

The Importance, Traditional Use and Locations of Various Berry Species within the Gitxsan Traditional Territory



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Submitted to: Bulkley Valley Centre for Natural Resources Research and Management
www.bvcentre.ca
(for research funded by the Ministry of Forests and Range –
Skeena/Stikine Region)

July 12th, 2007

Acknowledgements

Crossroads Cultural Resource Management (CCRM) is indebted to the Gitxsan Treaty Society who participated in this project. We would also like to thank those Gitxsan persons who shared their life experiences upon the territories with us. We are richer for having heard your stories.

CCRM also acknowledges Glen Buhr (Ministry of Forests and Range) and Cameron Stevens (Gitxsan Treaty Society) for their support and liaison efforts, and Paul Harrison, who provided excellent research and anthropological support. A special 'thanks' is mentioned to Phil Burton and Kevin Kriese, for their ongoing support and advice during this project.

Lastly, CCRM would like to recognize the Bulkley Valley Research Centre for continuing to pursue research in the cultural and social sciences.

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Preamble

This report represents a collection and synthesis of readily available literary information regarding the traditional use and locations of berry patches within the Gitxsan traditional territories. Various academic, government, resource management and legal documents (i.e. supporting anthropological information related to the Delgamuukw court proceedings of the 1980's and 1990's) have been reviewed and referenced in the production of this report. Given the nature of the available information (i.e. several manuscripts relating to Gitxsan berry use have been produced over time for government and industry agencies, however can be difficult to obtain because they are either not properly archived, or have been left incomplete), this report is a 'best attempt' at collecting and synthesizing such information. Where appropriate, references have been suggested as sources of further information.

Where possible, berry location information has been extracted from the forementioned references, and transferred (hand drawn) onto a base map. The basemap information is also spatially linked to a database, which includes further descriptive and source information. Both the database and basemap are attached to this report.

Lastly, this report has been produced for the Ministry of Forests and Range – Skeena/Stikine Region. It is 'Phase I' of a multi-phased project. Phase II consists of the acquisition of traditional knowledge (TK) information relating to berry patch locations from 5 Gitxsan watersheds. The intention is that the TK produced in Phase II will be synthesized with the database and basemap from Phase I, to create a comprehensive and holistic representation of berry patch locations within the Gitxsan traditional territories.

Note on the Continuity of Traditional Use

Continuity from prehistoric times of land and resource use remains for Gitxsan people. All First Nations consider 'traditional' a part of now and the future. Within many areas of resource management, the term 'traditional' informally implies the past – or no longer practiced. Yet, members of the Gitxsan First Nation continue to utilize the land and resources as they have since time immemorial, based on Gitxsan law and cultural protocols. Thus, this report acknowledges that Gitxsan practices related to berry management continues, and references both the past and present.

Introduction

Berries continue to be an integral part of Gitxsan culture. Most types of berries are flavourful and provide various dietary nutrients not otherwise readily available in the traditional Gitxsan diet. Berry picking, as an activity, played an important social role in Gitxsan culture, specifically within their seasonal round. The physical geography of the Gitxsan territory generally provides optimal growing conditions for a wide variety of edible berry species that are utilized by the Gitxsan. The importance of berry resources is evident as Gitxsan House chiefs exercise a high degree of control over berry picking areas within each House territory. Prior to influence of Euro-Canadian authorities, Gitxsan House Chiefs employed rigorous conservation practices to maintain the quality and quantity of berry production within House territories (Daly 1988, 2005).

Available traditional use information regarding Gitxsan berry use is limited. A significant portion of the traditional use information presented in this report is derived from anthropological reports prepared during the 1980's and 1990's, for use as evidence in the court proceedings of *Delgamuukw et. al. v. British Columbia*. *Delgamuukw* was initiated by House chiefs from the Gitxsan and Wet'suwet'en Nations. As a result of the 'dual involvement' of these two First Nations in *Delgamuukw*, traditional use evidence was prepared in manner that applied to both the Gitxsan and the Wet'suwet'en Nations. Of course, there are and were cultural similarities between the Gitxsan and the Wet'suwet'en Nations that made such a dual application possible *within the limited context of the Delgamuukw proceedings*. However, the Gitxsan and Wet'suwet'en Nations are *separate and distinct* Nations. Therefore, some of the information regarding berry use, as presented in the following report, could relate to either the Gitxsan or the Wet'suwet'en Nations – which is a reflection of the available published information.

Types of Berries Harvested

The Gitxsan harvested a wide variety of berries for consumption, including (but not limited to) the following species (Gottesfeld 1994b; Gottesfeld 1995; Johnson 1997; Daly 1988; Daly 2005; Gitxsan and Wet'suwet'en Chiefs 1988; Marsden 1987; Burton *et al* 2000; MacKinnon *et al* 1999):

1. Black huckleberry (Gitxsan: *simmaa'y* or *sim'maa'y*; Latin: *Vaccinium membranaceum*)
2. Red Huckleberry (Gitxsan: *wihlexs*; Latin: *Vaccinium parvifolium*)
3. Dwarf huckleberry (Latin: *Gaylussacia dumosa*)
4. Soapberry (Gitxsan: *is*; Latin: *Shepherdia canadensis*)
5. Lowbush blueberry (also commonly known as "dwarf" blueberry) (Gitxsan: *'myah!*; Latin: *Vaccinium caespitosum*)
6. Oval-Leafed Blueberry (Gitxsan: *mii gan*; Latin: *Vaccinium ovalifolium*)
7. Alaska blueberry (Latin: *Vaccinium alaskaense*)
8. Saskatoon (Gitxsan: *gam* Latin: *Amelanchier alnifolia*)
9. Highbush Cranberry (Gitxsan: *sbikst* and *sgants'idipxst*; Latin: *Viburnum edule*)
10. Cloudberry (Latin: *Rubus chamaemorus*)
11. Kinnikinnick berry (Latin: *Arctostaphylos uva-ursi*)
12. Red raspberry (Latin: *Rubus idaeus*)
13. Rose hips (Gitxsan: *galem's*; Latin: *Rosa nutkana*)
14. Wild strawberry (Gitxsan: *miigunt* and *miidoots*; Latin: *Fragaria virginiana*)

The above list is not intended to be exhaustive, again, being a reflection of the available literature. Certain berries that are widespread within Gitxsan territory may not have been relied on as heavily for different reasons. For instance, red raspberry may have been less favoured in the past since such berries do not dry as well as other berry species (MacKinnon *et al* 1999:27). Burton *et al* (2000:ii) note that red raspberry was picked when encountered, rather than specifically seeking such berries. Red raspberry was also used for other purposes, such as using the leaves to clean salmon (Johnson 1997:134).

