's panelists had the ability to see the symbols, regardless of the particulars of their computers' video setups or modem speeds. The survey was programmed so that one symbol appeared on each screen at a time thereby minimizing the amount of scrolling required to move through the survey.



EXECUTIVE SUMMARY

Incidence of Visits to National Parks/National Historic Sites

Almost three-quarters of respondents (72%) claim to have visited a national park in the past. The adjusted incidence figure, which excludes those who did not mention an actual national park of Canada is considerably lower – 34%. The most frequently visited Canadian national park is Banff National Park of Canada (20%), followed by Jasper National Park of Canada (11%).

More than half of respondents claim to have visited a national historic site in Canada in the past (53%). When the high levels of “don’t know” responses are removed, the overall incidence rises to eight in ten (80%). One half (50%) of those who claimed to have visited a national historic site in the past indicated an actual national historic site (32% - Parks Canada NHS, 18% - Other NHS) when asked which NHS they last visited. A plurality of respondents recalled something other than a non-national historic site when asked this question (44%).

Regulatory Symbols – Prohibition

Top 10 “Acceptable” Scores

Among the 48 Prohibition symbols tested the top 10 “Acceptable” symbols are lead by the No parking and No smoking symbols, both of which elicit 100% acceptable responses. These two symbols are followed by several symbols that have 99% “Acceptable” responses including No hunting, No tree cutting, No cross-country skiing, No in-line skating, No campfires and No fishing. Ninety-eight per cent of respondents correctly assess the version one of the No snowmobiles symbol followed closely by the No swimming symbol at 97%. All of these symbols are successful according to the research criteria.

Top 10 "Unacceptable" Scores

The least successful symbol among the top ten most unsuccessful responses within this sub-group is Do not feed the elk at 100% "Unacceptable" responses. In this case, as in several other instances, respondents provide answers that are too generic and not specific enough to meet the pre-determined criteria (responses that refer to "feeding the animals" – 84% instead of feeding the elk). The second least successful symbol is No back packing (96% unacceptable), which is frequently mistaken as a symbol that prohibits hiking (80%). The symbols for No boat rafting and No kayaking have similar levels of unacceptable responses (82% and 78%, respectively) and are most likely to be mistaken to represent "No docking" (63%) and "No canoeing/boating/row boating/rafting" (77%), respectively.

The symbols for No ignition (47%), Do not walk on dunes (45%), and No car washing (44%) each have a plurality of unacceptable responses. These three symbols also register a high proportion of don't know responses (30%, 41%, and 21% respectively).

Although the No picnics (35%), No diving (34%), and No float planes (33%) symbols are within the top ten with a high level of unacceptable responses; No picnics and No diving still have enough acceptable responses to be considered successful according to the criteria (88% and 82%, respectively).

Top 10 "Don't Know" Scores

The prohibition symbols that register the highest level of "don't know" responses are Do not touch (50%) and Do not walk on the dunes (41%). No recyclable material and No ignition both have similar levels of don't know responses (31% and 30%, respectively), followed by No car washing (21%) and No metal detectors (17%). All other symbols remaining within the top ten have "don't know" responses of six per cent or less (No pedestrian access – 6%, No boat rafting – 5%, No tobogganing – 5%, and No camping – 4%).

Regulatory Symbols – Mandatory

"Acceptable" Scores

Of the eleven symbols tested within this category, the symbols for Waste disposal (95%) and Extinguish Fires (91%) both are highly successful according to the criteria. All the protection symbols either need re-assessment or are unsuccessful according to the criteria. The most successful protection symbols are Head and Foot protection at 68% and 62% respectively. Similar proportions of respondents provide acceptable responses for the Hand (39%), Eye (36%), and Hearing (33%) protection symbols. One quarter of respondents (25%) correctly assess the Respiratory protection symbol. The acceptable scores for Hair protection (7%) and Fall protection (5%) are quite low, while the symbol for Blower on had zero acceptable responses.

"Unacceptable" Scores

Interestingly however, is the fact that the Blower on symbol does not have the highest level of unacceptable responses. It's responses are divided fairly evenly between unacceptable (48%) and don't know responses (52%). In terms of unacceptable responses, it is preceded by Fall protection and Hearing protection with 84% and 58%, respectively. The same proportion of respondents (37% for both) provided unacceptable responses for the Respiratory and Foot protection symbols. Less than one quarter of respondents for each of the remaining symbols provide unacceptable responses (Head protection – 24%, Hair protection – 23%, Hand protection – 21%, Eye protection – 18%, Waste disposal – 15%, and Extinguish fires – 9%).

"Don't Know" Scores

Among the Regulatory Mandatory symbols, the symbol for Hair protection is most difficult for respondents to respond to as close to three-quarters (73%) provide a "don't know" response. Second tier symbols include Blower on (52%), Eye protection (48%), Hand protection (45%), and Respiratory protection (42%). The vast majority of respondents were able to provide a response for the remaining symbols, whether it was acceptable or unacceptable, as 20% or less defaulted to the "don't know" response for these symbols (Hearing protection – 20%, Head protection – 16%, Fall protection – 12%, Foot protection – 9%, Extinguish fires – 2%, and Waste disposal – 2%).

Warning Symbols - Caution

Two versions of the Rockfall symbol were evaluated within the Warning Symbols category. The original version of the symbol is triangular in shape with a yellow background and depicts the side of a mountain with a fairly large boulder and some smaller rock pieces falling down the right side of the mountain. The version one symbol is a diamond shape with a yellow background and includes an image of the left side of a mountain that has several large and smaller rock pieces falling down the side of the mountain.

Both symbols were very successful in conveying the intended message. The original version of the symbol was slightly more successful than the version one symbol (99% - original vs. 96% - version 1). Unacceptable responses for both symbols are less than 20% (18% - original, 19% - version 1).

Information Symbols – Emergency

"Acceptable" Scores

Of the eleven symbols tested within this category, the symbols for First Aid and Emergency telephone are most successful (94% and 93%, respectively). Second tier symbols refer to various fire equipment such as Fire hose (86%), Fire hydrant (82%), and Fire extinguisher (78%). All of the aforementioned symbols are successful according to the criteria with the exception of the symbol for Fire extinguisher.

Two versions of the Emergency Shower symbol were tested among respondents. The version one of the symbol (first aid cross and shower head spraying water downward) scores significantly higher than the original version (shower head spraying water downward without first aid cross) in terms of acceptable responses (65% vs. 1%). In both cases, especially with respect to the original version of the symbol, respondents mistake it for a generic symbol informing campers of public places to shower (84% - original version; 51% - version 1).

Approximately half of respondents evaluating the Emergency eyewash and Fire alarm symbols provide acceptable responses (54% and 52% respectively). A very small proportion of respondents provide acceptable responses for the Fire axe (16%) and Stretcher symbols (10%).

"Unacceptable" Scores

The symbols for Emergency shower – original (99%) and Stretcher (89%) elicit a high level of unacceptable responses followed distantly by Emergency shower – version one (73%) and Fire axe (68%). The remaining fire symbols within this category have relatively lower levels of unacceptable responses (Fire hose – 23%, Fire extinguisher – 22%, Fire hydrant – 20%, and Fire alarm – 13%). Less than one-fifth of respondents for each of the remaining symbols provided unacceptable responses (Emergency eyewash – 15%, Emergency telephone – 8%, and First aid – 2%).

"Don't Know" Scores

The overall level of "don't know" scores for the Emergency symbols are low relative to other categories indicating that in most cases respondents were able to provide a response to these symbols whether it be acceptable or unacceptable. Emergency eyewash (38%) and Fire alarm (36%) elicited the highest proportion of "don't know" responses followed by Fire axe at 17%. All other symbols had "don't know" responses that were 10 per cent or less (Fire extinguisher – 10%, Fire hydrant – 8%, Emergency shower version one – 5%, First aid – 4%, Fire hose – 4%, Stretcher – 1%, Emergency telephone and Emergency shower original both had zero "don't know" responses).

Information Symbols – Guidance and Information

Top Ten "Acceptable" Scores

The top ten symbols within this category include four symbols that have 100% acceptable responses. These include version one of the Parking symbol, the Telephone symbol, the original version of the Golf symbol, and version one of the Bicycles symbol. Both the Parking and Information symbols have 99% acceptable responses, followed closely by version one of both the Golf and Gasoline Station symbols, and the Picnic Area symbol all at 98%. Ninety-six per cent of respondents provide acceptable responses for the original version of the Access for the physically handicapped symbol.

Top Ten "Unacceptable" Scores

The version one symbol for Showers for males, Cafeteria, and Skate-skiing each has 100% unacceptable responses. In all three instances many respondents provided

responses that were too general to be considered acceptable. For example, in the case of Showers for males 82% of respondents mention "showers/wash area available" however, they do not indicate which gender the shower is intended for. Similarly, 50% of respondents mention "restaurant" for the Cafeteria symbol or 74% mention "cross-country skiing" for the Skate-skiing symbols which are both close to the intended meaning however not specific enough according to the criteria. The original version of Showers for males also has a high proportion of unacceptable responses (93%). The same proportions of respondents (91%) provide unacceptable responses for the original version of Museum, Youth hostel, and Recycle – styrofoam. Nine in ten respondents give unacceptable responses for the Recycle-glass symbol followed closely by Group camping (89%) and Camper truck (88%).

Top Ten "Don't Know" Scores

Of the 121 symbols tested within this category, the symbol for Valve shut-off has the highest proportion of "don't know" responses (77%), followed by Amphitheatre (69%) and Heritage river (50%). Several of these top ten symbols hover around the 40 to 45 per cent mark, including the symbol for Way out (45%), Monument (44%), Way in (44%), and the version one symbol for Museum (41%). The remaining three symbols elicit "don't know" responses from less than four in ten respondents per symbol (Boat pump-out – 38%, Rock climbing version one – 34%, and Interpretation – 32%).

INCIDENCE OF VISITS TO NATIONAL PARK

Within this section, the incidence of visits to national parks as well as the adjusted incidence, which includes only those who correctly identified a national park of Canada, is presented. The results from the same question which was asked in October 2003 for "Attitudes of Canadians Towards Increased User fees in National Parks" is also included as a point of comparison. It is important to note however that the research conducted in October 2003 made use of a telephone as opposed to on-line methodology.

