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A Social History of Wild Huckleberry Harvesting in the Pacific Northwest

Rebecca T. Richards and Susan J. Alexander



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Authors

Rebecca T. Richards is a professor, Department of Sociology, University of Montana, Missoula, MT 59812, and **Susan J. Alexander** is a research forester, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Forestry Sciences Laboratory, 3200 SW Jefferson Way, Corvallis, OR 97331.

This report contains language and terminology from historical documents that do not reflect the views or opinion of the USDA Forest Service nor the authors.

Cover

Woman harvesting huckleberries on the Kootenai National Forest, circa 1940. Photo by K.D. Swan, USDA Forest Service Northern Region Archives.

Abstract

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Once gathered only for subsistence and cultural purposes, wild huckleberries are now also harvested commercially. Drawing on archival research as well as harvester and producer interview and survey data, an inventory of North American wild huckleberry plant genera is presented, and the wild huckleberry harvesting patterns of early Native Americans and nonindigenous settlers are described. The social, technological, and environmental changes that gave rise to the commercial industry in the Pacific Northwest by the 1920s and the industry's demise after World War II are explained. The resurgence of the commercial wild huckleberry industry in the mid-1980s and national forest management issues related to the industry are presented as are possible strategies that land managers could develop to ensure wild huckleberry, wildlife, and cultural sustainability.

Keywords: Northwest Forest Plan, huckleberry, *Vaccinium*, berry picking, Pacific Northwest.

Preface

Support for data collection was provided by the McIntire Stennis Forestry Research Program through the University of Montana (UM) College of Forestry and Conservation and the National Science Foundation MONTS program from 1996 to 1998. Additional support for synthesizing these research findings was provided through the USDA FS Pacific Northwest Forest Research Station from 2002 to 2004.

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Finally, our heartfelt thanks to all those individuals who have participated in field interviews and surveys and provided their tools and wisdom over the last decade. We dedicate this report to those of them who have since joined the pickers and land managers who have passed on from this life while leaving us their enduring, multicultural legacy of the Pacific Northwest huckleberry patch.

Huckleberry Pie

2 tablespoons flour

$\frac{3}{4}$ cup sugar

3 cups huckleberries, washed carefully

Sift flour and sugar together, add berries and mix well. Pour into pastry-lined pie tin, moisten edge of dough with water, cover with top crust and make openings for steam to escape. Press pastry well over edge and trim. Bake in moderately hot oven for about 45 minutes or until crust is brown. (If canned berries are used, measure a scant $\frac{1}{2}$ cup sugar.)

USDA Forest Service 1954:40 *The Lookout Cookbook*
Region One.

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Chapter 1: What Are Wild Huckleberries?

Wild huckleberries in the Pacific Northwest are members of the Ericaceous family's *Vaccinium* genus. The word "huckleberry" originally referred to the circumboreal species, *Vaccinium myrtillus*, which occurs in England, Europe, and as far north and east as Siberia. According to Henry David Thoreau, huckleberry appears to be an American word derived originally from "hurtleberry," a corruption of the Saxon **heart-berg** or "the hart's berry." It was first used by John Lawson in 1709 to describe berry use in North Carolina where

the hurts, huckleberries or blues of this country are four
sorts.... The Indians get many bushels, and dry them on mats,
whereof they make plumb bread, and many other eatables.
(Thoreau in Dean 2001: 41)

In North America, there are approximately 35 species of *Vaccinium*, many of which are known as huckleberries, blueberries, or cranberries. The most comprehensive taxonomic analysis of the *Vaccinium* genus in North America is that of Vander Kloet (1988), whose work serves as the botanical basis for this report (see app. table 1). The *Vaccinium* nomenclature has been complicated by the taxonomic difficulty of distinguishing one species from another, and multiple scientific synonyms for species and hybrids are common. Practically speaking, however, all *Vaccinium* berries in North America are edible and pass the Universal Edibility Test of wilderness survival guides. Only *V. arboreum* or "farkleberry" is known as "inedible" because of its bitter berries.¹

In the East and South, **huckleberry** often refers to plants in the genus *Gaylussacia*, of which at least four species produce edible berries. *Gaylussacia* is also an Ericaceous genus; it comprises over 50 species, most of which occur in mountainous regions of South America.² Six *Gaylussacia* species are native to the Southern and Eastern United States (see app. table 1).

East of the Mississippi River, the confusion created by the number of *Vaccinium* species and the related genus of *Gaylussacia* has complicated huckleberry terminology, but in the Pacific Northwest, all huckleberries are

¹ "Former Arkansas governor, Frank White, earned the nickname, 'Governor Farkleberry,' after emphasizing how as a child, his family was so poor they had to eat farkleberries. Extracts from the roots, bark and leaves have been used to treat diarrhea." Flori-Data. http://www.floridata.com/ref/V/vacc_arb.cfm. (4 August 2003).

² NatureServe Explorer Species Index. http://www.natureserve.org/explorer/speciesIndex/Genus_GAYLUSSACIA_109538_1.htm. (24 July 2003).

members of the *Vaccinium* genus (app. table 2). Nevertheless, *Vaccinium* taxonomy is complex, and to minimize ambiguity, we refer the reader to the taxonomy followed by the USDA Germ Plasm Resources Information Network, namely, Vander Kloet's (1988) *The Genus Vaccinium in North America*. According to Vander Kloet's (1988) classification system, *V. globulare* cannot be taxonomically distinguished from *V. membranaceum*; hence, plants referred to by others as *V. globulare* are considered *V. membranaceum* (Syn. Vander Kloet 1988). Similarly, *V. alaskaense* and *V. occidentale* cannot be taxonomically distinguished from *V. ovalifolium* and *V. uliginosum*, respectively (Syn. Vander Kloet 1988). Given that scientific advances are rapidly occurring at the molecular level,³ and taxonomic debate regarding this genus continues, we review the following historical ecological literature for the various Pacific Northwest *Vaccinium* species as cited in the original sources.

Turner (1997) documents that the berries of eight *Vaccinium* species were used by the First Nations people in the southern and central regions of the interior Pacific Northwest British Columbia. Turner's (1997) list includes *V. caespitosum*, *V. membranaceum* (Syn. Vander Kloet 1988 *V. globulare*), *V. myrtilloides*, *V. myrtilus*, *V. oxycoccus*, *V. scoparium*, *V. uliginosum* (Syn. Vander Kloet 1988 *V. occidentale*), and *V. vitis-idaea* spp. *minor* (Syn. Vander Kloet 1988 *V. vitis-idaea*) (see app. table 2). Turner notes three additional *Vaccinium* species for common edible berries of First Nations people on the British Columbia coast. These three species include *V. ovalifolium* (Syn. Vander Kloet 1988 *V. alaskaense*),⁴ *V. ovatum*, and *V. parvifolium*. Don Minore (1972), who has conducted extensive studies of huckleberry ecology in the Pacific Northwest, has reported that all of these British Columbia species, minus two species (*V. oxycoccus* and *V. vitis-idaea*) plus an additional species (*V. deliciosum*),⁵ are common *Vaccinium* species in Oregon and Washington (see app. table 3).

³ Daniel L. Barney of the University of Idaho claims that he has successfully crossed *V. membranaceum* only with *V. ovalifolium*, *V. corymbosum*, and *V. angustifolium* and even then, only with difficulty and occasional genetic anomalies. In contrast, Barney notes that crosses within the *V. membranaceum* "complex" regularly produce viable seed; however, until genetic fingerprinting can be accomplished, questions regarding *Vaccinium* taxonomy will remain.

⁴ *V. ovalifolium* is found in northern Idaho as well as southern British Columbia but not in Montana (Martin 1979, Stickney 1972).

⁵ According to Szczawinski (1962), *V. deliciosum* does occur in the subalpine and alpine zones of the Coastal Range in British Columbia but that "it is a rather problematic species of intermediate character, and in the opinion of the present author should be treated as a variety or subspecies of *V. caespitosum*," p. 163.

The diversity of *Vaccinium* species is more limited in western Montana. Stickney's (1972) extensive field observations indicate that three species, *V. globulare* (which he treats as a separate species from the Syn. Vander Kloet 1988 *V. membranaceum*),⁶ *V. scoparium*, and *V. caespitosum*, are common and account for most of the *Vaccinium* vegetation in western Montana. Daniel L. Barney reports that the alpine or bog bilberry (*V. uliginosum* Syn. Vander Kloet 1988 *V. occidentale*) is also common in northwest Montana and was, and is, often used by Native Americans (Barney 2004).

Typically, *V. membranaceum* has been the most important huckleberry species harvested throughout the Pacific Northwest, although in Oregon and Washington, *V. ovatum* berries have been commercially shipped in vast quantities since at least 1948.⁷ Typically *V. membranaceum* or "mountain huckleberry" was the most significant *Vaccinium* food source for the prehistoric and historical peoples of southern Oregon, where it grows at altitudes ranging from 1,800⁸ to 6,000 feet.⁹ According to both Stickney (1972) and Stark and Baker

⁶ Stickney claims that *V. membranaceum* is a species name "originally used to designate a *Vaccinium* from the Cascade Range in the vicinity of the Columbia River Gorge. This name was applied to a shrub that had flowers that were longer than broad, leaves that were widest below their midlength with long narrow tapering leaf tips, and had heights up to 6 feet. In contrast, the name *V. globulare* was used to designate a *Vaccinium* in the Northern Rocky Mountains at Spanish Creek, Montana [note: in the Spanish Peaks area near Bozeman, Montana]. The distinctive features of this *Vaccinium* were flowers that were as broad as long, leaves that were widest above their midlength with bluntly pointed leaf tips, and had heights up to only 4 feet. Extensive experience in the field indicates that the population of this complex in western Montana is different from and does not fit the description of the original *V. membranaceum* of the Cascade Range... Flowering material that fits the description for *V. membranaceum* has yet to be secured from western Montana. ... the overlap in described leaf characters between these two species is enough to raise uncertainties about verification of *V. membranaceum* on a vegetative basis alone. Therefore, I believe that *V. membranaceum* in western Montana is scarce and will be found restricted to the more mesic forest stands probably becoming more frequent in northern Idaho" (Stickney 1972: 3-4).

⁷ Kerns et al. (2004) note that "in 1948, the M.E. Mercer Co. shipped more than 350 tons of *V. ovatum* berries from the Puget Sound area. By 1959, they were shipping 500 tons per year, with production in some years as high as 1,000 tons."

⁸ Powell claims that mountain huckleberry are most abundant from 3,000 to 6,000 feet; Daniel L. Barney reports that he has collected berries in central Oregon at 1,800 feet, and they commonly fruit in Idaho at 2,000 feet (Barney 2004).

⁹ "The most significant berry patches in the Rogue Basin occurred east of Butte Falls at Twin Ponds and north along the western crest of the Cascade Range at Robinson Butte, at Parker Meadows, at Blue Rock near Gypsy Springs camp and on the headwaters of Wickiup Creek. The extensive patches at Huckleberry Mountain are the best-known, and once drew Klamath and the mysterious mountain-dwelling Molala in great numbers. Native Americans have continued to use the patch to this day. Important patches also thrived at Huckleberry Gap and Huckleberry Lake on the Rogue-Umpqua Divide, patches which at times may have been shared with Upper Umpqua tribes spilling over the divide from the South Umpqua drainage" (Powell 1988: 5).

(1992), *V. globulare* (Syn. Vander Kloet 1988 *V. membranaceum*) is the most commercially valuable species in western Montana. Thus, the *V. membranaceum/V. globulare* complex composes the most important edible berry species in the Pacific Northwest region, including northern Idaho.¹⁰ The emerging commercial huckleberry industry in British Columbia may well incorporate other species given the richer diversity of *Vaccinium* species throughout that province (Szcawinski 1962, Turner 1997).

¹⁰ To add to the *Vaccinium* species complexity are credible reports of “albino” or white huckleberries. In 1935, Anderson noted, “this summer I found a small patch of white huckleberries on Elk Mountain, about ten miles east of Headquarters, Idaho. The patch was pointed out to me by the lookout, Hub Aiken of Orofino. He told me that he knew of one other small patch about a quarter of a mile northeast of the lookout and another large patch near Deadhorse Lookout several miles north of Elk Mountain. Aiken, Bill Walsh, and Bob Crowe occupied Deadhorse Lookout for approximately twelve consecutive years. Aiken informed me that it was part of their summer’s routine to can a quart each of white, red, and blue huckleberries for display purposes at Orofino. Walsh has at least one pint jar of white huckleberries in his possession. Aiken and Walsh, by the way, are the same men whose names appeared in Ripley’s ‘Believe It or Not’ feature as having played something over 15,000 games of pinochle against various teams. Their scores at the end of the fifteen thousandth game was exactly equal the scores of their opponents. There may be some question as to the authenticity of the pinochle score, but the albino huckleberries do occur on Elk and Deadhorse Mountains. E.C. Rettig of Potlatch Forest, Inc., told me there are a few bushes near Eureka Meadows about four miles west of Headquarters. I sent specimens to Dr. Gail, head of the Botany Department at the University of Idaho. They were the first he had secured for record and said they were not listed in any of the botanical treatises on Northeastern flora. The bushes I examined are scattered among those of the red variety. In no case did albino and red huckleberries occur on the same bush. They were a bit sweeter to the taste perhaps than either the red or blue variety” Anderson 1935.

Chapter 2: Early American Wild Huckleberry Gathering

Early New England settlers acquired dried huckleberries and blueberries in trade from Native American tribes and subsequently learned where, when, and how to pick them. The most extensive history of huckleberry picking was first compiled by Henry David Thoreau, who wished to establish that Native Americans “did not learn the use of these berries from us whites” (Thoreau in Dean 2001: 46). Thoreau believed that the earliest observation by Whites of Native American huckleberry use was in 1615 by the explorer Samuel de Champlain who noticed the Algonquins collecting and drying a small berry that he called “*blue*” for winter use. A decade later, in 1624, Gabriel Sagard, a Franciscan friar, visited the Hurons and wrote:

There is so great a quantity of bluës, which the hurgon call *Ohentaqué*...that the savages regularly dry them for the winter, as we do prunes in the sun, and that serves them for comfits for the sick. (Thoreau in Dean 2001: 46-47)

Farther south, in New England, the Puritan, Roger Williams, observed in 1643:

Sautash are these currants [grapes and whortleberries] dried by the natives, and so preserved all the year, which they beat to powder and mingle it with their parched meal, and make a delicious dish which they call *Sautauthig*, which is as sweet to them as plum or spice cake is to the English. (Thoreau in Dean 2001: 47)

A few years later, in 1672, John Josselyn also noted the native use:

...bill berries, two kinds, black and sky colored, which is more frequent.... The Indians dry them in the sun and sell them to the English by the bushel, who make use of them instead of currence, putting them into puddens, both boyled and baked, and into water gruel. (Thoreau in Dean 2001: 48)

In 1676, according to Thoreau, a certain Captain Church¹ encountered a large group of Native Americans, mostly women, who were gathering “whortleberries” on a plain near what is now New Bedford, Massachusetts. Many of the

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¹ Probably Benjamin Church, later a colonel, who, sadly, has been described as “the most daring and bravest leader among the Colonists in the days of Indian warfare.” Seaconk/Wampanoag virtual museum. <http://www.inphone.com/wampanoag/museum18.html>. (9 August 2003).

women fled, some throwing away their baskets and berries, as Church killed some and took prisoner 66 of them (Thoreau 2001: 48).

In New France, Father Rasles, who compiled a dictionary of the Abenaki Language in 1691,² reported that one Abenaki word referred to fresh blueberries (*Satar*) and another to dry ones (*Sakisatar*), and the words for July translated as “when the blueberries are ripe.” Farther west, Father Hennepin³ wrote in 1697 that the Naudowessi near the falls of St. Anthony, Minnesota, enjoyed wild rice seasoned with blueberries that “they dry in the sun during the summer, and which are as good as raisins of Corinth” (Thoreau in Dean 2001: 48).

Later, in 1743, while traveling through the wilds of Pennsylvania and New York to Lake Ontario, the naturalist John Bartram reported how he

...found an Indian squaw drying huckleberries. This is done by setting four forked sticks in the ground, about three or four feet high, then others across, over them the stalks of our common *Facea* or *Sarantula*, on these lie the berries, as malt is spread on the hair cloth over the kiln. Underneath she had kindled a smoke fire, which one of her children was tending. (Thoreau in Dean 2001: 49)

By 1852, noted Thoreau, Owens had published his *Geological Survey of Wisconsin, Iowa and Minnesota*,⁴ in which he noted the species *Vaccinium pennsylvanicum* (Lam.)⁵ and its distribution in the

...barrens on the upper St. Croix. This is the common Huckleberry, associated with the characteristic growth of the *Pinus banksiana*, covering its sandy ridges with a verdant under

² Father Sebastien Rasles, an early Jesuit priest among the Abenakis in early Canada’s “New France.” Cowasuck Band of the Pennacook-Abenaki people. <http://www.cowasuck.org/missions.htm>. (9 August 2003).

³ Father Louis Hennepin, a Reformed Franciscan priest and the historian of LaSalle’s first expedition to find the source of the Mississippi in 1678. University of Virginia’s library exhibition of maps and navigational instruments. http://www.lib.virginia.edu/speccol/exhibits/lewis_clark/exploring/ch2-8.html. (9 August 2003).

⁴ David Dale Owen was a geologist with the Indiana Geological Survey who conducted a survey of the Chippewa Land District of Wisconsin in 1847. American Philosophical Society William Stanton’s American scientific exploration, 1803-1860. <http://www.amphilsoc.org/library/guides/stanton/4549.htm>. (9 August 2003).

⁵ Syn. Vander Kloet (1988) for *V. angustifolium*.

growth, and an unsurpassed luxuriance of fruit. By the Indians these are collected and smoke-dried in great quantities, and in this form constitute an agreeable article of food. (Thoreau in Dean 2001: 49)

From his research, Thoreau thus concluded that

...from time immemorial down to the present day, all over the northern part of America, (Indians) have made far more extensive use of the whortleberry at all seasons and in various ways than we, and that they were far more important to them than to us. (Thoreau in Dean 2001: 49)

Poignantly, Thoreau also noted that

...the last Indian of Nantucket, who died a few years ago, was very properly represented in a painting which I saw there with a basket full of huckleberries in his hand, as if to hint at the employment of his last days. I trust that I may not outlive the last of the huckleberries. (Thoreau in Dean 2001: 50)

Thoreau's claims about the primacy of huckleberries and blueberries as a major Native American food source are substantiated in the journals of Lewis and Clark who found tribes west of the Rocky Mountains using dried berries extensively in 1805 and 1806:

This morning I arose very early and as hungry as a wolf. I had eaten nothing yesterday except one scant meal of the flour and berries, except the dried cakes of berries, which did not appear to satisfy my appetite as they appeared to do those of my Indian friends. I found on inquiry of McNeal that we had only about two pounds of flour remaining. This I directed him to divide into two equal parts and to cook the one half this morning in a kind of pudding with the berries as he had done yesterday, and reserve the balance for the evening. On this new-fashioned pudding four of us breakfasted, giving a pretty good allowance also to the chief, who declared it the best thing he had tasted for a long time.⁶

⁶ Captain Meriwether Lewis on reaching the Shoshone Tribe and the Great Divide, 15 August 1805 (cited in Bakeless 1964).

Northwest tribes made special combs of wood or salmon backbones to strip huckleberries and blueberries off the bushes (Derig and Fuller 2001, Turner 1997). They dried the berries in the sun or smoked them and then mashed them into cakes and wrapped these in leaves or bark for storage. In 1868, Robert Brown wrote that great numbers of huckleberry cakes would be drying on roofs and platforms “supervised by some ancient hag, whose hands and arms are dyed pink with them” (Derig and Fuller 2001: 68). Women or their families often “owned” the berry grounds, and all the fields were named with trails connecting them (Derig and Fuller 2001).⁷ One of the four seasonal first fruits celebrations for the Nez Perce and Chinook tribes was September, which was berry month.

Fisher (1997) recounts the Yakama first-foods, berry celebration that preceded the harvesting of huckleberries. Special people were selected for the first gathering of berries based on their unique skills and intimate knowledge of the plant. These ceremonial leaders prayed and fasted to ensure the tribe’s success in the year’s huckleberry harvest. Once the group had returned, a feast was held for the first picking and only after this feast of thanks could the rest of the tribe begin their family’s berry gathering (Fisher 1997). Tribal people would then leave for the berry fields,⁸ where they stayed as late as mid-October, much to the chagrin of the early missionaries. Henry Brewer of the Mount Adams Mission in Washington reported that

...the absence of our Indian converts so long a time during the berry season being surrounded as they are by every possible bad example, and separated from the watchful care of their teachers, in many cases proves very injurious to their piety. (Derig and Fuller 2001: 68-69)

⁷ Powell (1988) cites the ethnographer Leslie Spier’s observations in 1925-26 that “the huckleberry patch some fifteen miles southwest of Crater Lake (called *iwumkani*, huckleberry place, *iwum*, huckleberry) is a favorite camping place. Here, Molala from west of the Cascade Range join them (the Klamath). Williamson River people (*aukckni*) on Klamath marsh cross directly westward to this spot afoot.” Located at the headwaters of Union Creek, Huckleberry Mountain was reached by a “deeply rutted trail worn by generations of Native Americans, as they dragged their families and possessions up the hill,” p. 5.

⁸ Similar traditional *wi’wnu’* or big huckleberry ceremonial practices are described for today’s Confederated Tribes of Warm Springs in the Shaw and Jensen 1997 video.

This was echoed in 1843 by Methodist missionary Henry Perkins who described berry season as

...one great holy-day for the Indians, who preferred to spend their summer Sundays in the meadows of “Indian Heaven” instead of listening to sermons that promised a Christian paradise. (Fisher 1997: 191)

Despite the labor of berry picking, the Mid-Columbia tribes viewed berry season as the “ideal season” when they could relax before fall fishing and winterizing their villages. The weather was cooler and food was abundant; moreover, the “huckleberry harvest provided opportunities to visit with relatives and other people from a wide variety of tribes” (Fisher 1997: 191).

Fisher (2002) recounts that Native Americans throughout the mid-Columbia plateau moved in response to the shift in prime picking locations, but that the Twin Buttes area near Mount Adams historically remained a central berry-picking and gathering spot for people from many different villages and linguistic groups. Huckleberries and other traditional foods were valued so highly that the four plateau treaties contained virtually identical clauses guaranteeing tribes “the right of taking fish at all usual and accustomed places, in common with the citizens of the Territory... together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed lands” (Fisher 2002: 294).

Early settlers in the West also came to rely on huckleberries, especially in northern Idaho and western Montana where the winters are long and the gardening season short (fig. 1). Madeline Rost Utter recalls her father’s early homesteading days along the Swan River in western Montana in the 1890s as

...having to scabble a living by hunting the timbered area and fishing the nearby stream. Gardening was limited... potatoes to go with fish and to make lefse; rutabagas for a venison mulligan. Fruit was scarce, just wild berries to supplement a monotonous diet. (Utter 1993: 31)

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J. Russell Dahl, USDA Forest Service, Northern Region Archives

Figure 1—On the Kaniksu National Forest, circa 1940. “Mother and daughter picking huckleberries, Priest Lake District.”

However, whereas the Native Americans traditionally dried their berries for storage, White settlers typically canned them,⁹ first for home use and later, in large camps for commercial sale. By the end of the 19th century, huckleberry picking was about to fundamentally change in both social practice and social meaning. As Fisher (1997) noted, where the dried berries of the Native Americans created a raisin-like product that transported easily and kept indefinitely, by the late 1930s, the gradual adoption of canning with White settlement combined to end traditional berry gathering and drying on public land (Fisher 1997: 190).

⁹ “Mollie,” who was about 88 when interviewed in 1996, recalls growing up in Evaro, Montana, when her family relied solely on huckleberries as their only fruit. They could not afford the amounts of sugar necessary to can the berries so they dried them “like raisins.” When she went out to pick, she would take bread with butter and a little sugar as her lunch and then fill the empty “sandwich” with huckleberries. “Mollie” interview notes, 1996.

Chapter 3: The Rise of the Wild Huckleberry Commercial Industry

As a food preservation process, canning was critical to the socioeconomic shift in wild huckleberry gathering from a household and tribal subsistence activity at the end of the 19th century to a large-scale commercial industry by the mid-1920s. Understanding this shift in the 20th century thus depends on appreciating the rapid and unprecedented evolution of canning technology in the 19th century.

Canning first developed in the late 1700s when Emperor Napoleon Bonaparte was faced with feeding the emaciated French soldiers in retreat from his disastrous winter Russian invasion. Napoleon offered a cash prize to the person who could develop a reliable method of food preservation quickly. A French confectioner, Nicholas Appert, had envisioned a method of preserving food, like wine, in bottles. Within 14 years, he had developed an oenophilically (the study of wines) inspired process by which food was cooked in open kettles, packed into glass jars, and enclosed with corks and wire. The jars were then submerged in boiling water to seal them. Without realizing it, Appert was sterilizing the jar contents and inhibiting bacterial spoilage.¹

An Englishman, Peter Durand, advanced Appert's process by developing a transit-safe method of sealing food in unbreakable tin-plated steel containers. Durand's process was refined by Bryan Dorkin and John Hall, who established the first commercial canning factory in England in 1813. People in Britain soon began eating "embalmed meat." The emerging canning industry rapidly expanded with the European colonial empires and industrialization. Canned food meant that global armies could now be supplied with reliable rations and growing cities could predictably feed a new urban workforce (see footnote 1).

With the rapid expansion of the American frontier, safe and convenient preservation of food became increasingly important. An English immigrant, Thomas Kensett, established the first U.S. canning facility for oysters, meats, fruits, and vegetables in New York in 1812. He was followed by William Underwood, who established a canning plant in Boston in 1828 for vegetables, fruits, and condiments.² The Civil War soon established a significant

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¹ Food Reference Website. <http://www.foodreference.com/html/artcanninghistory.html>. (21 July 2003).

² National Food Processors Association. <http://www.safefood.org/history.html>. (4 August 2003).

The technological and logistic constraints of the commercial canning industry made developing a reliable and inexpensive means of home canning a major business opportunity.

November 30, 1858, Mason received a patent for his “Mason jar” mold. The date of that patent appeared on canning jars for the next three-quarters of a century.

commercial canning industry in supplying army food requisitions. By 1875, industry improvements in canning foods allowed Gustavus Swift and P.D. Armour to establish Chicago meatpacking plants, a key development in accelerating the settlement of the American West (Harper and LeBeau 2003).

