



**Methodologies to assess  
public perceptions of wilderness values  
in the Babine River Corridor Provincial Park**

**Phases I & II report**

**FINAL**

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## 1.0 Introduction

Wilderness may be defined according to how it is objectively experienced, as exemplified in the dictionary definition taken from Merriam-Webster listed below.

Wilderness:

- (1) : a tract or region uncultivated and uninhabited by human beings (2) : an area essentially undisturbed by human activity together with its naturally developed life community<sup>1</sup>

The emphasis of the above definition should likely be on the idea of an area with a naturally developed life community, that is, an area where ecological processes are able to manifest themselves without human interference.

Social scientists have generally viewed “wilderness” as a cultural concept, primarily of Western civilization (e.g. Stankey, 1989; Klein, 1994; Rolston, 1997; Rolston 2001; Warner, 2008). Western civilization has its roots in the city-states bordering the Mediterranean Sea, where separation of the urban dweller from nature was considered a desirable outcome of civilization (Klein, 1994). As mankind became increasingly urbanized, familiarity with the environment in its natural or “untamed” state was lost and it became viewed as unfamiliar and therefore threatening. Several authors (Stankey, 1989; Klein, 1994; Merchant, 2003) have pointed out how Judeo-Christian religious writings have reinforced this, by portraying wildlife and nature as something to be dominated or “tamed”. This perception changed with the Romantic Movement in the late nineteenth century, which focussed on the spiritual and aesthetic qualities of nature. In North America, this was fuelled by writers such as Thoreau and John Muir and led to the modern view of wilderness as something to be guarded and cherished.

In contrast to Western culture, Canadian First Nations never experienced the segregation of urban and natural environments. Historically, First Nations humans never viewed themselves as separate from the natural world (Klein, 1994; Rolston, 1997) and the concept of wilderness as something unknown and untamed does not exist. Land is the source of being, and is understood as such.

This means that the wilderness values of the Babine River corridor may be perceived and understood very differently by First Nations individuals than by other Canadian or Westernized individuals. This is particularly true of Fort Babine residents, whose traditional territory includes most of the Babine River Corridor and whose contact even with small communities such as Smithers and Hazelton may be quite limited. This project has largely been designed to evaluate how people from our modern culture perceive wilderness. The value placed on wilderness by outdoor recreationists and other users of the Babine River Corridor may vary according to motivation and interests, as well as more commonly recognized demographics such as age, gender and financial status.

Assessing public perceptions of wilderness values and sustainable levels of use in a non-biased manner therefore requires that such differences are recognized and incorporated into an appropriate suite of methods. We have identified two major issues that may affect the selection of appropriate methods:

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<sup>1</sup> Merriam-Webster online dictionary: <http://www.merriam-webster.com/>

1. HOW to sample – i.e. the identification and investigation of methods for delivering a survey questionnaire, and
2. WHO to sample – i.e. the identification of Babine River Corridor user groups and an investigation of the applicability of the various survey methods to obtain results in a non-biased manner.

Phase I of this project identified the user groups of the Babine River Corridor and explored methodologies including new approaches based on social networking to assess public perception of wilderness values and socially acceptable levels of sustainable use in a non-biased manner. Phase II expanded on Phase I through the development of a survey designed to collect public perception data identified in the first Phase, as well as further defining the survey delivery methodology.

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## PHASE I

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### 2.0 Survey methods

Public opinion researchers (e.g. Brooker and Schaefer, 2005; Gallagher et al., 2005) identify several commonly used survey methods, including face-to-face interviews, telephone interviews, mail surveys and internet interviews (plus others used for mass market surveys and political elections that are not relevant to this study).

- ***Personal or face-to-face interviews*** provide a high percentage of returns and can provide answers to relatively long or complex questions. However, they are relatively time-consuming and expensive to conduct and interviewees may be unwilling to provide socially incorrect answers to some questions. One advantage to face-to-face survey distribution in this project is that we may be able to connect with people who have just been in the Babine River Corridor Provincial Park, experiencing ‘wilderness’. Recall bias may alter the response of these same people if they were asked to fill out the survey once they got home and were removed from the surroundings of the park (Tarrant et al., 1993).
- ***Telephone interviews*** are less expensive than face-to-face interviews but are less likely to provide meaningful answers to long or complex questions, as the interviewee will rarely take more than a few seconds to respond. Random sampling would be fairly easy (discounting potential respondents with unlisted phone numbers) but the unexpected and sometimes intrusive nature of phone interviews may make them unwelcome.
- ***Mail surveys*** are generally less expensive than telephone surveys but often have a low response rate and it may be questionable how well the respondents represent the larger population (i.e. mail surveys provide a convenience sample but not a random sample). Response rates can be increased by sending follow-up reminder cards, by having the questionnaire dropped off and picked up instead of mailed, and by providing an incentive to completing the survey.
- ***Internet surveys*** can reach an enormous number of potential respondents very quickly and are the least expensive to conduct. Respondents usually reply quickly (or not at all) and often provide better answers to open-ended questions. The survey can be very non-intrusive and the respondent can answer when convenient; he or she can also take as long

as required to consider his or her responses. However, the response rate is generally low and the survey is not likely to be representative – it is limited to those with internet access who are willing to answer online i.e. very much a convenience sample rather than a random sample.

On the Bulkley River, Morten (1999) compared steelhead catch and angler effort as recorded by River Guardian program and as recorded by the Steelhead Harvest Analysis. The River Guardians used face-to-face interviews while the angler was on the river, while the Steelhead Harvest Analysis was completed using mail-in postcards after the fishing season was over. Steelhead Harvest Analyses results were consistently, drastically higher than River Guardian program results, suggesting that the postcard surveys involved a considerable degree of bias, likely in non-reporting of unsuccessful angling days or inaccurate recollection of successful days (recall bias).

The most comprehensive method may be to use a questionnaire package that can be delivered either face-to-face, on paper by mail or by personal delivery, or online via a survey tool such as “SurveyMonkey” ([www.surveymonkey.com](http://www.surveymonkey.com)). It is likely that telephone interviews, even using the same package, would be least suitable due to the limited time available to give considered responses to questions. Face-to-face interviews conducted in the field likely provide the most credible results but may be the most difficult to obtain. However, these results could be stratified in subsequent analyses to provide a sample against which other methods could be compared.

### **3.0 Sampling methods**

All attempts to assess public opinion by means of voluntary surveys are susceptible to representation bias (Hunt et al., 2010; Rowe and Frewer, 2000). Representation bias means that the opinions voiced by those who choose to participate are not necessarily typical of those who do not participate. Those individuals who do choose to participate – the “convenience sample” – are likely to have a higher level of awareness of the opportunities for participation, and are also more likely to have the time and interest in participating, compared to individuals in a random sample (Hunt et al., 2010).

With respect to the Babine Watershed, there is a potential for further bias in that with an “open” survey (one with widely-publicized open invitations to participate), the potential respondents will include members of the public who have had little or no personal involvement with the Babine River corridor but who do nevertheless have an interest or concern with its values. It is expected that those with little or no interest would be unlikely to respond at all.

In their study of recreation capacity in the Babine River Corridor Provincial Park, Hillcrest (2001) considered only a convenience sample of river users, and noted that their approach did not take into consideration the opinions of citizens who were not Babine River Park users. Hillcrest also noted that their sample was almost 100% male and almost 90% anglers. While this is likely a fair representation of Park users, it was noted that the sample included no First Nations individuals, no young respondents, few female respondents and no clients of commercial rafting companies.