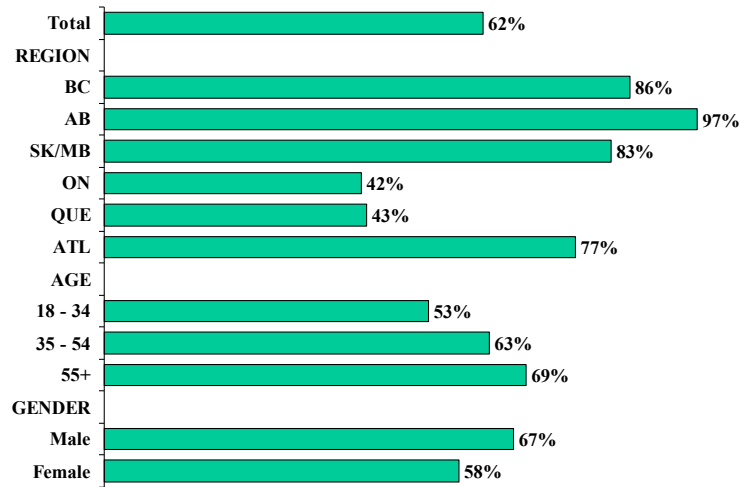
Just over seven in ten respondents claim to have visited a national park at some point in the past, which represents a decrease compared to the October 2003 finding (72% vs. 79%). A high level of "don't know" responses is registered compared to the previous study (14% vs. 1%), which may be attributed to the different methodologies that were used. When the results are re-proportioned without the "don't know" responses the incidence of visiting a national park in the past comes closer to and actually exceeds the incidence figure in October (84% vs. 79%). The current adjusted incidence (34%) is very similar to the adjusted incidence from last year (37%).

	ONLINE			TELEPHONE	
	Total	Adjusted Incidence	Excludes "Don't know"	Total	Adjusted Incidence
Visited a national park in the past	72%	34%	84%	79%	37%
Last 12 months	26%	13%	30%	38%	19%
Last 13 to 24 months	13%	6%	15%	10%	5%
Last 25 to 36 months	6%	3%	7%	4%	3%
Over three years ago	27%	12%	32%	27%	10%
Non-National Park	n/a	38%	n/a	n/a	44%
Never	14%	14%	16%	18%	18%
Don't know	14%	14%	-	1%	1%

The following charts provide a demographic profile of those who have actually visited a national park (Adjusted incidence).

National Parks Visited

Which national park did you last visit?



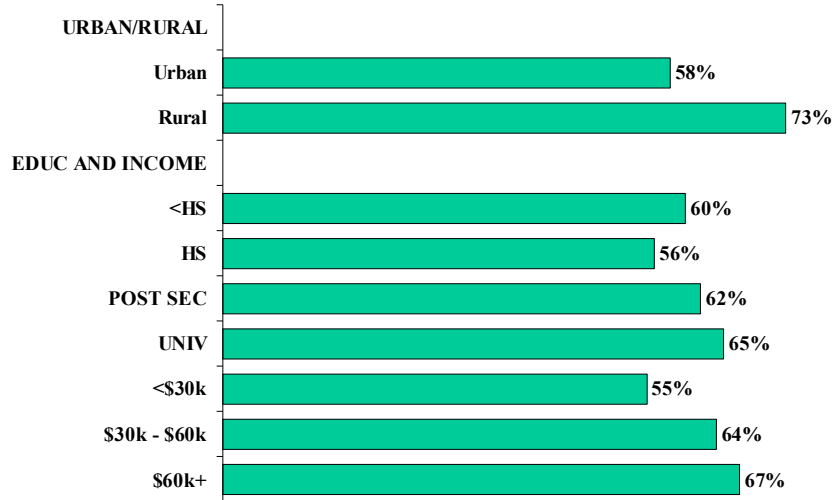
2

Base: Visited National Parks N=446

² The margin of error associated with a base size of N=446 is ±4.6

National Parks Visited

Which national park did you last visit?



Base: Visited National Parks N=446

NATIONAL PARKS VISITED

The most frequently mentioned national park is the Banff National Park (20%), followed by the Jasper National Park (11%), which is consistent with the two national parks mentioned most often in the October 2003 telephone study (Banff – 15%, Jasper – 7%). One third of respondents (32%) named various non-national parks when asked which park they last visited including Algonquin Provincial Park at 8%.

Base: Self-reported visit to a national park in Canada (N=737 Weighted) – Single response	TOTAL
NATIONAL PARK (NET)	62%
Banff National Park of Canada	20%
Jasper National Park of Canada	11%
La Mauricie National Park of Canada	4%
Fundy National Park of Canada	4%
Riding Mountain National Park of Canada	2%
Gros Morne National Park of Canada	2%
Cape Breton Highlands National Park of Canada	2%
Forillon National Park of Canada	2%
Waterton Lakes National Park of Canada	2%
Pacific Rim National Park Reserve of Canada	2%
Terra Nova National Park of Canada	2%
Yoho National Park of Canada	1%
Prince Edward Island National Park of Canada	1%
Point Pelee National Park of Canada	1%
Prince Albert National Park of Canada	1%
Kejimikujik National Park of Canada	1%
Bruce Peninsula National Park of Canada	1%
Kootenay National Park of Canada	1%
Glacier National Park of Canada	1%
Georgian Bay Islands National Park of Canada	1%
St. Lawrence Islands National Park of Canada	1%
OTHER RESPONSES	38%
Other/ Not National Parks	24%
Algonquin Provincial Park	8%
Dk/ns	6%

INCIDENCE OF VISITS TO NATIONAL HISTORIC SITES

Within this section, the incidence of visits to national historic sites is presented. The results from the same question which was asked in October 2003 as part of "Attitudes of Canadians Towards Increased User fees in National Parks" and in January 2004 as part of "Assessment of Parks Canada Calendar in The Beaver Magazine" are also included as a point of comparison.

It is important to note however that the research conducted in October 2003 and January 2004 made use of a telephone as opposed to an on-line methodology. As well, the study conducted in January 2004 was among subscribers of The Beaver Magazine as opposed to a general population sample.

Just over half of respondents claim to have visited a national historic site at some point in the past, which represents a decrease compared to the October 2003 findings (53% vs. 72%). A high level of "don't know" responses is registered compared to the previous study (34% vs. 4%), which may be attributed to different methodologies that were used. When the results are re-proportioned without the "don't know" responses the incidence of visiting a national historic site in the past comes closer to and actually exceeds the incidence figure in October 2003 (80% vs. 72%). The highest incidence is found in January 2004 when subscribers of The Beaver Magazine were asked this question (89%).

	ONLINE		TELEPHONE	
	Total	Excludes "Don't know"	October 2003	January 2004 ³
Visited a national historic site in the past	53%	80%	72%	89%
Last 12 months	20%	31%	28%	41%
Last 13 to 24 months	7%	11%	8%	18%
Last 25 to 36 months	5%	7%	5%	6%
Over three years ago	21%	31%	31%	24%
Never	13%	20%	24%	9%
Don't know	34%	-	4%	2%

Those most likely to say that they have visited a national historic site in Canada in the past 12 months are:

- those residing in the Atlantic provinces (35%) compared to Ontario (22%), Saskatchewan/Manitoba (21%), Alberta (20%), British Columbia (17%), and Quebec (14%);
- those with a higher level of academic attainment (peaking at 28% for those with a university education);
- those with higher annual household incomes (peaking at 31% among those earning \$60K or more);
- those with larger households (peaking at 25% for those comprised of three or more persons);
- those with children (24%) compared to those without (19%);
- those with children between the ages of 6 to 12 (28%) and 13 to 17 (26%) compared to those with children under the age of six (18%).

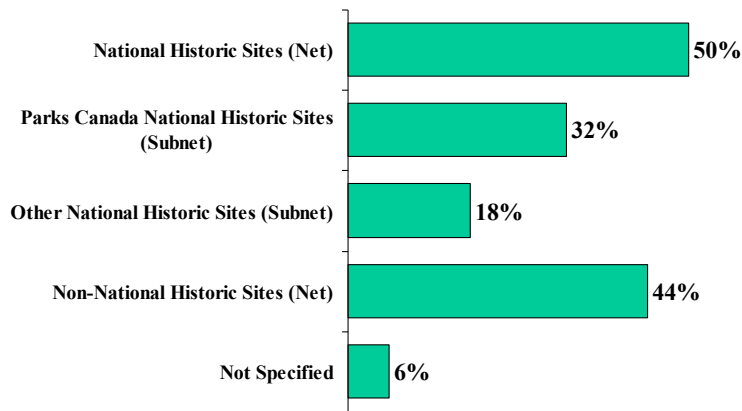
³ Sample consisted of those who have subscriptions to The Beaver Magazine.

NATIONAL HISTORIC SITES VISITED

When asked which national historic sites they have visited, approximately one-third (32%) of respondents mention a Parks Canada National Historic Site⁴, while significantly fewer mention visiting an Other National Historic Site⁵ (18%). A plurality of respondents mention a non-national historic site altogether⁶ (44%), while 6% do not recall which one they visited last.

National Historic Sites Visited

Which national historic site did you last visit?



Base: Visited a national historic site in Canada N=550

⁴ A "Parks Canada National Historic Site" refers to the approximately 150 national historic sites that are operated by Parks Canada or one of its partners.

⁵ An "Other National Historic Site" refers to the approximately 800 national historic sites that are not operated by Parks Canada but are administered by either provincial or municipal governments, a non-profit society/association or may be privately owned.

⁶ Other mentions that are not considered to be official national historic sites.

Parks Canada National Historic Sites Visited

The following table lists the Parks Canada National Historic Sites most commonly mentioned by respondents. Several of these most commonly mentioned national historic sites were also mentioned most often in the October 2003 study including Fortress of Louisbourg (2%), Halifax Citadel (2%), Banff Park Museum (1%), Fort Henry (1%), and Signal Hill (1%).