However, commercially canned goods were difficult to transport and expensive to buy, particularly for remote rural settlers. Moreover, 19th-century American household demand outstripped the industry’s ability to supply canned goods. For example, canned condensed milk did not receive a patent until 1856; sardines were not packed in cans until 1875; and because of corrosion problems, canned citrus juice was not shipped from Florida until as late as 1921.³

The technological and logistic constraints of the commercial canning industry made developing a reliable and inexpensive means of home canning a major business opportunity. The winter supply of fruits and vegetables in a rural household depended on preserving what the family could grow or gather, and existing preservation methods such as drying or salting were subject to bacterial contamination. The soldered metal tops developed for commercial canning inhibited spoilage, but soldering tops was not a feasible means of preventing spoilage for the homemaker at the household level. The American tinsmith, John Landis Mason, solved this sealing problem by creating a glass canning jar with a threaded top. The threaded-top jar allowed a zinc cap with porcelain lining to be screwed down on a rubber gasket to form an airtight seal. On November 30, 1858, Mason received a patent for his “Mason jar” mold. The date of that patent appeared on canning jars for the next three-quarters of a century.⁴

Mason eventually sold his canning jar patent rights to the Consolidated Fruit Jar Company, which soon monopolized the market. However, Consolidated relied on individual glassblowers to produce the jars from Mason’s mold and other companies to produce the porcelain-lined lid. In 1888, the Ball Brothers Corporation entered the market by not only making their own lids but also by producing a fully automatic machine for making the canning jars. Ball quickly came to dominate the home canning market. Consolidated went out of business, and Mason eventually died a charity patient in New York having earned nothing from his jar patent since the 1880s (see footnote 4).

³ History of the can. http://www.qbyv.com/history_of_can.htm. (21 July 2003).

⁴ American National Biography online. <http://www.anb.org/articles/10/10-02258-article.html>. (21 July 2003).

With the invention of the Mason jar and the efficiency of the Ball Corporation's jar and lid distribution system, home canning rapidly expanded because of the pressing need of rural families to preserve their own food safely and cheaply. Because Mason canning jars could be reused, the method was relatively inexpensive since an initial investment in jars, lids, and rubber gaskets would be repaid over a period of successive canning seasons.⁵ However, it was not a fool-proof method, and bacterial contamination remained a common problem.^{6 7 8}

As Madeline Rost Utter recalls, home canning was an important household survival strategy for rural families in the Swan River Valley of western Montana by the early 1900s:

Mother counted on canning hundreds of quarts to have enough food to last over the winter. We all helped. My specialty seemed to be washing jars! The produce was picked early in the morning then prepared for canning in a hot water bath. I remember a "boiler" full of jars on the Home Comfort cook stove all afternoon on a hot day. The wood stove was

⁵ Powell (1988) records that at southern Oregon's Huckleberry Mountain, each campsite grew busy with caring for the berries after dinner: "After they were washed and cleaned, campers would boil the berries in kettles over a campfire before hot-packing them in heat-sterilized Mason jars. Garrett says her mother always canned at least three cases of quarts and a case of jelly each season. Hollenbeak recalls his mother canning up to seventy-five half-gallon Ball jars with the screw-on lid and separate rubber gasket," p. 8.

⁶ The U.S. Department of Agriculture's Cooperative Extension Service began promoting safe home canning methods and issued its first formal instructions in Farmer's Bulletin 359 "Canning Vegetables in the Home" in 1909. National Center for Home Food Preservation. <http://www.uga.edu/nchfp/publications/usda/review/content.htm>. (21 July 2003).

⁷ Habits of two western Montana women of this period. Edna Cox McCann claims that she never canned "garden stuff" because her husband "didn't trust that home-canned garden stuff... And I don't know as I trusted it too much either, because there was too much talk along about then, about people getting that poisoning. And a lot of them did do their canning, but were a lot that didn't...(T)here was (educational programs) and you could get booklets on it (canning safety). But we really didn't have these pressure cookers and that kind of thing, you know. We used a boiler and put your jars in a boiler and all that. We had a lot of fruit canned all the time. Jellies and jams and syrup and we always had plenty to eat." Edna G. Cox McCann interview transcript, 1983. Montana Historical Society. This is in sharp contrast to Dorris Huffine, who was born in Iowa in 1901 and began working in Glacier Park in 1925. According to Dorris' friends, "Some of her clothes were older than she was. She served wine that she made from huckleberries picked fifty years earlier. And some of the mold-covered, home-canned food in her root cellar belonged in her museum... 'We've got huckleberries on hand now that we dried in the '30s,' Doris would say. 'Any dried fruit if it doesn't mold or if the bugs don't get into it too bad is good forever.'" (Fraleigh 1998).

⁸ Powell (1988) notes that huckleberry pickers in southern Oregon also found that "in the earlier days, canning jars were harder to come by and settlers used old tin cans, beer bottles and other miscellaneous containers in which to preserve what they'd picked, sealing the containers with wax," p. 8.

stoked with long sticks jutting out into the room that had been brought from the back pasture as we were all out of cut firewood. As they burned, the sticks were pushed in. (Utter 1993: 35)

Store records of the Browning Mercantile Company in Montana reflect the extent to which rural settlers in the area relied on home canning for winter survival. Records show the purchase of “2 dozen Economy Fruit Jars Quarts, 2 dozen Economy Fruit Jars, Pints, and 3 Dozen Tops for Same” from the Kalispell Mercantile Company on 30 June 1914. On 18 October 1923, the Kalispell Mercantile Company asked if they could substitute “the Ball Mason jars with the zinc caps” for “one-quarter gross regular Kerr quart jars” since they “were out.”⁹

Historical records indicate that early settlers did not gather huckleberries exclusively for home use but also sold them both fresh and canned. Ruth McKay recalls growing up in a ranger station in the Cabinet Mountains of western Montana. In 1918, she said:

There was no indoor plumbing and we carried the water to the ranger station from a creek on the north... The stove may have been a Monarch. It had a water reservoir on the right end as you faced it; the firebox, on the left. On washdays, mother heated water in the boiler on top of the stove. This boiler also served as a canner...My brother, Stanley, and sometimes my father, hunted. Dad had a 30-30 they used to kill deer. Mother canned the venison in quart jars, processing for several hours a boiler full of jars, immersed in water. Vegetables, too, were canned this way. The kitchen stove kept the headquarters hot on summer days...We had a big garden and we all worked in it. A lot of the produce was canned and what wasn't was stored in the root cellar or buried... In summertime, we went berrying. We picked raspberries and blackcaps for eating fresh and for jam. We raised strawberries, and there were wild ones, too. Huckleberries were plentiful. Mother picked and canned gallons of them. Using them for pies, sauce, and other ways. We sold what we could.... (Vanek 1991a: 143-144)

⁹ Browning Mercantile Company Correspondence. Montana Historical Society.

Long-time Flathead Valley resident Ethel Beller remembers that “from 1900 and for several years after people were allowed three deer apiece. Pioneers camped in the mountains and canned and sold all the mountain huckleberries they wished” (Beller 1956: 23).¹⁰ This reflects the common practice of residents taking lengthy berry-picking “working vacations” in the mountains of northwestern Montana during the huckleberry season, especially during the period from 1900 through 1925. In 1920, a social announcement in the *Sanders County Independent Ledger* proclaimed that:

Mrs. J.H. Bauer and the Lux family went on a huckleberry picking excursion on Bull River last week where they picked 32 gallons of huckleberries. Huckleberries are plentiful this year and several Thompson (Falls) parties will spend next week in the mountains to secure their share of these delicious berries. (Sanders County Independent Ledger 1920: 7)

During the pre-1926 period, huckleberry outings not only provided settlers with easily available, nutritious,¹¹ and cheap fruit that they could preserve for winter, but they also offered young people a legitimate courting opportunity.

¹⁰ Alice Hamilton traveled the Huckleberry Mountain trail from Klamath Falls to the headwaters of Union Creek in southern Oregon in 1890 at age 7 and subsequently each year for 77 years. In 1908, a local paper estimated that “40,000 gallons had been picked that season at Huckleberry Mountain.” The “Huckleberry Patch” there was estimated as covering over 46,000 acres and by 1916, William (Bill) Sims had established a camp at the top of Huckleberry Mountain with 30 saddle horses and pack mules to meet “all parties” at the foot of the mountain, which was about 4 miles from the berries. Sims also employed men to “stay at the foot of the mountain to repair and guard automobiles of all parties picking huckleberries” (Helfrich 1968).

¹¹ The nutritional importance of western huckleberry has been reinforced by a 2001 USDA Initiative for Future Agriculture and Food Systems grant entitled “Western *Vaccinium* Species as Sources of Functional Foods in Managed Cropping Systems Project (Grant Number: 2001-52102-11294) at the University of Idaho and Washington State University that notes: “*Vaccinium* species (blueberries, cranberries, and bilberries) are sources of anthocyanins and other bioactive compounds. Most research has focused on species native to Europe and eastern North America. Because they often grow in rugged, isolated areas, most species native to western North America have received scant research. While the species are not presently endangered, the extent and productivity of some have been adversely affected by fire and forest management practices. As logging and road building on public land decreased, access to some species became restricted. Pending federal policies have the potential to further impede access to millions of acres of prime *Vaccinium* habitat, thereby endangering opportunities to conduct research in the future. This project will evaluate 12 western *Vaccinium* species for the presence of bioactive compounds. The species will also be evaluated for their potential as crops in managed naturally occurring stands and cultivated fields. The information from this project will be packaged for easy distribution to food processors, farmers, forest managers, and regulatory agencies. Application of the data will enhance economic development in rural areas dependent on forest resources by serving as a model for evaluating and developing sustainable non-timber forest products.” USDA Initiative for Future Agriculture and Food Systems. http://www.csrees.usda.gov/ifafs/2001/program12_01.htm. (9 August 2003).

Mona Vanek's (1991a) history of the Cabinet Mountain region is liberally illustrated with old family photographs of huckleberry "picnics" from the 1920s with such captions as:

Millard Easter, Mary Easter and sweetheart, Al Younker, take a lunch break during fishing and huckleberrying trip on the North Fork near Cabinet Idaho. Combining work and pleasure was a popular form of courting in western Montana and Idaho (p 108).

and

Lunch time. Mary Easter and sweetheart, Al Younker, and her brother on huckleberrying and fishing party on the North Fork near Cabinet Idaho (p 108).

Moreover, huckleberry gathering provided a unique opportunity for White settlers to interact with local tribal people (fig. 2). As early settler Edna McCann of Trout Creek recalls from this era:

And then huckleberry season we always would put in, well, we'd make a kind of picnic out of it. We'd take three or four days, get enough huckleberries for winter and make it kind of a picnic out of it, too... We'd go to Silver Butte, that was a good place for huckleberries then or go up Trout Creek, either place. You know, the Indians that'd come down from the



J. Russell Dahl in 1939. USDA Forest Service, Northern Region Archives

Figure 2—On the Kaniksu National Forest, 1939. "Keno Creek, Bonners Ferry District; typical Indian family camp for the huckleberry picker."

(Flathead) Reservation, there'd be a whole big bunch of them'd come at a time and camp for a week. Up on Silver Butte picking huckleberries. I always talked to 'em. Always did and I always got along good with them. Always got along good—some of them I would even recognize when they'd come back the next year... They had their favorite spots and they camped and no one ever bothered anyone else, but the mountains were full of them ... and that's something you never see anymore. I don't know if they even come down after huckleberries anymore, I never see 'em.¹²

Similarly, early Trout Creek resident Charlie Knutson recalls:

Children were fascinated by the Indians traveling through. Indians camped east of Pilgrim Creek. There's a little flat spot in there and that's where they used to camp. They always had a big herd of horses when they came in there. Us small kids used to go up there and watch them ride in that left over orchard there. They come during huckleberry season and picked huckleberries and killed game there too. ...(Vanek 1991a: 167)

Lanky Jamison, who was about 15 years younger than Charlie, also recalls the arrival of Native Americans in the Cabinets during the huckleberry season:

During the early 1920s, up until about 1925, bands of up to 100 Indians came through Noxon, traveling from Washington to Arlee and back. They'd camp behind the Noxon railroad depot on the flats between the railroad track and Marion's island. Along where Ethel Bartholomew later had her pig pens. Squaws put two poles behind the horses to form a travois. They moved early in the morning, stopping to make camp during the heat of the day. (Vanek 1991a: 167)

According to a long-time Heron, Montana, resident, "Nels," who was interviewed in 1996, tribal people would "follow the old Pend'Oreille Indian trail" and only camp in the area because they "wouldn't stay in this country. They called it 'fever country.'"¹³

¹² Edna G. Cox McCann interview transcript, 1983. Montana Historical Society.

¹³ Presumably they were referring to Rocky Mountain tick fever, which is endemic to western Montana. "Nels" interview notes, 1996.

Thus, early huckleberry picking was not only an important subsistence activity for Western settlers but also one that provided significant sociocultural encounters with Native American residents. In addition, several of these accounts also note that settlers “sold what berries they could.” The earliest record of the commercial sale of huckleberries in Montana is a response to the Browning Mercantile Company’s inquiry about huckleberries on August 11, 1926, by the Kalispell Mercantile Company:

Replying to your inquiry of the 10th. In regard to huckleberries, all say that we have been getting in huckleberries every few days and the quality has been very good. We can not say how long they will last but if you see fit to give us an order we will do our best to take care of it. For your information will say that the price has been 23¢ per lb. F.O.B. Kalispell.
(see footnote 9)

The commercial sale of huckleberries in western Montana was thus clearly occurring by the mid-1920s. It is not surprising given the exceptionally unpredictable and short gardening season that made growing domesticated fruit difficult.

Home canning was limited to household gathering and processing. However, the new Napoleonic canning technology now made fruit mass processing possible—and hence the opportunity for mass production or harvesting. Mass processing of cultivated fruit was already well-established in the Pacific Northwest thanks to the fruit canneries, but mass processing of wild huckleberries was an unlikely enterprise. Who would invest in a crop that was unpredictable, had no clear market “brand,” and no labor force ready to harvest it? By the early 1920s, those risks were about to change and the commercial huckleberry industry would be first established, surprisingly given market distance, not west but east of the Cascades in Montana.

In Montana, even more so than in the balmier regions of the Pacific Northwest, fruit production on a commercial scale was limited to strawberries in the Swan River Valley (Utter 1993), apples in the Bitterroot Valley,¹⁴ and cherries in the Flathead Valley.¹⁵ The development of the fruit industry in Montana was a historical precondition for the subsequent development of the commercial huckleberry industry because a cannery infrastructure was a necessary prerequisite for processing wild harvested berries. Two canneries in the region, one in Hamilton and the other in Kalispell, had been built to process apples and cherries, respectively. Because their supplies were very seasonally limited and their shipping costs were high, it is likely that the two canneries seized on wild huckleberries as an additional product that they could process and market. The competitiveness of the industry for huckleberries is revealed in an August 29, 1938, letter from Ora A. Miller, manager of the Flathead Canning Company in Kalispell, to Harrison J. Freebourn, the Montana Attorney General in Helena. Miller had visited the Attorney General's office in Helena earlier on August 19 for advice on

...the proper course of action to take in obtaining the necessary evidence to prosecute a case of apparent violation of the "Unfair Trades Practices Act" regarding the sale of Glacier Park Brand huckleberries made by the Kalispell Wholesale Grocery Company to a local Kalispell merchant. Invoice from that sale was dated July 19 and quoted Glacier Park Brand

¹⁴ Between 1900 and 1925, land promoters in the Bitterroot Valley created a real estate "apple boom" scheme to sell valley land to out-of-the-area settlers. At the time, the demand for fresh apples exceeded supply, and at one point, the apple boom was so great that growers had trouble getting enough railroad cars to ship the apples out of the valley. The Bitterroot apples also developed scale, and blight sometimes killed the trees. When the last apples were sent East they were rejected, and the shipping bill had to be paid by the grower. Other localities, especially Wenatchee, found they could grow apples of an equal or better quality than those of the Bitterroot. By 1930, most of the orchards went out of business. *Some Bitterroot Memories 1860-1930: A Homey Account of the Florence Community*: 12-13.

¹⁵ In 1929, the Robbin brothers of Kalispell planted 700 sweet cherry trees on land west of Flathead Lake. The next year eight Polson men further established the Flathead cherry industry when they planted several hundred more cherry trees along the east shore of Flathead Lake. By 1960, there were two marketing organizations for the sweet cherries grown in the area: The Flathead Lake Cherry Growers, Inc. at Kalispell and the Flathead Sweet Cherries Association at Polson. Of the annual cherry crop, 80 percent was marketed through the Kalispell plant and 20 percent through the Polson plant. By 1960, during the latter part of July, when the packing season is at its peak, 150 people were employed at the Polson plant and warehouse, and 400 people were employed in the orchards. Unlike the Bitterroot apple boom that went "bust," the Flathead cherry industry has continued successfully. See The Reservation Pioneers, Inc., 1962 and Fugelberg 1997.

Huckleberries at \$2.10 per dozen #2 cans or \$.30 below the actual price of \$2.40 paid to the Flathead Canning Company by the Kalispell Wholesale Grocery Company.¹⁶

The advantages of huckleberries for the local canning industry were considerable. Huckleberries ripened between the cherry and apple seasons so they could be used to sustain the summer cannery operations with fewer interruptions. They were also freely available since they grew largely on national forests where they could be picked under the Forest Service's free-use policy rather than being produced on privately owned and operated orchards.¹⁷ Huckleberries preserved well and only required sugar for sweetening. In short, they were a cheap and readily available commodity. Moreover, several centuries of American familiarity with huckleberries made them marketable to a wide range of consumers, particularly as the berries were increasingly associated with Glacier National Park.¹⁸

¹⁶ Central Trades and Labor Council correspondence. Montana Historical Society.

¹⁷ In 1933, Helmers observed: "All of the many highways, road, and trails radiating from Kellogg, Osburn, Wallace, and Mullan, regardless of the progress of construction and maintenance, are deep with dust during the huckleberry season. This economic activity is not confined to local residents, but hundreds from Spokane and vicinity have made berry picking a Sunday outing, as well as a business during the week. I have had the pleasure of seeing cars loaded with crates, pails, and particularly 5-gallon oil cans, come rattling into their favorite camps and in a few days return, loaded with the finest wild fruit that grows in our locality. Many get their supplies for home consumption; to others the berries bring a few extra dollars. Spirits are high with anticipation upon entering, and all return the same way. Garden truckers from Spokane and vicinity often barter their produce for berries and load both ways. What free use or public service offers as much? The fisherman enters all hopped up, but ah! How different he may return! Fisherman's luck! The hunter annually oils his gun. His hopes, like those of the fisherman, are keyed to a high pitch. The thrill for him is the first sight, or possible shot, at big game. Time (often valuable) and, during inclement weather, a heavy cash outlay are always involved. If he is fortunate he may bring home a few pounds of meat. The heads, of course, are more highly prized by those who go mainly for the sport of it. I have a reason to believe each big game animal is worth \$50.00 per head in any locality, for the business man, the packer, guide, gas and oil sales, et cetera. The deer estimate for 1932 on this district was 125, or a total asset of \$6,250. Our annual huckleberry crop requires practically no other investment than that usually available, and brings large returns. Wild life, free use wood, or what have you, is no comparison with the berry crop."

¹⁸ "Our townspeople and surrounding farmers are perhaps the heaviest users as fisherman, picnickers, hunters and berrypickers. Completion of the Roosevelt Highway, and of the Going-to-the-Sun Highway through Glacier Park has very greatly increased the travel through the north end of the Forest. A noticeable increase is also apparent in the number of out of-the-State repeaters who visit the lodges or resorts" (Wiles 1936).

Commercially canning huckleberries profitably, however, was not without costs. Huckleberry gathering is a labor-intensive process that requires long and tedious hours. In addition, the most productive patches are typically located on the very physically demanding terrain of steep, northeastern slopes at subalpine elevations (see Abbott 1933, Martin 1979). To maximize production over the course of the berry season, pickers would have to pay transportation and camping costs in order to gather enough berries to make commercial harvesting profitable. Thousands of pounds of berries had to be found, picked, processed, and delivered efficiently to make commercial production viable. Finally, commercially canning huckleberries, especially many miles away, was a viable, but not necessarily the only, processing means for the self-sufficient population of the region. Berries could also be shipped for resale fresh and then bought and canned or used at home. By the early 1930s, unique factors conjoined to make huckleberry harvesting a new forest industry with a diverse market in the inland Pacific Northwest.

Chapter 4: The Great Depression and the Commercial Wild Huckleberry Industry

For commercial wild huckleberry production to prove profitable in the Pacific Northwest, huckleberries had to be first located and then gathered in large quantities. In general, huckleberry distribution and productivity are influenced by the occurrence and frequency of wildfire. In Oregon and Washington, Minore (1972) found that large fields of huckleberries were once maintained by repeated natural and Native American-induced fires, and in the absence of those fires, other plant species became dominant. Fisher (1997) describes this use of fire as integral to the Yakama people's reverence for, and dependence on, the huckleberry:

Before returning to the river valleys for the winter, Yakama women periodically fired the subalpine meadows to prevent the growth of trees. The precise methods and patterns of aboriginal burning remain poorly understood, but ethnographic research has clearly established the aims of anthropogenic fire. In addition to creating open areas conducive to early successional plants like huckleberry, intentional burning and natural fires produced zones of increased natural productivity (ecotones) that drew deer and elk within range and furnished fresh pasture for Indian horses. Without regular burning, the berry fields would gradually shrink as subalpine forest recolonized the clearings. Setting fire to the meadows thus became one of the Yakamas' obligations to *wiwnu*. As Shaikut Nie explained in 1929, "This is what makes berries... While our forefathers were here they took care of everything." Fifty years later, Yakama elder Hazel Miller still remembered the wisdom of her ancestors. "God told people to burn the forest and the huckleberries would grow," she declared, "so people has [sic] been doing this ever since. This is what my old people told me." (Fisher 1997: 192)

In Montana, Miller (1977) found that spring fires increased huckleberry stem numbers as high duff and soil moisture protected the rhizomes from heat. The eastern species of lowbush blueberry (*Vaccinium angustifolium*) quickly multiplies after fire primarily because of the stimulative effects of the nutrients

released in the ash. In general, however, western *Vaccinium* species do not recover from fire as quickly as their eastern counterparts. They generally benefit more from the later increase in light and decrease in other plant competition as a result of wildfires than from changes in nutrient levels (Martin 1979). For these reasons, the massive wildfires in the region in 1910 initially curtailed huckleberry production. However, two decades later, the 1910 fires had produced the open canopy and deep humus on which the berries thrive. Thus, by 1928, hundreds of new, highly productive huckleberry acres had been created by the Great Burn of 1910, especially on the Cabinet, Kootenai, Kaniksu, Coeur d'Alene, and Flathead National Forests of the Northern Region.¹

Moreover, new Forest Service roads constructed for fire prevention after 1910 made transportation to the most productive subalpine huckleberry patches feasible:

In 1930 the road was started up Jack's Gulch south of Heron. This road was constructed primarily for fire protection, but has considerably more than paid for itself in benefits to the local community. In 1933 County Agent Armeling, figuring huckleberries at 25¢ a gallon, estimated that the road had more than paid for itself in 1931 and 1932 through huckleberries brought over it. ...In 1933 the Minton Peak road was built up to the Idaho-Montana line. Since then [sic] the Coeur d'Alene Forest Service has constructed roads so that it is entirely practical to drive this way from Huckleberry Mines on Rock Creek has been freighted over this road which is heavily used in summer by berry pickers [sic]. (Cited in Kujath 1976)

By 1928, the stock market had collapsed and with it, the region's timber and mining industries. Suddenly, experienced huckleberry pickers were

By 1928, the stock market had collapsed and with it, the region's timber and mining industries. Suddenly, experienced huckleberry pickers were available because of the Great Depression and a shortage of jobs.

¹ "Huckleberries are playing a part in the Kootenai activities, especially in the West Fisher drainage. This area is a 1910 burn with much reproduction and down timber and huckleberry brush abounding with huckleberries in season" (Bealey 1936; see also Martin 1979). The Northern Region comprises 25 million acres including forests and grasslands in Washington, Idaho, Montana, South Dakota, and North Dakota.

available because of the Great Depression and a shortage of jobs.² Having grown up picnicking and courting on huckleberry campouts, unemployed men as well as women and children were now willing to pick huckleberries throughout the region on a commercial basis.³ A.H. Abbott (1933), a district ranger on the Cabinet National Forest, noted the rapid growth in commercial berry harvesting:

Huckleberries are getting to be a major crop. The existing depression has stimulated this local industry, which by reason of extension of motorways, has been increasing rapidly in size. The value of huckleberries gathered on the Cabinet last year alone considerably exceeded the total grazing, special use and timber receipts for several years past. A conservative estimate based on Ranger Duvendack's knowledge, plus shipping reports, plus local merchants' statements, plus statements of men engaged in the work, places the 1932 harvested crop on the Noxon District alone of the Cabinet and adjoining territory along the Cabinet-Coeur d'Alene boundary in excess of fifty thousand gallons. And that does not include the large amounts gathered from other favored spots as for example, Vermillion River, or along the Cabinet-St. Joe boundary, heads of Beaver Creek, White Pine, Prospect Creek, etc.

The new road up Jack's Gulch and along the Cabinet-Coeur d'Alene boundary is a fair sample of what the situation now is. Actual count showed over 100 cars one day and it is estimated that from 30 to 40 cars per day were parked along the road. Similar use may be expected along the new road

² Fisher (1997: 200-201) explains that before the stock market crash, only a few hundred non-Native American local residents or recreationists visited the Twin Buttes country near Mount Adams every huckleberry season as a holiday focused on fruit for home consumption. However, from 1931 to 1934, this "trickle of tourists became a torrent of" nearly seven thousand jobless whites who "poured" into the mountains during the 1931 huckleberry season... Most were "transients" from across the West who had flocked to the Yakima Valley in search of work in the fruit orchards, but not having found work available and lacking the money to return home, began picking huckleberries in the mountains. In 1931, these transient pickers gathered over 60,000 gallons that were generally sold for \$.50 a gallon.

³ A retired Forest Service ranger, "Paul," interviewed in 1996, recalled that many people who picked huckleberries commercially in the Swan River region were farmers who had lost their eastern Montana farms. "Paul" interview notes, 1996.

between the Cabinet and St. Joe, for this road is readily accessible to Mullan, Wallace, and numerous small towns.

Huckleberries from the Cabinet sold in Missoula for prices from 60¢ to \$1.00 per gallon and were peddled locally for 50¢ up. The price paid by wholesale merchants dropped to as low as 22¢ per gallon, which price, however, made a fair day's wages. Many people engaged in the work to earn money, many more for home use. (Abbott 1933)

Abbott went on to emphasize that the monetary scale of the industry merited more Forest Service attention to managing the harvest, at least on the Cabinet National Forest:

The huckleberry crop also opens up a field of inquiry as to values involved. Figures don't lie, but liars can figure. Let's figure. Assuming the conservative estimate of a sixty-thousand gallon crop for the Forest valued at 40¢ per gallon equals a crop of \$24,000, capitalized at 6 percent gives a \$400,000 value for berries only. Practically all the huckleberry area is in alpine or Zone 3—(See S-Management Plans Forest Zoning 1-11-33). Add your recreation values and watershed values and the “despised and rejected of man” Zone 5 may take on values warranting a high degree of fire protection. Huckleberry areas seemingly would warrant inclusion in the so-called “Master Land Use Plan” predominant priority. Better stop before Moyer Wolff wants Special Use fees. (Abbott 1933)

Not to be outdone, E.F. Helmers responded with figures from the Coeur d'Alene National Forest:

Abbott, in his article of March 21, says figures don't lie, but liars can figure. We will not be outclassed, so here goes. The combined population in this district, comprising Kellogg, Osburn, Wallace, Burke, and Mullan, is approximately 16,000. It is also reasonable that 500 Washington cars entered during the 20 to 30-day harvest, with an average of four people, or a total of approximately 2,000. It seems conservative to state that one-third of the local 16,000 harvested berries, while all Washingtonians entered with a single purpose. This would cause a grand total of approximately 7500

in round numbers. That total number surely averaged two gallons per person for the season, or a total of 15,000 gallons.

