THE BLACK BEAR IN EARLY WISCONSIN

A. W. SCHORGER

The presence of a black bear (Euarctos a. americanus) was second only to the approach of an Indian war party in its power to raise the early settlers to a high pitch of excitement. The ferocity of this animal is purely traditional but this fact did not prevent the bear from being slain as “vermin” at every opportunity. The wild bear is a very wary animal and is not to be feared unless wounded.

It was at one time of considerable economic importance. The meat, usually prepared “like pork,”1 was eaten extensively though there are wide differences of opinion as to its sapidity. The skins were used locally for bedding and clothing, and were exported in large quantities for the use of the British and Russian guards. The fat, or oil, found wide use for culinary purposes, the French in America considering it a worthy substitute for olive oil. Bartram says that his hunter killed a bear in Florida that yielded “15 or 16 gallons of clear oil . . . his fat, though I loathed the sight of it at first, was incomparably milder than hogs-lard, and near as sweet as oil of olives.”2

Muir, who lived in Marquette County, Wisconsin, from 1849–60, mentions that some of the enterprising neighbors drove to the pine regions every fall to hunt: “Their loads consisted usually of half a dozen deer or more, one or two black bears, and fifteen or twenty bushels of cranberries; all solidly frozen. Part of both the berries and meat was usually sold in Portage; the balance furnished their families with abundance of venison, bear grease, and pies.”3

The Indians had great faith in the oil as an alleviative ointment. Kalm mentions that the Canadian Indians daubed all of the exposed parts of the body with it to protect them from the bites of gnats and that, “With this oil they likewise frequently smear the body, when they are excessively cold, tired with labour, hurt, and in other cases, and makes the body pliant, and is very serviceable to old age.”1a

When Radisson was hunting with the Indians in northern Wisconsin
the winter of 1661–62, he and his companions killed in two and one-
half months so great a number of bears that for “a thousand moons
we wanted not bear’s grease to annoint ourselves, to runne the
better.”

The Europeans used the oil extensively for dressing the hair. Penn-
nant wrote: “Bear’s grease is in great repute in Europe for its supposed
quality of making the hair grow on the human head. A great chymist
in the Haymarket in London used to fatten annually two or three
bears for the sake of their fat.”5 The demand for the oil for this pur-
pose continued to the end of the last century. John Perry of Algoma,
Wisconsin, killed a bear in the fall of 1867 for which he obtained
$80.00 exclusive of the meat, this being left in the woods. He obtained
$10.00 for the hide, $64.00 for eight gallons of pure, strained oil, and
$6.00 for two gallons of crude oil.6 In 1872 a Coloma, Waushara
County, hunter killed a bear that yielded “ten gallons of hair oil.”7
Some bears became obligingly fat. One killed in Waushara County in
the fall of 1875 is stated to have yielded 212 pounds of fat, the latter
being five inches thick on the rump.8

On the other side of the ledger was the destruction of livestock and
corn. There are statements in the early literature that the bear is
strictly a vegetarian; however, the Wisconsin settlers had the usual
experience of loss of hogs, sheep, and calves, particularly when the
bears were emigrating. The bear frequently, if not generally, begins
to eat its prey before killing it, hence the loud squealing of a pig
when caught. The habit was mentioned by Byrd6.1 in 1728 and subse-
sequently by Sibley.9 Godman wrote: “When the bear seizes a living
animal he does not, as most other beasts do, first put it to death, but
tears it to pieces and devours it, without being delayed by its screams
or struggles, and may actually be said to swallow it alive.”10 This
trait has been rarely mentioned by subsequent naturalists. There are
several references to it in the Wisconsin newspapers. For example,
the following incident occurred in Dunn County: “Last week Wednes-
day [September 8, 1880], a fine 300 pound hog belonging to Mr.
R. Furbur, of Sherman, while feeding in the woods, was attacked by a
bear and pretty roughly handled. . . . The hog returned ‘all broke up,’
as the saying goes, and evidently mortally wounded. Bruin had taken
pork enough to make a square meal from all appearances. Mr. Furbur
was obliged to kill the hog and thereby end its misery.”11 Stephenson
was living in eastern Wisconsin when he watched the killing of a bear
that had captured a pig. The latter ran away, "though the half of one side was nearly torn off it."11.1

**Original Range**

The black bear was to be found on occasion at least in every county in the state. It was not common south of a line drawn from Milwaukee westward to the Mississippi River. This region, consisting largely of prairies and oak openings, was penetrated during the bear irruptions. A gentleman who had resided at Racine for seven years, writing in 1844, stated that he had heard of but one bear in the neighborhood during that period.12 Le Claire13 mentions that there were very few in the Milwaukee region during the period 1800–09. Ficker 14 came to the town of Mequon, Ozaukee County, the winter of 1848–49. There were no bears present at that time but they were to be found farther north. However, several were killed subsequently in the county.