National Historic Sites Administered by Parks Canada

Parks Canada National Historic Site Visited (n=172) (Responses 1% and above)	%
Fort Henry in Kingston, Ontario	3%
Fortress of Louisbourg in Louisbourg, Nova Scotia	3%
Signal Hill at St. John's, Newfoundland and Labrador	3%
Halifax Citadel in Halifax, Nova Scotia	2%
Forges du Saint-Maurice in Trois-Rivières, Quebec	1%
Banff Park Museum in Banff National Park, Alberta	1%
Rideau Canal in Ottawa / Kingston, Ontario	1%
Fort George at Niagara-on-the-Lake, Ontario	1%
Batoche in Batoche, Saskatchewan	1%
Fort Rodd Hill in Colwood, British Columbia	1%
The Forks in Winnipeg, Manitoba	1%
Lower Fort Garry in Selkirk, Manitoba	1%
Fort Lennox in Saint-Paul-de-l'Île-aux-Noix, Quebec	1%
Fort Chambly in Chambly, Quebec	1%
Fort Langley in Langley, British Columbia	1%
Grosse Île and the Irish Memorial in Grosse-Île, Quebec	1%
L'Anse aux Meadows in St. Anthony, Newfoundland and Labrador	1%
Stanley Park in Vancouver, British Columbia	1%
Queenston Heights in Queenston, Ontario	1%
Laurier House in Ottawa, Ontario	1%

DETAILED FINDINGS

Regulatory Symbols – Prohibition

Vehicles/Boats/Planes

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_044) No Parking	100%	99%	25%	-	-	-	-
(1_1_009v1) No Snowmobiles	98%	98%	7%	3%	3%	-	-
(1_1_009) No Snowmobiles	97%	97%	10%	9%	5%	4%	-
(1_1_007) No Boats	97%	97%	16%	8%	6%	2%	-
(1_1_004) No Trucks	95%	91%	17%	9%	7%	1%	-
(1_1_004v1) No Trucks	95%	95%	24%	11%	8%	4%	-
(1_1_003) No Cars	94%	94%	14%	19%	18%	1%	-
(1_1_002) No Buses	89%	89%	11%	14%	12%	2%	3%
(1_1_005) No All-terrain Vehicles	81%	80%	10%	26%	25%	2%	-
(1_1_006) No Dirt Bikes	80%	79%	17%	32%	28%	8%	1%
(1_1_008) No Float Planes	69%	65%	28%	33%	32%	6%	1%
(1_1_066) No Car Washing	36%	36%	6%	44%	44%	3%	21%
(1_1_047) No Ignition	27%	11%	17%	47%	47%	1%	30%

The regulatory symbols included in this sub-grouping relate to prohibition involving different types of vehicles, boats and airplanes. Respondents successfully interpreted most of these symbols. More specifically, all respondents gave a correct response for

the commonly viewed No parking symbol (100%) followed by high acceptable responses for both versions of the No snowmobiles symbol (97% - original and 98% - version 1). The original version of No snowmobiles depicts a black image of a snowmobile facing right with a red line crossing out the image while the version one symbol also shows an image of a snowmobile with a red line through it that is facing left. The symbol for No boats (97%), and both versions of the No trucks symbols (95% for both) also scored very high acceptable responses, followed closely by the symbol for No cars at 94%. Both symbols for No trucks show an image of a truck with a red line going through it, the major difference between these symbols is that the truck in the original version is facing right and in the version one symbol a similar image of a truck is facing left. Almost nine in ten (89%) correctly interpreted the No buses symbol while eight in ten correctly identified both the No all-terrain vehicles (81%) and the No dirt bikes symbols (80%). Respondents from urban areas were significantly more likely than those residing in rural areas to provide unacceptable responses for the No all-terrain vehicles symbol (34% vs. 10%).

Seven in ten respondents (69%) gave acceptable responses for the No float planes symbol indicating that it requires reassessment according to the pre-determined criteria. Respondents who have visited a national park over two years ago were more likely than those who have visited a national park within the last two years to provide unacceptable responses for this symbol (45% vs. 20%). One-third of respondents (33%) incorrectly interpreted this symbol by providing general responses such as "no planes" (11%), or "no airplanes" (10%).

The symbols for No car washing and No ignition (36% and 27%, respectively) are also considered to be unsuccessful based on the pre-determined criteria. Several respondents misinterpreted the prohibition of car washing as a warning of falling rocks or objects (20%) or simply that cars were not allowed in the area (18%). When asked what their interpretation of the No ignition symbol was a large proportion of respondents could not provide a response (30% don't know) or provided incorrect responses such as "no key" (20%). Those in urban areas (37%) were more likely than their rural counterparts (16%) to provide a "don't know" response for this symbol.

Fires/Smoking

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_041) No Smoking	100%	100%	7%	8%	3%	6%	-
(1_1_052) No Campfires	99%	94%	20%	5%	3%	2%	-
(1_1_051) No Open Flame	96%	82%	32%	21%	15%	6%	-

The symbols evaluated within this sub-grouping relate to the prohibition of smoking, campfires, and open flames. Each of the three symbols is considered successful. All respondents gave acceptable responses for the universal No smoking symbol (100%) and close to this (99%) understand the meaning of the No campfires symbol. Almost all respondents (96%) correctly interpreted the symbol for No open flames.

Fishing/Hunting

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_046) No Fishing	99%	97%	26%	10%	9%	2%	-
(1_1_053) No Hunting	99%	98%	13%	5%	4%	1%	-

Both the No fishing and the No hunting symbols successfully convey the intended message to respondents as 99% of respondents, in each instance gave an acceptable response.

Summer Activities

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_055) No In-line Skating	99%	98%	8%	9%	7%	2%	-
(1_1_060) No Swimming	97%	94%	17%	6%	6%	1%	3%
(1_1_074) No Water Skiing	97%	96%	24%	8%	5%	4%	-
(1_1_048) No Camping	96%	96%	18%	1%	1%	-	4%
(1_1_061) No Scuba Diving	89%	89%	16%	19%	14%	5%	2%
(1_1_049) No Picnics	88%	86%	14%	35%	26%	10%	-
(1_1_062) No Diving	82%	82%	9%	34%	33%	5%	1%
(1_1_063) No Canoeing	71%	66%	13%	32%	30%	8%	1%
(1_1_064) No Kayaking	20%	20%	3%	78%	77%	11%	-
(1_1_045) No Boat Rafting	19%	15%	9%	82%	82%	6%	5%
(1_1_054) No Back Packing	3%	3%	-	96%	96%	16%	3%

This sub-group includes symbols prohibiting activities that commonly take place in the summer. More than half of these symbols are successful according to our criteria, including No in-line skating (99%), No swimming (97%), No water skiing (97%), No camping (96%), No scuba diving (89%), and No picnics (88%). In terms of demographic differences, adults aged 35 to 54 years were more likely than those 55 years and older to provide an acceptable response for the No scuba diving symbol (93% vs. 76%) and females were more likely than males to provide an acceptable response for the No picnics symbol (97% vs. 75%). Conversely, adults aged 35 to 54 years were more like than those 55 years and older to incorrectly assess the No picnics symbol (45% vs. 22%).

No diving sits on the low end of the successful range (82%) as a high number of respondents provided unacceptable responses such as “do not swim/no swimming” (16%) and “shallow water” (10%).

The symbol for No canoeing needs reassessment according to the criteria (71% acceptable). Respondents mistake this symbol to mean No kayaking and are not specific enough in their responses by providing responses such as “No boating etc.” (30%).

The No kayaking, No boat rafting, and No back packing symbols all elicit very low acceptable responses (20%, 19%, and 3%, respectively). Again most responses for the No kayaking symbol are not specific enough as many respondents provide not quite correct responses such as “no canoeing, no boating etc” (77%). No boat rafting is mostly interpreted as “No docking” (63%), while No back packing is mistaken for “No hiking” most often (80%).

Trees/Plants

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_069) No Tree Cutting	99%	99%	8%	2%	2%	1%	1%
(1_1_070) Do Not Take The Plants	96%	96%	10%	13%	11%	8%	-

Both the No tree cutting and the Do not take the plants symbols successfully convey the intended message to respondents as 99% of respondents give an acceptable response for the No tree cutting symbol and 96% provide an acceptable response for the Do not take the plants symbol. However, those who have visited a national park in the last two years were more likely than those who have visited a national park over two years ago to provide unacceptable responses for the Do not take the plants symbol (25% vs. 3%).

Winter Activities

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_057) No Cross-Country Skiing	99%	99%	8%	5%	3%	2%	1%
(1_1_056) No Downhill Skiing	96%	96%	2%	21%	11%	11%	1%
(1_1_058) No Ice Skating	95%	95%	14%	4%	4%	-	1%
(1_1_059v1) No Tobogganing	89%	89%	6%	7%	6%	1%	5%
(1_1_059) No Tobogganing	88%	85%	17%	19%	15%	4%	1%

Among this sub-group of symbols prohibiting various winter activities, each of the symbols show high levels of acceptability as illustrated in the above table.

The largest misconception for the lowest scoring symbol, No tobogganing, is “multiple people on a toboggan prohibited” (9%). Both versions of this symbol depict a toboggan tilted as if it were sliding downhill each with three people riding the toboggan and a red diagonal line going through the image. In the original version the toboggan is headed downwards to the right and in the version one of the symbol the toboggan is headed downwards to the left. For the symbol that is pointing to the left, respondents who are 35 to 54 years of age were more likely than those 55 years or older to provide an acceptable response (100% vs. 79%)

Alcohol/Do not Drink

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_050) No Alcohol	97%	97%	14%	6%	5%	4%	-
(1_1_042) Do Not Drink	74%	73%	7%	31%	30%	3%	2%

The No alcohol symbol is successful with 97% of respondents correctly identifying its intended meaning. In terms of unacceptable responses, those who have visited a national park over two years ago were more likely than those who visited a national park in the last two years to have given such a response (15% vs. 2%). According to the criteria, the Do not drink symbol requires reassessment as 74% of respondents provide an acceptable response. Thirty-one percent of respondents provide an unacceptable response for this symbol such as “do not use water” (10%) and “water is not available here” (9%).

Animals

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_073) Do Not Feed The Animals (generic)	93%	93%	8%	11%	11%	3%	-
(1_1_071) Do Not Feed the Birds	88%	88%	15%	32%	21%	12%	-
(1_1_001) No Dogs	80%	80%	13%	27%	26%	3%	-
(1_1_072) Do Not Feed The Elk	2%	2%	-	100%	100%	10%	-

Of the four symbols within this sub-group three relate to the prohibition of feeding animals including animals in general, birds, and elk. The symbol prohibiting the feeding of animals in general is the most successful among this sub-group (93% giving an acceptable response), with especially high levels of acceptable responses among those earning lower levels of income (<\$30K – 100%) compared to those earning \$30K to under \$60K per year (89%). Do not feed the birds is also successful (88%), however a significant portion of respondents (21%) incorrectly perceive this symbol to be prohibition of feeding animals in general. This misperception is far more extensive when respondents interpret the symbol for do not feed the elk. In this case, 84% say “do not feed the wildlife/animals” and only 2% provide the intended meaning.