We therefore anticipate a 4-way pre-stratification of survey responses, regardless of how they are obtained:

		<b>Representation bias</b>	
		<b>Convenience sample</b>	<b>Random sample</b>
<b>Level of Use</b>	<b>User</b>	<ul style="list-style-type: none"> <li>• respondent who belongs to a known user group of the area and chooses to participate in survey</li> <li>• respondent who uses the Babine River corridor for recreational purposes</li> </ul>	<ul style="list-style-type: none"> <li>• randomly chosen respondent whose participation in survey is actively solicited</li> <li>• respondent who uses the Babine River corridor for recreational purposes</li> </ul>
	<b>Non-user</b>	<ul style="list-style-type: none"> <li>• respondent who is anticipated to have an interest in the area and chooses to participate in survey</li> <li>• respondent who rarely or never visits the Babine River corridor for recreation</li> </ul>	<ul style="list-style-type: none"> <li>• randomly chosen respondent whose participation in survey is actively solicited</li> <li>• respondent who rarely or never visits the Babine River corridor for recreation</li> </ul>

We suggest that the opinions of those who rarely or never participate in recreational activities in the Babine River corridor should by no means be excluded from a survey of public perceptions of wilderness values and socially acceptable levels of sustainable use. Also, we feel that obtaining a convenience sample of non-users would be a more effective use of sampling effort than trying to obtain a true random sample of non-users.

Obtaining a random sample of Park users poses certain challenges. In Ontario, Hunt et al. (2010) used documentation from angling licences to contact a random sample of anglers; however, this information is not available to third parties in BC (Jeff Lough, pers.comm.). In addition, BC residents are not required to purchase a licence that is specific to the Babine River. Guided activities (angling, commercial rafting) are documented by the guiding company, who may be willing to distribute questionnaires to clients. Most unguided recreational activities in the Babine – which likely include most BC resident anglers, about half of all rafting trips and nearly all kayaking/canoeing trips (Hillcrest 2001) – require no documentation and no river-specific licence. Personal contact with users in the field (e.g. at the parking lot) is probably the only feasible strategy.

Obtaining a convenience sample is less restrictive, but poses challenges in contacting a sufficient number and variety of Babine River Park users to represent the different user groups and to give groups and individuals the opportunity to participate in a survey. Sampling methods may target specific user groups or may be more suited to the general public, and may include:

- direct contact;

- word of mouth – originating in those known to have participated in recreational activities on the Babine. May include individual postings on Facebook as well as literal word of mouth;
- creating an event on Facebook for days that survey responses are solicited face-to-face;
- contacting local user groups or interest groups to invite their members to participate in a survey. Many such groups have websites, Facebook pages or newsletters (paper or online) and could easily disseminate such an invitation to their members;
- contacting local hotels/motels/guesthouses/campgrounds where non-resident Park users would be likely to stay. A rack card inviting guests to participate in an online survey would be easy to display;
- contacting local and regional sports or outdoor recreation stores and requesting them to display a poster or a rack card inviting customers to participate in an online survey;
- information-sharing and invitations to participate via locally well-known public figures e.g. Doug Donaldson has a large number of “friends” on Facebook and could disseminate an invitation; Nathan Cullen uses Facebook and Twitter and might do the same;
- information-sharing and invitations to participate via local and community newsletters e.g. Village of Telkwa newsletter;
- information-sharing and invitations to participate via news and RSS feeds from local or regional interest groups e.g. the Steelhead Society of BC, Town of Smithers, Smithers Chamber of Commerce and Tourism Information Centre; and
- paid or unpaid advertising in local media (radio, newspaper, Bulkley Browser, Pleasant Valley Express) – this was once the primary means of contacting the general public but appears to have been largely superseded by online methods. However, many people still rely on more traditional media, especially older people and those without easy internet access.

## 4.0 User groups

In their study of recreation capacity, Hillcrest (2001) identified three primary user groups in the Babine River Park: steelhead anglers, sockeye anglers and whitewater rafters and kayakers. Other potential uses include wildlife viewing, which is increasing especially near the road bridge, and also hunting, camping and hiking (de Groot, 2011) although the latter are likely limited due to lack of access and lack of trails. Camping and wildlife viewing are likely to be considered an integral part of, for instance, a rafting trip as well as an independent activity. Anglers may hike several kilometres to reach a preferred fishing location, but hiking is not the intent of their trip.

The Babine River Corridor is included in the traditional territories of the Lake Babine Nation (upper reaches of the river, approximately to Gail Creek) and of the Gitksan Hereditary Chiefs (lower reaches of the river, approximately from Beaver Flats to the confluence with the Skeena). Traditional use of the area is likely centred on the salmon runs, although the fish are presently more accessible outside the Park boundaries (e.g. at the weir).

#### **4.1. Steelhead anglers**

Steelhead fishing on the Babine River is considered world-class and anglers include local residents, BC residents, Canadians from outside BC and non-Canadians. All steelhead fishing on the Babine is catch-and-release; anglers come for the experience, not to catch fish to eat. Hillcrest (2001) reported that “the very large size of the steelhead, the strong likelihood of catching steelhead, the wilderness experience and the quality of the lodges” were attractions frequently cited by steelhead anglers on the Babine.

Generally, steelhead fishing begins at the end of August and lasts until the end of October or early November. There are three primary areas:

- a. the upper reaches of the Babine River, between the Nilkitkwa FSR road bridge and the confluence with the Nilkitkwa River, about 3km downstream. This is the Natural Environment Zone of the Park and is the only area with road access. Trails along both sides of the river allow walk-in access to fishing spots along the river; these are used by shore-based anglers during the peak steelhead season. Anglers on this part of the river are mainly non-guided and include the highest number of BC residents (Hillcrest, 2001).
- b. the Babine River between the Nilkitkwa River and Beaver Flats. In this area, the river itself is included in the Natural Environment Zone but the shores on both sides are zoned Wilderness Recreation. There are two fishing lodges in this area, Babine Norlakes Lodge and Babine Steelhead Lodge, each of which also maintains a small cabin for overnight use. Anglers in this area are mainly guided clients of the two lodges, although there is some use by local anglers with jet boats and potentially by river rafters. There are no trails for shore-based anglers.
- c. the Babine River between Shahnagh Creek (downstream of Beaver Flats) and Gail Creek. In this area, the river itself is included in the Natural Environment Zone but the shores on both sides are zoned Wilderness Recreation. The Silver Hilton lodge is the only one in this area and anglers in this area are mainly Silver Hilton clients, due to the difficulty of navigating the rapids between Beaver Flats and Shahnagh Creek. There is no shore-based access.

Below Gail Creek, there are many class 4 rapids and the water is murky from clay banks, resulting in very little angling use. The river is not suited to jet boat use, and currently the only access is by whitewater rafters, kayakers and canoeists or by helicopter. This area of the Park is zoned Wilderness Recreation.

#### **Applicable sampling methods**

Steelhead anglers on the Babine River fall mainly into two groups: guided anglers, who are mainly non-resident and are mainly based at one of the three lodges on the river; and non-guided anglers, who include BC residents, Canadian residents from outside BC and non-residents from outside Canada, and who mainly fish the upper stretch of the river near the road bridge. Some non-guided anglers use jet boats to fish the river between the road bridge and Beaver Flats, but they still require the road bridge to access the river.