Popularity of Specific Berry Species

The Gitxsan name for black huckleberry is *simmaa'y*, which translates into English as the "real or true berry" (Johnson 1997:173) and may be an indication of the importance of the black huckleberry to the Gitxsan people. Soapberry is particularly important for ceremonial purposes and may also be made into a 'treat' or dessert by 'whipping' soapberries into a froth called *yal'is*, also known as "Indian Ice Cream" to non-natives (Johnson 1997:46). According to Johnson (1997:116), soapberry also possesses medicinal properties. Of the available blueberry species, lowbush (dwarf) blueberry is considered the most flavourful and was traditionally the most desired. The lowbush blueberry does not grow well in coastal regions, and thus was featured as an important trade good offered by the Gitxsan (Gitksan-Wet'suwet'en Chiefs 1988:Map No. 6).

Of the above-listed blueberry species, oval-leaved blueberry and Alaska blueberry (as opposed to lowbush blueberry) may have been among the least prized, as these berries are not as sweet as the black huckleberry or dwarf blueberry. Additionally, the oval-leaved blueberry tends to contain a high degree of seeds (much more than black huckleberry). In addition, the oval-leaved blueberry does not store as well as other berry species found within Gitxsan territory. The oval-leaved and Alaskan blueberry are closely related species and often grow in the vicinity of one another. However, neither species is abundant throughout Gitxsan territory (Gitksan-Wet'suwet'en Chiefs 1988:Map Nos.8 and 9, citing Hauessler 1987). Burton *et al* (2000:ii) suggest that oval-leaved blueberry is a popular target berry species among Gitxsan people, at least today. As discussed above, red raspberry was not a target species, possibly because red raspberry does not preserve as well as other species (MacKinnon *et al* 1999:27; Burton *et al* 2000:ii).

Moreover, information to support the suggestion that dwarf huckleberry, kinnikinnick berry or cloudberry were utilized by the Gitxsan peoples, is scarce (Daly 2005:221; Marsden 1987:47; 217). However, the absence of such information should not be considered evidence that dwarf huckleberry, kinnikinnick berry or cloudberry (or other berry species not listed above) were not important to the Gitxsan. Certain Houses or individuals may have placed importance upon such berries, which has yet to be communicated.

The General Importance of Berries to the Gitxsan

The Gitxsan people valued berries on many levels, such as: a dietary supplement; a delicacy; a trade good; and as a medicine. Berries are also featured in a wide variety of applications. For example, as a new crest pole is raised, the Gitxsan sometimes pour a mixture of berries and fat into the track of such pole (Daly 1988:307; Daly 2005:113); and berries are used as a dye for carvings or fabrics. According to Gottesfeld (1994a:450), with respect to the sheer volume of consumption, berries were at one time

the most important food consumed by the Gitksan peoples. Berries were stored in cache pits located underneath floorplanks inside Gitksan longhouses, thereby providing ready access to, and protection of, the stored berries (MacDonald 1980:71).

Trade

The elevations and topography of the Gitksan traditional territory provide ideal growing conditions for numerous species of berries. In particular, the black huckleberry thrives in areas located between 1000 and 1500 metres above sea level (Gottesfeld 1994b:176). The Gitksan have long recognized the potential of their territories for such use and over millennia developed methods of berry cultivation that produce a high quality of berries revered by other First Nations (Daly 2005:221-222). Although berries were historically too valuable to the Gitksan peoples to trade away entirely, a portion of their seasonal storage was traded to other Nations in exchange for necessary or desired goods, such as oolichan grease (Daly 2005:114). For instance, the Gitksan traded soapberry with the Haida – a First Nation located off the west coast of British Columbia, which is a considerable distance from their home territory (Gitksan-Wet'suwet'en Chiefs 1988:Map No.3, citing Hauessler 1987).

Medicinal Uses of Berries and Berry Plants

Many berry and/or plant species are utilized by Gitksan peoples for medicinal purposes. For example, soapberry, and the bush on which it grows, has medicinal properties, which add to the cultural importance of the soapberry. For example, a tea may be brewed from the leaves of the soapberry bush, which has diuretic properties used to fight infections of the bladder and uterus. Among other uses, it is reported that the berries themselves may be administered to pregnant women to facilitate childbirth (Johnson 1997:116).

According to Johnson (1997:122-124), other berries and their associated plants, are also used for medicinal purposes by the Gitksan people. Such berries include mountain ash berries; highbush cranberry; wild cherry, also known as pin cherry (*snaw*); and wild crabapple (*milkst*), the latter of which is not generally considered a "berry".

Additionally, certain inedible berries are harvested for medicinal purposes. For example, the inner bark of the black twinberry (*sganmaa'yhl gaak*, which translates to "crowberry") has been used as a medicine to treat disorders of the eye. The bark and roots of the red elderberry (*sganloots'* or *wishl loots'*) are used as a purgative and emetic. The roots of the "bear's berry" (*maa'ytwhl smex*), which may be baneberry or wild sarsaparilla, can be used to treat open wounds (Johnson 2006:42; Johnson 1997:119; 121-122).