I know of one family living on a ranch in Bear Creek that harvested over 200 gallons, and, in addition, made 20 gallons of wine (not over 3.2, so I am told).⁴ Many, of course, went for the pleasure of the trip and only to meet their immediate need. There were hundreds of young men, as well as the more mature, picking up this available pin money.

The highest market value noted was 75¢ and the lowest 30¢. Many made very satisfactory wages in the early season; later, competition became keen. Assuming an average of 50¢ per gallon would give a yield of \$7,500.00.

Our free use business in 1932 on this district was estimated at 5,000 cords at 25¢ or a total of \$1,250.00. The free use is an estimate as well as the number of people picking and the number of gallons harvested. If it is possible to accept one estimate you are obliged to accept the other.

There were no closed roads on this district last year. During 1931 permits were required for approximately one month. Two lightning fires were reported to us by berry pickers during that year. In both instances the parties returned and helped in the suppression. Last year one picker left a camp fire. Costs were \$2.40 with a fine of \$15.00. One smoker's fire was unquestionably caused by a berry harvester.

We have loudly acclaimed our free use business in the press, over Station KHQ, and in other ways. The value of huckleberries was not overlooked and received notable attention.

Abbott and Hammatt have caused us to see this new deal. We are now eagerly awaiting a new and better crop, when a more intensive study will be made than in the past. It seems to be good business to herald such discoveries, particularly at the present time, because forestry in general is now getting the

⁴ Presumably this is a reference to Prohibition and limitations on home-brewed alcohol.

greatest boost in its history from our President. We can and should make the most of it while the opportunity exists.
(Helmert 1933)

Indeed, the regional assistant forester, R.F. Hammatt strongly supported maximizing huckleberry free use and supporting the new commercial industry:

Abbott, Fitting, and Helmers have sent us some interesting and rather startling information about huckleberries. It seems that this delectable berry provides a source of income that can hardly be overlooked (particularly in these days), by our local communities or by the Forest Service.

Just how startling this huckleberry business is (for it is a business), we do not yet know, with certainty. But in an attempt to find out, in part and approximately, the writer presents a few figures. These figures, compiled by various Supervisors, are estimates. But they are estimates based on facts; estimates which the field men say are decidedly conservative.

Figures of yield are for a few Forests only; they refer to what might be termed the “concentration” areas only; they do not in any sense represent an attempt even to approximate the total yield of huckleberries from the Forests listed. Values are figured at 25¢ per gallon, the lowest recorded price paid to pickers in 1932.⁵

Forest	Picked	Value to picker ⁶
	<i>Gallons</i>	<i>Dollars</i>
Cabinet	60,000	15,000
Pend Oreille	90,000	22,500
Kaniksu	33,000	8,250
Kootenai	48,000	12,000
Flathead	20,000	5,000
Total	251,000	62,750

⁵ We calculate this rate to be equivalent to \$3.36 adjusted to 2003 dollars.

⁶ We calculate the forest value to picker to be equivalent to \$201,460, \$302,190, \$110,800, \$161,170, and \$67,150 adjusted to 2003 dollars, respectively—as Don Minore notes, “a fortune” for the time albeit collective.

It is interesting to compare value (to the picker, not the wholesale or retail market value) of the berry crop with gross receipts. Here is that comparison for three Forests. (This is being written from Washington and figures of gross receipts from other Forests are not before me.)

Forest	Huckleberries		Gross receipts
	Picked	Value to Picker	F.Y. 1932 ⁷
	<i>Gallons</i>	<i>----- Dollars -----</i>	
Cabinet	60,000	15,000	2,766.55
Pend Oreille	90,000	22,500	4,252.71
Kaniksu	33,000	8,250	17,222.49
Totals	183,000	45,750	24,241.75

Several interesting bits of information have come to light for example:

The “high land” huckleberry sells on the market at very nearly twice the price of the Pacific Coast berry. Labor-saving devices have already made their appearance. Witness the new “beater” by means of which there are gathered 50 gallons per day (as against 5 gallons by hand, and 12 to 15 gallons by use of the “scoop”), when berries are ripe. The lowly blanket, by means of which berries formerly were cleaned, is superseded in modern usage by a series of wire bottomed (parallel pieces of stove wire) troughs set on an incline, by means of which berries may be graded for size while they are being cleaned.

Then there is the stump rancher who quit one of our road crews when the berry season began and “cleaned up” \$400.00 in two months⁸; the storekeeper who (in 1931) sold 4,200 cases of fresh berries for cash which totaled \$9,450.00 (prices were higher than in 1932)⁹; the cold storage outfit in Spokane which has available a “four-and-one” combination of berries and sugar, frozen, which makes a pie infinitely superior to the canned berries from the Coast.

⁷ We calculate the gross receipts to be equivalent to \$37,149, \$59,121, \$231,280, and \$325,550 adjusted to 2003 dollars, respectively.

⁸ \$400 in 2 months or \$5,372 adjusted to 2003 dollars.

⁹ \$9,450 or \$125,920 adjusted to 2003 dollars.

Getting into the realm of speculation, one might wonder if on these “concentration” areas our policy of land management should lay stress on the growing of timber or if huckleberries may be the more profitable crop. In fact there are so many interesting angles that it might be well, before another season rolls around, to get a better basis than we now have for figures on yield (from “concentration” areas), on the number of people who harvest this Forest crop and a more definite check, perhaps, on the fact (or what now seems to be a fact) that huckleberry areas are not, despite the human concentration, a serious fire hazard. (Hammatt 1933a)

The “labor saving devices” that Hammatt referred to were essential to the industry’s efficiency. To make labor-intensive harvesting profitable, huckleberry pickers and contractors had developed specialized huckleberry harvesting technology. Historical records indicate that the first commercial huckleberry contractor as well as the “father” of this new technology was the gyppo logger in Noxon, Montana, Clifford Weare.

Weare was a long-time resident of Noxon and a logging camp operator in the Bull River valley. According to Weare’s papers, in 1925, he and John McKay (another long-time resident of the area) began selling huckleberries by advertising them in the *Butte Miner* newspaper at \$1.10 a gallon delivered rail express in a 4-gallon, 30-pound box.¹⁰ According to his papers, Weare had apparently designed mechanical huckleberry pickers and a simple but effective method to clean them by the gallons, but patenting fees had kept him from securing a patent on these inventions (Vanek 1991b: 187-193) (fig. 3). He records that 1926 was a “fairly good year” for berries because he had shipped 134 boxes totaling 4,530 pounds of fresh picked and cleaned huckleberries to 37 customers. Weare had purchased readymade 30-pound boxes from the Coeur d’Alene Box and Manufacturing Company for shipping berries.¹¹ These individual shipments ranged from a single 30-pound box to a shipment of 565 pounds that was bought by Inland Products, Spokane, a major buyer that purchased a total of 2,292 pounds in 1 month. Most

Historical records indicate that the first commercial huckleberry contractor as well as the “father” of this new technology was the gyppo logger in Noxon, Montana, Clifford Weare.

¹⁰ Heron buyer “Nels” also remembered the then-populous mining city of Butte as a large market for his rail shipment of huckleberries. “Nels” interview notes, 1996.

¹¹ “Nels” also remembers buying readymade berry crates from Coeur d’Alene.



Rebecca T. Richards in 1996

Figure 3—Handmade huckleberry “pickers” circa 1932 in the Libby Museum Collection, Libby, Montana.

individual berry orders to Weare were from Montana buyers in Butte as well as in Helena, Bozeman, Livingston, Missoula, and Whitehall (Vanek 1991b: 187-193).¹²

Weare’s success did not go unnoticed by other huckleberry industry promoters in the region. In 1926, a certain A. Holstein sent Weare a business proposition to “hit the huckleberry game for every cent there is in it this year.” His scheme was to

...maybe fix up a road up Dry Creek, throw up a log cabin or two on the mountain. There are lots of good looking laborers here at all times and if there is a bumper crop of berries in prospect, I would like to help connect the laborers with the berries and the berries with the market until we sell that whole mountain. We can give the laborers the best paying job they ever had and the merchants the best fruit they ever handled and still have something left for our trouble. What do you say? (Vanek 1991b: 187-193)

¹² “Nels” and Joe Dobravek both remember large shipments of Heron huckleberries made to White Sulphur Springs as well. “Nels” interview notes, 1996; Joe Dobravek interview tape, 1983. Montana Historical Society.

Weare apparently did not need encouraging since he remained a major huckleberry labor contractor and operator throughout the 1930s as a Depression era berry camp photograph caption indicates:

Elmer Kurwitz (shown), another member of the Minton Peak huckleberry camp, 1938-39. Berries were hauled to Weare's Station where they were cleaned and packaged for shipment.¹³

Weare was undoubtedly the earliest but not the only huckleberry industry innovator. By the early 1930s, mechanical berry picking and cleaning technology was common in the commercial camps. The picking technology first involved canvas "beaters" that were broomsticks and a hoop covered with canvas as noted by forester W.W. Larson:

Commercial huckleberry picking on the Coeur d'Alene Forest has developed into a sizable business each summer. We consider it of sufficient importance that range allotments do not allow stock to drive or graze in the recognized berry patches.

A number of crude, improvised pickers are used to gather the berries. Some strip the berries from the bushes, others beat them off into canvas aprons. Some thrash the berries from the brush into blankets and a little hand picking is done. The most common method is beating. A wire baton covered with canvas or heavy cloth, changed frequently, is used to beat the berries from the brush into a canvas apron, fashioned into the shape of a huge scoop. There always is a large amount of leaves and fine twigs gathered with the berries. In most instances, the berries, leaves, and twigs are carried to camp, where they are cleaned by various methods. (Larson 1936)

"Beater berries" often produced more juice than berries and were ultimately more difficult to clean and to market.¹⁴ In the late 1930s, a Heron, Montana, buyer named Ralph Fleming developed improved picking technology. Fleming was a Montana huckleberry operator who contracted pickers and operated a processing and shipping "house" for huckleberries at the Northern Pacific Railroad's Heron siding.¹⁵ His new "picker" was created from an oil can.¹⁶ These cans had welded tines that allowed the picker to rake berries off

¹³ Loren "Lanky" Jamison photographs in Vanek 1991b: 198.

¹⁴ "Carl and Nora" interview notes, 1996.

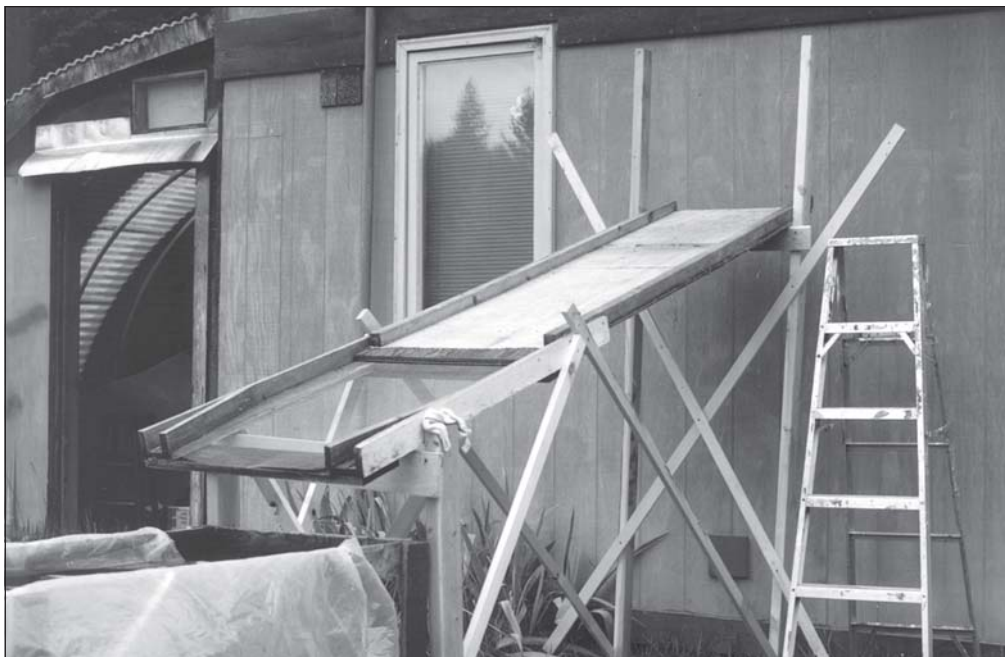
¹⁵ Joe Dobravek interview tape, 1983. Montana Historical Society.

¹⁶ "Nels" interview notes, 1996.

the bush from where they rolled directly into the can. Fleming's "picker" may have been modeled on earlier Native American combs such as those described by Turner (1997). The newly invented picker yielded a firmer, cleaner berry, but in general, it was viewed as less efficient than the previous "beater" technology:

In 1932, the Flathead National Forest (not including the Blackfoot) estimated that 20,000 gallons of huckleberries were picked on the Forest. At that time there was a debate over whether or not huckleberries in some areas of the Forest might be a more profitable use of the land than timber. By the early 1930s labor-saving devices for commercial huckleberry picking had been developed, such as a beater that gathered 50 gallons a day versus 5 (gallons a day) by hand or 12-15 (gallons a day) by scooper, and a new cleaner that used wire-bottom troughs, replacing the blanket. (McKay 1994)

The last segment of this observation indicates how huckleberry processing technology had evolved from Weare's original but unpatented berry cleaner, a sluice-box like chute or trough that allowed the berries to roll down an incline, thereby dislodging leaves, stems, and twigs (fig. 4). By 1933, huckleberry technology was in full use in the huckleberry camps as W.W. Larson reported:



Rebecca T. Richards in 1996

Figure 4—Fleming-style huckleberry cleaner, Libby, Montana.

One man made a table, similar to the agitators used in the mines, the table top approximately five-feet-by-eight-feet, with thin strips about six inches apart laid lengthwise, and guards on three edges. The table slopes two ways. Berries are poured on the table at the upper corner and run over the ripples, which catch the crushed berries, leaves and twigs. The firm, round berries go over into the container. One of the best cleaners and graders is the chute. A long strip of canvas or carpet is strung on poles and set on an incline. A catch basin is placed to allow about 16 inches to two feet between the canvas and the basin. The berries are poured in at the top of the chute and the incline regulates the speed at which they roll, the largest and firmest berries rolling the farthest, with the leaves twigs and crushed berries just making the space between the chute and the catch basin.

The berries are graded for size, quality, cleanliness and ripeness, the large berries being classed as No. 1. In practice, the No. 1 are supposed to be hand-picked and sorted, although some pickers can run their berries over the chute and defy the layman to tell the difference. Only the best berries are picked. Very little time is spent in patches that most of us would consider very good.

The berries are put on the market in pint-size paper containers and in various sized crates. The price paid for picking ranges from 25¢ to 60¢ per gallon. The market price reaches \$1.00 per gallon.

Coolers are provided by some of the pickers to protect the berries until they go to market and the marketing truck has especially constructed ice boxes.

The average person thinks of berries in terms of gallons; the berry contractor uses the term "tons." I was asked by one picker where he could find a good berry patch. He said he had to have ten tons to fill his contract. I tried not to look too simple. Within an hour another picker told me he was shipping 1,500 pounds twice a week, and he had to average 21 gallons per picker to make money. A little mental figuring proved both of them were within reason.

One day's check in 1934 showed 84 cars parked along a ten-mile stretch of the divide road, all belonging to berrypickers. One day's check in 1935 showed 92 cars in 17 miles of the divide road.

A beginning has been made to provide campgrounds for the pickers' use. However this has its [its] drawback, since the berry camps move with the available supplies of berries. (Larson 1936)

The original Weare cleaner that Larson describes was perfected a few years later by Ralph Fleming. Fleming substituted very fine wire for the canvas, burlap, or planks in the original Weare cleaner trough (see footnote 16). Long-time Bull River Valley resident, John Pilik, recalled that during the Depression

... there were about 300 berry pickers on the mountain behind (my) home in the Bull River valley. Most picking was done by hand and with home made mechanical pickers. It took 14 hours to pick five gallons by hand but when the Weare picker-cleaner was invented, five gallons could be picked in about 30 minutes... some berries were squeezed and their juice sold to customers back east. (Miss 1994)

Other observers also commented on the degree to which the new, emerging huckleberry industry depended on harvesting and processing technology:

Huckleberries are the number 1 forest crop in this group of minor products... Sometimes they are harvested on a commercial basis. On the main divide south of Thompson Falls, Montana, I saw an operator with a special machine for sorting and fanning. A crew of pickers gathered the berries and brought them to the sorter in backpack cans. A power blower fanned out the leaves, the berries were sorted and sized on screen shakers and then put into wooden crates or flats and loaded in a covered, iced truck for hauling to the city. (Simpson and Jackman 1967: 215-217)

The new technology was not only increasing the efficiency and yield of harvesting and processing berries but also becoming a cultural icon for regional identity as a Depression era huckleberry picker, "Carl," recalled in an interview in 1996:

Despite the advances in technological efficiency, the remoteness of the most productive huckleberry patches continued to make transportation of berries to market a challenge.

People in the camp used pickers. Claude Sterner's grandfather, Tom Appleby, made a picker out of knitting needles which had a spring to them (better than the ones used today, I think). When my brother died recently, they buried him with flowers on top of his casket in the picker.

Carl then brought out an old picker carved from wood, including tines, attached to a tin-snipped oil can. On the back of the picker was an inscription that read that it had been made by Carl's father in 1937.¹⁷

Despite the advances in technological efficiency, the remoteness of the most productive huckleberry patches continued to make transportation of berries to market a challenge. Once picked, huckleberries had to be transported, usually for processing and always for shipping or delivery. Often, the berries were trucked directly to urban markets, mainly Spokane, Washington, or Missoula, Montana, for resale or for processing. Frequently, however, berries were directly trucked or shipped by rail to the canneries in Hamilton^{18 19} or Kalispell.^{20 21} In the Noxon and Heron areas in the Cabinet Mountains, direct rail links made it possible to ship berries to markets outside the region. Berries were reportedly shipped by rail as far away as Saint Paul, Minnesota.²²

A long-time Heron resident, "Nels," was born in 1912 and worked as a commercial huckleberry picker at the beginning of the Depression era. Initially, he would pick 25 gallons a day and sometimes sell to the neighbors at 50 cents a gallon. Subsequently, he became a buyer and shipper. Nels described a typical day of commercial picking during the 1930s:

¹⁷ "Carl and Nora" interview notes, 1996.

¹⁸ "Each August, the Wayletts would move up to Lake Creek on the West Fisher River. There the Indians would gather to pick huckleberries. There would be as many as 400 Indians, including children. The Wayletts bought the huckleberries for \$.39 a gallon, and with their cousins, loaded them on an old truck, and took them to a cannery in Hamilton" (Libby Montana Institute of the Arts Writers Group, Inc. 1985).

¹⁹ In 1937 and 1938, "Carl and Nora" were paid \$.35 per gallon for huckleberries they picked from the West Fisher River camps on the Kootenai National Forest. The buyer was Robert Burtch from Dixon, Montana. Burtch bought berries directly from the camps and then sold them to the cannery in Hamilton. It appears that several buyers were actively competing for pickers' berries, but the primary market for them was the Hamilton cannery ("Carl and Nora" interview notes, 1996).

²⁰ Correspondence of the Central Trades and Labor Council. Montana Historical Society.

²¹ Hutchinson 1942.

²² Joe Dobravek interview tape, 1983. Montana Historical Society.

In the morning, the pickers would attach berry boxes, which were plywood frames with partitions and pack straps, to their backs. They would then hike up the mountains with the frames, pick berries, dump them into the box frames, and then haul the berries back to camp. From camp, the pickers would then set the berries along the road with their nametags. I would then make my daily run up the mountain, collect the boxes, haul them back down the mountain to the processing house where the berries would then be cleaned. I hired people to clean the berries and used a trough with a burlap covered bottom through which the berries would roll. Once the berries had been cleaned, I weighed them and paid the pickers the next day or later. The cleaned berries were then packed by workers into lined paper flats or crates that held 2 to 2 1/2 gallons of berries. I estimate that each crate was worth about \$5. These crates, which I bought in Coeur d'Alene, were then placed in express carts in the rail mail car for the daily pickup. I shipped about 3 mail carts of huckleberry crates out of Heron every day. Pickers in the mountain camp worked seven days a week (see footnote 16).

Market demands, job shortages, long hours, and the general isolation and mountain environment made huckleberry camps difficult work places (fig. 5). Nels noted that

The huckleberry season would start around the Fourth of July and go until the snow fell. Water had to be packed in and food was scarce on the Divide. We ate a lot of blue grouse. We used rocks or clubs to kill them and then we skin and fry them.

Forest Service rangers also noticed the harsh huckleberry camp conditions, none perhaps more vivid than A.H. Abbott:

The berry picking is contract work. The pickers sell their berries to market contractors, who set the picking price and berry grades. The gyppo pickers are usually family groups of one or two older people and several youngsters. The largest group last season was 23 colored people, seven adults and the rest under 18 years. Generally speaking, the pickers are folks



Figure 5—Huckleberry camp at Keno Creek, Bonners Ferry District, Kaniksu National Forest. “Typical Indian Family Camp for the Huckleberry Pickers,” circa 1940.

in hard straits. They come up to the berry patches in automobile “wrecks” and one marvels that they maneuvered them to the top of the mountain. The gasoline supply is figured out, so many miles per gallon, without respect for Old Man Mountain, and it is quite common to find pickers walking back to camp, out of gas.

Their camps, set up near the best available berry patches are open-air, dusty, wind-blown affairs, and cooking is done over open fires. One exception is the camp of the colored people. They built huts of pinegrass and beargrass woven between willows, wire and small poles, with rooms partitioned off. They add a building to the camp each year.

Camp sanitation is bad. Water is hauled either by the pickers themselves, or by the main gyppo at the time he collects the berries for market.

The pickers wear nearly worn-out clothes. The brush is dirty, the road dusty. The berries stain and the open camps add to the cause, and some of the pickers look like tough customers as they come in from the berry patches. (Abbott 1933)

Despite the harsh conditions, records indicate that payoffs for huckleberry pickers and buyers were considerable for the time. The local McKay clan in the Cabinet Mountain region were active and creative buyers, as a photograph of Bob McKay in an area huckleberry camp attests:

Maurice McKay paid his way through four years of college during the great depression with funds earned from picking and marketing huckleberries. He devised transportation to Spokane customers in an old car. Coupled with his unique marketing strategy of picking up all unsold berries from the merchants he dealt with as soon as they lost freshness, he then sold them at a discount to pie companies.²³

The entrepreneurial huckleberry spirit was not confined to local residents only. In August 1935, the *Sanders County Independent Ledger* observed:

The huckleberry grounds of Sanders county are so rich and prolific that every year hundreds from outside points camp and pick berries in the forest, besides giving employment to a great many local people who also desire to pick berries.

However, this year a large group of colored people coming all the way from Seattle, estimated at about 25 in number, are camped on the Montana-Idaho divide picking huckleberries. This area embraces partly the Kaniksu, Coeur d'Alene and Cabinet forests. They are about 12 miles out of Heron, where they have erected brush huts for shelter.²⁴

By the 1930s, the commercial huckleberry industry was a major, if not **the** major, national forest “free use” of the time. Forest managers of the time also believed that the industry was creating forest management problems, especially wildfire hazards. Reflecting the perspective of Forest Service personnel at the time, R.F. Hammatt observed:

²³ Ruth McKay Tauscher photographs in Vanek 1991b: 199.

²⁴ According to observers, this unusual occurrence had a logical regional explanation: “In the same general area (the main divide south of Thompson Falls, Montana), a group of twenty or more Negroes were picking huckleberries for delivery to the Dining Car Service of the Northern Pacific Railroad. Many of them were dining car employees, their families and friends combining a mountain vacation with an income” (Simpson and Jackman 1967: 215-217).

Art Abbott's article "Huckleberry Pie and Closed Roads" reminds me that on another Forest, not so far removed from the Cabinet, is said to have closed its motorways into some of the best of the huckleberry country last year. Repercussions from this action were heard from many quarters. Rumors have been heard of the vast huckleberry crop that was left to rot, "on the vine," as it were.

In view of Abbott's experiences in 1932, are we justified in closing motorways (in a season that is, admittedly, not a bad fire season) to keep out huckleberry pickers? Should we, except under serious fire conditions, perhaps, deliberately deprive local people and communities from a source of revenue (and recreation) such as that which Art calls forcibly to our attention? Is there another side to the picture? If so, let's have it. (Hammatt 1933b)

B.A. Bealey responded with a somewhat more tempered view that on the Kootenai National Forest:

Huckleberries are playing a part in the Kootenai activities, especially in the West Fisher drainage. This area is a 1910 burn with much reproduction and down timber and huckleberry brush abounding with huckleberries in season.

A few figures were gathered during the past season [note: 1935] and are presented here. An average of 175 people used the area for a period of 3,903 man-days. This does not include those who came in only for a day's picking or small picnic parties, but represents those who camped in the area.

Many family groups camp in the area for extended periods and pick berries by contract for the buyers. The rate paid last year was 50 cents per gallon at the patch. This activity usually extends for a period of from six to eight weeks. The commercial pickers, by the use of various devices for picking, gather from eight to twelve gallons of berries per day. These they sort, clean, and grade in the evenings. In addition to the commercial pickers, there are many who come in for a day's picking for their own use or make week-end parties, picking for the family use only. From these we have no check as to quantities picked. However, assuming that the average day's

picking would be five gallons per person for all concerned, which is a conservative estimate, there would be 19,515 gallons of berries picked at 50 cents per gallon at the patch, which would make \$9,747.50 earned by this group of people.

Sheep grazing in this area has been restricted so as to maintain the berry crop.

For the most part, the people who pick berries are those of "hard-up" circumstances. They come in all kinds of old cars. Some bring burros to carry the berries from the patches to the camp, where they are sorted, graded, cleaned and packed. Most of the pickers sell to buyers who come to the camp for the purpose of buying up the berries and hauling them to town markets. Last fall two buyers experimented with canning the berries right at the camp. The Lake Creek Camp is the central point, where about 100 people stay. Towards the end of the season, when the berries became too soft to stand transportation well, these two buyers set up an improvised cannery, cooking the berries in large open kettles over an open fire and then sealing them in regulation tin cans. The buyers reported that they made more on the berries by having them already canned for the consumer. The experiment seemed to work well, and I expect to receive application for a special-use permit to establish a small cannery. Others have talked of making application for permit to put up a small store and bakery to supply the pickers.

In all, it is a lively little industry while it lasts and presents its problems in the way of fire hazards, campground improvements, sanitation, etc. All manner of gambling goes on in the camps, from the old stand-by of craps and stud poker to the Indian game "Monty," in which the bucks and squaws both take very active parts, betting everything they have even to the clothes they are wearing.