Guided anglers are relatively few in number; therefore we recommend a survey method with a high rate of return. We recommend seeking the cooperation of the three fishing lodges by asking them fill out the survey, and also to provide each client angler with a questionnaire package, with



a short cover letter explaining the intent of the survey. If the client is willing to provide contact information to the surveyors (e.g. their mail or email address), follow-up reminders could then be sent if a response is not received. Personal interviews are considered to have the highest rate of response but would be difficult to obtain and may be considered intrusive.

Non-guided anglers have no central base (such as a fishing lodge) but are almost all dependent on the road bridge for access to the river. Contacting all anglers at the bridge (or at the parking lot nearby) on randomly-selected days would provide a random sample of non-guided anglers, but this would be a time-consuming exercise. Other options include:

- contacting all anglers at the bridge on days that are likely to have the highest use – this would probably result in more responses although high-use days are most likely weekends, which are currently limited to BC-resident anglers;
- leaving survey packages at the parking lot near the bridge, with explanatory notices and an invitation to participate. This would provide a convenience sample only, but would target Park users during the steelhead run. Litter may be an issue;
- leaving rack cards at the parking lot near the bridge, with explanatory notices and an invitation to participate in an online survey. This would be less expensive than leaving a complete questionnaire package but introduces another step into the process (the respondent must actively seek out the survey questionnaire) and would probably produce a lower response rate. Litter may be an issue;
- rack cards could also be placed for a short time at places around Smithers such as the Visitor Information Centre, the airport, Oscars Source for Sports, McBike and the Friendship Centre; and
- inviting steelhead anglers to participate through groups such as the Steelhead Society of BC, the Smithers and Houston Rod and Gun Clubs, and the BC Wildlife Federation – this would be a convenience sample only, and may include users and non-users of the Park. All of these groups have a webpage and some are accessible through Facebook.

## **4.2. Sockeye anglers**

Fishing for sockeye occurs in years when the Department of Fisheries and Oceans feels that there is a surplus over and above the numbers required for spawning and for First Nations food fisheries. Hillcrest (2001) and Lough (pers. comm.) report that sockeye anglers are very different from steelhead anglers – they are mostly BC residents and many are local residents who are primarily fishing for food rather than seeking a wilderness experience, they are shore-based and so limited to the Natural Environment Zone of the Park between the weir and the Nilkitkwa River, and most of them fish within sight of the road bridge.

In years when there is a sockeye season, it generally begins around August 1. In 2012, sockeye angling in the Babine River is open from August 1 – August 31, with a daily limit of four fish kept ([www.pac.dfo-mpo.gc.ca/fm-gp/rec/fresh-douce/region6-eng.htm](http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/fresh-douce/region6-eng.htm)). The limit in 2012 was doubled due to the high number of fish returning to spawn. In addition, the river is also open for chinook and coho.

### **Applicable sampling methods**

Sockeye anglers on the Babine River are non-guided and not associated with a location such as a fishing lodge. Contacting all anglers at the bridge (or at the parking lot nearby) on randomly-

selected days would provide a random sample of sockeye anglers. This would be a time-consuming exercise, but probably less so than for steelhead anglers as Hillcrest (2001) reported up to 70 sockeye anglers at a time fishing within sight of the bridge. Other options include:

- contacting all anglers at the bridge on days that are likely to have the highest use – this would probably result in more responses although high-use days are most likely weekends which may bias the sample in favour of local and regional residents. There are no residents-only days for sockeye as there are for steelhead;
- leaving survey packages at the parking lot near the bridge, with explanatory notices and an invitation to participate. This would provide a convenience sample only, but would target Park users during the sockeye run. Litter may be an issue;
- leaving rack cards at the parking lot near the bridge, with explanatory notices and an invitation to participate in an online survey. This would be less expensive than leaving a complete questionnaire package but introduces another step into the process (the respondent must actively seek out the survey questionnaire) and would probably produce a lower response rate. Litter may be an issue;
- rack cards could also be placed for a short time at places around Smithers such as Oscars Source for Sports, McBike and the Friendship Centre; and
- inviting sockeye and other anglers to participate through groups such as the Smithers Rod and Gun Club, the Rod and Gun Clubs in Terrace, Prince Rupert, Granisle, Vanderhoof and Prince George, and the BC Wildlife Federation – this would provide a convenience sample only, and may include users and non-users of the Park.

### ***4.3. Whitewater rafters and kayakers***

Rafting, kayaking and canoeing on the Babine River generally involve a multi-day float down the river, with shoreline overnight camping along the way. There are no designated campsites but spots suitable for camping are limited, especially in the Wilderness Recreation Zone below Gail Creek. All floatcraft users put in at the Nilkitkwa FSR road bridge; there are no other road-accessible points within the park. Most users float the length of the river and take out either at Kisgegas at the western end of the park or further downstream near Kispiox, but helicopter pickup is also possible either at Beaver Flats or at Gail Creek.

Hillcrest (2001) reported that park-use permits for commercial rafting companies were introduced in 2000, with 11 commercial trips recorded in that year (in July, August and September). A similar number of private rafting trips were thought to have been made, but no consistent records were kept. Kayakers and (occasionally) whitewater canoeists also float down the Babine River – these are almost always private groups although a commercial rafting company may provide raft-based support. Permits are not presently required for private trips, but the Park website [www.env.gov.bc.ca/bcparks/explore/parkpgs/babine\\_rv/](http://www.env.gov.bc.ca/bcparks/explore/parkpgs/babine_rv/) strongly recommends that private groups contact BC Parks to avoid multiple trips launching on the same date.

### **Applicable sampling methods**

Commercial rafting companies operating in the Babine River Corridor Provincial Park include Skeena Valley Expeditions, Suskwa Adventure Outfitters, Canadian River Expeditions/Nahanni River Adventures and Sea to Sky Expeditions – however, these companies may offer only one rafting expedition per year. We recommend seeking the cooperation of the commercial rafting

companies who hold a permit to operate in the Babine River Park, to provide each client rafter with a questionnaire package and a short cover letter explaining the intent of the survey. If the client is willing to provide contact information to the surveyors (e.g. their mail or email address), then follow-up reminders could be sent if a response is not received. Personal interviews are considered to have the highest rate of response but would be difficult to obtain and may be considered intrusive.

Private or unguided groups of rafters/kayakers/canoists are more difficult to survey because there is no central location (such as a fishing lodge) and there is no daily exodus from the river as there would be for unguided anglers. There appear to be few or no organizations of local whitewater enthusiasts although Aquabatics in Smithers does organize trips and may act as an information hub for local paddlers. BC Parks may keep records of enquiries and launch dates of private and commercial groups. A random sample of unguided rafters/kayakers/canoists is probably impossible to obtain unless BC Parks requires registration. Options for a convenience sample include:

- requesting information from BC Parks concerning private enquiries and possible launch dates;
- opportunistically including rafting/kayaking parties putting into the river at the road bridge in conjunction with random sampling of sockeye or steelhead anglers;
- asking known whitewater enthusiasts about possible upcoming private trips and requesting that word-of-mouth invitations to participate be circulated; and
- leaving rack cards or posters at Aquabatics and other sports/outdoor recreation stores, with explanatory notices and an invitation to participate in an online survey.