The Importance of Berries and Protection of Information

Given the importance of (and reliance upon) berries to the Gitksan traditional lifeways, the locations of berry patches has usually been culturally sensitive information. Berry patches were regarded by the Gitksan people to be as important as salmon fishing places (Burton & Burton:2004). Such 'protected' information is perhaps reflected in the testimony provided by Dan Michell of the neighbouring Wet'suwet'en Nation, as recited by Daly (1988:247):

"Mr. Michell continues a few sentences later, to outline some of the management responsibilities of the chief who both owns and is owned by the land:

'He don't clean it out and get it empty. He always took care of it and just use so much of it, and leave the rest for like safekeeping. You look after it, eh? You don't kill off all the moose or all the other animals. You always took just what you need off the land. And the same thing with the berry patches. They really protect that.'

Similar information has been provided by Roy Morris, a Wet'suwet'en hereditary House and Clan chief (Chief Woos *et al* 2006:43):

"...I also remember when I was young, our elders would tell us "Don't tell anyone where we hunt, fish, or gather berries". This was so that the sensitive areas won't be over-picked or hunted. Nowadays, there are too many people on our territories, our animals, plants, and berries have too much pressure put on them."

Maintenance of Berry Crops

As a result of the cultural importance of berries, the Gitksan emphasized the regular maintenance and improvement of their berry crops. Although, during the early twentieth century, the British Columbia government effectively banned the practice of burning berry patches (Daly 2005:221), which continued until the 1930's (Trusler 2001:4). This was detrimental to traditional Gitksan lifeways, as they considered 'burning' to be the most effective method of improving and maintaining berry production and quality (Gottesfeld 1994b, Daly 1988, Daly 2005; Trusler 2001, 2002, Burton *et al* 2000). Primary berry species such as black huckleberry, lowbush blueberry and soapberry were likely maintained by burning (Gottesfeld 1994b:173). The Gitksan were well experienced in the practice of burning, and were careful to preserve root systems by monitoring the intensity of the heat. A proper burn is hot enough to remove competing vegetation and to prune berry bushes in order to promote growth (Gottesfeld 1994b:176-177). Burton (2006:6) states "Low-intensity prescribed burns, a traditional management technique, can be used to kill older, respiring parts of berry plants, kill overtopping trees and larger shrubs, stimulate resprouting, and release nutrients". Additionally, every season each House chief assessed the berry crops within their respective House territory. If the chief considered burning necessary, then the chief would direct burning activity accordingly (Gottesfeld 1994a:450; Daly 2005:276). Burning was conducted at prescribed times determined by the species of berry and local knowledge (Burton 2006, Burton *et al* 2000:8, Daly 2005:143, Trusler 2002, 2001:4-5). It is important to note that a great deal of planning and co-ordination between Houses was necessary to provide effective maintenance of berry patches (Gottesfeld 1994a:450).

The extent of burning, which was practiced throughout the Gitksan territory, can be seen in the present vegetation found in the Bulkley and Skeena valleys. The vegetation in the valley between Gitsegukla, Moricetown and Hazelton is characteristic of forest and ground cover that has been subjected to wildfire. This vegetation is partly due to

repeated and consistent burning by Gitxsan peoples before government influence at the turn of the twentieth century (Daly 2005:276).

Like the Gitxsan, other Nations also placed great emphasis upon berries found within their territories and practiced various methods of maintenance. For example, the neighbouring Wet'suwet'en Nation rotated berry patches as a method of maintenance (Chief Woos *et al.* 2006:17-18), which was a practice also employed by the Gitxsan (Trusler 2001:36-38).

Gitxsan House chiefs were (and are) the ultimate authority regarding berry management, such as how and when berries were picked, and which berry patches were burned (Daly 1988:326-327). The practice of burning and careful monitoring of berry stocks, in combination with picking restrictions, supports the interpretation that a sophisticated subeconomy built around berries was firmly established prior to European contact (and continues to present times).

As forementioned, the legislated prohibitions on burning have had a detrimental effect upon Gitxsan traditional berry patches. Therefore, many traditionally productive berry patches are no longer as productive as they were in the past, or simply no longer exist as a result of industrial activity or residential expansion (Gottesfeld 1994b; Burton *et al.* 2000; Trusler 2001). The feasibility of restoring such traditional berry patches continues to be explored (Burton 1998; Burton *et al.* 2000; McLennan 2001; Trusler 2001). Much of the present berry harvest occurs in logging cutblocks or natural burns.

In an effort to bring the traditional berry economy into the mainstream economy, Gitanyow, Gitxsan and Wet'suwet'en people have together established a berry co-operative called the *Wilp Sa Maa'y Harvesting Co-Operative* which sells wild berries, jams and other products made from wild berries. The Wilp Sa Maa'y Harvesting Co-Operative is a successful endeavour and serves to illustrate the potential non-timber resources have to offer in terms of economic benefits to the economy at large and the corresponding importance of protecting such resources for that purpose (Burton 2004).

Seasonal Harvest and Preparation of Berries

Early spring, during the spring salmon run, the Gitxsan harvest wild strawberry and soapberry (Johnson 1997:46). Saskatoon berry, lowbush blueberry and black huckleberry harvests within the Gitxsan territory are generally undertaken during the late summer or autumn seasons, following the sockeye salmon runs. Cranberries and rosehips were gathered in early fall. Berries begin to grow in June, as reflected in the Gitxsan name for that time of season, *Lasa maa'y*, translating into "when the berries are forming up" (Daly 2005:142). Traditionally, berry picking was conducted by Gitxsan women (Daly 1988:299; Daly 2005:109; 142; 148; Johnson 1997:46; 47), while the men were in alpine areas hunting small game (e.g. groundhog) and mountain goat (Daly 2005:109). However, berry picking may have also involved entire families (Johnson 1997:47; Gottesfeld 1994a:450).

The berry harvest generally lasts two or three weeks (Johnson 1997:47; Daly 2005:148) and traditionally involved intensive activity of picking and processing berries (Johnson 1997:47). A single family could pick and prepare between forty and sixty 'packs' of berries and then transport such packs, on foot, back to their winter villages (Daly 2005:145). Once berries are accumulated and transported, preservation activities preside. A common preservation technique is drying, which is an elaborate process.