Eight out of ten respondents (80%) correctly respond to the No dogs symbol. The largest misperception among those providing an unacceptable response is that the symbol means “no animals/no pets allowed” (18%), indicating that the acceptable

criteria for this symbol may be too specific as respondents are successful in demonstrating a general understanding of the symbol.

Access

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_010v1) No Pedestrian Access	94%	92%	12%	9%	5%	4%	2%
(1_1_010) No Pedestrian Access	92%	92%	11%	8%	5%	3%	6%
(1_1_068) Do Not Walk On Dunes	20%	15%	9%	45%	45%	4%	41%

These three symbols relate to the prohibition of pedestrian access or the prohibition of people walking on sand dunes. There are two versions of the No pedestrian Access symbol, which score similarly in terms of acceptable and unacceptable responses. Moreover, roughly nine in ten respondents gave an acceptable response for each of these symbols (92% - original and 94% - version 1). The original version of the symbol depicts an outline of a person with arms and legs bent as if walking to the right whereas the version one of the symbol depicts an outline of a person again with arms and legs bent as if walking to the left, however in this case there is a horizontal line underneath the persons feet and the person is facing left; Both symbols have a red diagonal line crossing out the image.

The symbol Do not walk on the dunes elicits confusion among many respondent who ultimately gave a "don't know" response (41%). The range of incorrect responses (45% in total) is varied including "do not climb on the cliff/hills" (8%), "no hiking" (6%), and "environmentally sensitive area" (4%).

Miscellaneous

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(1_1_065) No Metal Detectors	70%	52%	28%	14%	14%	-	17%
(1_1_067) No Recyclable Material	52%	52%	8%	24%	23%	2%	31%
(1_1_043) Do Not Touch	27%	27%	3%	24%	24%	3%	50%

The three symbols we have categorized as miscellaneous include No metal detectors, Do not touch, and No recyclable material.

Seven in ten respondents (70%) correctly evaluated the No metal detectors symbol. However, a considerable proportion of respondents defaulted to the “don’t know” response (17%). A wide array of infrequent unacceptable responses are provided for this symbol including “no golfing” (2%), “no geiger counters” (2%), and “do not play here” (2%).

Slightly more than half (52%) of respondents correctly interpret the No recyclable materials symbol. In this instance, three out of ten (31%) did not attempt a response and resorted to the “don’t know” option. The unacceptable responses for this symbol in most cases relate to the arrows symbolizing recycling and include responses such as “no turnarounds” (5%), “no turns” (3%), “roundabout” (2%), “do not move in circles” (2%), and “do not go clockwise” (2%). Older respondents who are 55 years of age or older were more likely than those 35 to 54 years of age to provide unacceptable responses for this symbol (42% vs. 13%), whereas males more so than females were more likely to provide acceptable responses (61% vs. 40%).

The Do not touch symbol which depicts an extended index finger pointing downwards to make contact with a horizontal line caused confusion among many respondents. This symbol brought forth the highest level of “don’t know” responses among all of the prohibition symbols (50%). The remaining responses for this symbol were fairly evenly split between acceptable (27%) and unacceptable responses (24%). There was a wide range of unacceptable responses including “do not go down” (3%), “don’t push the button” (2%), “do not put finger here” (2%), “do not point” (2%), and “no garbage dumping here” (2%).

Regulatory Symbols – Mandatory

Protection

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(2_1_031) Head Protection	68%	66%	18%	24%	23%	3%	16%
(2_1_037) Foot Protection	62%	61%	5%	37%	35%	2%	9%
(2_1_036) Hand Protection	39%	19%	25%	21%	21%	3%	45%
(2_1_032) Eye Protection	36%	36%	1%	18%	18%	-	48%
(2_1_033) Hearing Protection	33%	17%	22%	58%	51%	12%	20%
(2_1_034) Respiratory Protection	25%	21%	5%	37%	36%	7%	42%
(2_1_035) Hair Protection	7%	5%	3%	23%	23%	6%	73%
(2_1_038) Fall Protection	5%	5%	84%	84%	8%	12%	-

Eight symbols related to the mandatory protection of various body parts or against potential hazards are included in this section. All of the protection symbols either need reassessment or are unsuccessful according to the criteria. Head protection and Foot protection scored the highest of these symbols (68% and 62% acceptable respectively). Several respondents mistook the Foot protection symbol to mean "hiking/walking trail available" (22%). Unacceptable responses for the Head protection symbol include "for rock climbing" (14%), "construction" (4%), "military site" (4%), and "dangerous area" (4%).

The symbols for Hand protection, Eye protection, and Hearing protection all garnered the same approximate level of acceptable responses (39%, 36%, and 33% respectively). High levels of "don't know" responses were recorded for both the Hand protection (45%) and the Eye protection (48%) symbols. Females (58%) were more likely than males (35%) to say "don't know" when reacting to the Eye protection symbol. Respondents were significantly more likely to provide an unacceptable response for Hearing protection than the other two with responses such as "high noise area" (11%), "headphones to get information" (9%), "audio tour available" (6%),

“recorded information available” (6%), and “noise-free area/use headphones to listen to music” (5%). Males (69%) were more likely than females (42%) to provide unacceptable responses for this symbol.

One-quarter of respondents correctly interpreted the Respiratory protection symbol (25%) which categorizes it as an unsuccessful symbol according to the pre-determined criteria. A plurality of respondents could not provide a response (42% don't know) followed distantly by unacceptable responses such as “bad air” (13%), or “mask required” (11%). Females are more likely than males to say “don't know” when evaluating this symbol (54% vs. 31%).

A very small portion of respondents provided an acceptable response for both the Hair protection and Fall protection symbols (7% and 5%, respectively). Most respondents were at a loss when evaluating the Hair protection symbol and did not attempt any response at all (73% don't know). Several respondents (13%) actually interpreted this symbol as “snowshoes/snowshoe area”, which may be attributed to the criss-cross lines of the hair net, which resemble snowshoes. Among those who provided acceptable responses, males were more likely than females to do so (14% vs. 2%). The bulk of respondents evaluating the Fall protection symbol were able to provide a response (0% don't know), however in most cases provided incorrect interpretations such as “rock/mountain climbing allowed” (42%) and “rock/mountain climbing” (21%).

Miscellaneous

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(2_1_001) Waste disposal	95%	47%	60%	15%	11%	3%	2%
(2_1_003) Extinguish Fires	91%	85%	20%	9%	7%	1%	2%
(2_1_002) Blower On	-	-	-	48%	48%	9%	52%

The symbols for Waste disposal and Extinguish fires are both very successful (95% and 91% acceptable, respectively).

Conversely, the responses for Blower on are divided fairly equally between unacceptable responses (48% total) such as "a fan" (11%), "rotating fan" (10%) and "air conditioning" (5%) or don't know (52%).

Warning Symbols – Caution

Rockfall

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action
(3_1_134) Rockfall	99%	98%	25%	18%	18%	2%
(3_1_134v1) Rockfall	96%	93%	35%	19%	19%	1%

Only two versions of the Rockfall symbol were evaluated within the Warning Symbols category. Both symbols were very successful in conveying their respective messages. The original version of the symbol was slightly more successful than the version one symbol (99% - original vs. 96% - version 1). Unacceptable responses for both symbols include "avoid this area" and "avalanche area" however, overall, both unacceptable and don't know responses are quite low. The original version of the symbol is triangular in shape with a yellow background and depicts the side of a mountain with a fairly large boulder and some smaller rock pieces falling down the right side of the mountain. The version one symbol is a diamond shape with a yellow background and includes an image of the left side of a mountain that has several large and smaller rock pieces falling down the side of the mountain.

Information Symbols – Emergency

The eleven emergency information symbols included in this section have been divided into the following three categories: Emergency Medical, Emergency Services, and Emergency Fire Equipment.

Emergency Medical

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(5_1_006) First Aid	94%	94%	26%	2%	2%	-	4%
(5_1_007) Stretcher	10%	10%	-	89%	77%	17%	1

The two symbols included in this category (First aid and Stretcher) produced very different results. Most respondents successfully interpret the symbol for First aid (94% acceptable) by providing acceptable responses such as “first aid station” (83%). A significant proportion however also mention acceptable actions such as “go if injured/requiring medical assistance” (25%).

Many respondents had difficulty correctly evaluating the symbol for stretcher (shows a first aid cross and stretcher). Respondents were not far off from the intended meaning when reacting to this symbol as many provided interpretations such as “first aid station” (54%), “emergency area” (15%), and “nursing/medical station” (8%), however very few specifically mentioned the term “stretcher” (10%).

Emergency Services

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(5_1_010) Emergency Telephone	93%	93%	19%	8%	8%	1%	-
(5_1_008v1) Emergency Shower	65%	65%	2%	73%	67%	10%	5%
(5_1_009) Emergency Eyewash	54%	51%	18%	15%	12%	5%	38%
(5_1_008) Emergency Shower	1%	1%	-	99%	99%	12%	-

Most respondents found the Emergency telephone symbol to be fairly straightforward (93% acceptable). More specifically, three-quarters (73%) gave the acceptable response “emergency phone available/in this area”. The number of respondents who gave an acceptable action reinforces the widespread accuracy of this perception, “use in case of emergency” – 17%.

Less than 60% of respondents gave an acceptable response for the Emergency Eyewash symbol (54%) indicating that it is unsuccessful in conveying the intended meaning according to our pre-determined criteria. The balance of responses is mostly “don’t know” (38%). Those 34 to 54 years of age were twice as likely than their older counterparts (55+) to provide acceptable responses for this symbol (66% vs. 33%).

Two versions of the Emergency Shower symbol were tested among respondents. The version one of the symbol (first aid cross and shower head spraying water downward) scores significantly higher than the original version (shower head spraying water downward without first aid cross) in terms of acceptable responses (65% vs. 1%). In both cases, especially the original version of the symbol, respondents mistake it for a generic symbol informing campers of public places to shower (84% - original version; 51% - version 1). Again, those 34 to 54 years of age were more likely than their older counterparts (55+) to provide acceptable responses for the version one symbol (77% vs. 53%).