#### ***4.4. Wildlife viewing and other activities***

Other recreational activities in the Babine River Park may include wildlife viewing, hunting, camping and hiking (de Groot, 2011). Wildlife viewing, especially for grizzly bears, eagles and spawning salmon, is identified by the fishing lodges and by most whitewater rafting companies as a particular attraction to potential clients of their Babine River expeditions; camping is also identified as an integral part of a multi-day rafting/kayaking trip. Wildlife viewing is also mentioned as a tourist attraction, generally in conjunction with large numbers of migrating salmon around the weir and the Nilkitkwa FSR road bridge. Tourist use of this area is thought to be increasing, especially with the intent of watching grizzly bears feeding on salmon.

Hunting, although legal in most of the Babine River Park, is probably limited due to access difficulty – it is unlawful to discharge firearms or to hunt grizzly bear within 1km of the Babine River above the Nilkitkwa River, and it is unlawful to transport hunters or wildlife by helicopter. Using jet boats to transport hunters to areas downstream of the Nilkitkwa River remains an option.

#### **Applicable sampling methods**

Recreationists engaged in other activities ancillary to angling or to whitewater rafting, kayaking, and/or canoeing would be sampled according to their primary activity. It is suggested that all other potential respondents would be sampled either as part of the convenience sample of other user groups or as for members of the general public. Recommended methods include:

- opportunistically including all outdoor recreationists at the road bridge in conjunction with random sampling of sockeye or steelhead anglers;
- leaving rack cards at the parking lot near the bridge, with explanatory notices and an invitation to participate in an online survey;
- leaving rack cards or posters at sports/outdoor recreation stores, the Tourist Information Centre and other tourist locations, with explanatory notices and an invitation to participate in an online survey; and
- inviting outdoor enthusiasts to participate through groups such as the Bulkley Valley Naturalists, the Smithers Rod and Gun Club, the Rod and Gun Clubs in Houston, Terrace, Prince Rupert, Granisle, Vanderhoof and Prince George, and the BC Wildlife Federation – this would likely include users and non-users of the Park.

#### **4.5. First Nations#**

As indicated in the Introduction, First Nations users of the Babine River Corridor may have a very different perspective on the values associated with the Park. This may be particularly true of tribal elders, those who grew up in a more traditional environment, and those who live in relative isolation (i.e. year-round Fort Babine residents). We feel that attempting to use the same questionnaire for First Nations users as for other users may not provide useful information. We suggest the following sampling methods:

- verifying First Nations use (traditional and current) with the Band offices in Fort Babine and Hazelton;
- requesting interviews with individuals who use or have used the Babine River Corridor in recent years, or who express interest in the project; and
- exploring the outlook and opinions of interviewees, using a similar framework as developed for non-First-Nations users as far as seems appropriate.

## **5.0 Phase I Summary**

It is recognized that the concept of wilderness value may vary widely within and between population groups. We are proposing to use convenience and random sampling methods to survey known user groups of the Babine River Corridor and the general public (where public is confined to the population area of Smithers, Telkwa and Hazelton) to assess public perception of wilderness values and socially acceptable levels of sustainable use.

Survey responses will be stratified based on the level of the respondent's familiarity with the Babine River Corridor Park area, and the survey method used to solicit the response (i.e. random or convenience).

It is recommended that the survey be well advertised prior to implementation to raise public awareness of the project, and to hopefully increase the rate of return. Advertising would be done through various media, including radio, newspaper and community papers, as well as through Facebook and user group email lists.

User groups of the Babine River Corridor Park are heavily weighted towards steelhead, sockeye, chinook and coho anglers, but also include people engaged in activities such as white water

rafting, kayaking, wildlife viewing, hunting, camping and hiking. In addition, there are nearby First Nations that traditionally use the area.

Personal interviews provide a high response rate and would enable us to get information from people in the context of a wilderness setting. This approach would primarily be used for sockeye and steelhead anglers, although people rafting and kayaking on the river would also be surveyed if they were encountered.

Mail and internet surveys could be used to solicit convenience and random samples, and would likely be more effective than telephone surveys for this project. Rack cards that describe the project and include a link to the internet survey would also be used to reach potential respondents. The link to the internet survey could be shared on Facebook; the goal would be to share the link on as many pages of public figures as possible (i.e. Taylor Bachrach, Doug Donaldson, Nathan Cullen).

The goal would be to maximize the number of surveys returned by using conventional and modern communication media to reach as many people within our region as possible, both for the initial advertising campaign and then for the survey itself. Follow up by email, mail or telephone would then be initiated when possible. Most of the user groups of the Babine River Corridor are relatively accessible, and it is our goal to present the project in a way that encourages people to respond so that they have a voice and feel that they are contributing to the management of this beautiful natural resource.

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## PHASE II

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### 6.0 Survey Questionnaire

#### 6.1 Identification of Indicators and Standards for Monitoring

For the purposes of this project, sustainable use is defined as recreational and traditional use that maintains, over time, the Standards of Quality defined by Shultis (2006) as the minimum acceptable conditions of indicator variables. In general, indicators have been adopted from Hillcrest et al. (2001) with additions and modifications to address the focus of this study.

Indicators for wilderness value are common to all users of the Babine River Corridor and include: solitude, presence of fish and wildlife, visual disturbance, and auditory disturbance.

A summary of the sustainable use indicators defined for each user category is included in the table below. As mentioned earlier, the indicators chosen by Hillcrest et al. (2001) as a measure of social capacity were used again in this survey as these data (the actual experience people had when they visited the park compared with the type of experience they expected) can also be used to determine if minimum acceptable conditions are being met. In addition to the indicators used by Hillcrest et al. (2001), auditory disturbance was included for all user categories.

User category	Indicator
Rafting/Kayaking/Canoeing	<ul style="list-style-type: none"><li>• Number of parties encountered per day</li><li>• Number of parties at campsites</li><li>• Tolerance level of auditory disturbance</li></ul>
Steelhead Angling	<ul style="list-style-type: none"><li>• Ability to fish in preferred location</li><li>• Number of parties encountered each day</li><li>• Tolerance level of auditory disturbance</li></ul>
Sockeye Angling	<ul style="list-style-type: none"><li>• Ability to fish in preferred location</li><li>• Number of parties encountered each day</li><li>• Tolerance level of auditory disturbance</li></ul>
Wildlife Viewing/Other	<ul style="list-style-type: none"><li>• Number of parties encountered each day</li><li>• Tolerance level of auditory disturbance</li></ul>

Further justification for choosing the above indicators includes:

- Indicators used by Hillcrest et al. (2001) were well researched and field tested in the earlier study, and possible issues were reported at that time;
- these same indicators were used to derive the initial risk curves used in the Knowledge Base for the Babine River watershed. We believe that building on the existing information would be far more useful than attempting to derive new indicators that may not be easily comparable with earlier ones; and
- standards (expectations) have been included with indicators in the present survey to monitor changes in expectations over the intervening years.

Omissions from the original survey include:

- questions relating to numbers of fish caught – these are related to the quality of the angling experience but not to wilderness values. They may be related to sustainable use (if numbers of fish caught change over time) but this is a fisheries issue with confounding factors that are well outside the scope of this project; and
- questions relating to management of park use. These issues were contentious at the time and may possibly skew either the expressed opinions of survey respondents or the participation of “convenience” respondents, either of whom may fear curtailment of their chosen activity. This survey will explicitly limit questions to those related to monitoring and will refrain from questions that may indicate bias towards or against particular activities.

## **6.2 Survey**

The survey cover letter and questionnaire has been included in Appendix I.