Mukwonago, Waukesha County, according to Vieau,15 who was born in Milwaukee in 1820, is a corruption of *mukwa* (bear) and *onahko* (fat), and means fat bear. He states: "This was a popular place for hunting black bears; the greatest in the West, I used to be told. I have eaten of many that came from there. When the Indians of this region wanted to have a big feast, they would send young hunters thither, from all along the lake shore even as far off as Kewaunee."

Another version has been recorded by Camp16 who came to Mukwonago, the "place of the bears," in 1836. An old Indian told him that long ago, during a rainless year, there was locally a heavy crop of white oak acorns. Large numbers of bears assembled there and the Indians killed over eighty. It is difficult to distinguish fact from tradition. Mukwonago has also been translated as *ladle*17 and *bear-lair*.18 The species was uncommon when Chapman came to Waukesha in 1841. He wrote: "Occasionally a bear or grey wolf, by some depredation, gave us notice of his presence."19

The killing of a bear in the town of La Fayette, Walworth County, in 1836, was considered an event.20 Hiram Brown came to the town of Albany, Green County, in March, 1842. In August, 1844, he killed the first bear known for that section.21 In the winter of 1839–40, some Winnebagoes camped north of Watertown, Jefferson County. They took about $100 worth of pelts including bear.22

Bears are said to have been plentiful in the towns of Dunn and Verona, Dane County, when first settled.23 Major Tenney came to Madison in 1845, at which time "bears were common."24 In September, 1899, workmen excavating a lagoon in Tenney Park, Madison,
unearthed an old bear trap. Published records of bears killed during the early years show that bears were not common at Madison, or elsewhere in the county, except during the irruptions.

Rodolph, who came to Lafayette County in 1832, stated that there was "once in a while a bear." Another settler, S. E. Roberts, who arrived in the county in 1846, mentioned that "now and then a black bear would stray in from the northern part of the state in fall."

While at Prairie du Chien in February, 1834, Hoffman learned that hunters had to go a distance from the fort to secure bear and other large game. North of Mineral Point, Iowa County, "the tracks of bears and other wild animals were to be seen on every side." Hollman came to Platteville in 1828 when bear and other large game were to be found in "astonishing quantities." Bears were found occasionally at Prairie du Sac, Sauk County, in 1840, and in Richland County when first settled.

The northern three-fourths of the state contained a large number of bears except along Lake Superior. Schoolcraft, in 1820, found it a "country almost destitute of game." In 1856 it was stated that game had become exceedingly scarce here, there being only "a few bears, rabbits, and porcupines and some partridges." However, the missionary James Peet, while at Bayfield wrote in his diary on June 23, 1858: "Bears are very numerous in the woods on this part of Lake Superior now."

Verwyst came to Hollandtown, Brown County, in 1848 when bears were plentiful. They were abundant near Kaukauna, Outagamie County, in 1853. Allouez wrote in February, 1677, that a Potawatomi Indian was killed by a bear near Green Bay. During the winter his friends and relatives made war on the bears with such success that over 500 were slain. It should be borne in mind that the early French were fond of dealing in large, round numbers. Carver, in 1766, found bears and deer very numerous on the upper Fox River.

When Le Seur went up the Mississippi in 1700, he noted the numerous caves near Lake Pepin to which the bears retreated in winter. This region remained favored by bears. The family of W. W. Cooke settled near Gilmanton, Buffalo County, in 1856. During the first ten years his father killed 16 old bears and captured five cubs alive in Beaver Valley. In the fall of 1857 he killed two of a drove of six bears found in a thicket.

**ABUNDANCE**

The black bear at times and places throughout its range has been
very numerous. There may be a concentration due either to abundance of food or to emigration. Lawson,42 (1714), states that 500 bears were killed in two counties in Virginia during one winter. Charlevoix43 mentions that during the winter of 1720–21, over 400 bears were killed on Point Pelee, northern shore of Lake Erie. This appears to have been an emigration.