The men have shown a willingness to cooperate very well in suppressing any fires which may start in the area or adjacent to it and do a very good job of keeping the area free of mancaused fires. No trouble has been experienced from campfires for the last five years, but the smoker still presents

...the commercialization of huckleberry picking was changing the sociocultural interaction of White settlers and Native Americans in the region. No longer did tribal people camp apart from non-Native American huckleberry pickers; rather, they joined the commercial camps as active participants but in segregated zones.

his problem and is extremely difficult to handle. The majority smoke, especially the Indians. The men, squaws, and the little Indian boys and girls down to ten or twelve years old all have the tobacco craving and in general are not so willing to restrict themselves as the whites are. (Bealey 1936)

By 1937, Kootenai National Forest Supervisor K.A. Klehm believed that the huckleberry industry should be regulated and “was no more recreational than timber cutting camps” (cited in Miss 1994). During the berry season, entire campgrounds in the Kootenai National Forest were taken over by pickers. This was especially problematic on the Kootenai National Forest where Forest Service campgrounds were limited in number because Klehm had tried to minimize federal competition with private campground owners by building as few campgrounds as possible. Klehm believed that the best type of campground for berry pickers would be an “open field with sanitation facilities.” Plans were made for a huckleberry camp at Lake Creek to accommodate 400 people on about 11 acres. The camp design created a 5-foot-wide fire trench around the camp perimeter and inside the trench, a 60-foot-wide fire strip. Immediately inside the strip were the campsites with a road and “enclosed strip” in the middle. The enclosed strip not only screened latrines and garbage pits from view but separated the Native American from the White berry pickers (cited in Miss 1994) (fig. 6).

As the Kootenai National Forest reports and campground designs illustrate, the commercialization of huckleberry picking was changing the sociocultural interaction of White settlers and Native Americans in the region. No longer did tribal people camp apart from non-Native American huckleberry pickers; rather, they joined the commercial camps as active participants but in segregated zones (Fisher 1997, Powell 1988). Depression-era pickers, Carl and Nora, recalled that for years they went regularly to the Great Northern Mountain area on a tributary creek of the Fisher River. “The Indians were on one side, and we were on the other,” said Nora.

Carl and Nora, who were both children during the 1930s, would pick with their separate families in the West Fisher camps. Nora said that her family would leave every summer from their sheep ranch at Kila, just southwest of Kalispell, on horseback. They brought a sheep wagon with them, which they lived out of for the 6 weeks they spent huckleberrying. They left around the first of August, and Nora said they always missed the first week of school. They rode their horses 75 miles from Kila to the West Fisher huckleberry camps. Carl’s brother had bought a brand new truck, and he would haul



J. Russell Dahl circa 1940

Figure 6—Berry picking, Kaniksu National Forest. “Keno Creek, Bonners Ferry District; Huckleberries picked by Indians camping in area. Indians come from Montana each year to pick berries and sell them.”

pickers up to the patch for \$0.25 ride. The adults generally picked 10 to 12 gallons a day, and the children always tried to pick 5 gallons each. Nora said that when the buyer stopped buying, they still kept picking. They would then peddle their huckleberries back in Kalispell from door to door, in the richer areas of town. “Once a woman wearing a monocle answered the door, and scared the life out of me,” Nora recalled. “I’d never seen anything like a monocle.” She sold her berries for \$0.50 per gallon when they went door to door.

At the camps, Nora said she “made friends with the White kids and played with the Indian kids.” She recalled a large White man

... with a big belly, so big that it rubbed sore from the saddle horn on his horse. He would always play the stick game with the Indians, and he always lost. He might as well have given them his money. They loved to see him coming. His name was Applebin but the Indians called him “White Man Big Apple.”

Nora’s recollections reflect the degree to which commercial huckleberry picking had apparently increased interaction between Native and non-Native Americans during the berry season even though each group remained segregated in the camp.

Not all such interaction with Native Americans was as cooperative as that in the West Fisher drainage. Powell (1988) vividly recounts the commercialization of the traditional Klamath gathering site at Huckleberry Mountain near Crater Lake and the subsequent shifts in Native and non-Native American interaction:

In 1916, Klamath Falls packer and rodeo show promoter Bill Sims headquartered a string of mules at Wagon Camp to ferry pickers' gear to the top... As many as 500 campers a season (and perhaps as many as 1,500 in an outstanding berry year) had their choice of sites scattered in several areas. The site later known as Huckleberry City was called Brandenburg Camp after a wealthy eastern Oregon family, while Huckleberry City was further down the slope.... By the 1920s, the scene at Huckleberry Mountain was beginning to change. Ed Becleheimer built the Union Creek gas station and restaurant in 1923-24, and a road passable by automobile to Huckleberry Camp was completed about the same time, as was a thirty- by forty-foot wooden dance platform at the campground. Music had always been an important part of pioneer society, and so was dancing.... The dance platform didn't last long, though. With the dancing came behavioral problems that marred otherwise cordial human relations on the mountain. Some of the problems likely resulted from boredom and smuggled quantities of "White Mule" moonshine... much of the friction stemmed, however, from resentments that grew between the young white and Native American men. "The white fellows would dance with the Indian girls but the white girls weren't as anxious to dance with the Indian boys. After a while, the Indians would get to feeling that 'they were using up our girls but they won't lend us any of theirs.'" Campers would call on the forest ranger stationed at Huckleberry Guard Station to maintain order, but the dance platform soon was torn down. (Powell 1988: 7-8)

Similarly, in the Mount Adams area of Washington, Fisher (1997) notes how the invasion of non-Native American huckleberry pickers created unprecedented, competitive pressure for berries while augmenting concerns that the commercialization of the sacred huckleberry that had been created for the

Yakama's survival was no longer being respected. He recounts how one elderly Yakama woman

... had her basket behind her and put her berries in there.
Then she heard berries go tinkle, tinkle. She looked around
and [saw that] a white woman was holding her pail [so that
the] squaw [sic] dropped berries in white woman's pail.
(Fisher 1997: 202)

By the end of the 1930s, the commercial huckleberry industry had matured. Regular huckleberry camps with an experienced workforce were established near highly productive huckleberry "patches" season after season. An innovative technology had been created to maximize harvesting efficiency and processing, and marketing and shipping systems were in place. However, World War II and the social events accompanying it would quickly shift market demand and labor supply. In 1942, Blair Hutchinson produced the first social assessment of a national forest, a report on the Kootenai National Forest's socioeconomic role in Lincoln County, Montana. In his analysis, Hutchinson noted that the commercial huckleberry industry was beginning to change on the eve of World War II

Of the forest enterprises, the huckleberry industry deserves mention more because of its uniqueness than its size. Huckleberrying is an old pastime in Lincoln County, but since the depression it has reached the status of an industry. For a two-month period, beginning sometime in July, 250 to 300 adults and many children have camped in the 35,000-acre huckleberry patch in the south end of the county. During the good seasons 20,000 gallons of berries have been gathered by hand and by various home-made mechanical pickers in the two-month period. The fruit, worth about \$8,000, has been mainly purchased by the canneries at Hamilton and Kalispell, Montana. About half of the berry pickers are Indians from Montana, Idaho, Washington, and Canada. For many of these Indians, and some of the whites, berry harvesting has been attractive mainly as an opportunity for a self-financing forest outing. The berry crop was short in 1941; it is possible that the next few seasons will continue to see few pickers in the "patch" because of improved economic conditions. (Hutchinson 1942: 9)

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Chapter 5: World War II and the Commercial Wild Huckleberry Industry Decline

By 1944, over 70 percent of American households preserved fruits and vegetables at home primarily by canning. World War II had prompted the federal government's campaign to revive the successful World War I Victory Garden program, and by the fall of 1943, there were 20 million victory gardens producing 40 percent of the Nation's vegetables in backyards, in vacant lots, and along factories. The majority of households canned 100 to 200 quarts of food, and many canned as much as 200 to 500 quarts.¹ Home canning was a mixed blessing to war food shortages, however, because:

The War Production Board diverted steel from the munitions industry to pressure-cooker production. Department stores ran films and displays on canning, society ladies enrolled in classes on it, home economists lectured on it to ladies' clubs, extension agents demonstrated it to farmers' wives, and charities taught it in the slums. Never before in the nation's history had such huge quantities of food been preserved at home. Three-quarters of America's families put up an astounding average of 165 jars a year. Novice canners using shoddy wartime equipment also produced a record number of disasters. The files of state Victory Garden committees were full of stories of "Victory Model" pressure cookers with faulty gauges, leaky valves, and a frightening tendency to erupt, as well as of exploding jars, rusted jar bands, and defective lids. Innumerable stoves were ruined, kitchens were splattered, and victims were hospitalized with severe burns, cuts, and botulism. At war's end a grocery industry analyst concluded that so many women had had "such unhappy experiences"

¹ National Center for Home Food Preservation. <http://www.fcs.uga.edu/pubs/current/intro.htm>. (21 July 2003).

with home canning that a decline was certain. (Levenstein 1993: 85)²

One of the few descriptions of the commercial huckleberry industry during World War II is provided by Powell (1988: 8) who noted that at Oregon's Huckleberry Mountain, berry picking was already beginning to decline:

[T]he advent of World War II [had] made a difference in the rhythm of the berry camp. With gas rationing coupons scarce, it was essential to plan for needed provisions to avoid gas-wasting restocking trips. People still went, but they stayed longer. The war also provided some old-fashioned excitement for pickers. Because of wartime scarcities, tourism at Crater Lake National Park fell off and the park service virtually closed the park, along with the park's garbage dump. This left a number of the park's black bears at a loss as to where to find food, and many of the dislocated bears ended up attempting to share the campground and berry patches at Huckleberry Mountain.³

The grocery industry's prediction that home canning would begin to sharply decline following the war proved true...only one in three American households canned fruits or vegetables

The grocery industry's prediction that home canning would begin to sharply decline following the war proved true. By 1973, only one in three American households canned fruits or vegetables (see footnote 1). In western Montana, freezing was becoming the preferred home food preservation technology of choice. As "Darla" of Trout Creek recalls, "I used to can huckleberries when it was so hot I just wore my brassiere! I was thrilled when I got my first freezer and didn't have to can anymore."⁴

² In a 1996 interview, 78-year-old "Velma" complained about a recent canning article in the local Libby, Montana, newspaper because it was "discouraging people from gardens and canning by making it all too complicated. Like paraffin. The only way you get mold in jelly from paraffin is if you use the same knife. He (the local extension agent) doesn't know s... from apple butter! You learn by trial and error, not from books. When they do things like that, it's worse than if they hadn't done anything at all. I have had just as much breakage from using mayonnaise jars as using Mason jars, and it is all in how you do things. They discourage people that way! People don't want to grow gardens, but grass. Then they end up taking care of grass instead of gardens. I just don't understand it. They could be growing food. Think of it, people on welfare growing grass!" "Velma" interview notes, 1996. Velma's experience illustrates how different women responded to the risks of canning depending on their level of experience and food dependency.

³ Don Minore, however, notes that "although World War II and its accompanying sociological factors must have reduced the harvest at Huckleberry Mountain, I think that natural succession probably also played a decisive role. Many formerly productive Cascade berry fields are now overgrown and unproductive" (Don Minore, technical review comments 30 August 2004).

⁴ "Darla" interview notes, 1996.

The home food preservation shift from the pantry to the home chest freezer was made possible by rural electrification. In 1916, the first electrical home refrigerator went on the market to compete with the household ice box.⁵ However, the refrigerator was expensive and required electric service to operate. With the passage of the Rural Electrification Act in 1933, many rural households became members of a local rural electric cooperative, and by the end of World War II, most rural homes could operate not only a refrigerator but also a home freezer.

Home freezers proliferated largely because of their convenience in storing meat carcasses cheaply and easily. Meat was difficult to safely can and the quality suffered. Alternatives to canning a butchered animal were to use it all immediately fresh or rent freezer space in a locker plant often miles away in town. With home freezers, households could freeze their own meat and save the trip to town.⁶

By the 1950s, both home and commercially canned fruit were slowly giving way to retail frozen fruit as well as refrigerated fresh fruit transported long distances. In 1933, only 500 stores nationwide were equipped with freezers that featured the new frozen food products.⁷ By 1940, 15,000 stores nationwide had such freezer space (see footnote 5). During the 1950s, frozen food sales exceeded \$1 billion. Frozen convenience foods such as “TV dinners” and in-flight airline meals were becoming commonplace.⁸ American self-sufficiency through home food preservation was giving way to American dependency on retail frozen products and the processed food industry.

⁵ Bryant College’s History of American Technology. http://web.bryant.edu/~history/h364material/wmn_chr/wmn-o_30.htm. (16 August 2003).

⁶ The role of meat preservation in the proliferation of home freezers is illustrated in the history of the Richardson Ranch in Tlell, British Columbia: “In 1952, Doug Richardson, Francis’s oldest son, with wife Alice, took over the ranch. They initially sold fresh beef, door to door, until power and deep freezers allowed them to sell by the side cut and wrap-ped.” Richardson Ranch. <http://www.qcislands.net/docdon/history.html>. (16 August 2003).

⁷ Frozen foods were “invented” by Clarence Birdseye, who was on an American Geographic Society expedition in Labrador in 1914. He noticed that fish caught through the ice froze stiff the instant they were exposed to the air, and they tasted almost fresh when defrosted and cooked weeks later. Knowing that mere freezing and cold storage would not preserve the quality and taste of the food, he concluded that the secret lay in rapid freezing at extremely low temperatures. For several years, he tried to commercialize his food-freezing discoveries by first freezing cabbages in barrels of seawater. By 1925, Birdseye and Charles Seabrook developed a deep-freezing process for cooked foods. Their first products were frozen fish fillets, and Birdseye then applied his quick-freezing principle to meats, poultry, fruits, and vegetables. National Food Processors Association. <http://safefood.org/history.html>. (4 August 2003); National Academy of Engineering. http://www.greatachievements.org/greatachievements/ga_10_2.html. (16 August 2003).

⁸ American Frozen Food Institute. <http://www.affi.com/factstat%2Dhistory.asp>. (16 August 2003).

By the 1960s, the canneries in Hamilton and Kalispell had closed. With the demise of canning, market demand for huckleberries not only changed but so did the labor supply. In the Montana and Idaho divide country, the post World War II era had brought a surge of new jobs in the timber industry and at the federally sponsored Libby and Hungry Horse dam projects. These were jobs with wages that logarithmically surpassed the berry prices that huckleberry buyers could offer as Carl observed:

The industry's decline was because of the better economy and jobs. There were logging jobs. We had two sawmills going making ties (railroad) for China. And there were jobs with the (Libby) dam. And eventually, the buyers just quit.^{9 10}

A 1996 interviewee of Trout Creek, "George," who once had picked huckle-berries at the old commercial site of Minton Peak on the Montana/Idaho Divide, noted that

Since the 1940s, there's not been a lot of commercial picking. We just picked for the freezer in the store. They had little compartments that we could rent as lockers. Mostly, it was locals [picking] in the 1940s. Commercial picking died out when logging started full bore in the 1950s.¹¹

However, the industry did not completely disappear. Native American pickers continued to gather berries as they always had. For the tribes of the region, "huckleberries were used for ceremonial feasts and even before the advent of the whiteman, were used as a bartering means" (Matt, n.d.). Moreover, Native Americans were less likely to be hired for the better paying jobs in the region so commercial picking provided income. Many commercial tribal berry pickers used their huckleberry earnings to help support their family-based post and pole harvesting operations. As one Confederated Salish and Kootenai tribal member noted that on the Flathead Reservation:

Most post/pole individuals instinctively plan ahead for huckleberry harvest by observing the weather patterns and trying to predict when the early frost will occur. This will give

⁹ "Carl and Nora" interview notes, 1996.

¹⁰ A picker, "Ed," interviewed on the North Fork of the Flathead in 1996 claimed that he had picked huckleberries for 50 years and that in the early 1940s, he sold his berries for \$3 per gallon. "Ed" interview notes, 1996.

¹¹ "George" interview notes, 1996.

them an indication when to cease their wood operation and begin the berry harvest. Camps are established in areas where families traditionally harvested huckleberries....The main market outlets for huckleberries are usually bought by roadside vendors or by a distributor... usually the capital made in huckleberry harvesting is invested back into truck repairs or chainsaw purchase to begin the post/pole operation again. (Matt, n.d.)

Native Americans' introduction to commercial picking in the 1930s had also become integrated into their traditional huckleberry harvesting practices in the "divide" country of western Montana and northern Idaho. K.D. Swan and J. Russell Dahl photographed numerous Native American pickers picking commercially in the Bonners Ferry area of northern Idaho in 1939 and noted that "many came from Montana"¹² (fig. 7). Native American pickers are remembered as the ones who continued to sell huckleberries at the close of World War II. The granddaughter of the original owner of the oldest huckleberry jam business in Montana, "Jane," recalls that by the 1950s, "lots of berries were brought in by Native Americans as that was who picked. Most of the whites picked for their own use, but lots of Indian families used to bring berries into sell."¹³ Conversations with Ktunaxa (Kootenai) tribal members since 1996 have revealed that many Ktunaxa adults in both Montana and British Columbia remember picking huckleberries in various traditional tribal huckleberry patches in drainages between Libby, Montana, and Bonners Ferry and Sandpoint, Idaho during the 1950s for their own use and to sell for supplemental income (fig. 8).

Most of the commercial outlets during this period were local roadside stands and a few small processors that made jam in Bigfork and manufactured huckleberry syrup for ice cream in nearby Somers.¹⁴ The lack of ready buyers in a shrinking industry brought with it the disappearance of the formerly

¹² J. Russell Dahl photograph No. 505140, USFS Region 1 archives.

¹³ "Jane" interview notes, 1996.

¹⁴ In 1988, Claude Sterner claimed to be the largest commercial buyer of huckleberries in Montana. He said that he had started out picking huckleberries to get his "school money" in 1942. By 1988, he was selling "canned huckleberry pie mix, jelly, syrup, preserves, topping, and the syrup for Meadow Gold's huckleberry ice cream." According to Sterner, in 1988, he was expecting to buy 25,000 gallons and estimated that the state's commercial buyers would purchase a total of around 30,000 gallons. Prices ranged from \$18 per gallon and more in 1990 but dropped to \$12 and \$13 for small quantities in 1991. Commercial buyers were paying around \$10 per gallon for bulk orders (Schwenneken 1988).



J. Russell Dahl, USDA Forest Service, Northern Region Archives

Figure 7—Huckleberry camp. “Indian Huckleberry Picker at Forest Service Camp on West Fisher River, Kootenai National Forest, 1939.



J. Russell Dahl, USDA Forest Service, Northern Region Archives

Figure 8—Berry picking, Kaniksu National Forest. “Keno Creek, Bonners Ferry District; Boxing huckleberries picked by Indians,” circa 1940.

centralized labor contracting, berry processing, and shipping system of the Great Depression. Pickers now had to find their own buyer and bear the cost of getting their berries directly to him or her. This reinforced the buyer/picker personal trust relationship. Pickers needed to rely on buyers to purchase their berries or they would lose not only their investment in gathering but also their costs in processing and transporting the berries. Buyers, on the other hand, required a dependable supply of berries to ensure that they remained supplied in poor berry seasons. As Jane noted:

The business has always depended on Libby pickers. Libby pickers' grandfathers brought berries to us. I had a picker in the other day, and we figured that we were now into the fourth generation as his grandchildren were picking and my grandchildren were working in our business as well (see footnote 13).

By the end of World War II, the shrinking huckleberry industry had changed and with it the summer camps of pickers. At Oregon's Huckleberry Mountain

...within twenty years of the war's end, the ambiance ...seemed to have vanished. Families grew older and changed, like the succession stages of a maturing forest. "You'd go up there and you didn't know anybody anymore," Garrett says. "And part of it was that people didn't camp like they used to. We were talking about a time when there weren't many jobs, when it was hard to get work... People would stay at the mountain until the first storms of September—or until Labor Day if they had children who had to get back to school. Nowadays, you talk about taking two weeks off to pick berries and people would think you were crazy." (Powell 1988: 8-9)

By the 1960s, the Montana and Idaho divide region had experienced a shift in commercial pickers' ethnicity as well as changes in their gender and age. Non-Native American women and their children had either joined or displaced Native American commercial pickers. Since the war, these women and children had continued to pick for household needs. "Colleen" recalled that she first started picking huckleberries in the Troy area in 1957. Her four-member family (not counting her baby sister) would pick 20 to 30 gallons, which would carry the family through the whole year. They would can berries in quart jars as fruit for the winter:

We would pick them, lay them in a beer flat and stack them near a creek to keep them cool. Now I do the same, but I freeze them in the flats so I have individual frozen berries to use in small batches.¹⁵

Gradually, non-Native American women and children also became commercial pickers, a domain that had once been occupied by male contracted workers in the 1920s and 1930s as well as “gyppo” family pickers. “Abby” of Martin City recalls her family moving into the area in 1946 for work on the Hungry Horse dam:

When we were young, we used to pick right near the entrance to the reservoir. We picked for our own use, but some of the kids picked to sell to go the fair. They got \$.50 a gallon.¹⁶

Similarly, “Lettie” recalls picking in the Hungry Horse area with a friend and their children because:

Our husbands didn’t want us working. We used the money to go to the State Fair and so we could buy things for the kids without asking our husbands for money. We would get going and pick from 7 to 11:30 in the morning, and we could pick 4 gallons a day. We would pick 4 to 5, usually 4, days a week starting around the Fourth of July on Lid Creek and then on into early September. We would easily get \$1,000 a season.¹⁷

Lettie sold her berries for \$4 to \$5 a gallon in 1965 to Byrd’s Grocery Store in Martin City. Soon, however, she discovered that she could double her income to \$10 a gallon by selling directly from her home:

Once I got an order from a woman in Hamilton, who called me. She and her friends wanted 32 gallons. I took my husbands, kids, and Melanie (her picking friend) and we managed to pick the 32 gallons in a day (see footnote 17).

Despite ethnic, gender, and age shifts, social class continued to remain a constant characteristic of the commercial huckleberry industry since pickers and observers have consistently described commercial huckleberry gathering as a “supplemental” economic activity for “pin money” or “something extra”

¹⁵ “Colleen” interview notes, 1996.

¹⁶ “Abby” interview notes, 1996.

¹⁷ “Lettie” interview notes, 1996.

and commercial pickers as “tough customers” or “in hard-up circumstances.” Most of the harvesters who engaged in 6 to 8 weeks of summer camping in the mountains picking berries day in and day out did not hold “regular jobs.” When asked how best to describe the commercial huckleberry industry between 1950 and 1980, George noted that not many people picked commercially, and those who did were mostly “poor people who were not involved in the logging” (see footnote 11). Thus, by the 1980s, huckleberry pickers had remained marginal participants in the region’s formal economy, a fact that has since remained a consistent characteristic of the industry throughout its boom and bust cycles since the mid-1920s.¹⁸

¹⁸ Priscilla Dauble recalls huckleberry harvesting in the Blue Mountains of eastern Oregon near Weston in the 1940s and 1950s as “only seasonal and usually self pick with some seasonal selling by people who lived in the Blue Mountains and advertised with a sign along side the road.” Her daughter, Darcy, recalls that she was told that “Weston Mountain was primarily settled with people from the Appalachian area who stayed there after following the migrant trail during the Depression” (Dauble and Dauble 2003. See also Carroll et al. 2003).

Chapter 6: Regional Rebound and Commercial Wild Huckleberry Industry Change

By the end of the 1970s, the regional economy in western Montana had again begun to change. In 1996, George had noted that in the previous 15 years, the country had “really boomed. People are finding the area and subdividing.”¹ George’s observations in 1996 about the “boom” in his local area are supported by the U.S. census. Between 1960 and 1970, the population of his home county, Sanders County, had grown only 3.1 percent. However, between 1970 and 1980, the county population increased an astounding 22.3 percent. Similar population gains occurred throughout western Montana between 1970 and 2000. A slow revitalization of the commercial huckleberry industry coincided with this population growth. By the 1980s, commercial berry picking had once again become a viable economic option for those people who remained marginalized on the edge of the formal economy—an economy that in turn had shifted sharply from reliance on the region’s traditional extractive industries to the new service sector.

The Huckleberry Industry During the 1980s

In 1949, a western Montana homemaker had made too many preserves from her garden and told her husband that she wished she could sell some.² Her husband took them into the local bars where they were offered as pinball prizes. “My grandfather,” according to the woman’s granddaughter Jane, “was one of those people who could sell anybody anything.” The next year, Jane’s grandmother had produced five other flavors from local fruit including black-cap, raspberry, cherry, apple, and, most importantly, huckleberry. Jane’s grandfather would load the station wagon with preserves and drive around the state selling them to stores. For years, the business remained wholesale as a result of her grandfather’s marketing. “It has only been in the last 15 years with the growth of the tourist industry that we have been retail,” said Jane.

The family had always been a solid business not only because of Jane’s grandfather’s marketing talent but because its home, Bigfork, had always had a tourist industry. Tourists would stop and buy preserves at the family’s house, and

¹ “George” interview notes, 1996.

² “Jane” interview notes, 1996.

Although the reality of homemade jam from wild berries canned by grandma was disappearing, Western residents' nostalgic connection to this family jam of the past was creating a market for commercial jam.

I don't know at what point huckleberry became "mystic" but huckleberry is one of those things that people either really, really like or they don't like at all. You could make a barbeque sauce and for those who like it, they would say, "Oh, huckleberry. I'll have to taste it." Those raised in Montana who have moved away are particularly prone to buying huckleberry products.

Although the reality of homemade jam from wild berries canned by grandma was disappearing, Western residents' nostalgic connection to this family jam of the past was creating a market for commercial jam. As Jane, then the proprietor of the family business, wryly noted, "Grandma is no longer staying home, baking cookies, and making jam. Grandma is out working and playing golf" (see footnote 2).

Hence, the "new" huckleberry industry was no longer one primarily based on a widely available, cheap wild fruit product that was gathered for processing as a commodity but on marketing a new commercial jam commodity by using the wild huckleberry as a cultural icon. By the 1980s, huckleberries were a nostalgic symbol for people, especially those who grew up in the region during the post World War II era, of a berry picking memory that they could no longer directly experience but were nonetheless loathe to relinquish. In 1978, a *Missoulian* reporter captured the strength of the huckleberry as a regional cultural symbol:

"It's [huckleberry picking] a tradition here in Montana," said Reese, a thin, blond man—a grown man, mind you, who slips back to childhood at the mere mention of huckleberries. "You haven't lived until you've had huckleberry pie, jam, pancakes, muffins. And ice cream! They're fantastic on ice cream!"...Unless you prefer to pay \$10 for a gallon of huckleberries at a roadside stand, you might consider a family huckleberry-picking outing. (Johnson 1978)

Thirteen years later, a *Missoulian* article described the revitalized growth of the huckleberry industry and described a leading huckleberry manufacturer's production:

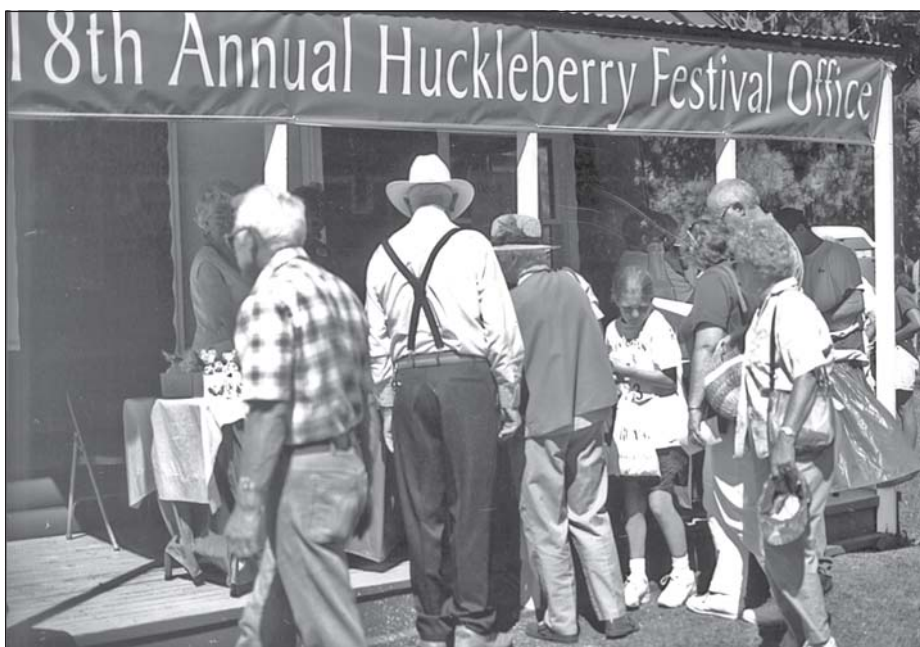
[T]he commercial demand for huckleberries has grown. Local ice cream shops feature huckleberry milkshakes, restaurants offer a variety of huckleberry desserts, and local cottage industries buy thousands of gallons. Huckleberries

bring \$12 to \$15 a gallon. “We buy about 3,000 gallons a season,” said... [the] owner. (Missoulain 1991)

By the 1980s, huckleberry products were not only marketed as a local cultural symbol but as a tourist souvenir for visitors and new residents who had no previous association with the icon (fig. 9). Huckleberries were increasingly being processed into nontraditional items like chocolates and fudge. Moreover, they were often being manufactured outside the traditional western Montana “huckleberry country” in places to the east like Bozeman or Billings, Montana, and to the south like Jackson Hole, Wyoming.