## **6.3 Survey Design Rationale**

A flow chart has been included in this report to further describe the rationale behind the survey design (Figure 1).

### **Survey length**

People are less willing to respond to a survey that is long, complicated or difficult to follow. The River Guardian questionnaire had a very high response rate but included very few questions. As well as keeping the survey short, we have structured it in sections so that respondents are not expected to complete questions that are not directly relevant to their own experience. The online version of the survey will be set up so that respondents are directed only to the relevant sections of the questionnaire.

### **Data analyses**

In Phase I we indicated that a major source of bias in public opinion surveys arises in not adequately distinguishing between convenience and random sampling. Other major sources of bias include whether or not the respondent uses the Babine River corridor, and for what purpose. We include these questions at the beginning of the survey, where respondents are least likely to omit them, as this information is a prerequisite for unbiased data analysis.

### **Residency and time of visit**

We feel that residency and the timing of visits to the park are linked and a prerequisite to interpreting survey results. Usage is almost certainly higher on weekends, especially for local residents and particularly during steelhead and sockeye runs. This was noted as an omission in the original questionnaire by Hillcrest et al. (2001). Perceptions of crowding may vary with time (e.g. at weekends) and also with the degree of crowding to which the respondent is accustomed. For example, European visitors may have a higher tolerance for crowding because of generally high angling pressure on European waters, or they may have lower tolerance because of the effort and expense involved in coming to the Babine.

## **Motivation**

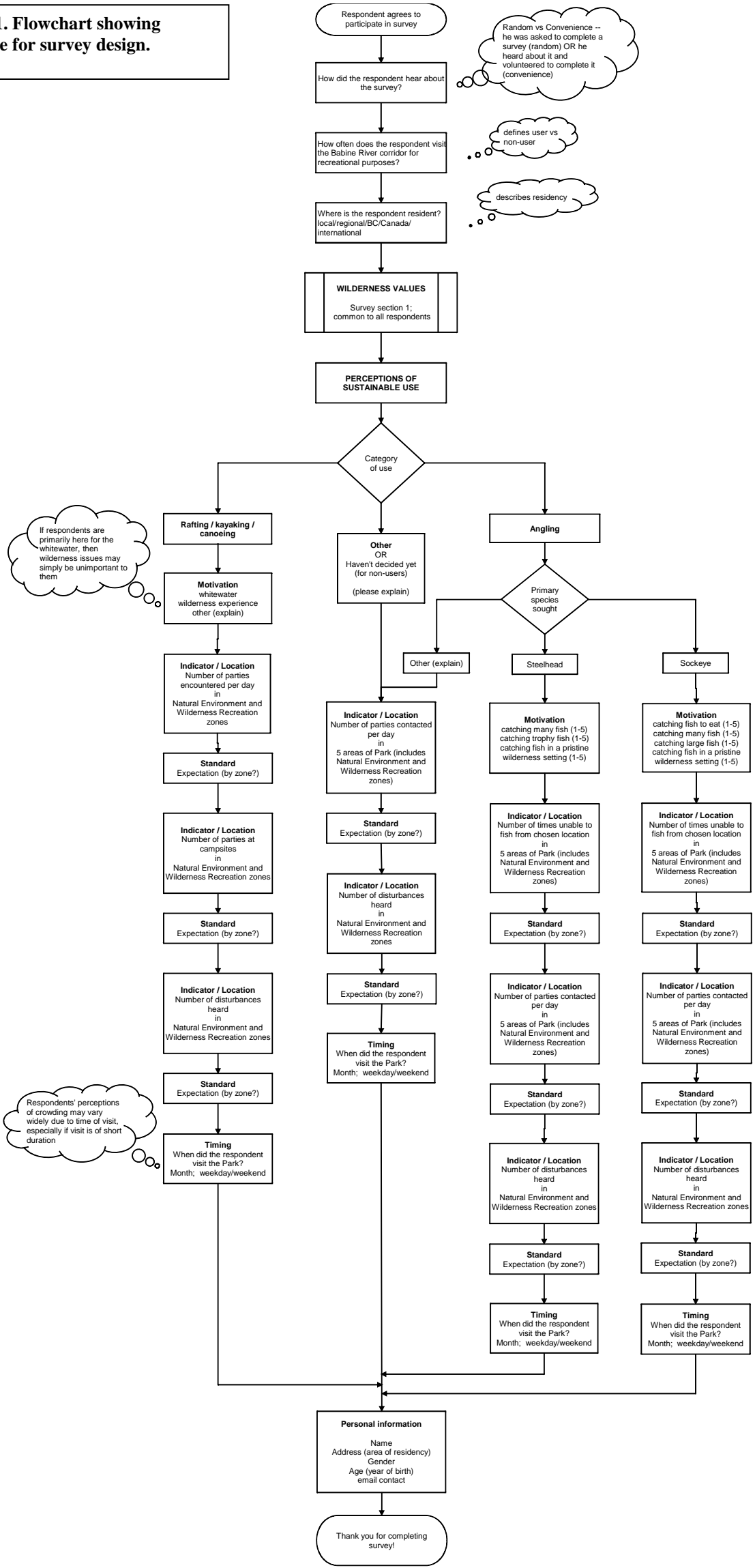
Indicators and standards may be interpreted differently depending on the respondents' motivation for being in the Babine. For instance, rafters and kayakers may be motivated more by challenging whitewater than by pristine wilderness surroundings; anglers may be motivated more by the fish than by their environment. As motivation may be complex and include more than one facet, we have asked survey respondents to assess their own motivation using a Likert scale (1-5, representing more-less important) rather than simply selecting the most prominent one.

## **Personal information**

Respondents may be disinclined to provide personal information, at least until a measure of trust is established. Questions of a personal nature are therefore at the end of the questionnaire so that the respondent is aware of the nature and rationale of the study and thus may be more likely to disclose personal information. In addition, personal information is not the focus of the study, and unwillingness to provide such data is not likely to compromise the validity of the results.



**Figure 1. Flowchart showing rationale for survey design.**



## 7.0 Sampling Methodology Summary

The following table is a summary of the sampling methods proposed for each user group.

	Steelhead Angler	Sockeye Angler	Rafter, Kayaker, or Canoeist	First Nations	Wildlife Viewing/Other
<b>Direct contact (personal interviews)</b>	X	X	X	X	X
<b>Word of mouth (paper or online survey, could also do telephone survey<sup>2</sup>)</b>	X	X	X	X	X
<b>Leaving rack cards and/or survey packages in the fishing lodges and at the parking lot near the forestry bridge</b>	X	X	X		X
<b>Social networking (paper or online survey)</b>	X	X	X		X
<b>Disseminate survey (or survey link) through local user groups, organizations and/or associations (i.e., client databases and email list-serves)</b>	X	X <sup>3</sup>	X		X
<b>Advertise online survey in local accommodation venues and Tourist Information centres (rack card)</b>	X				X
<b>Advertise online survey in local sports/recreation stores (rack card)</b>	X	X	X		X
<b>Information sharing through well-known public figures such as politicians (paper or online survey)</b>	X	X			X
<b>Advertise survey in local newsletters and free newspapers (paper or online survey)</b>	X	X			X
<b>Advertise via news and RSS feeds of local or regional organizations such as Smithers Chamber of Commerce, Tourist Information Centres, Regional Districts, etc. (paper or online survey)</b>	X		X	X	X
<b>Paid or free traditional advertising methods such as radio, local newspaper (paper or online survey)</b>	X	X			X

<sup>2</sup> Methods use to raise awareness about the survey would include contact information of the project coordinator(s) as well as a link to the online survey. Telephone interviews could be used to complete the survey with respondents if necessary.