During pioneer times the Kanawha Valley contained heavy stands of beech. According to Atkinson, “The heavy beech masts never failed to attract wild-turkeys, pigeons, and bears, in numberless flocks, and companies, every Fall.”44 The bears became fat and unwary, and the pioneer hunters came every fall to secure a supply of bear's meat for the winter. Benjamin Morris killed 13 bears in one afternoon a few miles above Charleston, West Virginia, and this was not considered an exceptional feat.

The valleys of the Big Sandy and Guyandotte rivers in West Virginia were also famous bear regions due to the abundance of oak and chestnut trees. During the years 1805, 1806, and 1807, hunters took 8,000 bear skins in the districts traversed by these streams.45 Cuming was at Oldtown Creek, on the Ohio, July 25, 1807, when he wrote: “Two or three years ago when bear skins were worth from six to ten dollars each, he [Buffington] and another man killed one hundred and thirty-five bears in six weeks.”46

An Indian from Fond du Lac (Superior, Wisconsin) told Scholcraft47 in July, 1828, that the 54 hunters in his band of 220 persons killed 994 bears during the fall and winter of 1827–28. There was undoubtedly an influx of bears in the fall of 1827 to have permitted the slaughter of so large a number. Another emigration seems to have taken place in the same region four years later, the fall of 1831. Lt. Allen,48 in June, 1832, was informed by Mr. Abbott, a trader from Leech Lake, Minnesota, that the returns for the year were “principally bears.” William A. Aitkin, of Fond du Lac, who was in charge of nine trading posts in Minnesota, informed Allen that “the proportion of bear skins this year being very great at most posts west of Fond du Lac.”

The returns from the northern trading posts in Wisconsin do not show that the bear was numerous. While stationed at Lac du Flambeau the winter of 1804–05, Malhiot49 acquired only 69 large and 18 small bearksins. Curot50 secured 13 skins at the Yellow River post the winter of 1803–04. The shipment of furs from Green Bay made by Grignon51 in June, 1815, contained the skins of 12 bears and five
cubs; and that of July, 1816, 85 bearskins at $5.50 each, 20 cub skins at $2.75, and 24 bearskin covers at $1.50. Nearly a half century later, 1859, the skins were still quoted at $2.50 to $5.00 at Eau Claire.\(^52\) In 1887 the skins brought $9.00 to $18.00, and the oil $4.00 a gallon.\(^53\)

It is not possible to estimate the primitive bear population of the state without making a wild guess; however, the following data show that the species must have been abundant in the central portion of the state:

1854. Two men killed 8 bears in one day near the Wolf River.\(^54\)  
1855. A band of hunters returned from Richland County with 10 bears and a large number of deer.\(^55\)  
1856. Nine men killed 13 bears in one day in Waupaca County.\(^56\)  
1856. Within a period of two weeks, 17 bears were killed within eight miles of New London.\(^57\)  
1858. J. F. Stone and Charles Buckman, the famous hunters of Eau Claire County, trapped 32 bears from August 15 to the latter part of October. Only one day in every four was devoted to this pursuit.\(^58\)  
1858. Ambrose Hammond killed five old bears and four cubs in three days in Portage County.\(^59\)  
1858. Daniel Weed killed seven bears in two weeks in a patch of blackberries covering one half of a square mile four miles south of Mosinee.\(^60\)  
1858. "Bear-skin robes will be plenty here [Stevens Point] next winter; some forty or fifty have been killed in the vicinity the two last weeks."\(^61\)  
1858. In the town of Waupaca, Waupaca County, eight bears were killed in one day the end of September.\(^62\)  
1864. Four hunters, including J. Livermore, killed 14 bears in the town of Bridge Creek, Eau Claire County.\(^53\)  
1868. A hunter at Knowlton, Marathon County, killed 14 bears during the fall season.\(^64\)  
1870. Three men in two days killed five bears weighing from 310 to 420 pounds in Portage County.\(^65\)  
1874. Charles Martin and three companions, camped near Hamilton's Falls, killed 12 bears and 11 deer in seven days. Six of the bears were killed in less than five minutes.\(^66\)  
1875. A party of hunters in Barron County in two days saw 29 bears and killed four of them.\(^67\)  
1875. Four hunters in Eau Claire County killed 26 bears and 107 deer in two and one-half months.\(^68\)  
1875. "A party of hunters on Otter Creek [Dunn County] saw nineteen bears in one day and killed five of them."\(^69\)  
1877. Four hunters killed 26 bears and 118 deer on the North Fork of the Eau Claire River from September 1 to December 31.\(^70\)  
1878. Charles Martin and James Terry camped on the North Fork of the Eau Claire River. "It was late in September. One morning
we went out and Mr. Martin killed two bear. . . About five o'clock in the afternoon we went out again and I ran into seven bear, three old ones and four cubs. Martin killed an old bear and two cubs and I killed two old bear and the other two cubs . . . That fall from the middle of September to the middle of December, Martin and I killed twenty bear and one hundred deer.” 1880. Three hunters, in approximately three weeks, killed 28 bears at Spaulding, Jackson County. 71