Emergency Fire Equipment

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(5_1_003) Fire Hose	86%	80%	27%	23%	20%	6%	4%
(5_1_004) Fire Hydrant	82%	82%	25%	20%	18%	6%	8%
(5_1_002) Fire Extinguisher	78%	75%	18%	22%	12%	11%	10%
(5_1_001) Fire Alarm	52%	39%	25%	13%	12%	1%	36%
(5_1_005) Fire Axe	16%	16%	1%	68%	67%	10%	17%

Among the emergency fire equipment symbols (Fire Hydrant, Fire Hose, Fire Extinguisher, Fire Alarm, and Fire Axe), the Fire Hose and Fire Hydrant symbol are both successful (86% and 82%, respectively) according to our criteria.

Surprisingly, the symbol for Fire Extinguisher, arguably one of the most common pieces of fire equipment, just barely misses the acceptable criteria (78% acceptable). Those with higher levels of income, peaking at 90% among those earning \$60K or more a year, are most likely to provide acceptable responses. Ten percent of respondents (10%) say "don't know" and unacceptable responses include "in case of fire, follow this sign" (3%), and "flammable area" (3%).

Slightly over half of respondents evaluating the Fire alarm symbol provide an acceptable response (52%). A large proportion of respondents are at a loss when faced with this symbol and react accordingly by resorting to the "don't know" response (36%). This is especially true among those aged 35 to 54 years of age (45%) compared to those 55 years of age and older (21%). Those who do venture a guess give responses that are completely off the mark such as "press button to dry hands" (2%), and "press button for verbal information regarding fauna" (2%).

Less than one-fifth of respondents (16%) correctly identify the Fire Axe symbol. It is clear that most respondents understand that the symbol is depicting an axe, however the idea that the axe is to be used in case of a specific fire emergency is not conveyed. More specifically, several respondents provide responses that relate to fire wood such as "allowed to chop wood/fire wood/trees" (36% unacceptable interpretation) or indicate that they would "chop fire wood in this area" (4% unacceptable action). The same percentage of respondents that provide an acceptable answer for this symbol also supply a "don't know" response (17%).

Information Symbols - Guidance And Information

Sports/Activities – Summer

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_101) Golf	100%	87%	25%	1%	-	1%	-
(6_4_104v1) Bicycles	100%	94%	22%	2%	2%	-	-
(6_4_101v1) Golf	98%	57%	59%	1%	1%	-	-
(6_4_104) Bicycles	94%	94%	14%	14%	10%	4%	-
(6_4_203) Diving	56%	56%	-	46%	46%	1%	-
(6_4_011) Rock Climbing	56%	55%	7%	48%	43%	7%	6%
(6_4_215) Kayaking	54%	52%	8%	62%	62%	5%	2%
(6_4_010) Mountain Climbing	41%	39%	3%	64%	61%	20%	4%
(6_4_011v1) Rock Climbing	32%	32%	5%	40%	39%	6%	34%
(6_4_010v1) Mountain Climbing	31%	29%	4%	72%	71%	22%	5%

This sub-group of symbols intends to inform the public of various summer sports or activities that are available or allowed in either a park setting or at an historic site.

Both Golf symbols are very successful in conveying their intended meaning. In fact, almost all respondents evaluating each version provide acceptable responses (100% - original, 98% - version 1). The original version depicts a person approaching a tee and golf ball with a golf club while the version one of the symbol shows a person holding a golf club up in the air as if they were about to attempt a swing. Both symbols are square with blue backgrounds.

The scores for the two Bicycles symbols are also quite successful. Not surprisingly, the version one symbol, which depicts a bicycle and the word "ROUTE", is more successful (100% acceptable) than the original version, which depicts only a bicycle (94%

acceptable). In this instance, a higher level of ambiguity is observed among respondents who provide responses such as "bicycle rentals" (6%) and "bicycles available" (3%).

The symbol for Diving, which shows a person diving into water, is correctly assessed by over half of respondents (56% acceptable responses), indicating that it is unsuccessful according to the criteria. The remaining responses provided by respondents are related but not explicit to diving allowed such as "swimming area/swimming allowed" (35%). A small proportion of respondents actually mistake this symbol for a sign prohibiting diving "no diving allowed" (5%).

Although both versions of the Rock climbing symbol are unsuccessful against our pre-determined criteria (56% - original; 32% - version 1), the original version, depicting the side view of a person climbing up a jagged wall, is significantly more successful than version one in eliciting the correct interpretation. The version one symbol depicts the back view of a person with arms and legs extended and a cord attached to the waste. Many respondents find this symbol to be more confusing than the original version, which is apparent by the higher level of "don't know" responses (34% vs. 5%). Those 55 years of age or older are more likely than those 35 to 54 years of age to provide a "don't know" response (45% vs. 22%). In both cases, respondents often mistake this symbol for "mountain climbing area" (28% - original; 22% - version 1).

Over half of respondents provide an acceptable response for the Kayaking symbol (54%). Several respondents mistake this symbol to mean "canoeing permitted/a place to go canoeing" (28%), "no canoeing" (8%), or "boating area" (7%).

The original version of the Mountain Climbing symbol is more successful than the version one symbol (41% vs. 31% acceptable responses). Respondents give unacceptable responses for the original version of the symbol such as "rock climbing area" (38%), "hiking trail" (12%), and "climbing area" (8%). Among those evaluating the version one symbol, a higher proportion of respondents mistake the symbol to mean "hiking trail" (26%) – this may be attributed to the fact that although both symbols show a person wearing a backpack moving up the side of a jagged mountain, in this particular symbol the person is not holding a climbing pick. In terms of demographic differences, those earning higher levels of income (\$60K+) were more likely than those earning \$30K to under \$60K per year to provide unacceptable responses for the original version of the symbol (76% vs. 52%). Those who had visited

a national park in the last two years were more likely than those who had visited a national park over two years ago to provide an unacceptable response for the version one symbol (87% vs. 53%).

Driver Services

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_007v1) Parking	100%	100%	8%	4%	4%	-	-
(6_1_007) Parking	99%	97%	14%	-	-	-	1%
(6_2_011v1) Gasoline Station	98%	98%	22%	2%	2%	-	1%
(6_2_011) Gasoline Station	95%	94%	13%	5%	5%	-	-

Both sets of symbols within this category, Parking and Gas Station, are very successful. The level of acceptable responses in this category falls between 100 and 93 per cent. Both Parking symbols are square and show a large P. The original version of the symbol has a blue background and the version one of the symbol has a green background. Similarly, both versions of the Gasoline Station symbol depict alike images against different coloured backgrounds (original – blue background; version one – brown background).

Communication/Information

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_011) Telephone	100%	99%	26%	1%	1%	-	-
(6_1_006) Information	99%	93%	28%	1%	1%	-	-
(6_1_011v1) Telephone	96%	96%	14%	4%	4%	-	-
(6_1_006v1) Information	95%	88%	26%	2%	1%	1%	4%

Both sets of symbols for Telephone and Information are easily successful according to the criteria. The level of acceptable responses among these symbols fall within the range of 100%-95%. Females are more likely than males to provide acceptable responses for the version one of the Telephone symbol (100% vs. 91%). Both versions of the Telephone symbol show a picture of a telephone receiver in a square box with one set against a blue background (original) and the other set against a brown background (version 1). Although both symbols for the Information symbol are quite different (original has a blue background and shows the word 'info' and version one has a brown background and shows a questions mark), they are both very successful in conveying the intended meaning.

Picnics/Parks

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_003) Picnic Area	98%	96%	5%	22%	16%	7%	-
(6_4_003v1) Picnic Area	95%	95%	14%	37%	24%	15%	-
(6_4_004) Picnic Shelter	94%	91%	14%	24%	6%	19%	1%
(6_1_066) Park Bench	92%	92%	22%	13%	10%	3%	4%
(6_1_055) Drinking Fountain	90%	90%	-	28%	27%	1%	1%

Both symbols for Picnic Area are very straightforward to respondents judging by the high level of acceptable responses (98% - original; 95% - version 1). The original version of the symbol depicts a picnic table against a blue background while the version one of the symbol shows a slightly different picnic table against a brown background.

The symbols for Picnic shelter, Park Bench and Drinking Fountain are also very successful (94%, 92% and 90%, respectively).

Physically/Hearing Challenged

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_032) Access for the Physically Handicapped	96%	96%	6%	7%	6%	1%	-
(6_1_032v1) Access for the Physically Handicapped	94%	93%	12%	9%	7%	2%	-
(6_1_041v1) TTY Telephone	44%	44%	-	66%	66%	-	8%
(6_1_041) TTY Telephone	11%	11%	-	81%	81%	7	10%

The two symbols for Access for the Physically Handicapped are very successful with 96% (original – shows person in a wheelchair against blue background) and 94% (version one – shows person in a wheelchair against a dark blue background) of respondents providing acceptable responses.

Conversely, the two TTY telephone symbols are unsuccessful albeit to varying degrees. The version one symbol (which shows a telephone receiver above the letters TTY) is significantly more successful than the original symbol (which shows a telephone receiver above a keyboard - 44% vs. 11%, respectively). Unacceptable responses for the original version include “telephone available” (63%), and “internet access” (17%). Unacceptable responses for the version one symbol are frequently “telephone/telephone available” (50%) and “don’t know what TTY letters are for” (9%). In terms of demographic differences, those aged 35 to 54 years of age are more likely than those 55 years of age or older to provide acceptable responses for the TTY version one symbol (52% vs. 22%). Those with a university education are more likely than those with some post secondary training to provide acceptable responses for the TTY original symbol (20% vs. 5%).

Hospital

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_005) Hospital	96%	96%	-	33%	7%	28%	-
(6_1_005v1)Hospital	92%	92%	15%	29%	12%	19%	2%

The two Hospital symbols are both very successful in conveying the intended meaning. The original version is slightly more successful than the version one symbol (96% vs. 92%). Both are square symbols showing a large letter H against either a blue (original) or green background (version 1).

Types of Accommodation

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_2_003) Accommodation	96%	92%	16%	8%	8%	-	1%
(6_2_003v1) Accommodation	89%	89%	8%	19%	19%	-	1%
(6_4_016) Overnight Shelter	40%	37%	8%	73%	69%	14%	5%
(6_2_004) Youth Hostel	12%	12%	3%	91%	83%	33%	2%

The two symbols for Accommodation are both successful. The original version (which shows a person sleeping in a bed under a roof against a blue background) is somewhat more successful than the version one symbol (which shows a person sleeping in a bed under a roof against a brown background) in conveying the intended message (96% vs. 89%).