<sup>3</sup> In the case of sockeye anglers it is recognized that they are non-guided, thus in this case a good local user group would be the BV Rod & Gun Club.

## **7.1 Internet Sampling**

Further investigation has been done with respect to using the internet for asking people to complete the survey.

### **Facebook**

There are several pages on Facebook that we could post either a link to an electronic version of the survey (i.e., using Survey Monkey), or upload a digital file of the survey as included in Appendix I:

#### Known User Categories

- Bulkley Valley Research Centre (113 likes)
- Silver Hilton Steelhead Lodge (65 likes)
- Babine Norlakes Steelhead Camp (187 likes)
- Babine Steelhead Lodge (51 likes)
- Nahanni & Canadian River Expeditions (245 likes)
- SkeenaWild Conservation Trust (504 likes)

#### General Public Input

- Smithers District Chamber of Commerce (85 likes)
- Doug Donaldson (1,144 likes)
- Nathan Cullen (10,955 likes)
- Taylor Bachrach (1,028 likes)
- Phil Briennesse (200 likes)

In addition, a Facebook page could be created for the Babine Watershed Monitoring Trust. In order for this to be effective, some time would have to be spent inviting other Facebook users to ‘like’ the Babine Watershed Monitoring Trust page. A link to the website could also be included. It is also possible to sponsor stories on Facebook. A sponsored story is a type of advertising – Facebook will show pages, applications or events to the friends of the sponsor. The cost depends on the number of ‘clicks’ a sponsored ad receives, and will not exceed a budget that is predetermined by the sponsor. This is a heavily biased sampling technique, but could be used when trying to reach a particular target audience or user category.

### **Twitter**

We feel that the use of Twitter to try and reach survey respondents is only of limited value. We could approach someone with a Twitter account that already has several followers, such as Nathan Cullen, who has 7,624 followers, to post the survey in a tweet. A hashtag such as #babineriver could be used to reach even more people.

### **Websites**

There are companies and organizations, such as Skeena Valley Expeditions, that could be approached to distribute the survey. Some are not on Facebook but have active webpages. In addition, many of the Facebook pages listed above have links to related websites.

## **Email Listserves**

The use of email listserves to distribute the survey was discussed in detail in Phase I.

## **7.2 First Nations**

Through the course of this project we have had several information discussions with people connected to the Fort Babine Nation and the Gitksan First Nation. As a result of these discussions we have come to the following conclusions:

The relationship that exists between First Nations people and their territory is very intimate. Asking First Nations people how important solitude, the presence of fish and wildlife, and signs of visual and auditory disturbance are to them is nonsensical. As such, it would be much more useful to personally interview people from the two First Nations Communities with a focus on the value of the Babine River and associated surrounding area (i.e., the park), and the impact of the current levels of use on these values.

Although the approach would be much less structured, we suggest that discussions with First Nation community members include, but not be limited to:

- The level of use of the areas along the Babine River and surrounding forest
- Do the historical values for the area change over time?
- What is the impact of the current levels of use from other communities on First Nations values
- Is there more impact during certain times of year?
- If there has been an impact, to what degree? Have First Nations been displaced from areas in park?

Through the course of this project we have developed initial contacts for the two First Nations communities. We would approach these contacts with the hope that they could introduce us to other members of the Fort Babine Nation and Gitksan First Nation. We understand that First Nations have a different set of customs and practices than non-First Nations; every attempt would be made to ensure that we follow these customs when working in the two territories.

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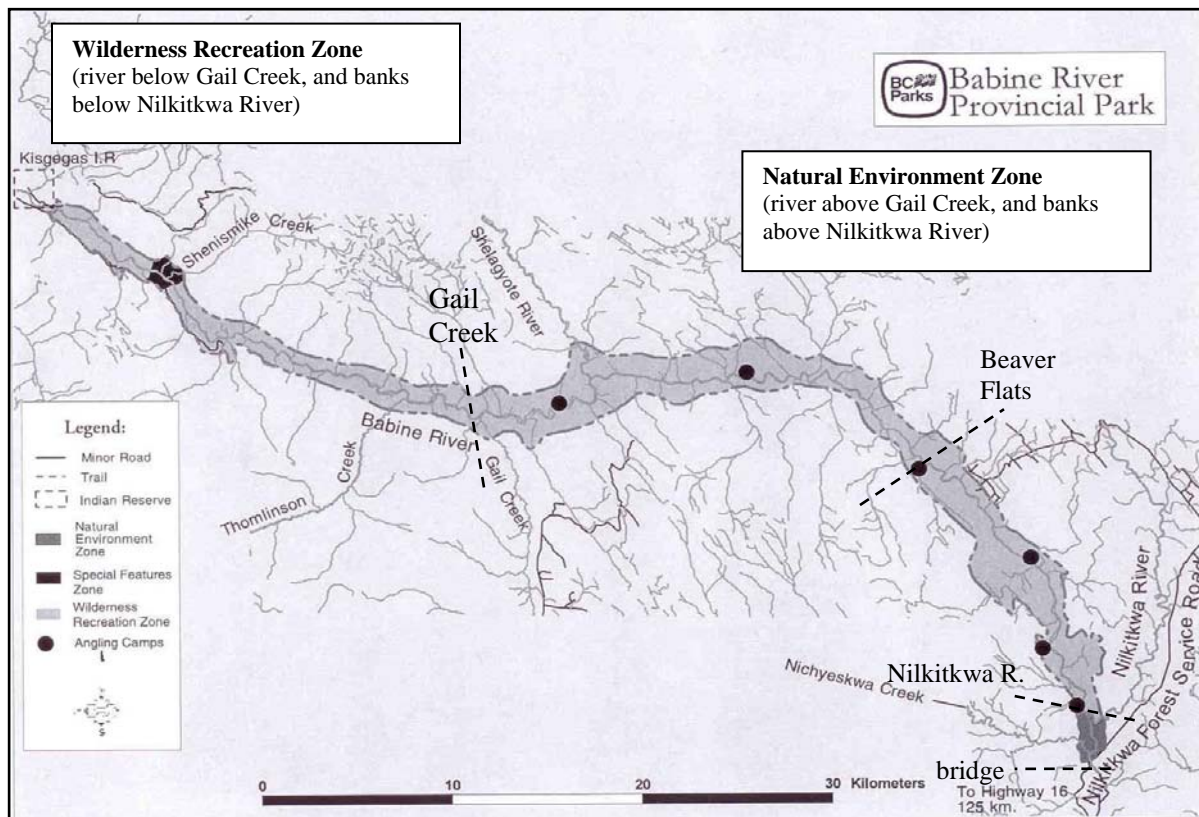
## Appendix I: PUBLIC SURVEY

Dear Participant,

Thanks so much for volunteering to complete our survey on Wilderness Values and Sustainable Use in the Babine River Corridor Park! We value your input and your comments – they are enormously valuable to the future of the Park for all its users.