Berries are boiled (traditionally accomplished by placing hot stones in a cedar box) and then spread upon leaves placed on a rack, usually above a fire. Once dry, the berries were made into 'cakes' for winter storage by rolling sheets of dried berries, and stored in cache pits (Daly 2005:137; 145). Some people preferred to mix the dried berries with hemlock cambium (*xsuu'w*); other people ate berries with hemlock cambium as an accompaniment (Johnson 1997:97). Another method of preparation was to combine the berries with oil (Daly 1988:271) or water. For example, highbush cranberry was traditionally stored in oil or water for later consumption (Gitxsan-Wet'suwet'en Chiefs 1988:Map No.5, citing Hauessler 1987). In addition to such elaborate methods of preparation, boxes of whole berries could be stored for the winter (Johnson 1997:86). Rosehips and crabapples were prepared in a similar manner to berries (Daly 2005:137).

Overview of Berry Distribution in Gitxsan Territory

Berries are distributed throughout the Gitxsan territory, depending upon the habitat of any given microenvironment within such territories. The following is a brief discussion on the distribution of certain edible and primary berry species harvested by Gitxsan peoples.

Black Huckleberry

The black huckleberry was a 'preferred' species and tends to occur at higher elevations, generally near the timberline on moderately dry, well-drained slopes (Gottesfeld 1994b:176; Gitxsan-Wet'suwet'en Chiefs 1988:Map No.7, citing Hauessler 1987). Unlike many other berries found within the Gitxsan territory, black huckleberry is able to thrive under mature forest canopies, although it grows most successfully in open areas (Trusler 2001:3). As forementioned, black huckleberry does not typically grow in coastal regions, and because of its preferred taste, this berry was actively traded with coastal First Nations (Daly 2005:221; Gitxsan-Wet'suwet'en Chiefs 1988:Map No.7, citing Hauessler 1987).

Black huckleberry is abundant throughout the Gitxsan territory, with the exception of the highest elevation mountain peaks. However, black huckleberry rarely occurs within the immediate vicinity of the confluences of the Skeena, Kispiox and Bulkley rivers and does not tend to grow along the length of the Bulkley river within Gitxsan territory. Black huckleberry is also uncommon along the Skeena River west of the Gitxsan territory, although it begins to occur along the Skeena River commencing a short distance north from New Hazelton (Gitxsan-Wet'suwet'en Chiefs 1988:Map No.7, citing Hauessler 1987).

Red Huckleberry

Red huckleberry grows at low elevations (up to 600 metres above sea level) and thrives in moist or moderately moist conditions. Red huckleberry is typically associated with cedar-hemlock forests and is intolerant of severe cold environments (Gitxsan-Wet'suwet'en Chiefs 1988:Map No.10, citing Hauessler 1987).

Due to the physical geography of the Gitxsan territory, the highest concentrations of red huckleberry occur only in the extreme southwestern portion, north of Kalum Lake. Red huckleberry may also be found sporadically along the Skeena River valley between the

municipality of Kitsegukla and the intersection of the Skeena River with the border of Gitksan territory (Gitksan-Wet'suwet'en Chiefs 1988:Map No.10, citing Hauessler 1987).

Dwarf Huckleberry

Little information is available with respect to dwarf huckleberry and its use by Gitksan peoples, although they may have harvested it (Daly 2005:221). Dwarf huckleberry is found in moist areas, such as swamps (Attention Fragiles:2007).

Soapberry

Soapberry typically grows in dry, well drained, low- to mid-elevation areas within the Spruce-Subalpine Fir and Spruce-Willow-Birch biogeoclimatic zones. Soapberry is usually not found in coastal areas (Gitksan-Wet'suwet'en Chiefs 1988:Map No.3, citing Hauessler 1987), thereby supporting the status of soapberry as a desirable trade good in precontact times (i.e. Daly 2005:114;221-222). Despite intolerance to moisture, soapberry is a durable berry species, capable of growing in soils that lack nutrients. However, prohibitions on burning to maintain berry patches, as well as non-native development and settlement, which tends to concentrate in prime soapberry habitat, continue to impact soapberry production (Gitksan-Wet'suwet'en Chiefs 1988:Map No.3, citing Hauessler 1987).

Soapberry is most abundant in the southern regions of the Gitksan territory, with greatest concentrations in and around Gitanmaax, New Hazelton, Gitsegukla and Gitwangak (Gitksan-Wet'suwet'en Chiefs 1988:Map No.3, citing Hauessler 1987).

Lowbush Blueberry

Lowbush, or dwarf, blueberry is one of the most common species of berry found within Gitksan traditional territories (and British Columbia in general). Lowbush blueberry occurs at virtually any elevation and in conditions not favoured by other plants. However, this berry grows best in dry environments and does not occur in wet, nutrient-rich coastal zones (Gitksan-Wet'suwet'en Chiefs 1988:Map No.6, citing Hauessler 1987). Within Gitksan territory, the lowbush blueberry is most abundant at lower elevations (Daly 2005:137). Although the lowbush blueberry is small, particularly in comparison to the black huckleberry, the lowbush blueberry is a sweet and delicious berry. Therefore, it was (and still is) desired, like the black huckleberry. Therefore, First Nations that had limited access to the lowbush blueberry actively traded for it (Gitksan-Wet'suwet'en Chiefs 1988:Map No.6, citing Hauessler 1987; Daly 2005:137).

Although lowbush blueberry is common within Gitksan territories, areas of greatest abundance are restricted to a relatively small area in the southern portion of the Gitksan territory. Specifically, the lowbush blueberry is abundant in the valleys around the confluences of the Skeena, Kispiox and Bulkley rivers; and within the communities of Gitanmaax, Gitwangak, the Hazeltons, Kispiox, Kitsegukla, Kitwancool, Kyah Wiget and Sikadoak, Tse Kya (Gitksan-Wet'suwet'en Chiefs 1988:Map No.6, citing Hauessler 1987).