Only four in ten respondents correctly interpreted the Overnight shelter symbol (40%). There is a wide array of unacceptable interpretations for this symbol that are close to the intended meaning but do not qualify as acceptable responses. Some of these include "shelter" (19%), "lodging" (12%), "cabins" (10%), "hotel" (8%), and "camping" (7%).

A very small proportion of respondents evaluating the Youth hostel symbol provide an acceptable response (14%). The vast majority of respondents respond incorrectly to

this symbol with responses such as “accommodations available” (24%), “hotel/motel” (16%), “rooms to sleep” (16%), and “shelter” (13%).

Police/Warden Station

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_004v1) Police	95%	95%	6%	12%	10%	2%	2%
(6_1_004) Police	95%	93%	15%	11%	9%	3%	2%
(6_1_057) Warden Station	64%	64%	9%	18%	16%	3%	19%

Both versions of the Police symbols (the word police appears against either a blue or green background) are equally successful (95% acceptable responses for each).

Approximately two-thirds of respondents give successful responses for Warden station (64%) indicating that it needs reassessment according to our criteria. Incidentally, when referring to the authority figure depicted in the symbol, respondents are more likely to use the term “Park ranger” instead of “Park Warden”. Unacceptable responses include “men’s washroom” (7%), and “information available” (2%). One-fifth of respondents could not provide an interpretation and selected “don’t know” (19%). Respondents earning \$30K to under \$60K per year are more likely than those earning less or more than this amount to provide unacceptable responses for this symbol (36% vs. 9% for each of the two other income categories).

Air Transportation

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_3_004v1) Air Transportation	95%	95%	-	19%	1%	18%	2%
(6_3_004) Air Transportation	91%	90%	10%	29%	15%	14%	3%
(6_3_006) Small Airport	34%	31%	8%	72%	68%	4%	6%
(6_3_006v1) Small Airport	31%	31%	4%	71%	68%	10%	10%

Both versions of the Air Transportation symbol, which show an airplane against either a blue (original) or green (version 1) background are very successful according to the criteria (91% - original; 95% version 1). Respondents give answers such as "airport", "airport ahead", and "airplane fly area".

The acceptable scores for both of the Small airport symbols are similar however unsuccessful according to the criteria we are using (34% - original, 31% - version 1). Several respondents, in both cases, successfully interpret the "airport" aspect of the symbol (45% - original; 52% - version 1) but do not indicate that the symbol is identifying a 'small' airport. The original version of the symbols depicts a smaller airplane that has a propeller and rectangular wings against a blue background while the version one symbol shows a smaller airplane that has rectangular wings against a green background.

Boat/Ferry

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_3_008v1) Car Ferry	97%	97%	8%	8%	2%	6%	1%
(6_4_217v1) Boat Launch	95%	95%	8%	10%	10%	-	-
(6_3_008) Car Ferry	91%	91%	4%	7%	2%	6%	7%
(6_4_217) Boat Launch	85%	83%	18%	28%	22%	10%	-
(6_4_219) Boat Tie-up	78%	76%	10%	15%	12%	6%	11%
(6_4_218) Docking	72%	71%	6%	20%	18%	5%	13%
(6_4_209) Locks	52%	50%	5%	33%	22%	17%	24%
(6_1_061) Boat Pump-Out	36%	36%	4%	27%	25%	6%	38%

Almost all respondents correctly interpret the Car ferry symbol, version one (97%). This symbol shows two cars on a ferry in water with a blue background. The original version of this symbol is also successful, however to a slightly lesser extent (91%). It shows one car on a ferry traveling in water with a green background.

The version one symbol of the Boat launch symbol, which shows a boat on wheels on a downward slope that is immersed in water against a blue background, scores higher than the original version (95% vs. 85% acceptable responses), however both are considered to be successful according to our criteria. The original version of the symbol depicts a boat on wheels on a slope that is partially immersed in water against a brown background. Those earning higher levels of income peaking at 93% among those earning \$60K or more a year are more likely to provide acceptable responses for the original version of this symbol.

Almost eight in ten respondents (78%) provide an acceptable response for the Boat tie-up symbol indicating that it needs reassessment according to the criteria; however males compared to females (87% vs. 68%), those with a university education compared to those with some post secondary education (90% vs. 65%), and those earning \$60K or more per year compared to those earning \$30K to under \$60K per year (88% vs. 68%) are more likely to provide higher levels of acceptable responses for this symbol.

The symbol for Docking is correctly interpreted by 72% of respondents. Those who provide unacceptable responses think that this symbol is indicating a "boat or watercraft launching area" (6%), a "boat or watercraft area" (3%), or a "boat or watercraft activities site" (2%).

Approximately half of respondents (52%) provide an acceptable interpretation of the Locks symbol. Older respondents who are 55 years of age or more are more likely than those 35 to 54 years of age to answer with an acceptable response (66% vs. 43%). There is a wide range of minor unacceptable responses for this symbol such as "canals" (4%), "boat launch" (4%), "two way street for boats" (3%), "boating area" (2%), and "no boating allowed in this area" (1%), and a significant proportion of respondents who say "don't know" (24%).

The obscurity of the Boat pump-out symbol is apparent by the fact that such a high proportion of respondents resort to "don't know" (38%) when reacting to this symbol. A slightly smaller proportion of respondents are able to successfully evaluate this symbol (36%). The 27% of respondents who provide unacceptable responses misconstrue the symbol to represent "boat fueling station" (8%), "unloading dock" (3%), or "potable water station" (2%). Those who have visited a national park over

two years ago are more likely than those who have visited a national park in the last two years to provide a “don’t know” response (40% vs. 18%).

Baby Services

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_051v1) Change Table	94%	93%	18%	11%	7%	5%	2%
(6_1_051) Change Table	93%	92%	13%	14%	6%	9%	5%
(6_1_050) Nursery	8%	8%	-	80%	78%	10%	12%

Both symbols for Change table are equally successful in conveying the message that this is a suitable changing area for babies (93% - original; 94% - version 1). The original version of the symbol shows a person wearing a skirt bending over to change a baby while the version one symbol also shows a person (wearing pants) bending over to change a baby. Both symbols are set against a blue background.

Most respondents incorrectly assess the nursery symbol (80%). The major misconception among respondents is that this symbol is indicating a “diaper changing/baby changing facility” (60%). One in ten respondents (10%) are close to providing an acceptable response when interpreting this symbol (“an area for children/babies”) however they do not actually refer to a nursery or childcare services.

Camping/Firewood

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_063) Campfire	93%	93%	11%	12%	10%	3%	1%
(6_4_001v1) Camping	93%	90%	16%	11%	11%	1%	2%
(6_4_001) Camping	92%	90%	20%	6%	4%	2%	4%
(6_4_025) Back-Country Camping	80%	76%	4%	26%	21%	5%	-
(6_1_064) Firewood	73%	70%	15%	15%	13%	3%	13%
(6_4_014) Camper Truck	6%	6%	-	88%	87%	2%	7%
(6_4_002) Group Camping	4%	4%	-	89%	88%	10%	7%

This section summarizes the results for various symbols related to different types of camping, camping vehicles, and firewood.

The symbol for Campfire and both symbols for Camping (both showing two different styles of tents – the original against a blue background and the version one against a brown background) are very successful (93%, 93% - version 1, and 92% original, respectively) in communicating the correct message.

Eight in ten respondents (80%) correctly assess the Back country camping symbol indicating that is successful according to the criteria.

The symbol for Firewood needs review according to our criteria (73% acceptable), however males more so than females are more likely to provide acceptable responses (82% vs. 64%). The highest mention among those providing unacceptable responses is “chopping wood permitted” (5%). Thirteen percent say “don’t know”, which is especially high among those earning less than \$60K per year compared to those earning \$60K or more per year (21% vs. 0%).

The vast majority of respondents incorrectly assess the Camper truck symbol (88% unacceptable). This score is broken down into the following major incorrect responses: "RV/motor home/trailer camping" (35%), and "camper's/camping area/facilities" (25%).

The symbol for Group camping is also very unsuccessful in communicating the key message intended (89% unacceptable). Many respondents provide interpretations such as "area for tenting" (46%), "camping area/campsite/campground" (34%), and "camping allowed" (25%) that are not considered to be correct as there is no reference to camping in 'groups'.

Winter Sports/Activities

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_302) Downhill Skiing	96%	96%	-	13%	4%	10%	1%
(6_4_314) Snowshoeing	93%	93%	1%	10%	8%	2%	-
(6_4_310) Classic Skiing	75%	73%	11%	31%	26%	7%	4%
(6_4_316) Ice Fishing	21%	21%	3%	83%	77%	18%	1%
(6_4_312) Steep Hill (Cross-Country Skiing)	19%	18%	1%	83%	82%	7%	3%
(6_4_311) Skate-Skiing	-	-	-	100%	96%	22%	-

This cluster of symbols provides information on sports and activities that are most commonly done in the winter, including various kinds of skiing, snowshoeing, and ice fishing.

The two most successful symbols within this group are Downhill skiing (96%) and Snowshoeing (93%). Classic skiing is fairly successful (75% acceptable) however still requires reassessment. Respondents are not confused by this symbol but are too vague in their responses as several say "skiing area" (9%) or "skiing trail" (8%) but do not specify the type of skiing they are referencing.

The symbol for Ice fishing is unsuccessful (21% acceptable) mainly because respondents do not indicate the type of fishing allowed (“fishing permitted” – 55%; “fishing area” – 17%). However, males are more likely than females to provide acceptable responses (36% vs. 9%).

Approximately one-fifth (19%) of respondents provide acceptable responses for the Steep hill (cross-country skiing) symbol. The most frequent unacceptable interpretations of this symbol are: “cross-country skiing area” (21%), “skiing area” (19%), and “cross-country ski trail” (16%). Those 35 to 54 years of age are more likely than those 55 years or older to provide acceptable responses for this symbol (35% vs. 5%).

The Skate-skiing symbol is probably one of the most misunderstood symbols as 100% of respondents provide an unacceptable response. Respondents mostly perceive this symbol to indicate “cross-country skiing” (74%) or “skiing trails” (19%).