You may know that the Babine River Corridor Park is split into two zones, which reflect its past history and use since before the Park was created. The Natural Environment Zone, the area from the road bridge to the confluence of the Babine and Nilkitkwa Rivers and all of the Babine River up to the confluence with Gail Creek, is managed to protect scenic values and provide high quality recreation.<sup>4</sup> The Wilderness Recreation Zone includes the river banks (but not the river) from the Nilkitkwa River to Gail Creek, and both the river and its banks from Gail Creek to the western end of the Park. The objective of the Wilderness Recreation Zone is to provide a remote, undisturbed natural landscape and to provide recreation opportunities in a pristine setting. BC Parks has different objectives and expectations for each of the two zones—we hope you will bear this in mind when you complete the survey.

The map below shows the areas and zonation referred to in the survey. The results of this survey will be available on the Babine Watershed Monitoring Trust website ([www.babinetrust.ca](http://www.babinetrust.ca)). We look forward to including your responses!



<sup>4</sup> for details, the report is available online at [www.env.gov.bc.ca/bcparks/planning/mgmtplns/babine\\_river/babrriver.pdf](http://www.env.gov.bc.ca/bcparks/planning/mgmtplns/babine_river/babrriver.pdf)

# PUBLIC SURVEY

## Wilderness Value for the Babine River Corridor Park

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This survey is part of a project initiated by the Babine Watershed Monitoring Trust (BWMT) to find out public perception of wilderness value and acceptable levels of sustainable use for the Babine River Corridor Park. Survey results will be analyzed and published in a final report that will be available online through the BWMT website.

### 1. How did you hear about this survey?

- |                           |                          |                              |                          |
|---------------------------|--------------------------|------------------------------|--------------------------|
| a. Email                  | <input type="checkbox"/> | e. Direct contact            | <input type="checkbox"/> |
| b. Mail                   | <input type="checkbox"/> | f. Brochure from parking lot | <input type="checkbox"/> |
| c. Facebook (FB)          | <input type="checkbox"/> | g. Other (please explain)    | <input type="checkbox"/> |
| d. Internet other than FB | <input type="checkbox"/> | _____                        |                          |

### 2. Where do you live?

- a. Local resident (Smithers, Telkwa, Hazelton, Kispiox, Kitwanga, Moricetown, Fort Babine)
- b. Other Northwestern BC community (please specify) \_\_\_\_\_
- c. Outside the Northwest but within BC
- d. Outside BC but within Canada
- e. Outside Canada

### 3a. Do you currently use the Babine River Corridor Park (see attached map)?

- |  |                          |                                       |                          |
|--|--------------------------|---------------------------------------|--------------------------|
| (i) Yes, I've been there once or twice | <input type="checkbox"/> | (iv) Yes, I go 3 times a year or more | <input type="checkbox"/> |
| (ii) Yes, I go once a year             | <input type="checkbox"/> | (v) No, but I'd like to visit the BRC | <input type="checkbox"/> |
| (iii) Yes, I go 2-3 times a year       | <input type="checkbox"/> | (vi) No, I have no plans to visit     | <input type="checkbox"/> |



## ASSESSING WILDERNESS VALUE

For each question below, circle the number to the right that best fits your opinion on the importance of the issue. Use the scale on the right to match your opinion.

1	Extremely Important
2	Somewhat Important
3	No opinion either way
4	Somewhat unimportant
5	Not important at all

Question	Scale				
	1	2	3	4	5
1. How important is solitude to your wilderness experience?					
2a. Does the presence of sport fish improve your wilderness experience?					
2b. Does the ability to catch sport fish affect the quality of your wilderness experience?					
3a. How important is it that you know wildlife is present in the Babine River Corridor Park?					
3b. How important is it that you see wildlife during your visit to the Babine River?					
4a. How important are visible signs of large-scale disturbance (e.g., roads, logging) to the quality of your wilderness experience?					
4b. How important are visible signs of small-scale disturbance (e.g., garbage, signs) to the quality of your wilderness experience?					
5. How important are audible signs of disturbance with respect to the quality of your wilderness experience?					

## PUBLIC PERCEPTION OF SUSTAINABLE USE

Please choose the use category that best defines your current or future visit(s) to the Babine River Corridor area:

- |                       |                          |  |                          |
|-----------------------|--------------------------|--|--------------------------|
| a. Angler – steelhead | <input type="checkbox"/> | f. Kayaking/Canoeing with raft-based support | <input type="checkbox"/> |
| b. Angler – sockeye   | <input type="checkbox"/> | g. Wildlife viewing                          | <input type="checkbox"/> |
| c. Angler – other     | <input type="checkbox"/> | h. Other (please explain)                    | <input type="checkbox"/> |
| d. Rafting            | <input type="checkbox"/> |  |                          |
| e. Kayaking/Canoeing  | <input type="checkbox"/> |  |                          |

Please fill out the rest of the survey for EACH use category that applies to you.





**STEELHEAD ANGLERS:**

If you are a fisherman/woman, and you fish for steelhead on the Babine River, or you plan to fish there someday, please answer the following questions.

- a. What is the reason why you chose to come to the Babine River Corridor Park to fish for steelhead? For each option please answer on a scale of 1 to 5 where one means extremely important and five is not important at all.

To catch a large number of fish	1	2	3	4	5
To catch large fish	1	2	3	4	5
To fish because I enjoy the sport	1	2	3	4	5
To fish in a wilderness setting	1	2	3	4	5

- b. Was your trip to the Babine River Corridor Park guided?

- |                                     |                          |                           |                          |
|-------------------------------------|--------------------------|---------------------------|--------------------------|
| (i) Guided – Silver Hilton Lodge    | <input type="checkbox"/> | (iv) Guided – Independent | <input type="checkbox"/> |
| (ii) Guided – Babine Norlakes Lodge | <input type="checkbox"/> | (v) Not guided            | <input type="checkbox"/> |
| (iii) Guided Babine Steelhead Lodge | <input type="checkbox"/> |                           |                          |

- c. On average, how often do you find that you cannot fish in your preferred location because it is already occupied?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d. How many times do you have to choose an alternate location to fish before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.

- |   |                          |
|---|--------------------------|
| (i) It bothers me even the first time       | <input type="checkbox"/> |
| (ii) Once or twice it bothers me            | <input type="checkbox"/> |
| (iii) 3 to 5 times before it bothers me     | <input type="checkbox"/> |
| (iv) More than 5 times before it bothers me | <input type="checkbox"/> |
| (v) It never bothers me                     | <input type="checkbox"/> |



e. How many times a day, on average, do you encounter or come into contact with other parties of people also using the park?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f. How many times *could* you encounter other parties and still feel that you were in a wilderness setting?

- (i) Zero times
- (ii) Once or twice
- (iii) Three to five times
- (iv) More than five times

g. How many times did you encounter audible signs of disturbance (e.g., vehicles, other parties, chainsaws, motorboats, helicopters)? If you haven't yet visited Babine River Corridor Park, please continue on to the next question.

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

i. What type of audible signs of disturbance did you experience when you were fishing for steelhead in the park?

---



h. How many times *could* you hear a sign of disturbance before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.

- (i) It bothers me even the first time
- (ii) Once or twice it bothers me
- (iii) Three to five times before it bothers me
- (iv) More than five times before it bothers me
- (v) It never bothers me

i. Does one type of noise disturbance bother you more than another? \_\_\_\_\_  
\_\_\_\_\_

j. During which month(s) did you visit the Babine River Corridor Park? \_\_\_\_\_

k. If you visit the park during different times of the year, please comment if you noticed a difference between months. \_\_\_\_\_

l. If you are a user of the Babine River Corridor Park, what day(s) of the week are you commonly there?