Oval-Leaved Blueberry

The oval-leaved blueberry favours moist environments and thrives near the coast and under moisture-rich conditions with little overstory or competitive understory. Oval-leaved blueberry is typically associated with western and mountain hemlock stands. With regards to elevation, the oval-leaved blueberry is situated broadly, ranging from sea level to the timberline. In interior environments, the oval-leaved blueberry is normally only found at higher elevations (Gitksan-Wet'suwet'en Chiefs 1988:Map No.8, citing Hauessler 1987).

In interior valley systems within the Gitksan territories, oval-leaved blueberry is found mainly in high-elevation, moist zones. Oval-leaved blueberry is predominant in the southwestern portions of the Gitksan territory, with the densest populations resident along the Skeena River, ranging west from the vicinity of New Hazelton to the north adjacent to the Bell Irving River. Oval-leaved blueberry does not occur in the majority of northern and eastern portions of the Gitksan territory (Gitksan-Wet'suwet'en Chiefs 1988:Map No.8, citing Hauessler 1987).

Alaska Blueberry

Alaska blueberry is primarily a coastal berry species, occurring along the westernmost border of Gitksan territory. Alaska blueberry thrives in cool, wet environments with acidic soils (Gitksan-Wet'suwet'en Chiefs 1988:Map No.9, citing Hauessler 1987).

Within Gitksan territory, the Alaska blueberry occurs mainly along the Skeena River in and around the Cedarvale-Gitwangak area and along the westernmost portions of the Seven Sisters mountain range. Alaska blueberry also occurs further north, adjacent to the Bell Irving River and can also be found around New Hazelton and Mount Kispiox (Gitksan-Wet'suwet'en Chiefs 1988:Map No.9, citing Hauessler 1987).

Highbush Cranberry

Highbush cranberry grows well in moist to wet locations within a variety of biogeoclimatic zones common to northern British Columbia. More specifically, highbush cranberry can be found within valley bottoms, near creek or river edges and in other areas subject to a high level of moisture. Highbush cranberry thrives in disturbed areas, particularly following episodes of fire (Gitksan-Wet'suwet'en Chiefs 1988:Map No.5, citing Hauessler 1987).

The greatest concentrations of highbush cranberry within the Gitksan traditional territories are found in the southernmost portions of their landscape, near the confluences of the Kispiox and Bulkley rivers with the Skeena River. Highbush cranberry is also abundant in the northern and eastern portions of Gitksan territory, specifically within portions of the Sustut and Nass river valleys, as well as portions of the Babine River, upriver from Kisgegas (Gitksan-Wet'suwet'en Chiefs 1988:Map No.5, citing Hauessler 1987).

Cloudberry

Little information is available with respect to cloudberry and its use by Gitksan peoples, although they may have picked it (Daly 2005:221; MacKinnon *et al* 1999:92) and

possibly referred to is as "frogberry" (MacKinnon *et al* 1999:92). Cloudberry is found in moist, swampy areas, beginning to grow in the early spring (Milburn 2002:4;MacKinnon *et al* 1999:92). Cloudberry occurs in Gitksan territory mainly in lower to mid-elevation wetlands (MacKinnon *et al* 1999:92).

Saskatoon

Saskatoon berries are found in a wide variety of geographic locations, at elevations ranging from sea level to lower subalpine. Saskatoon thrives in dry, well-drained soils in open areas subject to warm temperatures and large amounts sun exposure. Saskatoon occurs in disturbed areas such as fire burns, or places subject to past human activity. Due to the habitat requirements of Saskatoon berry, it grows best in interior geography, and is therefore found throughout Gitksan territory. Saskatoon only grows in coastal regions that satisfy the above habitat conditions, such as rocky outcrops and dry, exposed slopes. Therefore, coastal Nations mainly obtained Saskatoon berries through trade with interior Nations, such as the Gitksan (Gitksan-Wet'suwet'en Chiefs 1988:Map No.4, citing Hauessler 1987).

Saskatoon populations within Gitksan territory are concentrated in the southernmost portions, near the confluences of the Kispiox and Bulkley rivers with the Skeena river. Saskatoon also occurs in lower concentrations in the northern portion of Gitksan territory, specifically within portions of the Sustut and Nass river valleys. Saskatoon is also common adjacent to the Babine River corridor (Gitksan-Wet'suwet'en Chiefs 1988:Map No.4, citing Hauessler 1987).

Kinnikinnick Berry

Scarce information is available with respect to kinnikinnick berry and its use by Gitksan peoples, although they may have harvested the kinnikinnick berry (Daly 2005:221; Marsden 1987:47) for consumption (MacKinnon *et al* 1999:82). Kinnikinnick berry is generally found in open, well-drained areas (MacKinnon *et al* 1999:82).

Red Raspberry

Red raspberry was not primarily selected by the Gitksan, but was rather picked as it was encountered. Although a flavourful berry, red raspberry was not 'prized' due to its' poor preservation qualities (MacKinnon *et al* 1999:27; Burton *et al* 2000:ii). Red raspberry generally occurs in disturbed areas and located sporadically throughout the Gitksan territory.

Rose Hips

Rose hips occur from low to high elevations but are most common below approximately 900 metres. Rose hips thrive in moist to wet environments and commonly occur along stream or river banks (Klinkenberg 2006).

Wild Strawberry

Little information is available with respect to wild strawberry and its use by Gitksan peoples, although this berry was likely harvested due to its sweet taste. Wild strawberry

is widespread throughout Gitxsan territory, occurring readily in areas of disturbance, at virtually any elevation below subalpine (MacKinnon *et al* 1999:167).

Locations of Known Traditional Gitxsan Berry Patches

In general, berry 'patches' are located throughout the Gitxsan territory in accordance with the overall distribution of such berries. For example, prior to western colonization, the entire valley between the villages of Hagwilget and Gitanmaax was a continuous berry patch (Gottesfeld 1994b:178). Locations of specific berry patches may have changed in the past for a variety of reasons. Comparative to today, berry patches are different in terms of location, nature and quality than patches were a century ago. Some of the primary reasons for these changes are a result of government prohibitions on traditional burning, forestry and mining development activities, agricultural development and increasing settlement.