Lookout

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_008) Lookout	90%	88%	21%	22%	21%	3%	3%
(6_4_008v1) Lookout	83%	81%	25%	28%	12%	15%	5%

The two versions of the Lookout symbol are successful according to our criteria (90% - original; 83% - version 1). The original version depicts an adult looking through binoculars and a child pointing in the same direction against a blue background, whereas the version one shows an adult looking through binoculars and a child pointing in the same direction against a brown background. Respondents correctly respond to either symbol with answers such as “lookout/observation point here” or “lookout/observation point ahead”. Those earning \$60K or more a year are more likely than those earning \$30K to under \$60K to provide acceptable responses for the version one symbol (90% vs. 71%).

Trailers

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_015) Trailers	88%	87%	3%	12%	10%	2%	6%
(6_1_091) Car & Boat Trailer Parking	88%	87%	14%	23%	14%	10%	-
(6_1_090) Boat Trailer Parking	74%	74%	13%	22%	18%	6%	8%
(6_4_015v1) Trailers	66%	64%	9%	36%	33%	8%	3%

The following summarizes the findings for the trailer related symbols included in this study.

There are two versions of the Trailer symbol which elicit very different results. The original version of the symbol is successful according to our pre-determined criteria whereas the version one symbol is unsuccessful (88% vs. 66% acceptable responses). Both symbols show different styles of trailers with a hitch against either a blue (original) or brown (version 1) background. One-fifth of respondents evaluating the version one symbol mistake it to mean "campground/camping area available" (21%) - only 6% provide this response for the original version.

The Car & boat trailer parking symbol is successful according to the criteria (88% acceptable). Approximately three-quarters of respondents correctly interpret the Boat trailer parking symbol (74%), indicating that it needs reassessment. Erroneous responses for this symbol include "large vehicle parking" (11%) and "flat bed parking" (4%).

Recycling/Waste

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_069) Recycling Bin	88%	68%	48%	12%	9%	4%	-
(6_1_073) Recycle – Paper	57%	57%	6%	35%	31%	8%	12%
(6_1_076) Recycle – Organic (composting)	55%	55%	12%	66%	65%	11%	3%
(6_1_071) Recycle – Cans	43%	42%	10%	64%	63%	8%	1%
(6_1_077) Waste – Organic	35%	12%	23%	63%	63%	-	3%
(6_1_074) Recycle – Plastic	32%	29%	4%	71%	66%	18%	5%
(6_1_072) Recycle – Glass	10%	10%	3%	90%	89%	17%	3%
(6_1_075) Recycle – Styrofoam	5%	5%	-	91%	91%	8%	7%

There are many different symbols related to recycling including Recycling bin and services for different types of materials (paper, organic, cans, plastic, glass, and styrofoam). Overall, most of these symbols are unsuccessful because respondents tend to generalize their responses and do not specify the type of material allowed to be recycled.

Most respondents found the Recycling bin symbol to be very straightforward (88% acceptable). Respondents point out that this symbol indicates a “recycling bin here” (66% acceptable interpretation) and/or they would “put recyclables/dispose of recyclables in the bin” (34% acceptable action). Younger adults aged 35 to 54 years were more likely than those 55 years or older to provide acceptable responses for this symbol (91% vs. 70%), whereas respondents in rural areas were more likely than those in urban areas to provide unacceptable responses (23% vs. 7%).

Similar proportions of respondents gave acceptable responses for both the Recycle – Paper (57% acceptable) and Recycle – Organic (55% acceptable) symbols. Those aged

35 to 54 were more likely than those 55 years of age or older to provide an acceptable response for the Recycle – Paper symbol (69% vs. 32%).

In response to the Recycle – Cans symbol, a plurality of respondents provide an acceptable response (43% acceptable). However, a significantly higher amount of respondents provide general statements that are unacceptable such as “recycling bins” (41%), and “please recycle” (18%) causing it to be unsuccessful according to the criteria.

Again, in reference to the Recycle – Plastic symbol, some respondents correctly identify the specific type of recycling that is being accommodated (32% acceptable) however the majority of respondents supply general recycling related responses. Those 35 to 54 years of were more likely than those 55 years of age or older to provide acceptable responses for this symbol (40% vs. 15%)

Only one in ten (10%) respondents correctly assess the Recycling – Glass symbol. Almost half (46%) say that this symbol relates to the recycling of bottles in general, but do not specify either glass or plastic. The remaining respondents provide unacceptable responses including general recycling mentions.

The Recycling – Styrofoam symbol has the lowest level of acceptable responses among this sub-group (5% acceptable). Respondents mistake this symbol to be the universal sign for recycling more than any of the other recycling symbols (generic recycling mentions – 87%).

Thirty-five per cent of respondents provide acceptable responses for the Waste – organic symbol. This is especially true among those 35 to 54 years of age compared to respondents 55 years or older (45% vs. 22%).

Vehicles/Bikes

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_018) All-terrain Vehicles	84%	84%	1%	35%	14%	23%	4%
(6_4_013) Recreational Vehicle	81%	81%	-	28%	21%	9%	2%
(6_4_019) Dirt Bikes	68%	65%	12%	36%	33%	7%	4%

This group includes symbols related to recreational vehicles, all-terrain vehicles, and dirt bikes.

A high percentage of respondents successfully interpret both the All-terrain vehicles and the Recreational vehicle symbol (84% and 81% acceptable, respectively).

The symbol for Dirt bikes needs reassessment (68% acceptable) according to the criteria. Unacceptable responses include "biking area" (13%) and "ATV area" (11%).

Direction/Access

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_094v1) Direction	92%	82%	26%	9%	9%	-	3%
(6_1_094) Direction	88%	56%	47%	15%	13%	1%	3%
(6_1_043) Way In	45%	43%	10%	15%	15%	1%	44%
(6_1_044) Way Out	32%	27%	6%	26%	23%	4%	45%

This group includes symbols indicating different directions as well as ways to access or exit certain areas.

Two Direction symbols, which both show different style arrows pointing to the right against either a blue (original) or dark blue (version 1) background, were tested and both garnered similar results. Approximately nine in ten respondents correctly comprehended each of the symbols (88% - original, 92% version 1) indicating that they are both successful according to our criteria.

Almost half of respondents (45%) indicate a correct response for the Way in symbol, however the balance of respondents are mostly confused by this symbol and resort to "don't know" (44%).

Similar results are reported for the Way out symbol. Almost half of respondents have no response other than "don't know" (45%), one-third of respondents provide

acceptable responses (32%), and one-quarter (26%) provide unacceptable responses such as “doors open one-way” (6%), and “doors open outwards” (5%).

Food Services

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_2_002v1) Restaurant	96%	96%	7%	15%	8%	7%	1%
(6_2_002) Restaurant	88%	88%	4%	24%	19%	8%	1%
(6_2_008) Snack Bar/ Fast Food	79%	79%	-	55%	33%	27%	-
(6_2_006) Cafeteria	-	-	-	100%	98%	22%	-

The symbols tested within this category provide varied results. Because of the subtle differences in the type of responses required respondents frequently provided responses that were not specific enough to be considered acceptable.

The two Restaurant symbols are both successful in conveying the intended message according to the criteria (88% - original, and 96% - version 1). Respondents are often not specific enough in their responses to these symbols and provide incorrect responses such as “eating facilities available” and “cafeteria, canteen, or snack bar available”. The original symbol shows a fork and knife with a plate in the middle against a blue background while the version one symbol shows a fork and knife with a cup and saucer in the middle against a brown background. Those earning \$60K a year or more were more likely than those earning less than \$30K to provide unacceptable responses for the original version of the Restaurant symbol (37% vs. 14%).

The symbol for Snack bar/fast food almost reaches the benchmark of successful for this study with 79% of respondents providing an acceptable response. The most frequent misconception regarding this symbol is that it is indicating the presence of a full “restaurant” (24%).

The symbol for Cafeteria, which shows a picture of a fork and knife is very unsuccessful as 100% of respondents provide unacceptable responses. The major misinterpretations found among these results include responses such as “restaurant” (50%), “food”

(14%), "dining room/area" (14%), and "eating area" (14%). Although these symbols are not far-off from the range of acceptable interpretations, respondents do not specifically mention the term "cafeteria".

Showers/Outhouse

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_047) Showers – Female	67%	62%	10%	35%	34%	-	-
(6_1_065) Outhouse	46%	46%	-	52%	48%	7%	11%
(6_1_046) Showers – Male	7%	7%	1%	93%	91%	17%	-
(6_1_046v1) Showers – Male	-	-	-	100%	99%	14%	-

Among this sub-group of symbols, the Showers-females scores the highest with two-thirds (67%) of respondents providing an acceptable response. It still however needs reassessment according to our criteria. Many respondents provide a too generic interpretation of this symbol, i.e. "public showers" (28%), which is not specific enough to be considered an acceptable response.

Less than half of respondents (46%) correctly assess the Outhouse symbol. Again, a high proportion of respondents provide responses that are too general (washrooms/toilettes available - 28%). Some respondents provide incorrect interpretations such as "lodging available" (11%). Older adults aged 55 years or more are more likely to provide unacceptable responses compared to those 35 to 54 years of age (65% vs. 42%).

The two symbols tested for Showers-male are unsuccessful according to our criteria and in fact score extremely low relative to other symbols throughout this study. Moreover, only 7% of respondents correctly assess the original version of the symbol and zero respondents provide an acceptable response for the version one symbol. The original version of the symbol, which depicts a showerhead spraying water with a person standing next to it, is mostly misinterpreted as "showers/wash area available" (80%) with no mention of the male only aspect. The same thing occurs for the version one

symbol, which shows an image of the upper half of a person taking a shower (“showers/wash area available” – 82%).

Things to See/Venues

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_082v1) Museum	39%	39%	-	31%	20%	16%	41%
(6_1_086) Monument	27%	26%	3%	34%	30%	5%	44%
(6_1_085) Archeological Site	17%	14%	2%	68%	68%	-	18%
(6_1_078) Exhibit	12%	11%	2%	80%	80%	11%	11%
(6_1_084) Amphitheatre	6%	6%	-	26%	22%	4%	69%
(6_1_087) Heritage River	2%	2%	-	48%	48%	-	50%
(6_1_082) Museum	-	-	-	91%	91%	21%	9%

This category includes symbols related to museums, archeological sites, exhibits, amphitheatres, and Heritage Rivers.