- (i) Weekdays
- (i) Weekends
- (ii) Both during the week & on the weekend

m. If you noticed a difference in use between weekdays and weekends when you were in the park, please explain. \_\_\_\_\_

n. General comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**SOCKEYE ANGLERS:**

If you are a fisherman/woman, and you fish for sockeye on the Babine River, or you plan to fish there someday, please answer the following questions.

- a. What is the reason why you chose to come to the Babine River Corridor Park to fish for sockeye? For each option please answer on a scale of 1 to 5 where one means extremely important and five is not important at all.

To catch fish for food	1	2	3	4	5
To catch a large number of fish	1	2	3	4	5
To fish because I enjoy the sport	1	2	3	4	5
To catch large fish	1	2	3	4	5
To fish in a wilderness setting	1	2	3	4	5

- b. On average, how often do you find that you cannot fish in your preferred location because it is already occupied?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c. How many times do you have to choose an alternate location to fish before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.

- (i) It bothers me even the first time
- (ii) Once or twice it bothers me
- (iii) 3 to 5 times before it bothers me
- (iv) More than 5 times before it bothers me
- (v) It never bothers me



d. How many times a day, on average, do you encounter or come into contact with other parties of people also using the park?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e. How many times *could* you encounter other parties and still feel that you were in a wilderness setting?

- (i) Zero times
- (ii) Once or twice
- (iii) Three to five times
- (iv) More than five times

f. How many times did you encounter audible signs of disturbance during your visit to the park (e.g., vehicles, other parties, chainsaws, motorboats, helicopters)?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

g. What type of audible signs of disturbance did you experience when you were sockeye fishing in the park?

---



- h. How many times do you have to hear signs of disturbance before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.
- (i) It bothers me even the first time
  - (ii) Once or twice it bothers me
  - (iii) 3 to 5 times before it bothers me
  - (iv) More than 5 times before it bothers me
  - (v) It never bothers me
- i. Does one type of noise disturbance bother you more than another? \_\_\_\_\_  
\_\_\_\_\_
- j. During which month(s) did you visit the Babine River Corridor Park? \_\_\_\_\_
- k. If you visit the park during different times of the year, please comment if you noticed a difference between months. \_\_\_\_\_
- l. If you are a user of the Babine River Corridor Park, what day(s) of the week are you commonly there?
- (ii) Weekdays
  - (iii) Weekends
  - (iv) Both during the week & on the weekend
- m. If you noticed a difference in use between weekdays and weekends when you were in the park, please explain. \_\_\_\_\_
- n. General comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**RAFTERS AND/OR KAYAKERS/CANOEISTS:**

If you raft or kayak/canoe down the Babine River or you would like to someday, please answer the following questions:

- a. Why did you choose the Babine River for your trip? For each option please answer on a scale of 1 to 5 where one means extremely important and five is not important at all.

Challenging / exciting whitewater      1 2 3 4 5  
 Pristine, natural setting                      1 2 3 4 5

- b. Was your experience on the Babine River guided?

- (i) Yes, I was on a guided trip                
 (ii) No, I went with a private group

- c. How many days, on average, did you have to share a campsite with other parties of people also using the park?

	Not at all	Once or twice	Three to five times	More than five times	n/a
If you raft or kayak/canoe from the <i>weir to Gail Creek</i> (Natural Environment Zone):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you raft or kayak/canoe <i>downstream from Gail Creek</i> (Wilderness Recreation Zone):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d. How many days *could* you share a campsite and still feel that you were in a wilderness setting?

Normally not at all  One or two days  Three or four days  More than four days

- e. How many times a day, on average, did you encounter other parties of people also using the park?

	Not at all	Once or twice	Three to five times	More than five times	n/a
If you raft or kayak/canoe <i>from the weir to Gail Creek</i> (Natural Environment Zone):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you raft or kayak/canoe <i>downstream from Gail Creek</i> (Wilderness Recreation Zone):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



f. How many times *could* you encounter other parties and still feel that you were in a wilderness setting?

Normally not at all  Once or twice  Three to five times  More than five times

g. How many times did you encounter audible signs of disturbance during your visit to the park (e.g., vehicles, other parties, chainsaws, motorboats, helicopters)?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

h. What type of audible signs of disturbance did you experience when you were rafting or kayaking in the park?

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i. How many times do you have to hear signs of disturbance before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.

- (i) It bothers me even the first time
- (ii) Once or twice it bothers me
- (iii) 3 to 5 times before it bothers me
- (iv) More than 5 times before it bothers me
- (v) It never bothers me

j. Does one type of noise disturbance bother you more than another? \_\_\_\_\_

---

k. During which month(s) did you visit the Babine River Corridor Park? \_\_\_\_\_

l. If you visit the park during different times of the year, please comment if you noticed a difference between months. \_\_\_\_\_





m. If you are a user of the Babine River Corridor Park, what day(s) of the week are you commonly there?

(i) Weekdays

(ii) Weekends

(iii) Both during the week & on the weekend

n. If you noticed a difference in use between weekdays and weekends when you were in the park, please explain. \_\_\_\_\_

o. General comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**WILDLIFE VIEWING AND OTHER USER CATEGORIES:**

a. If you visited the Babine River Corridor Park, but you are not there as an angler, rafter, or kayaker/canoeist, what was the intent of your trip? \_\_\_\_\_

b. How many times a day, on average, did you encounter other parties of people also using the park?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c. How many times *could* you encounter other parties and still feel that you were in a wilderness setting?

Normally not at all  Once or twice  Three to five times  More than five times

d. How many times did you encounter audible signs of disturbance during your visit to the park (e.g., vehicles, other parties, chainsaws, motorboats, helicopters)?

	Not at all	Once or twice	Three to five times	More than five times	Not applicable
Near the Forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and the forestry bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between the Nilkitkwa and Beaver Flats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Between Beaver Flats & Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Gail Creek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e. What type of audible signs of disturbance did you experience when you were visiting the park?



f. How many times do you have to hear signs of disturbance before it bothers you? If you haven't fished the Babine River, but think you will someday, please answer based on what you anticipate your reaction would be.

- (i) It bothers me even the first time
- (ii) Once or twice it bothers me
- (iii) 3 to 5 times before it bothers me
- (iv) More than 5 times before it bothers me
- (v) It never bothers me

g. Does one type of noise disturbance bother you more than another? \_\_\_\_\_  
\_\_\_\_\_

h. During which month(s) did you visit the Babine River Corridor Park? \_\_\_\_\_

i. If you visit the park during different times of the year, please comment if you noticed a difference between months. \_\_\_\_\_

j. If you are a user of the Babine River Corridor Park, what day(s) of the week are you commonly there?

- (i) Weekdays
- (ii) Weekends
- (iii) Both during the week & on the weekend

k. If you noticed a difference in use between weekdays and weekends when you were in the park, please explain. \_\_\_\_\_

l. General comments: \_\_\_\_\_  
\_\_\_\_\_

**PERSONAL DATA:**

Please fill out some of your personal data. This information will only be used for data analyses and will not be shared with anyone outside of the Babine Watershed Monitoring Trust (unless you specify that you would like to be contacted when the project report is completed).

Name: \_\_\_\_\_ (optional)

City/Town: \_\_\_\_\_

Province, Country: \_\_\_\_\_

Gender: Male  Female  Year of birth: \_\_\_\_\_ (optional)

Would you like to be notified when the project report is completed? Yes  No

If so, could you please provide us with an email address if you have one? \_\_\_\_\_