Although specific information regarding the location of berry patches is limited (Daly 1988:247; Chief Woos *et al* 2006:43), references are available. For example, unspecified berries are (or were) known to be harvested around Kitwancool, Kisgegas, Bear Lake and Gitanyow (Daly 1988:299; Daly 2005:109). Unspecified berries are harvested near the foot of Rocher de Boule (Marsden 1987:211). Gitxsan oral histories recall that the people of the ancient village of Tem-L-Ham, located opposite from the confluence of Chicago Creek into the Skeena River, picked unspecified berries around the shores of present day Seeley Lake (Gottesfeld *et al* 1991:1592).

More specifically, kinnikinnick berries are picked at a place called *Naskant'imi'itxwt* (meaning "Where-the-berries-grow"), located on the Kispiox river, near the confluence of the Kispiox and Skeena rivers (Marsden 1987:47), which is also where the community of Kispiox is located. Areas adjacent to Kispiox, Gitanmaax and Gitsegukla are known to have been burned to maintain lowbush blueberry crops (Gottesfeld 1994b:176). Cranberries (and crabapples) are picked in the Kispiox valley (Daly 2005:145). In addition, rosehips grow around the village of Kisgegas (Marsden 1987:102-103).

Gottesfeld (1994b:173) identifies the approximate locations of several Gitxsan black huckleberry and lowbush blueberry patches, known to have been maintained by traditional burning techniques. These berry patches are located in the southern portion of the Gitxsan territory, near the confluence of the Skeena River with the Kispiox River and the Bulkley Rivers. According to Gottesfeld (1994b), black huckleberry patches are located at Wilson Creek - on an unnamed mountain by Gitwangak, Price Creek, Shandilla, Moonlit Creek - on an unnamed mountain by Kispiox, *Stakaiyt* - located on Sidina (Cariboo) Mountain (Gottesfeld 1994b:173; Trusler 2001:9), on Nine Mile Mountain, and on an unnamed mountain west of Hazelton. Black huckleberry patches are also located on the southwest flank of Mount Tomlinson (Trusler 2001:22).

Lowbush blueberry patches are known to occur in an unnamed valley adjacent to the townships of Kispiox and Two Mile. *Lax Ansa Maatsa*, located on a flat between Shegunia (Salmon) River and Pinenut Creek, is both a lowbush blueberry and black huckleberry patch (Gottesfeld 1994b:173; Trusler 2001:23). Oval-leaved blueberry is presently abundant within *Lax Ansa Maatsa* (Trusler 2001).

Burton *et al* (2000) provides detailed discussion, maps and a database narrowing locations of such historic berry patches (this information is attached to this report).

Burton *et al*/ provides a detailed list of specific locations of historic and current berry patches with site-specific details. Burton *et al* (2000) identifies twenty historic Gitxsan berry patches within the Gitxsan House territories of Djogaslee (the portion east of the Bulkley River); Luutkudziiwus; and Gyetm Galdoo, as well as corroborating and refining Gottesfeld's (1994b) reported location of the berry patch at Nine Mile Creek. Burton *et al* (2000:12) also note that all historic berry patches identified in their report are accessed via either the Babine Trail or the Moricetown-Hazelton Trail.

For further, more specific information, please refer to Burton *et al* (2000).

Berry Patches and Cultural Heritage Resources

Due to the nature of berry growth and maintenance, berry patches become difficult or impossible to identify without archaeological investigation. However, the intensive nature of berry picking activities requires a great deal of supporting resources, including baskets for packing or transporting harvested berries, berry drying equipment, and berry storage. As a result, berry-picking areas often retain physical or material evidence of such practices. For example, in the process of producing berry baskets, bark was 'stripped' from cedar trees, creating culturally modified trees. Other types of culturally modified trees relating to berry patches include message trees and blazed trees marking trails leading to such areas (Trusler 2001:14-16;27-29). For purposes of storage, berries were placed into cache pits, which were dug in various strategic locations throughout the territories, such as near habitation areas, or trail junctions (Daly 1998:271). In some cases, shallow, square depressions were excavated, possibly for the purpose of keeping square bentwood cedar berry boxes in place (Trusler 2001:29, 2002). Depending upon local geography, cultural depressions may remain visibly identifiable for millennia following the removal of such resources. In addition, bentwood cedar berry boxes, stove parts and assorted tin cans (possibly for carrying berries) have been found in association with berry patches (Trusler 2001:29; 35).

Discussion and Conclusions

Gitxsan berry knowledge and use was, and continues to be, widespread and varied. Although numerous edible species of berries reside within Gitxsan territory, the most important berry species overall are the black huckleberry and the soapberry, both of which are preferred for their flavour. In the case of the soapberry, it was desired for its medicinal qualities as well. Blueberries also form an important part of the Gitxsan berry economy, with lowbush (dwarf) blueberry apparently being the traditional favourite although at least presently, oval-leaved blueberry is gaining in popularity and may have enjoyed distinction in the past by different Houses or individuals. Owing to their nutritional, medicinal and trade applications, berries overall formed an integral part of the Gitxsan economy, which in turn led to the development of sophisticated berry patch management strategies by Gitxsan House chiefs.

Indeed, the forces of colonization and resultant changes in the geography, environment and subsequently in Gitxsan lifeways have changed the quality and quantity of berries within Gitxsan territory. However, the practice of Gitxsan berry harvesting remains an important and integral part of Gitxsan society, culture and epistemology.

Finally, the limited information that is available with respect to known locations of traditional berry patches remains focused within the southern portion of Gitxsan territory.

A greater degree of traditional use and traditional knowledge studies, combined with fieldwork, is required in order to determine the locations and extent of berry harvesting areas throughout Gitxsan territory.

Please refer to the accompanying map and database for further information on the locations of the types of berry referred to in this report.