These new developments are illustrated in the establishment of a candy company near Bozeman that shipped between \$500,000 and \$1 million worth of huckleberry chocolates wholesale in 1984. The owner bought \$50,000 worth of huckleberries at \$1.75 per pound for a total of 28,571 pounds of berries. The company’s success was similar to those of other small candy shops throughout the state, so much so that the state Department of Commerce’s business assistance division’s manufacturing directory had become “obsolete” in 4 years (Sullivan 1985). In Polson, Montana, the co-owner of a candy shop commented that she had not yet run out of huckleberries for her huckleberry chocolate fudge because she “live[d] on the reservation so I buy a good portion of my berries from independents.” The huckleberry fudge sells extremely well to tourists, she said, because:

By the 1980s, huckleberry products were not only marketed as a local cultural symbol but as a tourist souvenir for visitors and new residents who had no previous association with the icon



Rebecca T. Richards, 1996.

Figure 9—18th annual huckleberry festival, Trout Creek, Montana.

I think people here are huckleberry eaters, but most of them buy it because it's a wild berry, grown in Montana, and send it on to friends or relatives somewhere else. They buy it, but not for their own personal consumption. (Sullivan 1985)

The revitalization of the commercial huckleberry industry in the mid-1980s was accompanied by the same entrepreneurial spirit and use of technology as its birth in the late 1920s. This is illustrated in the success of a huckleberry chocolate candy enterprise in Libby, Montana, begun by Depression-era huckleberry pickers Carl and Nora in 1980.³

Nora claimed that she had established the business in 1980 because she and Carl were picking so many huckleberries every year, and she had tried a Missoula-made huckleberry chocolate and decided that she could do better. Her son-in-law in Spokane was experienced in small business development, and he had helped his parents set business goals so that they doubled the business every year after 1980.

Initially, Nora and her daughter went to Spokane to a well-known store where

We were both afraid to go in and so we finally agreed to go together. We figured if we could sell to [them] we could sell to anyone. They were really nice to us there [and bought some chocolates]. We left and came back a week later, and didn't see any chocolates. We thought, "Oh, no! They were so bad that they threw them all out!" When we came in, they said, "Oh there you are. You didn't leave us your name or address. We've been looking all over for you. We sold out the day after you left."

The couple said the Spokane account helped:

They had a gift catalog and put us on the back cover, and they gave us help with our box. In the beginning it was just a white box with a ribbon [on] it. They sent us down to Seattle to Stone Container and we got a fancier box.

They owned the business for 8 years and Nora said that the success of the business was in having:

³ "Carl and Nora" interview notes, 1996.

... really good sales people, the distributors who called us. I particularly liked the Long Island distributor's accent... The chocolates became popular, especially at the Virginia Beach naval base where someone called me and said the service men were so happy to have "a taste of home"... Customers were from all over. One was a country music singer who found one of our chocolates on her hotel pillow, and she called the number on the address and ordered more—including her entire Christmas list one year. Willie Nelson was even on the list!

The couple worked 18 hours a day for 7 days a week. Every 2 months, Carl would have to make the 12- to 14-hour drive to Salt Lake City for the 1,500 pounds of chocolate that the business required. In addition, Carl and Nora would have to buy huckleberries:

We bought 80 to 100 gallons a year. One year, we had no berries in Libby, probably because of the hail. A woman with seven kids in Colville, Washington called us in response to an ad we had saying we wanted to buy huckleberries. She said she and her kids had 50 gallons. The price then was \$8 a gallon but we offered her \$12 a gallon. Her husband was in the penitentiary and when we gave her the \$500, the kids were just so excited that they could buy school clothes and what they needed. It just makes you feel really good. She called us regularly afterwards and asked us every year if we wanted to buy berries but not to feel obligated because she did have other buyers.

In 1988, the couple sold their business to a new owner "Lloyd," who said in a separate 1996 interview that the business was continuing to do well thanks to its previous owners' marketing skills:

They've [the chocolates] been a very good seller. [The previous owner] went to the Salt Lake airport and asked to see the gift store manager [about buying her chocolates]. The manager said, no, that she bought huckleberry chocolates from Jackson Hole. [The previous owner] noticed that the gift store manager was pregnant, and so she sent her some of her

huckleberry cordials wrapped in pink and blue foil wrappers. The manager was so impressed that she dropped the Jackson Hole account and took on hers [the previous owner's].⁴

By 1996, Lloyd was buying 300 to 400 pounds of huckleberries for the chocolates, which were actually one-berry-each cordials with a liquid filling. He maintained a year and a half worth of huckleberries in the freezer. In 1995, Lloyd paid pickers \$12 to \$16 a gallon. He said that the buyers regularly called each other to check on prices. Although his biggest account was the “Made in Montana” store in Great Falls, Lloyd had begun to use the Montana Department of Commerce’s office to market to the Pacific Rim:

I have a big Taiwan account now. The Japan contact, a department store, is good but you never know until an order is final. The European market is too hard to crack because of their chocolate expertise and supply (see footnote 5).

The Huckleberry Industry in the 1990s and 2000s

The Libby huckleberry chocolate company was only one of many Montana huckleberry-based businesses that became established during the industry’s revitalization in the 1980s. However, the economic impact of the industry was not yet documented, so in 1997, we collaborated with the Bureau of Business and Economic Research at the University of Montana in conducting a census telephone survey of Montana’s commercial huckleberry product manufacturers. Restaurants and ice cream parlors that might incorporate huckleberries in some of their products were excluded (Jahrig et al. 1997).

In 2004, the 1997 telephone survey was replicated to ascertain the changes in the industry in the intervening 7 years. The 1997 manufacturers were contacted, and through snowball sampling, new manufacturers were identified and contacted. In both the 1997 and 2004 surveys, the major manufacturers were asked to provide information on products produced, sales value, market areas, volume of berries processed, geographic source of berries, and employment involved in manufacturing huckleberry products for the preceding year (1996 and 2003, respectively). Additional questions were added in the 2004 survey asking manufacturers about berry supplies, pricing, and quality.

⁴ “Lloyd” interview notes, 1996.

Changes in the Montana Wild Huckleberry Industry Profile

In general, response rate to the initial survey was high. Of the 14 major huckleberry manufacturers identified for inclusion in the 1997 survey, 13 (93 percent) agreed to participate. However, the response rate among the 1997 processors was lower in the 2004 survey. Of the original 13 manufacturers responding in 1997, 9 (69 percent) agreed to complete the survey in 2004 while 2 would not participate, 1 was no longer in business, and 1 could not be contacted. In addition to the 9 processors who participated in the 1997 survey, 12 new processors were identified through snowball sampling during the course of survey administration. Of these 12 new manufacturers, 7 (58 percent) were successfully contacted and agreed to complete the survey while 4 could not be contacted, 1 refused, and 1 was already out of business. Thus, the total sample size for the 2004 survey comprised 16 huckleberry processors.

Compared to 1997, 10 percent more huckleberry manufacturers were operating in Flathead and Lake Counties in 2004 (table 1). Fewer processors were operating in Lincoln and Sanders Counties than in 1997 while the number of manufacturers in counties outside the traditional strongholds of the industry, the Flathead and Libby areas, remained relatively constant.

On average, manufacturers surveyed in 2004 had been in business almost 4 years longer than those surveyed in 1997 (table 2). This may reflect not only the maturity of the industry but also the relatively high number of carryover respondents from 1997. The mean number of years that a 2004 manufacturer had been in operation was 12.5 with the oldest processor having been in business 55 years and the newest processor having been in business 3 years. In addition, the 2004 manufacturers had been the owner or operator of the business about 3 years longer than the 1997 processors. However, the 2004 manufacturers on average had operated 129 fewer days than the 1997 processors. This reduction in operating days is reflected in the 46-percent reduction in the number of full-time employees employed by the 2004 processors compared to the 1997 manufacturers.

Huckleberry Products Produced and Sales Values

Although wild huckleberry product manufacturing continues to produce over \$1 million in sales annually in Montana, total sales by Montana huckleberry processors for 2003 were 26 percent lower than the adjusted totals for 1996

Table 1—Geographic concentration of Montana huckleberry manufacturers, 1997 and 2004

Area	1997 manufacturers (n = 13)	2004 manufacturers (n = 16)
	<i>Percent</i>	
Flathead and Lake Counties	46	56
Lincoln and Sanders Counties	31	19
Other	23	25
Total	100	100

Table 2—Profile of huckleberry manufacturing operations, 1997 and 2004

	1997 manufacturers (mean)	2004 manufacturers (mean)
Years in business	11.7 (n = 12)	15.4 (n = 16)
Years in ownership	10.4 (n = 12)	13 (n = 15)
Days in operation in previous year	273 (n = 12)	144 (n = 15)
Number of full-time employees in previous year	3.5 (n = 13)	1.6 (n = 15)

Table 3—Reported sales value and market share of Montana huckleberry products by Montana huckleberry product manufacturers in 1996 and 2003

Product	1996 ^a (n = 13)		2003 (n = 15)	
	Value	Market share	Value	Market share
	<i>Dollars</i>	<i>Percent</i>	<i>Dollars</i>	<i>Percent</i>
Jams, jellies, preserves	840,466	54	447,693	39
Chocolates, candies	314,149	20	263,040	23
Syrups, toppings, honey	243,281	16	216,772	19
Beverages (including beer, mead), vinegar, lotions, raw berries	102,050	7	185,000	16
Ice cream	46,862	3	29,000	3
Baked goods	10,695	1	15,900	1
Total	1,557,503	100	1,157,405	100

^a Prices adjusted to 2003 dollars.

sales for the manufacturers surveyed in 1997 (table 3). In addition to an overall decline in sales, the more traditional huckleberry products that had dominated the market in 1996 lost market share in 2003. Where jams, jellies, and preserves accounted for over half of the total sales of Montana huckleberry processors in 1996, they contributed only 39 percent in 2003. The greatest change was the growth in nontraditional products such as beverages (including beer, mead, and juice), vinegar, and lotions as well as the resale of unprocessed berries.

Huckleberry Product Market Areas

Manufacturers were also asked to indicate market areas where products were sold at the point of sale but not necessarily at the final destination. Local sales were defined by the community where the manufacturing facility was located or other communities within 50 miles of the facility. Processors were also asked to provide information on regional sales, which were defined as those sales outside the local market area including all of Montana, Idaho, and the Spokane, Washington, area. The share of “other sales” regions were located outside these local and regional market areas including mail-order sales outside these markets.

In 1996, most huckleberry products were sold locally (table 4). In 2003, the share of regional sales approached that of local sales and together, regional and local markets accounted for more than three-quarters of processors’ total sales. “Other” sales, consisting of national and international sales, remained relatively constant over the 7-year period.

Volume of Berries Processed and Geographic Source

In 1997, Montana huckleberry manufacturers reported that they had processed about 59,000 pounds of huckleberries into products in 1996. In 2004, manufacturers reported an 18-percent decrease in berries processed in 2003 (table 5). This decline is reflected in the decrease in total product sales over the 7 years. The smallest manufacturers processed 750 and 100 pounds in 1996 and 2003, respectively, and the largest manufacturers processed an estimated 20,000 pounds in both 1996 and 2003. The geographic source of berries remained relatively constant as manufacturers reported in both years that over 80 percent of the berries that they had processed had been harvested in northwest Montana with the remainder gathered in north Idaho.

Table 4—Sales value and market share of Montana huckleberry products by region for 1996 and 2003

Region	1996^a (n = 13)		2003 (n = 15)	
	Value	Market share	Value	Market share
	<i>Dollars</i>	<i>Percent</i>	<i>Dollars</i>	<i>Percent</i>
Local	732,028	47	417,945	40
Regional	451,675	29	395,810	38
Other	373,800	24	218,990	22
Total	1,557,503	100	1,157,405	100

^a Prices adjusted to 2003 dollars.**Table 5—Source of berries received for processing by Montana's huckleberry product manufacturers in 1996 and 2003**

Source	1996 (n = 13)		2003 (n=15)	
	Volume	Volume Share	Volume	Volume Share
	<i>Pounds</i>	<i>Percent</i>	<i>Pounds</i>	<i>Percent</i>
Northwest Montana	49,950	85	45,452	94
North Idaho	9,100	15	2,700	6
Total	59,050	100	48,152	100

Table 6—Geographic locale of Montana's huckleberry pickers in 2003

Area	Harvesters (n = 17 locales identified by 15 manufacturers)	
	<i>Percent</i>	
Lincoln and Sanders Counties (Troy, Libby, Trego, Trout Creek)	47	
Flathead and Lake Counties (Kalispell, Whitefish, "Flathead")	24	
Missoula	12	
Other (Lewiston, transient, unknown)	18	
Total	100	

Berry Suppliers in the Huckleberry Industry

Montana's huckleberry processors continued to depend on wild berries because no manufacturer surveyed in either 1997 or 2004 reported buying cultivated huckleberries. However, processors reported that they had bought huckleberries from fewer pickers (mean = 24, $n = 13$, range = 1 to 100) in 2003 than they had in 1996 (mean = 28, $n = 13$, range = 1 to 130). About half of Montana's huckleberry product manufacturers surveyed in 1997 said that they relied on the same core of pickers from year to year (Jahrig et al. 1997). In contrast, 4 (31 percent, $n = 13$) of the 16 manufacturers surveyed in 2004 reported that they relied on a main core of pickers for their berry supply.

Manufacturers surveyed in 1997 reported that pickers supplying them with huckleberries generally lived near the berry source in the northwestern Montana communities of Libby, Troy, Eureka, Kalispell, Hungry Horse, Bigfork, St. Ignatius, and Missoula (Jahrig et al. 1997). This labor force generally remained local in the 2004 survey with most of the manufacturers reporting that the pickers who supplied them came from the Libby area of Lincoln and Sanders Counties or the Flathead Valley including Flathead and Lake Counties (table 6). However, 27 percent of the manufacturers responding to the 2004 survey ($n = 15$) reported that this "main core" of pickers had changed since the 1997 survey, and all noted that fewer "old timers" were selling berries to them. Reasons for this change included manufacturer observations that "locals do not pick as much as they used to [and] kids no longer pick," and "I used to buy only from pickers but now I buy from contractors as well."

The 1997 telephone survey did not ask respondents about contractors who might supply them with berries. However, "contract crews" had become more frequently mentioned as key berry suppliers in the intervening years so the 2004 survey included questions regarding the use of contractors as berry suppliers. Five of the processors responding in 2004 reported that they generally relied on one to two contractors to supply them with berries (mean = 1.6, $n = 15$). Contractors were well-known to these manufacturers because on average, those supplied by contractors had bought from the same individuals for almost 5 years (mean = 4.6 years, $n = 5$). However, not all contractors were local since one manufacturer commented that "the contractors are transient but the pickers are local." Another noted that "contractors are buying large quantities (of berries) on site and the sellers of raw berries are more organized. Pickers are also becoming more attuned to the market."

Berry Supply, Pricing, and Quality

Huckleberry processors that were interviewed prior to the 1997 survey reported that they did not depend solely on annual purchases but on “holding over” annual purchases from one season to the next by freezing berries (see footnote 2). Freezing berries for several seasons buffered the buyers from seasonal shortages and subsequent price increases to pickers. Manufacturers responding to the 1997 survey reported that they “held over” 47,075 pounds of berries with a mean of 3,621 ($n = 13$) pounds per processor. In 2004, manufacturers reported that they had held over one-fourth as much (11,861 pounds total), and 22 percent as much per processor (mean = 791 pounds, $n = 13$, and range = 0 to 8,500 pounds). This reduction in holdover reflects the higher prices that processors were paying for berries and the reduction in berry supply.

Huckleberry manufacturers surveyed in both 1997 and 2004 were asked in which years they had paid their highest and lowest price per pound of berries. In general, over half of the manufacturers who responded in both 1997 and 2004 reported that they had paid their lowest price between 1988 and 1994 (table 7).

Table 7—Years in which manufacturers surveyed in 1997 and 2004 reported paying the highest and lowest price for huckleberries (unadjusted prices)

Year	1997 manufacturers		2004 manufacturers	
	Lowest price paid ($n = 7$)	Highest price paid ($n = 7$)	Lowest price paid ($n = 13$)	Highest price paid ($n = 15$)
<i>Percent</i>				
1988	14			
1989			23	
1990	14		8	
1991				
1992	14	14		
1993		14	8	
1994	14	14	15	
1995		14		
1996	43	43		
1997				7
1998			8	7
1999				
2000			8	
2001				33
2002			15	13
2003			15	40
Total			100	100

For each year preceding the survey, processors reported that in 1996, the average lowest price paid was \$2.27 a pound with a range of \$1.80 to \$3.00 while in 2003, the average lowest price had risen to \$2.97 a pound with an even greater range of \$1.60 to \$5.00.

Over 80 percent of the processors surveyed in 2004 said that they had paid their highest price between 2001 and 2003 (table 7). Where the manufacturers surveyed in 1997 reported an average highest price paid per pound of berries of \$3.11 (with a range of \$2.55 to \$3.40), the manufacturers surveyed in 2004 reported an average highest price of \$4.93 (with a range of \$2.50 to \$6.00).⁵ Forty percent of the manufacturers who responded in the 2004 survey claimed that limited access to berries after the regional wildfires of 2000 and 2002 had reduced supply and hence increased prices. Other reasons that 2004 manufacturers cited for the recent peak in berry prices were supply reductions from increased competition, especially from “big, out of state” businesses, and poor weather.

Although many factors affect pricing for any given year, table 7 illustrates that many manufacturers paid their highest prices in recent years (2001 to 2003) when supply was low. Moreover, in both the 1997 and 2004 surveys, nearly all responding manufacturers emphasized in comments that cleanliness of berries was critical to their buying decisions and pricing. The berries had to be relatively free of stems and leaves, and most responding processors preferred that the berries not be washed but rather cleaned dry. Freshness was the second most often mentioned criteria for buying berries. Generally manufacturers didn’t want berries that had been picked more than a couple of days prior to buying them. Other criteria included plumpness and ripeness of berries. To a few manufacturers, berry size was important (Jahrig et al. 1997).

In contrast, manufacturers surveyed in 2004 generally specified only two major criteria that they sought in the berries they bought: 93 percent of 15 processors reported that they required cleaned and/or stemmed berries, whereas only 50 percent required “ripe” berries. Many processors noted that a “canrake” was often used for picking berries, and no processor stipulated that the berries had to be exclusively hand picked.

⁵ These prices reflect the observations of Daniel Barney, who has attempted to cultivate wild huckleberries for commercial use, that the last “bumper crop” of wild huckleberries occurred in 1994. See also Geranios 2003.

Industry Prognosis and Change

In the 1997 survey, manufacturers identified four major factors that they perceived as negatively impacting the Montana huckleberry product industry, but did not rank these in order of significance. These four factors were (1) berry picking restrictions and fees imposed by the public land management agencies, (2) the closure of roads by public and private timberland managers that restricted access to berry sites, (3) the harvest of huckleberries by out-of-state pickers and shipment to out-of-state processors, and (4) reductions in timber harvest and past fire suppression practices that reduced long-term berry production (Jahrig et al. 1997).

When manufacturers surveyed in 2004 were asked about the future outlook for the huckleberry processing industry in Montana, they expressed similar concerns. They were somewhat divided on the future of the industry with 54 percent reporting a positive prognosis and 46 percent a more negative one ($n = 13$). Manufacturers' positive views included the industry's ability to offer a quality, unique product to a healthy market with increasing demand, the greater availability of berries, and more diverse products. One manufacturer noted that "more processors have been good for business as products and labels are more competitive and help to promote business all around." However, this generally positive view was countered by other manufacturers who complained about deteriorating product quality, declining supplies of berries, and increasing manufacturing costs.

In addition to reduced berry production because of wildfires and drought, other factors cited by manufacturers who viewed the industry pessimistically included out-of-state competitive pressure, high manufacturing costs, the lack of product regulation, and poor business practices within the industry as key inhibiting factors. One manufacturer noted that "as a small operation, (we) cannot compete against large operations and the cost of berries rising." Another noted that "out-of-state processors are putting pressure on local markets." Particularly problematic manufacturing costs mentioned included Universal Product Code (UPC) labels, "colorful" product labels, and high transportation expenses, especially in trying to expand a local business.

The lack of product regulation and poor business factors were often-cited industry problems. One manufacturer noted that “an increase in processors and the limit (shortage) of huckleberries have led to increases in price. Producers may supplement with other fruits.” Other manufacturers claimed that “the use of blueberries in products and calling them huckleberries has resulted in a diluted market and a saturation of products,” and “nobody wants to regulate it [the use of blueberries and calling them huckleberries].” Another manufacturer commented that “increased demand has encouraged the use of blended berry products” and another claimed that “growing demand has led to the use of artificial flavoring due to the growing expense of the berry.” This was supported by another processor’s complaint about “the use of synthetic flavoring and poor quality.”

In contrast to these comments about the lack of regulation, other manufacturers reported that they feared increased regulation as “new innovative products and inspection processes could drive up the price of hucks and the Feds will require pickers to have a license.” Another commented on the “rising Forest Service fees to pickers” and a third manufacturer worried about “do-gooders closing up forests for bears” thereby reducing access to berries.

Manufacturers were also divided on the possible future use of cultivated huckleberries in the industry’s products with some claiming that “domestication would be good” to relieve supply and demand pressure. In contrast, other processors noted that a “cultivated berry will harm the industry by destroying Montana’s uniqueness.” These latter comments could be construed to reflect manufacturers’ recognition that although the numbers and demographic profiles of pickers are changing, we cannot, as Don Minore (2004) emphasizes, put a value on “clear air, mountain scenery, and the satisfaction of a full berry bucket.”

Chapter 7: Technology and Commercial Wild Huckleberry Industry Change

The fears many manufacturers have about losing a unique, quality wild huckleberry product to artificial flavoring, dilution with other fruits and blueberries, and the substitution of a cultivated huckleberry for the “real thing” reflect the ambivalence in the industry toward the role of technology in altering production and supply and demand fluctuations. On one hand, the development of berry picking and cleaning technological innovations ensure a more efficient and hence cost-effective commercial industry. On the other hand, these technological innovations are often viewed as producing an inferior product and jeopardizing sustainable wild berry production. More recently, processors have reflected similarly ambivalent attitudes toward U.S. Department of Agriculture extension efforts to cultivate the *Vaccinium membranaceum* plant for commercial berry production (see Geranios 2003).

According to Carl and Nora, quality control was critical to their early huckleberry chocolate candy success in the 1980s as they recalled

...a business in Kalispell that would buy berries and freeze them in big garbage bags. They were beater berries with lots of juice and smashed. They didn't wash or clean them or anything, just froze them. Then they would take them out and they would explode. You never saw such a mess. I told them not to do that, but they wouldn't listen. They eventually went out of business and went to Alaska. But they gave the huckleberry business a bad name.¹

Carl claimed that the 1930s-style mechanical “pickers” still in use were hard on the huckleberry patches because they stripped the new foliage, but the bushes nonetheless recovered after a year. However, the “beaters” were worse, he claimed, because the gatherers would beat the bushes down to the ground. He noted, however, that there was “a lot less beating than there used to be because the buyers won't buy beater berries.” His claim was substantiated in the 1997 telephone survey of huckleberry manufacturers when some manufacturers reported that they required berries that were hand picked rather than picked with mechanical devices because mechanical devices damaged the berries (Jahrig et al. 1997). The processors who were surveyed in 2004,

¹ “Carl and Nora” interview notes, 1996.

however, expressed less concern about buying hand-picked huckleberries, although clean, ripe, and stemmed berries are still generally required.

As in the 1930s, the revitalized commercial huckleberry industry of the 1980s depended heavily on the pickers' ability to harvest thousands of pounds of berries efficiently and cleanly. It also depended on the traditional "free use" policy of the Forest Service, and the agency's willingness to provide access to the huckleberry patches during the season. The first factor, technology, has proven to be a constant phenomenon as the industry has expanded; and it is discussed here. The second factor, free use and forest access, has become more problematic and is reviewed in chapter 8.

Commercial huckleberry pickers have relied on the initial, albeit improved, technology first developed by the pickers and buyers of the Depression era. In the 2004 huckleberry manufacturer survey, 78 percent (n = 9) of responding processors who knew how the huckleberries that they bought had been gathered claimed that some sort of picking technology had been used either solely or in conjunction with handpicking. Of these manufacturers, 67 percent identified the key technological tool as the "canrake" or "picker" discussed in chapter 4.

For example, Colleen, a long-time huckleberry picker in Troy, said in a 1996 interview that she had bought her picker from a local manufacturer in Noxon (fig. 10):

I have [his] picker. He sells small pickers. Four of the small pickers, about one quart size or coffee can size, equals a gallon. The little ones are \$25.²

In addition, Colleen had a Weare-style cleaner with a burlap bottom that her husband, a carpenter, had made based on the instructions that they had been given by a local buyer in Noxon. Colleen said that as the season progressed, the couple raised the cleaner's incline higher and higher so the riper berries that were juicer than the early season berries could roll with "less mess."

Ed, who was interviewed in 1996 on the North Fork of the Flathead also said that he used a picker, but only later in the year because when he used the picker too early, too many green berries were picked along with the ripe ones. He used the picker later on when there were fewer leaves on the bushes and when most of the berries were very ripe.³

² "Colleen" interview notes, 1996.

³ "Ed" interview notes.



Rebecca T. Richards, 1996

Figure 10—Huckleberry “canrake” or “picker” manufactured by “Bill” in Noxon, Montana.