All of the symbols tested here are unsuccessful according to the criteria. In terms of the two Museum symbols tested respondents had particular difficulty with the original version of the symbol, which shows an adult and child looking at information underneath a roof, as 100% of respondents gave unacceptable responses. Almost four in ten respondent gave acceptable responses for the version one symbol (39%), which shows a building with a peaked roof with a large M inside the four walls. It is interesting to note however that the version one symbol caused more confusion among respondents compared to the original version in that a significantly higher proportion of respondent provided don't know responses (41% vs. 9% don't know). The “don't know” responses for the version one symbol were especially high among those 55 years and older compared to those 35 to 54 years old (63% vs. 30%). The respondents assessing the original symbol were more likely to provide a response, albeit an unacceptable one.

Unacceptable responses provided for the original symbol include “information area” (49%), “area map” (15%), “self-administered interpretation centre” (14%), “observation point” (10%), and “point of interest” (8%).

A plurality of respondents could not provide a response for the Monument symbol, apart from “don’t know” (44%) or provided a string of unacceptable responses ranging from “information about the site” (9%) to “BBQ disposable” (2%). However, those who had visited a national park in the last two years were less likely than those who had done so over two years ago to resort to “don’t know” (25% vs. 48%)

Both Archaeological site and Exhibit garnered a high proportion of unacceptable responses including “fossils/dinosaur bone” (45%) and “museums/exhibits” (16%) for the first symbol mentioned, and “information display” (25%) and “historic site information” (19%) for the latter. However, higher levels of acceptable responses were found among those earning \$60K a year or more compared to those earning less than \$30K a year for the Archaeological site symbol (23% vs. 4%), and among males compared to females for the Exhibit symbol (20% vs. 4%).

A large proportion of respondents resorted to “don’t know” while attempting to interpret the Amphitheatre and Heritage River symbols (69% and 50%, respectively).

Tours

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_4_208) Boat Tour	38%	35%	10%	75%	75%	9%	2%
(6_4_208v1) Boat Tour	38%	38%	4%	41%	41%	2%	21%
(6_1_079) Guided Tour	38%	37%	4%	35%	35%	5%	30%
(6_4_012) Bus Tour	32%	32%	4%	68%	67%	8%	6%

A similar proportion of respondents across each of these symbol related to different types of tours provided acceptable responses (two versions of Boat tour and Guided tour at 38% and 32% for Bus tour). The original version of the Boat tour symbol is mostly misinterpreted to be a symbol indicating that boating is allowed in the area

(33%), while the version one symbol is often perceived to be a surveillance boat/boat patrol (12%). One fifth of respondents (21%) respond with “don’t know” when assessing this symbol (version 1). The original Boat tour symbol depicts the side view of a boat with three passengers aboard and a captain moving along the water, whereas the version one of the symbol depicts the front view of a boat with three passengers and a person on the top level speaking through a cone shaped device. Both are shown against blue backgrounds.

Those with a university degree are more likely than those with some post secondary training to provide acceptable responses for version one of the Boat tour symbol (49% vs. 26%).

The symbol for guided tour elicits a wide array of unacceptable responses such as “wait for crossing” (8%), “pedestrian crossing” (6%), “judging height” (4%), “stop and look up to the right” (2%), “directions available” (1%), “look at my hand” (1%), “walk this way” (1%) etc.

Almost seven in ten respondents (68%) provide unacceptable responses for the Bus tour symbol. Some of these erroneous responses include: “bus area/stop/public transit” (33%), “shuttle service” (12%), “bus parking” (7%), “bus route” (6%), and “be careful of people getting on the bus” (1%).

Interpretation

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_1_081) Interpretation Centre	15%	15%	-	81%	81%	12%	9%
(6_4_027) Interpretive Trail (returns To start)	9%	9%	-	77%	76%	18%	15%
(6_1_080) Interpretation	6%	5%	1%	62%	60%	9%	32%

The symbols within this category include Interpretation Centre, Interpretative trail (returns to start), and Interpretation.

All of these symbols are unsuccessful according to our criteria. In each instance, the majority of respondents provide unacceptable responses (81%, 77%, and 62% respectively).

The symbol for Interpretation Centre includes a wide array of unacceptable responses such as "information kiosk" (29%), "map/directions" (17%), "points of interest" (17%), "historical site" (6%), "an explanation plaque" (4%), and "family shelter" (4%). Unacceptable actions for this symbol include: "would use for information" (7%), "would use for directions" (5%), and "use facility if necessary" (2%).

Some of the unacceptable responses and actions provided for the Interpretive trail symbol include "hiking trail/path/area" (36%), "follow signs/arrows" (8%), "hiking map" (6%), "cross country ski trail" (5%), "use this trail" (5%), "hiking trail that returns to the start" (4%), and "hike path to shelter" (3%).

Several different unacceptable responses were provided for the Interpretation symbol. Some of these include "tours available" (15%), "lecture/presentation area" (9%), "maximum three families allowed" (8%), "theater area" (4%), "choir" (3%), "attend the event if interested" (2%).

Miscellaneous

	ACCEPTABLE (NET)	Acceptable Responses	Acceptable Action	UNACCEPTABLE (NET)	Unacceptable Responses	Unacceptable Action	DK
(6_2_014) Bicycle Rental	12%	12%	2%	66%	66%	5%	24%
(6_4_301) Winter Warming Hut	11%	11%	3%	75%	62%	22%	15%
(6_1_054) Valve Shut-Off	3%	3%	-	22%	22%	2%	77%

This category includes miscellaneous symbols such as Bicycle rental, Winter warming hut, and Valve shut off.

Each of these symbols are unsuccessful according to our criteria.

Two-thirds of respondents (66%) provide unacceptable responses for the Bicycle rental symbol such as "cycling allowed at certain times of the day" (37%), "bicycle path" (12%), "cycling trail takes two hours to complete" (3%), and "bicycle parking" (3%). One quarter (24%) of respondents provide a "don't know" response.

Three-quarters of respondents provide unacceptable responses for the Winter warming hut symbol. The most frequently mentioned responses are "sheltered fire pit/campfire/BBQ area" (23%), "campfire/BBQ area" (14%), "campfires/BBQ's allowed" (11%), "only use specified areas for fires" (9%), and "fires not allowed" (6%). A relatively low proportion of respondents say "don't know" when assessing this symbol (15%), however this is significantly higher among those who are 35 to 54 years of age compared to those 55 years and older (22% vs. 6%).

The Valve shut symbol off elicited a high level of confusion among respondents, which is evident from the high proportion of don't know responses (77%).

APPENDIX I - PARKS CANADA - INTERNET

ASSESSMENT OF SYMBOLS

Thank you for your participation in our i-Say online surveys. Your opinions are very important to us. Please fill out the following survey, which should take approximately 25 minutes to complete.

Once we receive your completed survey, you will automatically be entered into our draw for a chance to win one of ten (15) prizes of \$100 each (see the sweepstakes rules page for more information).

Remember, all the information you provide us is kept strictly confidential. It is used for classification purposes only. Your specific information will never be given to anyone outside of Ipsos i-Say, and we absolutely promise never to try to sell you anything.

Please use the arrow key at the bottom of the page to take the survey instead of using the browser button.

Good luck and thanks again!

For the purposes of this research, you will be asked questions on national parks and historic sites, as well as questions on information symbols and signs.

1. Please indicate if you have visited a **national park** in Canada within the last:
(Please check one only)

12 months

13 to 24 months

25 to 36 months

Over three years ago

Never

Don't know

[IF VISITED IN Q1 ASK Q2 (OPEN ENDED), OTHERWISE SKIP TO Q3]

2. Which **national park** did you last visit? (Please be as specific as possible)

[ALL RESPONDENTS]

3. Please indicate if you have visited a **national historic site** in Canada within the last: (Please check one only)

12 months

13 to 24 months

25 to 36 months

Over three years ago

Never

Don't know

[IF VISITED IN Q3 ASK Q4 (OPEN ENDED), OTHERWISE SKIP TO Q5]

4. Which **national historic site** did you last visit? (Please be as specific as possible)

[ALL RESPONDENTS]

Now, imagine that you are visiting a national or provincial park, a conservation or other such protected area.

You are going to be shown a series of symbols. These would be symbols or signs that provide information to visitors in a park setting or perhaps at an historic site. After viewing the symbol, **please indicate your interpretation of the symbol and if appropriate, indicate what action you should take in response to seeing the symbol.**

[PLEASE ASSIGN EACH RESPONDENT TO ONE OF THE 9 BLOCKS OF IMAGES THAT HAVE BEEN CREATED. ROTATE THE ORDER OF THE IMAGES WITHIN EACH BLOCK.]

[SHOW FIRST SYMBOL]

5. Please indicate your interpretation of the symbol and if appropriate, indicate what action you should take in response to seeing the symbol. (Please be as specific as possible)

Don't know

[REPEAT Q5 UNTIL ALL SYMBOLS WITHIN EACH BLOCK HAVE BEEN EVALUATED]

[PLEASE INSERT AFTER THE SIXTH SYMBOL]

JUST A REMINDER, please imagine that you are visiting a national or provincial park, a conservation or other such protected area. You are going to be shown some more symbols. These would be symbols or signs that provide information to visitors in a park setting or perhaps at an historic site. After viewing the symbol, **please indicate your interpretation of the symbol and if appropriate, indicate what action you should take in response to seeing the symbol.**

[PLEASE INSERT AFTER THE TWELFTH SYMBOL]

YOU ARE MORE THAN HALFWAY THROUGH THE SYMBOLS.

Again, just a reminder to imagine that you are visiting a national or provincial park, a conservation or other such protected area. You are going to be shown some more symbols. These would be symbols or signs that provide information to visitors in a park setting or perhaps at an historic site. After viewing the symbol, **please indicate your interpretation of the symbol and if appropriate, indicate what action you should take in response to seeing the symbol.**

[PLEASE INSERT AFTER THE SIXTEENTH SYMBOL]

JUST A FEW MORE SYMBOLS, remember, imagine that you are visiting a national or provincial park, a conservation or other such protected area. These are symbols or signs that provide information to visitors in a park setting or perhaps at an historic site. After viewing the symbol, **please indicate your interpretation of the symbol and if appropriate, indicate what action you should take in response to seeing the symbol.**

Those are all the questions we have for you today. Thank you for your time.