Future Considerations and Recommendations

The following section suggests directions for future research related to this report and recommendations for Phase II.

Additional Known References of Interest

During the late 1990's, Predictive Ecosystem Mapping (PEM) and Predictive Habitat Mapping (PHM) projects related to Grizzly bear habitat were initiated for the Kispiox Forest District (Mahon 2003, Mahon *et al* 2004), which overlaps a large portion of the Gitxsan traditionally claimed territory. One of the purposes of these projects was to evaluate the PHM, with respect to habitat type, suitability and context issues, and identify habitat concentrations that are of high value to Grizzly bears and which may warrant special management considerations (Mahon 2003:3). Grizzly bear habitat suitability ratings were also developed based on four sources of information; one of which was the prominence of Grizzly bear food plants. Therefore, since some of these food plants were likely also human sources of food (such as the various berry species mentioned in this report), there is the possibility that relevant information regarding berry patch locations within the Gitxsan traditional territory exist within these projects. The identification and elucidation of such information is a technical exercise, outside the scope of this project. Both reports ("Grizzly Bear Habitat Complex Mapping: Kispiox Forest District", 2003, and "Predictive Habitat Mapping with Grizzly Bear Habitat Suitability Ratings for the Kispiox and Cranberry Timber Supply Areas", 2004) have been included on the CD, which accompanies this report.

The West Babine Sustainable Resource Management Plan (SRMP) includes a component regarding botanical forest products (MSRM 2004:58-59). More specifically, the West Babine SRMP provides management objectives for the forestry industry to maintain and enhance berry productivity, and identifies the locations of two berry patches located near the township of Kitsegas (MSRM 2004:58-59, 90). If necessary, digital information may be obtained from the Integrated Land Management Bureau, which produced the original report. A copy of the West Babine SRMP has also been included on the CD that accompanies this report.

Potential Future Work

Some potential future work could be performed for some species to clarify and classify the specific ecosystems where various berries species are either most productive or commonly located (where possible). Subsequently, this classification could link back to a PEM or any other ecosystem-based management plan. Such an exercise is beyond the scope of this project, but may be identified as a priority for future work.

Request for Additional Information

Given the scarce and 'scattered' nature of the existant literature, there is the potential that further related information will 'surface' or be identified after the completion of this report. Readers of this report are encouraged to forward additional references or related information to the authors of this report, or to the Ministry of Forests and Range – Skeena/Stikine Region. This information will subsequently be integrated into this report and/or database, where appropriate.

Recommendations for Phase II

As forementioned, this report represents Phase I of a multi-phased Gitxsan berry management process with the Ministry of Forests and Range – Skeena/Stikine Region. Phase I is a synthesis of existing and known literary information regarding the traditional use and locations of various berry species within the Gitxsan traditional territory. Phase II involves the acquisition of traditional knowledge regarding berry patches (such as use and locations) from five Gitxsan watersheds. Based upon this report, the following are recommendations for Phase II:

- **Phase I should be 'open-ended' and willing to receive additional information over time.** See the "Request for Additional Information" section of this report for further information.
- **The method of database creation and berry patch location mapping for Phase II should be conducted in a similar manner to Phase I.** In other words, the traditional knowledge that will be shared by the Gitxsan watershed agencies should be organized using the same database 'fields' and mapping methodology as in Phase I (if possible). This will ensure the efficient integration of information between both Phase I and II.
- **Timelines for the acquisition of traditional knowledge during Phase II should be highly flexible.** The Gitxsan, like all First Nations, still practice the traditional use of their territories (Budhwa 2005, Daly 2005). Specifically, the Gitxsan practice their seasonal round, which means that many Clan members and Chiefs are busy procuring resources from their lands during certain times of the year. Therefore, non-territorial activities (such as office based tasks) may not be a priority during seasonal activities.

References Cited

Attention Fragiles

2007 *Species at Risk* (website). Accessed May 2007 @
http://www.attentionfragiles.org/english/frame_index_eng.html

Budhwa, Rick

2005 An Alternative Model For First Nations Involvement in Resource Management Archaeology. In the *Canadian Journal of Archaeology* 29:20-45

Burton, Philip J.

1998 *Inferring the Response of Berry-Producing Shrubs to Different Light Environments in the ICHmc*. Report submitted to Forest Renewal B.C., September 16, 1998.

2006 *Managing for Wild Berries*. Unpublished. Pacific Forestry Centre, Canadian Forest Service. Prince George, BC

Burton, Philip; Carla Burton and Larry McCulloch

2000 *Exploring Options for the Management of Wild Berries in the Kispiox Forest District: Phase One of a Pilot Project Focusing on the Suskwa River Area*. Report prepared for the B.C. Ministry of Forests, Kispiox Forest District, Hazelton, B.C., June 30, 2000.

Burton, Carla & Philip Burton

2004 *Wilp Sa Maa'y Harvesting Co-operative: Northwestern British Columbia Case study analysis prepared for the Department of Northern and Indian Affairs* Available from: http://www.ainc-inac.gc.ca/pr/ra/coo/wilp_e.html

Chief Woos (Roy Morris), Chief Gallughun (Rita George), Chief Skit'den (Andrew George, Jr.), Skiy'zeh (Greg George) and Rick Budhwa

2006 *Cas'Yex - Grizzly House: Statements on Resource Use, Governance and Our Future: An Oral Historical Overview on Traditional Knowledge and Traditional Concerns Regarding Tse'deek'ay (Hudson Bay Mountain)* Cas'Yex Trust, report submitted to Rescan Environmental Services Ltd. for the purpose of the provincial Environmental Assessment process related to the Davidson Mining Project.

Daly, Richard

1988 *Anthropological Opinion on the Nature of the Gitksan-Wet'suwet'en Economy*. Opinion evidence for the Plaintiffs in Delgamuukw v. British Columbia [1991] 3 W.W.R. 97, [1991] 5 C.N.L.R. xiii, (1991), 79 D.L.R. (4th) 185 (B.C. Supreme Court); (1993), 30 B.C.A.C. 1, 49 W.A.C. 1, 104 D.L.R. (4th) 470, [1993] 5 W.W.R. 97, [1993] 5 C.N.L.R. 1 (B.C. Court of Appeal); (1997), 153 D.L.R. (4th) 193 (Supreme Court of Canada). On file at the Gitksan Treaty Office, Hazelton, BC.