Not only has the commercial picking and processing technology remained essentially the same since the 1930s, but the manufacturing of this technology has remained a local, in-house operation. The hardware stores in Libby, for example, do not sell huckleberry pickers or cleaners. A would-be buyer has to know someone who manufactures them and buy one from that person directly.

One such local manufacturer in 1996 was the interviewee, “Bill,” who had retired from the Forest Service and was living in Noxon, Montana. Bill had been raised in Idaho and his wife, “Joan,” in nearby Heron, Montana. Both Bill and Joan had picked huckleberries for years.⁴ Joan always picked by

⁴ Joan said she used to pick regularly and that the family sold their berries as well as used them at home. Since they had retired, however, she hadn’t picked in the last 4 years. She said as a family they used to pick 100 gallons a summer, and on a good day, they could pick 25 to 30 gallons collectively. They used to sell them frozen to Rocky’s Café in Spokane for pies. Bill said that Rocky’s used to ask for them in quart-size plastic bags so they could just put them in the pie shells directly from the freezer. Bill said Rocky’s had been sold and the new owner called for huckleberries and asked him for some. Bill said, “How much?” and the new owner said, “All you’ve got.” They took him 90 gallons and hadn’t heard from him since. In general, Joan said they got about \$10 per gallon. Her sister, she said, had made from \$3,000 to \$4,000 a summer picking huckleberries. However, 15 years ago, Joan thought that there hadn’t been any market to speak of. Few local people picked commercially, and there weren’t many migrant pickers.

Bill couldn’t remember how they got the restaurant contract, but he thought it was by knowing a waitress there who got her boss to order berries. “Bill and Joan” interview notes, 1996.

hand, and she kept asking Bill to pick with her. He didn't like picking huckleberries, especially picking them by hand. So he made a picker, and when Joan discovered that Bill could pick more berries than she could, she started using a picker too. Bill began making pickers commercially when other huckleberry gatherers noticed his picker and started asking him to make them one. He had based his picker design on "someone else's picker" and had since continued to innovate.

To make his pickers, Bill collected empty coffee cans, mostly standard 3-pound cans. MJB⁵ was his favorite because MJB was his favorite coffee, and the cans were tall. The extra height allowed him to fit the picker handles on the can with less bending. During winter, Bill tried to manufacture most of his pickers. First he would cut the wires for the tines. He cut several thousand tines at a time. Bill had discovered that he had to use tempered steel for the tines or otherwise they wouldn't maintain their shape. In the beginning, "Joan had to straighten bed spring coils as that was the only supply of tempered wire we could find" he said. "That didn't last long!"

After he cut the wires, Bill bent each wire by hand by putting an angle "mold" in a vise to hold it. Then he hammered the wire once. That set the angle of the tine at about 45 degrees. Next, he sanded the oil off the base of the tine and rounded the edges of the tip. He inserted the tines into a half disk of galvanized tin with about 20 holes about ¼ inch apart and then soldered the disk onto the side of the coffee can at the top. This kept the berries in the can as well as holding the tines.

Next Bill had to construct a galvanized tin bale or flange that he soldered around the top edge of the can. This facilitated the berries going into the can and helped keep them from falling out of the can. Bill had noticed that after he had spent some time picking that his hand got sore, especially his thumb, from holding the flange. Therefore, he had improved his flange design by cutting a V-shaped groove in the back of the flange above the handle. This was a resting place for the thumb.

Because he used acidic solder throughout this process, he then had to prepare two finishing baths, one of baking soda to neutralize the solder and another of ammonia, soap, and water to remove the first neutralizing bath

⁵ The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.

precipitate. Because this process left a rusty sort of residue, Bill then dried the cans on the top of a wood stove in his garage. He said, "I'm probably the only person in Noxon running his stove in August!"

To soften the thumb groove and relieve still further pressure on the thumb, Bill then cut a piece of rubber. His current problem was trying to keep the rubber firmly in the groove since he presently had to use three types of glue: one to stick to the rubber, one to stick to the tin, and one to stick to each other. He said, "If they can glue tiles onto the space shuttle, I should be able to find a glue for my picker."

Bill then attached the picker handle, which he bought "ready made." Since coffee cans had changed in size since he had bought his handles, he had to bend each handle. This was particularly true for the smaller, 2-pound can pickers, which he made only occasionally. He then riveted the bent handle onto the can.

The next step was the recent innovation of puncturing a hole in the bottom of the can to drain the water from berries picked in the rain. Bill said puncturing the hole was harder than it looked because there could not be any sharp edges that would damage the berries protruding on either side of the puncture. Therefore, he had to punch out each hole and then sand it.

Finally, Bill would paint each picker. He had several colors, but a few years ago he had wanted a distinctive color for his picker so he had found a huckleberry purple color. "Then," he said, "everyone wanted that color, and so that is now the most popular." After the paint had dried, he would attach a gold sticker with his and his wife's names and their address and phone at Noxon just above the handle.

In the last few years, Bill had decided to number his pickers. His numbering scheme was to use the last digit of the year, e.g., 6 for 1996, preceded by the number of the picker, e.g., 296 would have been the 29th picker he made in 1996. He did this because he wanted to know how many pickers he had made. He also wanted to know how long they would last with both normal and abnormal use.

Bill demonstrated how to use his picker. First, he put on a glove because without a glove his hand became very sore holding the picker. Then he went out into his yard and held the picker under a raspberry branch with his right hand. He then pulled the branch through the tines, held the branch with his left hand, and drew the picker towards him. As he did so, he jiggled it very lightly. The analogy he made was to combing knots out of your hair: "Just do it this way several times, gently from the top, going deeper each time." Bill

then recounted a story about a man who had bought a picker from him and returned it a week or two later with completely bent tines. He figured that the man had been very aggressively pulling the picker through the branches.

Bill claimed that many people who came to him to buy a picker wanted to pay him less than the \$35 that he charged. “They didn’t want to pay \$35 for ‘just a coffee can’,” he said, “so I had to tell them how much work it involved.” Sometime ago, he said, one buyer wanted to buy Bill’s pickers in bulk for his crews. The buyer wanted a cut rate, but Bill wouldn’t give it to him and always made him pay in cash as “he was quite a wheeler dealer.”

Bill had also made a huckleberry, Weare-style cleaner for his and Joan’s use. It consisted of one chute with two angle irons at both ends from which he had run wires over the bottom of the trough. Grooves in each angle iron held the wires one-fourth of an inch apart. The wires were loose. At the top of the chute were two handles that Bill turned to tighten the wires so they were taut: “The first cleaner that I ever saw had a handle made from a crank for a Model A Ford motor,” he said.

At the bottom of the chute was a large wooden box. This was the collection box for the berries as they came down the chute. The twigs and leaves and green berries would fall through the wires, and the berries would go in the box. In a corner of the box was a large, triangular flange from which the berries could be poured back into buckets for washing.⁶

Bill said Joan washed all the berries in the sink in dishpans and removed the stems. He said other more elaborate cleaners had burlap runs, which their owners claimed would help remove the stems. Joan said she had tried the wool blanket cleaning method once, but said “it didn’t work, and I would rather stand at the sink all day cleaning berries instead.” Joan was appalled at a pie that they had eaten once that had been full of huckleberry stems: “I can’t understand why someone would buy stemmy berries. I never sold berries with stems on them.”

Both Bill and Joan said they had often talked about giving up the huckleberry business altogether because of the amount of work involved. Bill wasn’t interested in patenting his picker because of the cost. He thought patenting would cost \$10,000 and that he would never make that many pickers to cover

⁶ According to Bill, he only had a one-time customer for a cleaner. They were a couple from Helena who had bought his pickers and came to Noxon to pick huckleberries regularly. They had seen Bill’s cleaner and had paid him \$125 to make them one. Bob said he wouldn’t make cleaners again because that one took him 5 days to make and then “the guy never used it because he left it in Helena.” “Bill and Joan” interview notes, 1996.

the fees. Moreover, Bill didn't want his business to get any bigger. If someone else wants to take my design, that's fine," he said. "Then it (patenting) becomes their problem." He continued to make the pickers, he said, because he wanted to give the local pickers an advantage over the growing number of nonlocal crews of commercial pickers. He wondered, however, if his "pickers" were too efficient and if he wasn't contributing to the picking pressure.

Both Bill and Joan said "migrant" pickers had increased in recent years—with "migrant" being anyone from out of the local area. Joan said that while picking huckleberries recently, she had seen Oregon, Washington, Idaho, Kalispell (Montana) and other "out-of-area" plates. She said that they had both heard shots fired before, but the incident that seemed to have upset them both the most was when a local man's dog had bitten Bill on a huckleberry trip:

We had gone picking and parked near the man's rig. The dog was underneath the car and when I walked by, the dog bit my hand. We went into the patch anyway, and the dog came out and began snarling at me. I picked up a large stick and said, "Get out of here ... before I kill you." The man then came up and told me that the dog was like a member of the family. I said "If he's a member of the family, then teach him some manners." The man then said that the dog was just protecting his (the man's) huckleberry patch. This infuriated Joan. She was so upset that he never apologized. When we got home, we called the man to find out about the rabies shot, and Joan blistered his ear for about an hour. I later called the sheriff and said that we wanted to go back up Vermillion picking in the morning. I told the sheriff to come down and talk to the man. The sheriff told me just to take a gun and shoot the dog if I had to. I said that might mean having to shoot the man as well since he was so defensive about the dog. The sheriff then said, "Well, then, shoot him, too." I told him that I didn't think that the huckleberries were worth killing someone for and convinced him to go talk to the man. Finally, the man called us and apologized.

This incident illustrates the types of conflict that have been recounted and publicized in the wake of the revitalized commercial huckleberry industry since the 1980s. It also reflects the management dilemmas that have been

confronting the Forest Service in addressing the commercial harvest of huckleberries, some of which are related to the controversial use of industry technology. These dilemmas include:

- Ecophysiological questions about harvesting methods on the long-term viability of *V. membranaceum/globulare* sustainability.
- The long-term ecological effects of natural succession and the disappearance of productive huckleberry fields associated with fire suppression and plantation-oriented forest management.
- The potential competition of the commercial industry with grizzly bears (*Ursus americanus*) for huckleberry supplies.
- Tribal concerns about the implications for traditional harvesting rights and practices.
- Equity concerns of ensuring forest access for marginalized ethnic, gender, and age groups of pickers.

In the next chapter, these huckleberry management issues and possible management approaches to mitigate them are reviewed.

Chapter 8: National Forest Management Issues and the Commercial Wild Huckleberry Industry

During the 1930s, the Forest Service was encouraged to promote “free use” of the natural resources of the national forests. To do so, the agency managed the wild huckleberry commercial industry without picking fees and permits, as described in chapter 4. Fifty years later, the same agency was increasingly challenged to implement “fee use” and thereby charge harvesters for commercial permits. In response, huckleberry pickers claimed that if the Forest Service was going to charge them for harvesting permits, the agency should start ensuring access to the berry fields by opening roads that were seasonally closed for wildlife protection and begin to manage the berry patch as a forest resource in its own right.

These views are reflected in the comments of Bill, the huckleberry-picker manufacturer in Noxon:

Burning would help clear out the brush. The fields are closing in and the only good remaining areas are Chicago Peak and Government Mountain where there is a clearcut on the west side of the Rock Creek road. Vermillion had been good, but it's closed for grizzly protection and is on the other side of the river. White Pine is only occasionally good. The district recognizes that the Chicago/Government area is popular picking and when it closed Vermillion, it kept Rock Creek areas open. The district knows that if they close the Chicago and/or Government picking areas, there will be major objections.¹

Because many of the most productive huckleberry fields historically have been in prime grizzly bear habitat, especially in the Cabinet and North Fork of the Flathead regions, road closures for grizzly bear protection in “huckleberry country” are common. The huckleberry picker, Ed, was more sanguine about national forest road closures:

I agree with the philosophy behind them [closures]. I realize that you have to walk into areas where there are berries. But if

¹ “Bill and Joan” interview notes, 1996.

there was no road closure, then the berries would not even be there at all because someone would have picked them already. So it's better to be able to pick them even if you have to walk than not have them at all.²

The problem of forest access to berries has also become a broader public issue given consumer concerns that commercial huckleberry picking has over-exploited the berries on which grizzly bears depend. As early as 1991, the produce manager of the Good Food Store in Missoula was selling fresh huckleberries in season and frozen berries year-round that she bought from commercial pickers:

"Five years ago I had one picker who would bring in about three gallons a week....," [the manager] Page said. But for two years running, beginning in mid-July, pickers have called Page daily offering far more than the 50 pounds a week she needs to keep berries on her stores shelves, Page said. One caller last year had 300 pounds of huckleberries to sell and this year, another had 150 pounds... Page expressed concern that perhaps too many huckleberries are being harvested at the expense of damaged plants and food shortages for wildlife. "For us as a staff it has begun to raise an issue of basically how ethical it is," Page said. (Tuholske 1991)

Following the low huckleberry production years since 1994, more complaints began to surface in local letters to the editor:

On National Public Radio (Sept. 7) the plight of Montana's bears and the lack of food they have this year was the spotlight. Specifically, the huckleberry and other forest berry crops are very low this year, and the bears are starving. To add to their misery, commercial huckleberry pickers, vastly more efficient than the bear, are getting what small crop there is. I urge your readers to give huckleberry and other forest berry products a miss this year and give the bears a better chance.... (Missoulian 1998c)

I am writing on behalf of the bears since their pleas for help seem to go unheeded, for the most part. I am referring to the

² "Ed" interview notes, 1996.

huckleberry crops that are ravaged every summer. I fear that few are left for the bears; please think of them. Gallons upon gallons are sold to eating places; and individuals who may be overlooking the fact that bears crave and need this delicacy before winter and hibernation come need to refrain from hoarding all the fruit. No wonder the bears raid man's domain. Could it be that missing the berries causes them to seek help in the only way they know how, to come to people's yards?... (Missoulia 1998b)

In response, other readers wrote to defend the huckleberry industry:

I thought that (the) statement that we should "boycott" huckleberries and huckleberry products because they are rightfully for the bears was just ridiculous. I would like to ask...if she has ever drunk milk, which was intended by nature to be for newborn and nursing calves. Or, if she has ever eaten an egg. Eggs were and are the beginning of life for all birds and most reptiles. Without eggs, these animals would become extinct. What about honey? Honey is made for bees (painstakingly I must add) for their larvae, and to survive the winter....If bears can't find enough huckleberries, then they will eat more fish, or more blue- or thimble- or goose- and all the other kinds of berries that also grow in the woods that are not harvested by humans. Either way, bears will still go for a nice juicy llama, or a fat sheep once in awhile, and they will still attack people whenever they feel like it. (Missoulia 1998a)

In the wake of the revitalized huckleberry industry, complaints about "beaters" and other damaging harvesting methods were also being publicized:

There are reports of bushbeaters, picking "rakes" that comb the berries and strip leaves from the plants, people who cut or tear out bushes to harvest them, even one report of an automatic picker... [Stern]. also told of a crew from Washington that uses a beating technique to harvest entire hillsides, although the method breaks branches and damages the plants. He said the crew had been reported in successive years working around Noxon, Libby, the Yaak, and the North Fork...(Schwennesen 1988)

With the complaints about harvesting practices came rumors that pickers were also going to try to secure “special use” permits for certain prime areas and the implications of “competitive bidding for huckleberry patches that might not yield a good crop every year” (Schwennesen 1988). Such questions in turn brought:

...concern from the Salish-Kootenai tribes about the berry harvest. The tribes have a potent interest because the Hellgate Treaty of 1855 secured them “the privilege” of gathering roots and berries on open and unclaimed land in western Montana. (Schwennesen 1988)

By 1996, the Forest Service was only beginning to systematically address the management issues involved in ensuring fee use for all the commercially harvested nontimber forest products in the Northern Region.

By 1996, the Forest Service was only beginning to systematically address the management issues involved in ensuring fee use for all the commercially harvested nontimber forest products in the Northern Region. In 1995, the Flathead National Forest had implemented recent “fee use” policy by offering commercial huckleberry permits for \$80 a season or daily permits for \$4 a day with an \$8 (2-day) minimum requirement. That year, 16 commercial huckleberry permits were sold on the Flathead including one seasonal permit and 15 daily permits for a total of \$208.³ In contrast, the Kootenai National Forest, which was the last national forest in the federal system to sell Christmas tree permits, was continuing the historical agency policy orientation of “free use” for huckleberry harvesting in the Libby area and did not yet require a huckleberry fee permit in 1996.⁴

Since 1996, the Northern Region has attempted to ensure more systematic implementation of the “fee use” agency policy by requiring relatively consistent permit regulations across all the national forests within the region:

Recently, in the Northern Region of the Forest Service, new regulations came into effect for huckleberries, mushrooms, beargrass, and other non-timber forest products. For huckleberries, a permit is not required for recreational huckleberry picking under 10 gallons per season. Commercial pickers must obtain a commercial huckleberry permit from the appropriate national forest ranger district.⁵

³ Gary Dahlgren, Flathead National Forest interview, 1996.

⁴ Bob Krebs, Kootenai National Forest interview, 1996.

⁵ Lolo National Forest. <http://www.fs.fed.us/rl/lolo/passes/other.htm>. (24 June 2004).

This shift has directly resulted from the part of Public Law 106-113 legislation passed by Congress in the 2000 Appropriations Act titled “Pilot Program of Charges and Fees for Harvest of Forest Botanical Products” for the National Forest System.⁶ This federal legislation defines forest botanical products as “any naturally occurring mushrooms, fungi, flowers, seeds, roots, bark, leaves, and other vegetation (or portion thereof) that grow on National Forest System lands.” It directs the Secretary of Agriculture to develop and implement a pilot program to charge for forest botanical products through the establishment of appraisal methods and bidding procedures. The legislation also requires analysis regarding the sustainability of harvest levels and exempts personal, but not commercial, use from fees. Language in the 2000 Appropriations Act further required that the fees collected from harvesters cover various agency administrative costs. In 2003, Section 339 of Public Law 1006-113 was amended so that forest botanical product fees are not only set by an appraisal process but also require that at least a portion of fair market value and costs are recovered. Section 339 extended federal authority to collect fees to September 30, 2009.⁷

In May 2004, the Forest Service announced the pending publication of the interim final rule that implemented the forest botanical product pilot program required by Public Law 106-113 in the Federal Register.⁸ Although the spring 2004 Federal Register stated that an interim final rule would be published in July 2004 (with public comment to end in September 2004), the interim final rule was not published in July, so the dates will be readjusted. Once the interim final rule is published, it will be in effect and guide the sale of special forest products and forest botanical products as well as establish the harvest

⁶ U.S. Laws, Statutes, etc.; Public Law 106-113, div. B, Sec. 1000(a) (3)[title III, Sec. 339]. Pilot Program of Charges and Fees for Harvest of Forest Botanical Products. Act of Nov. 29, 1999. Page 113 Stat. 1535, 1501A-119-200; 16 U.S.C. 528.

⁷ U.S. Laws, Statutes, etc.; Public Law 108-108, Sec. 335. Act of Nov. 10, 2003. Page 117 Stat. 1312.

⁸ “The Forest Service is promulgating regulations for managing special forest products and forest botanical products. The regulations will guide the Forest Service in the administration of the broader category of special forest products. The interim final rule also implements Public Law 106-113, which authorizes a pilot program of charges and fees for harvest of forest botanical products (Appropriations Act H.R. 3423, section 339, Forest Botanical Products). Forest Botanical Products include products, such as herbs, berries, seeds, and wildflowers that are not wood products. The intended effect of this rule is to give guidance and consistency for the sustainability and sale of special forest products including forest botanical products.” Federal Register. Vol. 69, No. 123. Unified Agenda, Department of Agriculture (USDA), Office of the Secretary. 7 CFR Subtitle A. Semiannual Regulatory Agenda, Spring 2004. Part III. 69 FR 37173. Rin: 0596-AB81.

fees to be collected by the Forest Service. Following the publication of the interim rule, the public will have 60 days to respond with comments for the Forest Service to consider in the development of the final rule (Weeks 2004). In the meantime, draft Forest Service regulations to implement the pilot program's charges and fees are currently in review. The Pacific Northwest Region (Oregon and Washington) and the Alaska Region have special forest product appraisal systems developed and posted on their Web sites, and the Northern Region is still in the process of system development and dissemination.

As the Northern Region has moved from the traditional free use to the more recent fee-use policy for commercial special forest product use, huckleberry harvesting issues continue to make systematic and consistent resource management difficult to implement. As noted in previous chapters, many pickers and buyers have claimed that improperly applied mechanical harvesting methods damage the long-term sustainability of the berry bushes. Such claims are particularly common regarding the "beaters" as well as pulling bushes out of the ground and picking the berries off the branches conveniently from the back of a pickup truck. Less objectionable, but ultimately much more controversial, is allowing the use of the mechanical "canrake" picker. Although many harvesters believe that careful use of the picker does not significantly damage the berry patch, there has been limited scientific evidence that indicates mechanical pickers may negatively impact huckleberry production in the wild. Stark and Baker (1992) claim that such pickers or "rakes" damage the bushes since

Rakes can remove 20 percent to 30 percent of the foliage, resulting in a 15 percent to 25 percent reduction in starch storage. Reduced starch availability will reduce growth and in some cases fruit production for the coming year. The leaves normally remain on the bushes for one to two months after the fruit ripen and store photosynthate for future energy demands. (Stark and Baker 1992: 49)

In contrast, Daniel L. Barney has used berry rakes and finds that they can be used so that less than 5 percent of the leaves are removed. He claims that rakes are most effective on *V. parvifolium* and *V. ovalifolium* because of the orientation of the fruits and canes and moderately effective on *V. membranaceum* and *V. deliciosum*. He notes the complex ecological factors that may interact with raking and bush sustainability. These include the plants' recovery potential from damage to foliage by other herbivores, pests, and

diseases. Additionally, by the time the fruits are harvested, particularly at higher elevations, the leaves have already completed photosynthesis for the season. Moreover, berries are borne on current season wood, that is, wood that had started growing in the spring so that during late summer harvesting, the wood that will bear next year's fruit has not yet formed. However, actually breaking or cutting canes off at the ground will severely damage bush viability such that it may require 10 to 15 years for the plants to recover (Barney 2004).

Given the ubiquity of the "canrakes" that huckleberry processors surveyed in 2004 reported pickers using, a complete prohibition on mechanical pickers may not be realistic Forest Service management policy. Policy that emphasizes careful and informed use of mechanical pickers may be more effective in securing not only greater compliance with permit regulations but the long-term sustainability of productive huckleberry areas. In 1996, the law enforcement officer for the Hungry Horse Ranger District noted that at the time, huckleberry management policy on the Flathead National Forest did not prohibit actual possession of the picker but rather use of the picker when using it had clearly damaged the huckleberry resource. He noted that this policy was not only enforceable but would often provide "teachable moments" as when he:

found a picker with his bucket half full of leaves and told him [the harvester] that he couldn't do that. The picker wasn't happy. But I told him if he did that, that the berries wouldn't come back and that the bushes needed the leaves to survive.⁹

Because huckleberry production has been poor in the years since 1994, widespread concern has been expressed about the degree to which commercial huckleberry harvesting reduces the potential food supply of huckleberries for bears, especially threatened grizzly bears. As early as 1992, Stark and Baker noted that:

Unfortunately, continued interest in the wild fruit has placed increasing pressure on wildlife, particularly bears that are strongly dependent on summer huckleberries to provide the energy needed to store fat for the long winter hibernation. The most accessible areas are heavily picked by humans, and many of these same areas are frequented by bears. While there is occasional starvation among small populations of juvenile bears, only a portion of the problem is related to

⁹ Mark Stanley, Flathead National Forest, interview notes 1996.

human use of bear habitat. The problem will increase, along with human/bear conflicts, as humans enter more remote areas in search of more and better fruit. Some areas will decline in fruit production in the next 25 years or so because of advanced development of the stand. (Stark and Baker 1992: 84)

The dependence of grizzly bears on huckleberries is very high in the Northern Rockies since energy-dense foods such as salmon are not available. Thus, regional wildlife studies have found an association between berry abundance and bear reproductive success (e.g., Jonkel and Cowan 1971, Young and Ruff 1982). This annual dependence on berries has more recently been documented by Martinka and Kendall (1986) for grizzly bears in Glacier National Park as shown in figure 11.

This annual dependence of grizzly bears on huckleberries is even more pronounced during the huckleberry season from mid-July to mid-September as shown in figure 12.

Because bears have such low reproductive rates, a small decline in the annual number of cubs can be significant in the health of an overall population (Craighead et al. 1974). Because successful reproduction is more likely among female bears with higher body masses, the variables affecting prehibernation body fat are critical to species as well as individual bear health (Jonkel and Cowan 1971, Rogers 1976, Stringham 1990, Young and Ruff 1982).

Although the general dependence of bears on berry availability has been well established, only recently have field studies begun to quantify the foraging constraints inherent in this dependence. These include the interaction between berry size, density, and presentation that determines the bear's bite size, bite rate, and intake rate as well as other physiological factors. In a key 1997 study, Welch et al. (1997) found that the number of berries that a bear can eat per minute is primarily constrained by two competing processes: the search time required to locate berries dispersed among leaves and the time required to mechanically take a bite (of berries). As berry density increases or as berries became more clustered, the search time of the bears for forage is reduced. Thus, one way that bears can maintain a high bite rate, and hence a high intake rate, is to move constantly through the berry patch so that they

The dependence of grizzly bears on huckleberries is very high in the Northern Rockies since energy-dense foods such as salmon are not available.

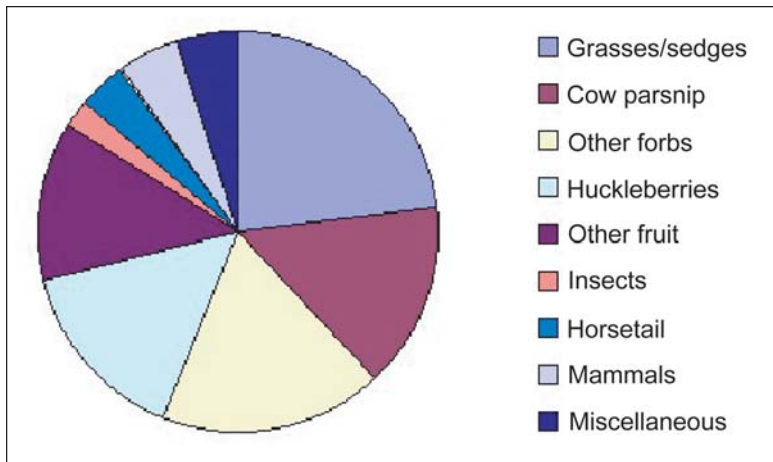


Figure 11—Proportionate contribution of major food classes to seasonal diet volume of bears in Glacier National Park 1982-88. Source: Martinka and Kendall 1986 as cited in USFS Grizzly Bear and Black Bear Ecology. <<http://www.nrmssc.usgs.gov/research/grizzlyb.htm>>. (20 June 2004).

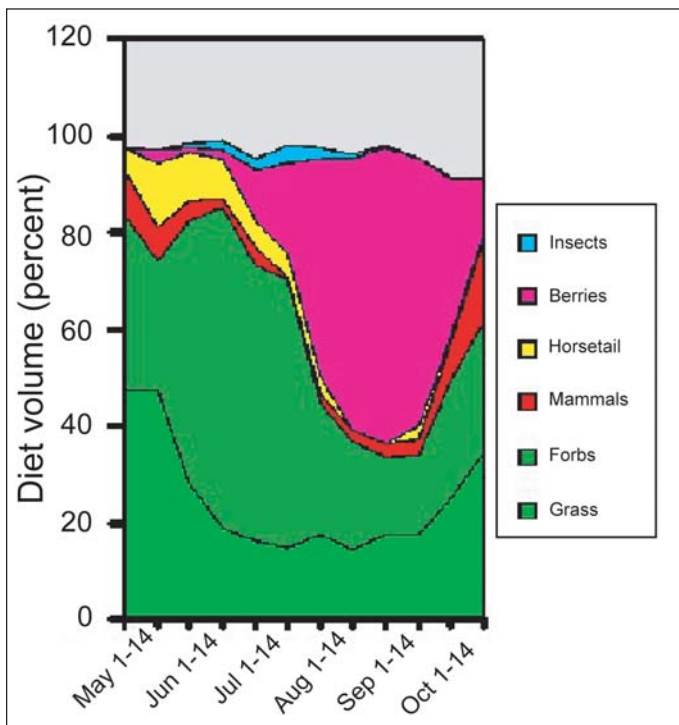


Figure 12—Bimonthly bear food habit in Glacier National Park from May 1 through October 14, 1988. Source: Martinka and Kendall 1986 as cited in USFS Grizzly Bear and Black Bear Ecology. <<http://www.nrmssc.usgs.gov/research/grizzlyb.htm>>. (20 June 2004).

feed only at the highest berry densities (i.e., high-grade). The researchers concluded that the importance of this berry high-grading for successful bear foraging

...may have implications in areas popular for wild berry harvest, where humans, who also high-grade the most visually apparent berries, may directly compete with bears.

During years of poor berry production, human berry pickers could be confined to specific locations where they would be asked to harvest all berries on the shrub, leaving the most visible berries in other locations for bears. (Welch et al. 1997)

However, the implications of this important study for bear survival should not overshadow the economic and cultural needs of human harvesters. Prohibiting forest access to highly productive and well-known huckleberry areas through road closures is already very controversial among huckleberry pickers. Developing a geographically restrictive policy that protects bear foraging while allowing picker access remains a management challenge, especially since huckleberry production has declined over the last 10 years. Nevertheless, picker attitudes, such as those of Ed, reflect potential widespread harvester support for wildlife protection. Huckleberry management policy that includes educating harvesters on bear foraging behavior is likely to result in more acceptable area restrictions than blanket rules that fail to explain important bear foraging needs in the berry patch to the public.

Effective huckleberry management in the Northern Region will continue to have to balance economic and cultural uses. In 1932, forest supervisor J.R. Burkhardt of the Gifford Pinchot National Forest met in council with members of the Yakama tribe in response to the thousands of non-Native American pickers that flooded the area during the Great Depression. Burkhardt agreed to set aside 2,800 acres and three campsites on the Mount Adams Ranger District for exclusive tribal use during the huckleberry season. Known as the “Handshake Agreement,” the setaside could not legally be enforced, but Burkhardt’s concession, which was primarily motivated to ensure huckleberry access to Native American elderly women, has been honored ever since. In recent years, the agreement has been written into the forest management plan for the Gifford Pinchot National Forest and thereby guarantees tribal access even beyond the 1978 American Indian Religious Freedom Act. As a prototype cultural use zone mechanism, the Handshake Agreement provides a unique

Effective huckleberry management in the Northern Region will continue to have to balance economic and cultural uses.

example for other national forests to follow, especially where intense competition for a particular forest resource like huckleberries exists between Native and non-Native Americans (Fisher 1997, 2002).

At present, no such setaside agreement between the national forests of the Northern Region and the resident Native American tribes exists although tribal concerns about the commercial huckleberry industry have been regularly expressed. Between 1996 and 1998, several members of the Confederated Salish and Kootenai tribes, including members of the elder councils, expressed great opposition to any commercialization of the huckleberry resource at meetings attended by one of the authors (Richards). Even greater concern was voiced by members of the Ktunaxa (Kootenai) Nation in southeast British Columbia because of the lack of significant reserve land and the tradition of harvesting huckleberries across the Canadian border in northern Idaho and northwestern Montana. Although their participation in the commercial huckleberry industry in earlier years was motivated by the lack of other income opportunities, the tribes today are more concerned with preserving traditional gathering and cultural significance. In some cases, they are also interested in developing their own commercial industry as well. Forest Service huckleberry management policy in the Northern Region will undoubtedly have to develop ways to address regional tribal concerns and cross-border tribal/First Nations rights in the future.

Since its inception in the late 1920s, the commercial wild huckleberry industry has been characterized by a labor force that whether migrant or local has typically lacked other wage options. As described in earlier chapters, during the Great Depression, commercial huckleberry pickers were often, but not exclusively, unemployed men. This demographic labor force largely shifted to many Native American family pickers as well as non-Native American women and children during the 1940s through the 1970s. More recently, commercial huckleberry pickers have included a large number of the elderly dependent on social security and younger residents dependent on public assistance as reflected in the comments of Jane, the Bigfork buyer:

I often see men pick and the women stay home with small children and wash and clean the berries. One woman was in here recently complaining that she had been up until 3 in the morning cleaning berries. If you've got small children, you're going to have to stay home. Women do pick, and in general, the families that I see do depend on the huckleberry since I'll

ask them where so and so is, and they'll say, 'Oh, he has a real job now'. The impression I get is that these people are not working and huckleberries are an important income for them. The people in Libby pick a lot. The impression I get is that they use the money for extras, for things like school clothes, the fair.¹⁰

Other commercial pickers include non-English speaking immigrants to the region as noted by another buyer, "Liz":

Before 1994, I had a contract with a Boise company to buy 7,000 lbs of huckleberries. They gave me the buckets and all. This gave me the cash to buy my own huckleberries from the pickers. But in 1994, [my ex-husband] and his Cambodians started picking in northern Idaho around Sandpoint and Bonner's Ferry and sold their berries at \$1.75/lb [to the Boise company]. So I got no contract with Boise that year. I had enough in the freezer for the season and then that was it.¹¹

Since the 1990s, the summer farmer's market in Missoula has included numerous Hmong family stands that sell fresh huckleberries from early July through August and often later into September.¹² In 1996, the first author met with many of the Hmong community at a meeting in Missoula to inquire if any were interested in participating in interviews. Following lengthy discussion in Hmong, leaders at the meeting indicated that they did not approve of participation. They expressed concerns that as Hmong, they were being harassed at their picking spots, and some indicated that they were gathering huckleberries primarily in Idaho to avoid such incidents.

Because commercial huckleberry pickers are very typically marginalized from other wage-earning opportunities in the formal economy and may also have language barriers, securing representative public participation in Forest Service huckleberry management planning has been difficult for agency

¹⁰ "Jane" interview notes.

¹¹ "Liz" interview notes.

¹² Following the withdrawal of U.S. forces from Laos during the close of the Viet Nam war, the U.S. government offered refugee asylum to the Hmong villagers who had assisted U.S. special forces in fighting the North Vietnamese in Southeast Asia. Because a key special forces officer, Jerry Daniels, was from Missoula, many of the Hmong families requested settlement in Missoula in the late 1970s (Mary and Lue Yang, personal communication).

officials. As McClain (2002) notes, disseminating information and generating widespread participation among pickers of wild mushrooms, who are similarly marginalized, requires a much greater investment in time and human resources than the Forest Service typically allocates to public involvement. The cost of this exclusion is not only a loss of equity but a loss of opportunity to gain important local ecological knowledge about resource production and sustainability (McClain 2002).

The recent 2004 huckleberry processor survey findings indicate that competition from “large, out-of-state buyers” for huckleberries with small, local Montana-based enterprises may be increasing. If so, this competition may parallel the consolidation of the wild floral green industry in western Washington. There, a few larger companies now control most floral green leases on private and state lands, and the labor market is dominated by Latinos, many of whom lack legal work documents and thus occupy a precarious place outside the formal economy (Lynch and McClain 2003). Future research is needed to determine the extent to which the wild huckleberry industry in the Pacific Northwest is part of this general trend. This is especially important given the 7-year shift away from local sales to regional sales reported by the Montana huckleberry manufacturing industry.

According to Alexander et al. (2002), exports of fresh wild blueberries (*V. angustifolium*) from the Eastern United States have remained relatively constant since 1993. However, international exports of frozen and canned wild blueberries, especially to Japan, have risen. As the awareness of the high levels of antioxidants for huckleberries and blueberries increases, demand for wild *Vaccinium* leaves and berries may increase for medicinal and food uses in the world market (Alexander et al. 2002). Additional studies are needed to determine the role of wild huckleberries from the inland Pacific Northwest in the *Vaccinium* world market and global commodity chains. Given the historical importance of the commercial huckleberry industry to rural households in the region, especially during periods when other income earning opportunities are reduced, such research will inform not only forest managers of the role that commercial demand plays in sustaining the huckleberry resource but inform rural development efforts to improve the lives of citizens who too often have been marginalized from other economic opportunities.

As the awareness of the high levels of antioxidants for huckleberries and blueberries increases, demand for wild *Vaccinium* leaves and berries may increase for medicinal and food uses in the world market.

Metric Equivalents

When you know:	Multiply by:	To find:
Inches	2.54	Centimeters
Inches	25.4	Millimeters
Feet	.3048	Meters
Miles	1.604	Kilometers
Acres	.405	Hectares
Quart	.945	Liter
Gallons	3.78	Liters
Tons	907	Kilograms

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Table 1—Distribution of *Gaylussacia* and *Vaccinium* species in the United States^a

Genus/species	Synonyms for species names	Common names ^b	Distribution ^c
<i>Gaylussacia</i> spp.^d			
<i>G. baccata</i>		Huckleberry, black huckleberry,	Upper Midwest, Appalachia, and New England
<i>G. brachycera</i>		Box huckleberry	The Southeast to Pennsylvania
<i>G. dumosa</i>		Dwarf huckleberry	Upper Midwest, Appalachia, and New England
<i>G. frondosa</i>		Dangleberry	Appalachia and New England
<i>G. mosieri</i>		Wooly berry	The Southeast/Appalachia
<i>G. ursina</i>			The Southeast/Appalachia
<i>Vaccinium</i> spp.^e			
<i>Vaccinium</i> sect. <i>Cyanococcus</i>			
<i>V. angustifolium</i>	<i>V. pensylvanicum</i> , <i>V. pensylvanicum</i> var. <i>angustifolium</i> , <i>V. pensylvanicum</i> var. <i>nigrum</i> , <i>V. nigrum</i> , <i>V. pensylvanicum</i> f. <i>leucocarpum</i> , <i>V. brittonii</i> , <i>V. angustifolium</i> var. <i>laevifolium</i> , <i>V. angustifolium</i> var. <i>nigrum</i> , <i>V. lamarckii</i> , <i>V. angustifolium</i> var. <i>hypolasium</i> , <i>V. angustifolium</i> f. <i>nigrum</i> , <i>Cyanococcus angustifolium</i>	Early blueberry, low bush blueberry, late lowbush blueberry.	Upper Midwest, New England, and northern Appalachia
<i>V. boreale</i>	<i>V. pensylvanicum</i> var. <i>angustifolium</i> , <i>V. pensylvanicum</i> var. <i>alpinum</i>	Northern blueberry	Upper New England, New York to Maine
<i>V. corymbosum</i>	<i>V. amoenum</i> , <i>V. fuscatum</i> , <i>V. virgatum</i> , <i>V. formosum</i> , <i>V. disomorphum</i> , <i>V. ligustrinum</i> , <i>V. myrtilloides</i> , <i>V. elongatum</i> , <i>V. grandiflorum</i> , <i>V. marianum</i> , <i>V. albiflorum</i> , <i>V. corymbosum</i> var. <i>fuscatum</i> , <i>V. disocarpum</i> , <i>V. constablaei</i> , <i>V. corymbosum</i> var. <i>amoenum</i> , <i>V. corymbosum</i> var. <i>glabrum</i> , <i>V. corymbosum</i> var. <i>atrococcum</i> , <i>V. elliotii</i> , <i>V. corymbosum</i> var. <i>parvifolium</i> , <i>V. atrococcum</i> , <i>V. corymbosum</i> f. <i>leucocarpum</i> , <i>V. australe</i> , <i>V. simulatum</i> , <i>V. caesariense</i> , <i>V. atlanticum</i> , <i>V. vicinum</i> , <i>V. carolinanum</i> , <i>V. corymbosum</i> var. <i>ozarkense</i> , <i>V. corymbosum</i> var. <i>speciosum</i> , <i>V. arkansanum</i> , <i>V. ashei</i> , <i>V. corymbosum</i> var. <i>pullum</i> , <i>V. cuthbertii</i> , <i>V. holophyllum</i> , <i>V. corymbosum</i> f. <i>albiflorum</i> , <i>V. corymbosum</i> f. <i>caesariense</i> , <i>V. corymbosum</i> f. <i>glabrum</i> , <i>V. corymbosum</i> f. <i>typicum</i> , <i>V. corymbosum</i> var. <i>albiflorum</i> , <i>V. corymbosum</i> f. <i>atrococcum</i> , <i>V. corymbosum</i> f. <i>corymbosum</i> , <i>V. corymbosum</i> f. <i>laeve</i> , <i>V. corymbosum</i> f. <i>viride</i> , <i>Cyanococcus corymbosus</i> , <i>C. amoenus</i> , <i>C. atrococcus</i> , <i>C. cuthbertii</i> , <i>C. elliotii</i> , <i>C. fuscatus</i> , <i>C. holophyllus</i> , <i>C. simulatus</i> , <i>C. virgatus</i>	Highbush blueberry, common blueberry, tall blueberry, New Jersey blueberry (<i>V. caesariense</i>), Southern blueberry (<i>V. formosum</i>), Elliott's blueberry (<i>V. elliotii</i>), Thick-leaf blueberry, black blueberry, black highbush blueberry (<i>V. fuscatum</i>), Upland highbush blueberry (<i>V. simulatum</i>), rabbit-eye, blueberry, <i>arandano</i> sp. (<i>V. virgatum</i>)	New England to Texas
<i>V. hirsutum</i>	<i>Cyanococcus hirsutus</i>	Hairy blueberry	North and South Carolina, Georgia
<i>V. darrowi</i>	<i>V. myrsinites</i> var. <i>glaucum</i>	Darrow's blueberry, Evergreen	Deep South, Louisiana to Florida
<i>V. myrsinites</i>	<i>V. nitidum</i> , <i>V. nitidum</i> var. <i>decumbens</i> , <i>Cyanococcus myrsinites</i>	Ground blueberry, shiny blueberry	South Carolina, Georgia, Alabama, and Florida

Table 1—Distribution of *Gaylussacia* and *Vaccinium* species in the United States^a (continued)

Genus/species	Synonyms for species names	Common names ^b	Distribution ^c
<i>V. myrtilloides</i>	<i>V. canadense</i> , <i>V. pensylvanicum</i> var. <i>myrtilloides</i> , <i>V. angustifolium</i> var. <i>myrtilloides</i> , <i>V. angustifolium</i> var. <i>integrifolium</i>	Sour top, velveteal blueberry	Washington, Montana (West Glacier National Park), Upper Midwest to New England, Virginia, and North Carolina
<i>V. pallidum</i>	<i>V. vacillans</i> , <i>V. dobbini</i> , <i>V. vacillans</i> var. <i>crinitum</i> , <i>V. margaretae</i> , <i>V. vacillans</i> var. <i>missouriense</i> , <i>V. viride</i> , <i>V. alto-montanum</i> , <i>V. missouriense</i> , <i>V. vacillans</i> var. <i>columbianum</i> , <i>V. vacillans</i> var. <i>columbianum</i> f. <i>mollifolium</i> , <i>V. liparum</i> , <i>V. subcordatum</i> , <i>V. tallapusa</i> , <i>V. torreyanum</i> , <i>Cyanococcus vacillans</i> , <i>C. liparis</i> , <i>C. margaretae</i> , <i>C. subcordatus</i> , <i>C. tallipusae</i>	Pale blueridge, early lowbush blueberry	The East to Oklahoma
<i>V. tenellum</i>	<i>V. virgatum</i> , <i>V. galezans</i> , <i>V. virgatum</i> var. <i>tenellum</i> , <i>Cyanococcus tenellus</i>	Small black blueberry	The South from Virginia to Louisiana
	<i>Vaccinium</i> sect. <i>Batodendron</i>		
<i>V. arboreum</i>	<i>V. arboreum</i> var. <i>glaucescens</i> , <i>V. diffusum</i> , <i>Arbutus obtusifolium</i> , <i>Batodendron arboreum</i> , <i>B. andrachneforme</i> , <i>B. glaucescens</i> , <i>B. speciosum</i>	Farkleberry, sparkleberry, Tree huckleberry, gooseberry, winter huckleberry, tree sparkleberry	The Southeast to Oklahoma
<i>V. crassifolium</i>	<i>V. sempervirens</i> , <i>Herpothamnus crassifolius</i>	Creeping blueberry	Piedmont (Virginia to Georgia)
	<i>Vaccinium</i> sect. <i>Herpothamnus</i>		
	<i>Vaccinium</i> sect. <i>Myrtillus</i>		
<i>V. caespitosum</i>	<i>V. caespitosum</i> var. <i>cuneifolium</i> , <i>V. caespitosum</i> var. <i>angustifolium</i> , <i>V. caespitosum</i> var. <i>arbuscula</i> , <i>V. arbuscula</i> , <i>V. nivictim</i> , <i>V. paludicola</i>	Dwarf huckleberry, dwarf blueberry, swamp blueberry, dwarf bilberry, Sierra bilberry, whortleberry, dwarf grouseberry	Pacific Northwest, Northern and Southern Rockies, Upper Midwest, and Northern New England
<i>V. deliciosum</i>	<i>V. membranaceum</i> var. <i>rigidum</i>	Rainier blueberry, blue huckleberry, Cascade huckleberry, Cascade bilberry	California, Oregon, and Washington
<i>V. geminiflorum</i>		Mexican blueberry	Arizona
<i>V. myrtillus</i>	<i>V. oreophilum</i> ,	Myrtle whortleberry, bilberry, buckleberry, whortleberry, bear huckleberry, squawberry, hurtleberry, squaw huckleberry, American huckleberry, deer berry, dwarf huckleberry	The West except California

Table 1—Distribution of *Gaylussacia* and *Vaccinium* species in the United States^a (continued)

Genus/species	Synonyms for species names	Common names ^b	Distribution ^c
<i>V. membranaceum</i>	<i>V. myrtilloides</i> , <i>V. myrtilloides</i> var. <i>macrophyllum</i> , <i>V. globulare</i> , <i>V. macrophyllum</i>	Square-twig blueberry, black huckleberry,	Pacific Northwest, Montana, Wyoming, California, Utah, Arizona, South Dakota,
		mountain bilberry, black mountain huckleberry, thin-leaved huckleberry	Minnesota, and Michigan
<i>V. ovalifolium</i>	<i>V. chamissonis</i> , <i>V. alaskaense</i> , <i>V. oblatum</i> , <i>V. axillare</i> , <i>V. jesoense</i>	Oval-leaf blueberry, oval-leaved bilberry, Alaska blueberry	Pacific Northwest
<i>V. parvifolium</i>		Red blueberry, red huckleberry	Oregon, Washington, and California
<i>V. scoparium</i>	<i>V. myrtilus</i> var. <i>microphyllum</i> , <i>V. microphyllum</i> , <i>V. erthyrococcum</i>	Grouse whortleberry, grouseberry	The West north of Arizona including South Dakota
			<i>Vaccinium</i> sect. <i>Oxycoccoides</i>
<i>V. erythrocarpum</i>	<i>Oxycoccus erectus</i> , <i>Hugeria erythrocarpa</i>	Southern mountain cranberry	Appalachia
<i>V. macrocarpon</i>	<i>V. propinquum</i> , <i>V. oxycoccus</i> var. <i>oblongifolium</i> , <i>V. oblongifolium</i> , <i>V. macrocarpum</i> f. <i>eburna</i> , <i>Oxycoccus macrocarpus</i>	Cranberry, large cranberry	New England to Appalachia, Upper Midwest, California, and Washington
<i>V. oxycoccus</i>	<i>V. palustre</i> , <i>V. oxycoccus</i> var. <i>ovalifolium</i> , <i>V. microcarpum</i> , <i>V. oxycoccus</i> var. <i>intermedium</i> , <i>V. oxycoccus</i> f. <i>parvifolia</i> , <i>V. oxycoccus</i> var. <i>microcarpum</i> , <i>V. oxycoccus</i> var. <i>microphylla</i> , <i>V. oxycoccus</i> f. <i>obovatum</i> , <i>V. hagerupii</i> , <i>V. macroparon</i> f. <i>dahlei</i> , <i>Oxycoccus quadripetala</i> , <i>O. europaeus</i> , <i>O. palustris</i> , <i>O. vulgaris</i> , <i>O. microcarpus</i> , <i>O. palustris</i> f. <i>microphylla</i> , <i>O. oxycoccus</i> , <i>O. palustris</i> var. <i>intermedius</i> , <i>O. oxycoccus intermedius</i> , <i>O. intermedium</i> , <i>O. oxycoccus</i> var. <i>intermedius</i> , <i>O. quadripetala</i> var. <i>microphylla</i> , <i>O. ovalifolius</i> , <i>O. palustris</i> var. <i>ovalifolius</i> , <i>O. hagerupii</i> , <i>O. palustris</i> ssp. <i>microphylla</i>	Small cranberry, wild cranberry, moss cranberry	Oregon, Washington, Idaho, Upper Midwest to New England
			<i>Vaccinium</i> sect. <i>Polycodium</i>
<i>V. stamineum</i>	<i>V. album</i> , <i>V. elevatum</i> , <i>V. kunthianum</i> , <i>V. caesium</i> , <i>V. melanocarpum</i> , <i>V. oblongum</i> , <i>V. stamineum</i> var. <i>melanocarpum</i> , <i>V. revolutum</i> , <i>V. melanocarpum</i> var. <i>candicans</i> , <i>V. melanocarpum</i> var. <i>sericeum</i> , <i>V. siriceum</i> , <i>V. stamineum</i> var. <i>neglectum</i> , <i>V. stamineum</i> var. <i>interius</i> , <i>V. arcuatum</i> , <i>V. bellum</i> , <i>V. candicans</i> , <i>V. concoloratum</i> , <i>V. depressum</i> , <i>V.</i>	Deerberry, squaw huckleberry	East from Maine through the South to Texas and Florida

Table 1—Distribution of *Gaylussacia* and *Vaccinium* species in the United States^a (continued)

Genus/species	Synonyms for species names	Common names ^b	Distribution ^c
	<p><i>depressum</i> var. <i>minus</i>, <i>V. floridanum</i>, <i>V. floridanum</i> var. <i>molle</i>, <i>V. floridanum</i> var. <i>caesium</i>, <i>V. floridanum</i> var. <i>revolutum</i>, <i>V. glandulosum</i>, <i>V. harbisonii</i>, <i>V. interius</i>, <i>V. interius</i> var. <i>commune</i>, <i>V. interius</i> var. <i>subglandulosum</i>, <i>V. langlosii</i>, <i>V. latum</i>, <i>V. leptosepalum</i>, <i>V. macilentum</i>, <i>V. neglectum</i> var. <i>harbisonii</i>, <i>V. parvum</i>, <i>V. quercinum</i>, <i>V. semipersistens</i>, <i>V. semipersistens</i> var. <i>uniquum</i>, <i>V. siriceum</i> f. <i>chrysocarpon</i>, <i>V. siriceum</i> var. <i>eburneum</i>, <i>V. siriceum</i> var. <i>elongatum</i>, <i>V. stamineum</i> var. <i>affine</i>, <i>V. stamineum</i> var. <i>austro-montanum</i>, <i>V. stamineum</i> var. <i>virginianum</i>, <i>Picrococcus elevatus</i>, <i>P. floridanus</i>, <i>Polycodium floridanum</i>, <i>P. oblongum</i>, <i>P. stamineum</i>, <i>P. candicans</i>, <i>P. melanocarpum</i>, <i>P. neglectum</i>, <i>P. kunthianum</i>, <i>P. langloisii</i>, <i>P. oliganthum</i>, <i>P. sericeum</i>, <i>P. interius</i>, <i>P. quercinum</i>, <i>P. depressum</i>, <i>P. ashei</i>, <i>P. arcuatum</i>, <i>P. arenicola</i>, <i>P. bellum</i>, <i>P. concoloratum</i>, <i>P. depressum</i> var. <i>minus</i>, <i>P. floridanum</i> var. <i>caesium</i>, <i>P. floridanum</i> var. <i>molle</i>, <i>P. floridanum</i> var. <i>revolutum</i>, <i>P. glandulosum</i>, <i>P. interius</i> var. <i>commune</i>, <i>P. lautum</i>, <i>P. multiflorum</i>, <i>P. multiflorum</i> var. <i>uniquum</i>, <i>P. neglectum</i> var. <i>harbisonii</i>, <i>P. parvum</i>, <i>P. sericeum</i> var. <i>eburneum</i>, <i>P. stamineum</i> var. <i>affine</i>, <i>P. stamineum</i> var. <i>austro-montanum</i>, <i>P. stamineum</i> var. <i>virginianum</i>, <i>P. macilentum</i>, <i>P. leptosepalum</i>.</p>		
	<i>Vaccinium</i> sect. <i>Pyxothamnus</i>		
<i>V. ovatum</i>	<i>V. lanceolatum</i> , <i>V. ovatum</i> var. <i>saporosum</i> , <i>V. sempervirens</i> , <i>Metagonia ovata</i>	Evergreen huckleberry, shot huckleberry, blackwinter huckleberry, evergreen blueberry	Oregon, Washington, and California along the Pacific coast only
	<i>Vaccinium</i> sect. <i>Vaccinium</i>		
<i>V. uliginosum</i>	<p><i>V. obtusum</i>, <i>V. gaultherioides</i>, <i>V. pubescens</i>, <i>V. uliginosum</i> var. <i>alpinum</i>, <i>V. uliginosum</i> var. <i>gaultherioides</i>, <i>V. salicinum</i>, <i>V. uliginosum</i> spp. <i>pubescens</i>, <i>V. occidentale</i>, <i>V. uliginosum</i> var. <i>microphyllum</i>, <i>V. uliginosum</i> var. <i>pedris</i>, <i>V. uliginosum</i> var. <i>langeanum</i>, <i>V. uliginosum</i> var. <i>salicinum</i>, <i>V. uliginosum</i> f. <i>langeanum</i>, <i>V. uliginosum</i> f. <i>pubescens</i>, <i>V. microphyllum</i>, <i>V. uliginosum</i> var. <i>occidentale</i>, <i>V. uliginosum</i> ssp. <i>gaultherioides</i>, <i>V. uliginosum</i> ssp. <i>pedris</i>, <i>V. uliginosum</i> ssp. <i>pubescens</i></p>	<p>Alpine blueberry, western huckleberry, western bog blueberry, western bog blueberry, swamp huckleberry, swamp blueberry, huckleberry</p>	<p>The Pacific Northwest, northern Rockies, intermountain West, Minnesota, and northern New England</p>
	<i>Vaccinium</i> sect. <i>Vitis-Idaea</i>		

Table 1—Distribution of *Gaylussacia* and *Vaccinium* species in the United States^a (continued)

Genus/species	Synonyms for species names	Common names ^b	Distribution ^c
<i>V. vitis-idaea</i>	<i>V. vitis-idaea</i> var. <i>minus</i> , <i>V. vitis-idaea</i> spp. <i>minor</i> ; <i>V. jesoëense</i>	Cowberry, partridge- berry, lingonberry, rock cranberry, low-bush cranberry, foxberry, shore berry, alpine berry, moss berry, dry ground berry, northern mountain cranberry	British Columbia, Minnesota, Michigan, northern New England

Bold: Indicates species native to the Pacific Northwest, including British Columbia, referenced by Turner (1997), Minore (1972), Martin (1979), Patterson et al. (1985), Stickney (1972), and Barney (2004).