- 2005 *Our Box Was Full: An Ethnography for the Delgamuukw Plaintiffs* UBC Press, Vancouver
- Gitksan-Wet'suwet'en Chiefs
- 1988 *Territorial Map Atlas*. Hazelton, B.C., Gitksan Treaty Office Library.
- Gottesfeld, Allen S.; Rolf W Mathewes and Leslie M. Johnson Gottesfeld
- 1991 *Holocene Debris Flows and Environmental History, Hazelton Area, British Columbia*. Canadian Journal of Earth Sciences Vol. 28:1583
- Gottesfeld, Leslie M. Johnson
- 1994a *Conservation, Territory, and Traditional Beliefs: An Analysis of Gitksan and Wet'suwet'en Subsistence, Northwestern British Columbia, Canada* Human Ecology 22(4):443
- 1994b *Aboriginal Burning for Vegetation Management in Northwest British Columbia*. Human Ecology 22(2):171
- 1995 *The Role of Plant Foods in Traditional Wet'suwet'en Nutrition*. Ecology of Food and Nutrition Vol. 34:149-169
- Hauessler , Sybille
- 1987 *Ecology and Berry Chemistry of Some Food Plants Used by Northwest British Columbia Indians*. Opinion evidence for the Plaintiffs in Delgamuukw v. British Columbia [1991] 3 W.W.R. 97, [1991] 5 C.N.L.R. xiii, (1991), 79 D.L.R. (4th) 185 (B.C. Supreme Court); (1993), 30 B.C.A.C. 1, 49 W.A.C. 1, 104 D.L.R. (4th) 470, [1993] 5 W.W.R. 97, [1993] 5 C.N.L.R. 1 (B.C. Court of Appeal); (1997), 153 D.L.R. (4th) 193 (Supreme Court of Canada). On file at the Gitksan Treaty Office, Hazelton, BC.
- Johnson, Leslie Main
- 1997 *Health, Wholeness and the Land: Gitksan Traditional Plant Use and Healing*. PhD Dissertation submitted to the University of Alberta, Edmonton.
- 2006 *Gitksan Medicinal Plants - Cultural Choice and Efficacy*. Journal of Ethnobotany and Ethnomedicine 2006, 2:29.
Accessed May 2007 @ <http://www.ethnobiomed.com/content/2/1/29>
- Klinkenberg, Brian. (Editor)
- 2006 *E-Flora BC: Electronic Atlas of the Plants of British Columbia* [www.eflora.bc.ca]. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. Accessed June 2007

MacDonald, George F.

1980 *The Epic of Nekt: The Archaeology of Metaphore*. Banquet address at the 13th Annual Meeting of the Canadian Archaeological Association, Saskatoon 24-7, April 1980.

MacKinnon, Andy, Jim Pojar and Ray Coupe

1999 *Plants of coastal British Columbia*. 2nd edit. Lone Pine Publishing. Vancouver, B.C.

Mahon, Todd

2003 Grizzly Bear Habitat Complex Mapping: Kispiox Forest District. Report prepared for the British Columbia Ministry of Forests – Kispiox Forest District and Ministry of Water, Land and Air Protection. Smithers, BC.

Mahon, Todd, A. Grant MacHutchon, Don Reid, Don Morgan, Allan Edie

2004 Predictive Habitat Mapping with Grizzly Bear Habitat Suitability Ratings for the Kispiox and Cranberry Timber Supply Areas. Report prepared for the British Columbia Ministry of Forests – Northern Interior Forest Region and Skeena/Stikine Region, Ministry of Water, Land and Air Protection, and BC Ministry of Sustainable Resource Management. Smithers, BC.

Marsden, Susan

1987 *An Historical and Cultural Overview of the Gitksan*. Opinion evidence for the Plaintiffs in Delgamuukw v. British Columbia [1991] 3 W.W.R. 97, [1991] 5 C.N.L.R. xiii, (1991), 79 D.L.R. (4th) 185 (B.C. Supreme Court); (1993), 30 B.C.A.C. 1, 49 W.A.C. 1, 104 D.L.R. (4th) 470, [1993] 5 W.W.R. 97, [1993] 5 C.N.L.R. 1 (B.C. Court of Appeal); (1997), 153 D.L.R. (4th) 193 (Supreme Court of Canada). On file at the Gitksan Treaty Office, Hazelton, BC.

McLennan, Donald S.

2001 *Exploring Options for the Management of Berries in the Kispiox Forest District: Phase Two of a Pilot Project Focusing on the Suskwa River Area*. Report submitted to the B.C. Ministry of Forests, Prince Rupert Forest Region, Smithers, B.C., March 2001.

Milburn, Alexandra

2002 *Wild and Wacky Plants of the Northwest Territories* Northwest Territories Department of Resources, Wildlife and Economic Development. Accessed June 2007 @ forestmanagement.enr.gov.nt.ca/forest_education/publications/wacky_plants.pdf

Ministry of Sustainable Resources and Management (MSRM)

2004 West Babine Sustainable Resource Management Plan. Province of British Columbia. Accessed July 2007 @ http://ilmbwww.gov.bc.ca/lup/srmp/northern/west_babine/docs/west_babine_SRMP.pdf

Trusler, S.G.

2001 *Footsteps Through the Berries: Field Reconnaissance of Selected Gitxsan Huckleberry Sites: Case Study Summaries*. Report submitted to Prince Rupert Forest Region, Smithers, B.C. March 2001.

2002 *Footsteps Amongst the Berries : the Ecology and Fire History of Traditional Gitxsan and Wet'suwet'en Huckleberry Sites*. MSc. Thesis, University of Northern British Columbia, Prince George, B.C. 204 p.