^a Specific authorities for the scientific species references are cited in chapter 1. Appendix 1 has been compiled from a great number of both taxonomic and nontaxonomic sources, and the information included here is intended to indicate the wide variety of common names, taxonomic references, and general geographical distribution that may be encountered in not only the scientific literature but in common “wild berry” or “wild foods” books. The authors have attempted to exhaustively review this literature but caution the reader that incomplete or inconsistent common names, taxonomic synonyms, and geographic distribution, especially for the *Vaccinium* species, are commonly found. Moreover, taxonomic name assignments are continually changing with new advances in genetic analysis, and all scientific classification is subject to some contention. Our intention here is to list the scientific names of plants as they are referenced in various sources as a social history of huckleberry plants in the United States rather than a definitive taxonomy.

^b Common names follow numerous sources cited in the “References.”

^c Distribution follows maps from *Vaccinium* Genetic Resources (www.Ars-grin.gov/ars/PacWest/Corvallis/) as well and other sources cited in the references.

^d *Gaylussacia* nomenclature and distribution follows NatureServe Explorer Species Index <http://www.natureserve.org/explorer/speciesIndex/Genus_GAYLUSSACIA_109538_1.htm>.

^e *Vaccinium* nomenclature follows Vander Kloet (1988).

Table 2—Nomenclature and Use of *Vaccinium* Species in British Columbia by First Peoples

Interior People			
<i>Vaccinium</i> sp.	Common names	Distribution in British Columbia	Use by First Nations
<i>V. caespitosum</i>	Dwarf blueberry, mountain blueberry, dwarf mountain blueberry, lowbush blueberry	Throughout the province	“Dwarf blueberries, though small and low-growing, are extremely popular among all interior First Peoples; many consider them the sweetest, best-flavoured kind of blueberries. Dwarf Blueberries ripen in August or September, depending on the elevation and latitude. People usually harvested them with a comb made of wood or salmon backbone, because they grow too close to the ground to be picked like other berries. Some people collected them by lying on the ground, putting one hand under the branches and the other on top, then wriggling the fingers until the berries dropped off into the lower hand. Dwarf Blueberries have to be thoroughly cleaned and sorted, because they have many twigs and leaves mixed in with them. People ate them fresh, as a treat, or mashed and dried in cakes. Some people freeze or can them nowadays, but many no longer use them because they are so difficult to pick. Many people have favourite local picking spots; Dwarf Blueberries are often more plentiful a few years after a fire. They were a common trading item in the early days” (Turner 1997:116-117).
<i>V. membranaceum</i> (Syn. Vander Kloet 1988 <i>V. globulare</i>)	Mountain bilberry, black mountain huckleberry, black huckleberry, twin-leaved huckleberry	Throughout the province	“All interior aboriginal people ate Mountain Bilberries when available. They harvested the large dark berries from July to September, depending on the elevation; as the season progressed, the women would venture higher into the mountains to get them. People ate the berries fresh, or they dried them in the sun, or if the weather was bad, over a small fire. Today, they freeze or can them, or make jam with them. The Okanagan once sold large quantities of Mountain Bilberries to European settlers. In a narrative of the Lakes people, Mountain Bilberry was first introduced to the Kettle Falls area as a gift from the Mountain Goat brothers. It was named ‘sweet berry’ by Eagle, who married the eldest brother in appreciation of the gift. Birds and other animals are also fond of these berries. Berries of a similar species, <i>Vaccinium globulare</i> , though rare in British Columbia, were a major food of the Ktunaxa and Flathead people of Montana” (Turner 1997: 117-118).
<i>V. myrtilloides</i>	Canada blueberry, velvet-leaf blueberry, sour-top blueberry	Mainly confined to the Kootenays and the central interior, but also common in the lower Fraser River valley and the delta area where it was apparently introduced as a commercial crop plant	“The Ktunaxa, Carrier, and Sekani ate Canada Blueberries, and so did other groups within their range. They ate the berries fresh or dried them in cakes for winter, as they did other types of blueberries” (Turner 1997:118-119).
<i>V. myrtillos</i>	Low bilberry, dwarf bilberry, whortleberry	Confined to the southeastern corner in the Kootenays	“The Ktunaxa, Secwepemc, and Carrier gathered Low Bilberries from August to early autumn and ate them fresh or dried. Low Bilberries were popular and are still used today. To dry them, people boiled the berries in a kettle, kneaded the pulp, and spread it over a small rack. Nowadays, people make jam with Low Bilberries” (Turner 1997:119-120).

Table 2—Nomenclature and Use of *Vaccinium* Species in British Columbia by First Peoples (continued)

Interior People			
<i>Vaccinium</i> sp.	Common names	Distribution in British Columbia	Use by First Nations
<i>V. ovalifolium</i> (Vander Kloet 1988 Syn. <i>V. alaskaense</i>)	Oval-leaved bilberry, mountain blueberry, high-bush blueberry	Confined to southern and central British Columbia below 56°N latitude; common on Vancouver Island, Haida Gwaii, and the mainland coast, and in the southeastern interior.	“Many southern interior peoples ate oval-leaved blueberries, as did the Wet’suwet’en and other northern groups who had access to them. But in some areas, they were not as popular as other types of blueberries and huckleberries because of their coarser seeds and tendency to rot easily. Oval-leaved Blueberries are among the first berries to ripen, sometimes as early as the first part of July, but can be found later in the season at higher elevations. People eat them fresh or dried or in jams. They usually gather them at the same time as Mountain Bilberries. Some people like the Oval-leaved Blueberry better, while others prefer the bilberries. Sometimes, Secwepemc women cooked the berries over a small fire as they were picked, allowing them to soften so that they would take up less room and require fewer baskets when carried home. Later, they recooked and dried them; if they left the berries after the preliminary cooking, they would go mouldy. When people cooked the berries, they collected the juice in birch-bark baskets and either added it a little at a time to the berries as they dried or set it aside. When the juice cools, it has the consistency of jelly and makes a delicious treat” (Turner 1997:120-121).
<i>V. oxycoccus</i>	Bog cranberry, wild cranberry, moss cranberry	Throughout the province but restricted to muskegs and peat bogs, always in association with sphagnum moss.	“Bog cranberries are closely related to commercial cranberries. Aboriginal peoples throughout the interior ate these tart wild berries whenever they were available. They gathered Bog Cranberries from late summer to late fall—those they harvested early were usually stored until they ripened. People ate them raw or boiled with meat; some groups, such as the Lower Stl’atl’imx and Carrier, even dried them for winter. The Nisga’a preserved Bog Cranberries by boiling them and mixing them with oil; then, in winter, they served them as a dessert, whipped up with snow and Eulachon grease. The Ktunaxa call them ‘fool’s hen berries’ because grouse like to eat them” (Turner 1997:121-122).
<i>V. scoparium</i>	Grouseberry, red alpine huckleberry, dwarf red whortleberry, dwarf red huckleberry, small- leaved huckleberry	Restricted to the southern interior, south of 52°N latitude, except in the Rocky Mountains, where it extends almost to 54°N.	“The Ktunaxa, Nlaka’pamux, Okanagan, and Secwepemc gathered the tiny red berries in later summer, at the same time as Dwarf Blueberries, and usually ate them fresh. Grouseberries are too small to be picked efficiently with fingers, so most people harvested them in the same manner as they gathered Dwarf Blueberries, with combs of wood or bone. The Ktunaxa name for Grouseberry means ‘comb’” (Turner 1997:122-123).
<i>V. uliginosum</i> (Syn. Vander Kloet 1988 <i>V. occidentale</i>).	Bog blueberry, bog bilberry, bog huckleberry, whortleberry	Abundant on the coast, particularly on Haida Gwaii, and in the northern interior; not generally found in the central and southern interior	“First Peoples of the northern interior—the Tahltan, Kaska, Dene-thah, and others—used Bog Blueberry extensively. The people of the Great Slave Lake area in the Northwest Territories gathered the berries in large quantities during a two-week period toward the end of August; they ate them raw or boiled them in grease and stored them for winter. The Dene-thah apparently did not store them, but only ate them fresh. The Lower Stl’atl’imx also ate Bog Blueberries, but most other southern interior groups did not have access to them” (Turner 1997:123-124).

Table 2—Nomenclature and Use of *Vaccinium* Species in British Columbia by First Peoples (continued)

Interior People			
<i>Vaccinium</i> sp.	Common names	Distribution in British Columbia	Use by First Nations
<i>V. vitis-idaea</i> spp. <i>minor</i> (Syn. Vander Kloet 1988 <i>V. vitis idaea</i>)	Low-bush cranberry, mountain cranberry, rock cranberry, lingon berry	Common in the north; sporadic on the southern coast and in the southern Rocky Mountains	“The Nisga’a, Wet’suwet’en, Sekani, Tahltan, Dene-thah, and other Athapaskan peoples ate Low-bush Cranberries. Like Bog Cranberries, Low-bush Cranberries are tart tasting and hard until they are exposed to frost. The Nisga’a gathered them in fall, along with Bog Cranberries, boiled them, and mixed them with oil for storage. In winter, people mixed Low-bush Cranberries with snow, whipped them into a froth with Eulachon grease, and served this as a dessert” (Turner 1997:124).
Coastal People			
<i>V. alaskaense</i> (Vander Kloet 1988 Syn. <i>V. ovalifolium</i>)	Alaska blueberry	Coastal British Columbia	“The range of Alaska Blueberry extends into the territories of the Lower Nlaka’pamux and Lower Stl’atl’imx who ate the fruits, fresh or dried, as they did other types of blueberries” (Turner 1997:162).
<i>V. ovatum</i>	Evergreen huckleberry	Coastal British Columbia	“According to E. Steedman in <i>Ethnobotany of the Thompson Indians of British Columbia</i> (1930), the Nlaka’pamux gathered the sweet, reddish-black berries of the Evergreen Huckleberry. But the range of this plant is generally restricted to the coast, so their availability to the Nlaka’pamux is doubtful” (Turner 1997:163).
<i>V. parvifolium</i>	Red huckleberry	Coastal British Columbia	“The Lower Nlaka’pamux, Lower Stl’atl’mix, Nisga’a, eastern Secwepemc and possibly the Ktunaxa ate Red Huckleberries fresh or dried. They prepared them in similar ways to blueberries and Mountain Bilberry” (Turner 1997:163).

Source: Turner 1997.

Table 3—Nomenclature and description of *Vaccinium* species of Oregon and Washington

<i>Vaccinium</i> sp.	Height <i>Feet</i>	Twigs	Leaves	Flowers	Berries	Description
<i>V. alaskaense</i> (Syn. Vander Kloet 1988 <i>V. ovalifolium</i>)	1.5-4.0	Yellow-green; somewhat angled; smooth or with very short hairs	1-2.5 in. long; Egg-shaped to elliptical; smooth or very slightly toothed margins; waxy bloom on lower surface; sparse, gland-tipped hairs on midnerve	As broad or broader than long; broadest just above base; style slightly longer than petal tube; bronzy-pink; single	Bluish-black with bloom or purplish-black with bloom; spherical to pear-shaped; borne on a straight stem that is somewhat enlarged just below the berry	Bears berries singly in the axils of the leaves. Superficially similar to <i>V. ovalifolium</i> and may hybridize; grows in somewhat moister habitats than <i>V. ovalifolium</i> along the coast and in the Cascades from northwestern Oregon to Alaska. Both species often grow together in moderately dry habitats. Has larger leaves and is more shade tolerant than <i>V. ovalifolium</i> and the berries are juicier and more acidic. Both species are seedy, but has fewer seeds than <i>V. ovalifolium</i> . ^a
<i>V. caespitosum</i>	0.5-1.0	Yellow-green to red; somewhat angled; usually hoary with tiny white curved hairs, but sometimes smooth and shiny	0.4- 1.25 in long, longer than broad; wider near the tip than at the base; small teeth along the upper margins; each tooth tipped with a bristlelike hair	Twice as long as broad; white to pink; single	Light blue to blue-black; with bloom; spherical	Bears berries singly in the axils of the leaves. Similar in appearance to <i>V. delictosum</i> but less common in Oregon and Washington; grows in wet meadows and on moist rocky ridges throughout the Northwest. The leaves are smooth or glandular beneath whereas those of <i>V. delictosum</i> are glaucous.
<i>V. delictosum</i>	0.3-1.5	Greenish-brown; inconspicuously angled; smooth; dense	0.5-2 in long; longer than broad; wider near the tip than at the base; small teeth along the upper margins; waxy bloom on lower surface	Nearly spherical; pink; single	Blue-black; with bloom; spherical	Bears berries singly in the axils of the leaves. Common at elevations above 4,500 feet in the alpine meadows of the Olympic and Cascade Mountains. A small plant with deep blue, sweet berries that have a glaucous bloom.
<i>V. globulare</i> (Syn. Vander Kloet 1988 <i>V. membranaceum</i>)	1.5-4	Greenish-yellow; slightly angled; smooth	0.75-1.75 in long; oval or egg-shaped with rounded or abruptly pointed tip; very small teeth along the margin	As broad as long; rounded at the sides and more or less flattened from above; pale pinkish-yellow; single	Dark purple; without bloom; spherical	Bears berries singly in the axils of the leaves. Grows at lower and middle elevations east of the Cascade Mountains in both Oregon and Washington. Its leaves are globular in shape without long points at the apexes; its berries are bluish-purple.
<i>V. membranaceum</i> (Syn. Vander Kloet 1988 <i>V. globulare</i>)	2-6	Yellow-green; slightly angled; smooth	1-2.5 in long; egg-shaped with tapering or long-pointed tip; very small teeth along the margins	Longer than broad; pale yellowish-pink; single	Purplish-black, red, maroon, purple, blue, black, rarely	Bears berries singly in the axils of the leaves. Most frequently picked huckleberry. Resembles <i>V. globulare</i> but is a coarser shrub with larger leaves that have long-pointed apexes. It grows at moderate to high elevations on both the eastern and western slopes of the Olympic

Table 3—Nomenclature and description of *Vaccinium* species of Oregon and Washington (continued)

<i>Vaccinium</i> sp.	Height	Twigs	Leaves	Flowers	Berries	Description
<i>Feet</i>						
<i>V. myrtillos</i>	0.5-1.0	Greenish; strongly angled; with very short hairs	0.4-1.25 in long. Egg-shaped or oval; sharply toothed margins; strongly veiny on the lower surface	Length and breadth approximately equal; pink; single	Dark red to blue-black; without bloom; spherical	Bears berries singly. Resembles <i>V. scoparium</i> but is slightly larger with a dark red berry that may also be blue, purple, or black. It grows on the eastern slopes of the Cascade Mountains.
<i>V. occidentale</i> (Syn. Vander Kloet 1988 <i>V. uliginosum</i>)	0.7- 2.0	Yellow-green; round; smooth; rigid	0.4-1.0 in long; longer than broad and wider near the tip than at base; smooth margins; waxy bloom often present on lower surface.	Longer than broad; pink or white; single or in clusters of 2-4	Blue to black; with bloom; spherical	Berries borne in clusters. Low shrub that bears small clusters of 2 to 3 berries of poor quality. Occurs in mountain swamps, mostly on the eastern slopes of the Cascade Mountains.
<i>V. ovalifolium</i> (Syn. Vander Kloet 1988 <i>V. alaskaense</i>)	3.0-10.0	Yellow-green; conspicuously angled; smooth	0.75-2 in long; oval or oblong; smooth or very slightly toothed margins; waxy bloom on lower surface; veins prominent	Somewhat longer than broad; broadest just below mid-length; style same length or shorter than petal tube; pink; single	Bluish-black; with bloom; spherical; borne on a curved stem that is not enlarged below the berry	Bears berries singly in the axils of the leaves. Tall shrub with entire or inconspicuously serrulate leaves. Grows at middle altitudes throughout the Northwest (see <i>V. alaskaense</i>) from sea level to about 6,000 feet.
<i>V. ovatum</i>	1.5- 10.0	Covered with very short hairs	0.75-2 in long; very numerous and leathery; narrowly egg-shaped with pointed tips; sharply toothed margins; shiny above	Longer than broad; pink; borne in clusters of 3-10	Shiny black; usually without bloom; spherical	Berries borne in clusters. A tall shrub with glossy evergreen leaves that grows along the coast from British Columbia to California. Produces large clusters of rather strong-flavored berries that are less desirable than other huckleberries for fresh use. The leafy branches are used by florists as fillers and background foliage.
<i>V. parvifolium</i>	3.0-12.0	Green; very prominently angled (almost square); smooth	0.25-1.25 in. long; oval to elliptical; smooth margins; thin	As broad or broader than long; waxy; yellowish-pink; single	Bright red; spherical	Bears berries singly. Common where moist shady habitats occur in lowlands and mountain valleys from central California to Alaska. Becomes a large erect shrub after spending 4 to 5 years as a trailing, vinelike juvenile plant. Berries are palatable but rather sour and not commercially important. ^b

Table 3—Nomenclature and description of *Vaccinium* species of Oregon and Washington (continued)

<i>Vaccinium</i> sp.	Height	Twigs	Leaves	Flowers	Berries	Description
<i>Feet</i>						
<i>V. scoparium</i>	0.3-1.3	Bright green or yellow-green; strongly angled; smooth; broomy	0.25-0.5 in long; narrowly oval or lance-shaped; small teeth along the margins; strongly veiny on the lower surface	Length and breadth approximately equal; pink; single	Bright red, occasionally blue; spherical	Bears berries singly. Berries are sweeter than those of <i>V. parvifolium</i> . Birds and animals harvest most of the crop. A low-matted species that grows at high altitudes in the Cascade, Olympic, Siskiyou, Blue, and Wallowa Mountains.
<i>V. uliginosum</i> (Syn. Vander Kloet 1988 <i>V. occidentale</i>)	0.7-1.8	Yellow-green; round; covered with very short hairs	0.4 – 1.25 in long; wider near the rounded tip than at the base; smooth margins; thick; lower surface veins	Longer than broad; pink; single or in clusters of 2-4	Blue to black; with bloom; spherical	Berries borne in clusters. A low shrub that bears small clusters of two to three berries. Grows in swamps along the coast.

Source: Minore 1972, Barney 2004. See the "References".

¹ See Turner 1997 (table 2) for First Nations limited use in British Columbia because of "their coarser seeds and tendency to rot easily."

² In contrast to Minore (1972), Szczawinski (1962: 182) notes of *V. parvifolium* in British Columbia that the fruit is "very palatable, refreshing, and has commercial possibilities". He continues with the note that Haskin (1934) wrote of an Alsea (Oregon) tribal myth: "Now since it was known to be bad luck the red huckleberries were not usually eaten. Whenever they were eaten, the reason of that person would probably disappear, and he would attempt to go (wander) into the woods. Therefore they were not eaten because it was known that she (Asin, the monster girl of the woods) was the one that created the red huckleberries. She was held in fear very much because she always carried off the people" (cited in Szczawinski 1962).

Table 4—Nomenclature and Description of *Vaccinium* Species of Western Montana

<i>Vaccinium</i> sp.	Height (in/ft)	Twigs and buds	Leaves	Flowers	Berries	Field recognition	Habitat
<i>V. caespitosum</i>	2-12 (16)	Rounded yellow-green to reddish stems, sometimes weakly angled but not obviously angled or ridged; buds valvate	Oblanceolate (widest well above their midlength); 1-3 (5) cm long; margin serrated	Oval urn-shaped (L:W ^a 1.2-2.0) 5-6 mm long; pedicel 1.5-3 mm long	Glaucous blue 5-8 mm broad	Dwarf to low rhizomatose sometimes mat-forming shrub with rounded stems and oblanceolate, serrate leaves	Forested floors of mountain valleys and wooded margins of mountain meadows and less frequently into the mountains; generally distributed throughout western Montana but more frequent in the northern, moister portion of the area
<i>V. globulare</i> (Syn. Vander Kloet 1988 V. <i>membranaceum</i>)	1.5-4 ft	Angled, often sharply, stems that are yellowish to tan earlier, red in fall and winter; buds valvate	Obovate (widest above their midlength) and blunt pointed 2-4(5) cm long; margin serrate	Globose (L:W 0.9- 1.0) 6-7 mm long; pedicel 5-10 mm long	Bluish-purple to purplish-red, rarely white; with or without bloom 6-8 mm broad	Medium shrub, often reduced to low shrubs in open sites and at higher elevations. Globular flower, obovate blunt pointed leaves and reddish angled stems	General throughout the montane forests, best developed and often an understory dominant on the moister, cooler forest sites at lower to mid montane elevations (also often approaching subalpine); widely distributed in western Montana and the most common species; the principal source of huckleberries for picking and eating
<i>V. membranaceum</i> (Syn. Vander Kloet 1988 V. <i>globulare</i>)	1.5-5 (6.5) ft	Somewhat angled, yellow- green to straw colored to deep red stems; buds valvate	Ovate (widest below their midlength) with long tapering points, 2-5 cm long; margin serrate	Elliptic urn-shaped (L:W 1.2-1.3) ca. 6 mm long; pedicel 5-10 mm long	Purple to dark purplish- reddish, rarely white; 7-9 mm broad	Medium to tall shrub with elliptic urn-shaped flowers and large ovate, long-taper pointed leaves	See <i>V. globulare</i> above, which is considered to be <i>V. membranaceum</i> (Syn. Vander Kloet 1988)
<i>V. myrtilloides</i>	4-16 (20)	Round, distinctly obvious hairy stem, green covered with very small wart-	Elliptic (widest at their midlength) 2-5 cm long, obviously hairy; margin entire	Borne in short clusters from floral buds located on last year's wood from the first 1-3 buds at the tip of	Glaucous blue with bloom 5-9 mm broad	Low, erect shrub with obviously velvet hairy stem	Forested flat on glaciated valley bottom; rare, one verified location known for Montana near West Glacier in Glacier National Park.

Table 4—Nomenclature and Description of *Vaccinium* Species of Western Montana (continued)

<i>Vaccinium</i> sp.	Height (in/ft)	Twigs and buds	Leaves	Flowers	Berries	Field recognition	Habitat
		Like blisters; stems often reddish in fall with the blisters remaining green; buds paired opposite scales; floral buds larger with 4-5 pairs of scales, vegetative buds smaller with 2-3 pairs of scales; bud scales tapering to a pointed awn- like tip		the stem; calyx 5- lobed, persistent in fruit; sepals well developed, pointed; anthers without awns.			
<i>V. myrtillos</i>	4-16 in	Sharply angled to ridged (sometimes winged) stems, stout (relative to <i>V. scoparium</i>), green but sometimes reddish or orangish tinged on plants in old burns or openings in full sun; buds valvate	Ovate (widest below their midlength) 1-3 cm long; margin serrate	Globose (L:W 1.0) 4-5 mm long; pedicel 2-3 mm long	Dark red to bluish black 5-8 mm broad	Low to dwarf and somewhat spreading shrub with divergent branchings and stout, well ridged, green stems and ovate leaves. Similar to <i>V. scoparium</i> , but lacks the unique broom-like branching pattern of fine twigs.	Forested flats to upland slopes from low to high montane elevations, frequently associated with lodgepole pine (<i>Pinus contorta</i> Dougl. Ex. Loud), and also subalpine fir (<i>Abies lasiocarpa</i> Hook. Nutt.) and Englemann spruce (<i>Picea engelmannii</i> Parry ex Engelm) widely distributed but infrequent in western Montana
<i>V. occidentale</i> (Syn. Vander Kloet 1988 <i>V. uliginosum</i>)	8-24 in	Round, light to deep orange- brown, less often grayish brown stout stems; buds	Oblanceolate to elliptic (widest at or above their midlength) 1-3 cm long; margin entire	Oval, urn-shaped (L:W 1.0-1.3) 4-5 mm long; pedicels 2-3 mm long; flowers borne in groups of 1-4 from	Glaucous blue with bloom 4-7 mm broad	Low, stout stemmed and sometimes dwarfed shrub in open subalpine wet sites with hairless brown younger stems and entire leaves. Similar to <i>V.</i>	Most common and best developed in subalpine wet meadows, less frequent in open, perennially moist sites at high montane to upper subalpine elevations; known from the high mountain ranges in the

Table 4—Nomenclature and Description of *Vaccinium* Species of Western Montana (continued)

<i>Vaccinium</i> sp.	Height (in/ft)	Twigs and buds	Leaves	Flowers	Berries	Field recognition	Habitat
		have paired scales, 2-3 pairs of opposite scales; floral buds are slightly larger and spheroid-shape; vegetative buds are flattened, occasionally very small buds are valvate; bud scales keeled, glacous, and persistent		floral buds located on last year's wood at the first 1- 3 buds from the tip of the stem; calyx lobes persistent in fruit; sepals well developed, pointed		<i>caespitosum</i> but has entire leaves and paired bud scales	southern portion of western Montana and to be expected in the high mountains of the northern half of our area
<i>V. scoparium</i>	4-12 (20) in	Sharply angled or ridged fine (relative to <i>V.</i> <i>myrtillos</i>) stems, bright green to green; buds valvate.	Narrowly elliptical to lanceolate (widest at or slightly below their midlength), 8-1.5 mm long; margin serrate	Urn-shaped (L:W 1.2) ca. 4 mm long; pedicel 2.0 – 2.5 mm long	Bright red, infrequently darker red, 3-5 mm broad	Dwarf to occasionally low shrub with erect broom- like branching of crowded, angled, green stems	High montane and subalpine forest elevations, occasionally lower; the common and often the dominant understory shrub of the subalpine forest zone in western Montana; most frequently associated with lodgepole pine, also subalpine fir and whitebark pine (<i>Pinus albicaulis</i> Engel.)

^a Ratio of the width of the corolla to its length.

Source: Stickney 1972.; see the "References." According to Vander Kloet 1988, *V. globulare* is the same species as *V. membranaceum*; *V. alaskaense* is the same species as *V. ovalifolium*, and *V. occidentale* is the same species as *V. uliginosum*. Stickney's classification is reported intact in this appendix because of the many references to these various species by sources quoted and cited in the text.

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Pacific Northwest Research Station

Web site	http://www.fs.fed.us/pnw
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Publication requests	(503) 808-2138
FAX	(503) 808-2130
E-mail	pnw_pnwpubs@fs.fed.us
Mailing address	Publications Distribution Pacific Northwest Research Station P.O. Box 3890 Portland, OR 97208-3890

U.S. Department of Agriculture
Pacific Northwest Research Station
333 S.W. First Avenue
P.O. Box 3890
Portland, OR 97208-3890

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