Fig. 1. Dates of the last appearance of bears in the southern counties. The present range (1946) was furnished by Walter E. Scott, Wisconsin Conservation Department.
1887. During the fall season the Hicks brothers of Sumner, Barron County, killed 32 bears.72
1896. "There have been fifty black bear shot or trapped in this county [Burnett] the past year."73
The Winnebagoes, living from Stevens Point to La Crosse, according to Paquette,74 were taking only a few bears by the year 1887. A general picture of the decline of the bear in the southern half of the state can be obtained from Figure 1 showing the present range and the last dates of its appearance.

The bear is still common in the state. It is estimated that 80 bears were killed in each of the two counties, Bayfield and Douglas, during the season 1945–46. The annual kill in the state during recent years is given in the table below.

<table>
<thead>
<tr>
<th>TABLE 1.</th>
<th>ESTIMATED NUMBER OF BEARS KILLED IN WISCONSIN*</th>
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<tbody>
<tr>
<td>Season</td>
<td>Number of bears</td>
</tr>
<tr>
<td>1934–35</td>
<td>216</td>
</tr>
<tr>
<td>1935–36</td>
<td>No open season</td>
</tr>
<tr>
<td>1936–37</td>
<td>273</td>
</tr>
<tr>
<td>1937–38</td>
<td>157</td>
</tr>
<tr>
<td>1938–39</td>
<td>186</td>
</tr>
<tr>
<td>1939–40</td>
<td>438</td>
</tr>
<tr>
<td>1940–41</td>
<td>314</td>
</tr>
<tr>
<td>1941–42</td>
<td>No open season</td>
</tr>
<tr>
<td>1942–43</td>
<td>647</td>
</tr>
<tr>
<td>1943–44</td>
<td>684</td>
</tr>
<tr>
<td>1944–45</td>
<td>489</td>
</tr>
<tr>
<td>1945–46</td>
<td>575</td>
</tr>
</tbody>
</table>

*Data furnished by the Wisconsin Conservation Department.

HUNTING

The Indians held the bear in great veneration and offered profound apologies for taking its life. Calkins states that the Wisconsin Chippewa performed a singular ritual prior to hunting the bear in winter. The chief medicine man addressed a stuffed bear cub as follows:

"O, my brother! we are very hungry; and we are on the point of starving, and I wish you to have pity on us, and tomorrow when the young men go out to hunt you, I want you to show yourself. I know very well that you are concealed somewhere close by my camp here. I give you my pipe to smoke of, and I wish you would have pity on us, and give us your body that we may eat and not starve."75

The Indians had several methods for securing bears, the hunting being confined largely to the fall and winter months. A den tree was located by the tracks in the snow leading to it, or by the claw marks
on the trunk. Penicaut\textsuperscript{76} relates that at Mankato, Minnesota, the winter of 1701–02, the Indians placed against the den tree a small tree that would extend to the hole. This a man ascended and tossed burning, dry wood into the opening to drive out the bear that was then shot. This method was employed by all of the Indians from the Mississippi River to the Atlantic Ocean. Birch bark when available was the preferred combustible material. Du Pratz\textsuperscript{77} mentions that the Indians on the lower Mississippi climbed a tree adjacent to the den tree and hurled burning reeds into the opening.

The trees were sometimes felled after the introduction of steel axes. Henry,\textsuperscript{78} in Michigan, worked with an Indian family for a day and a half in order to fell a tree with light axes.

The bear was also tracked to ground dens and shot. While Henry\textsuperscript{78a} was at Chequamegon Bay, Wisconsin, the winter of 1765–66, the Indians followed a bear to its den from the very slight depressions remaining after later snows had covered the tracks made early in the winter.

Deadfalls made of logs were used commonly for taking the bear. This method was in use as late as 1883 in Wood County.\textsuperscript{79} When Schoolcraft\textsuperscript{32} ascended the Ontonagon River in June, 1820, the Indians took a bear measuring five feet in length from a deadfall. Copway\textsuperscript{80} mentions the use of this trap "in the immediate vicinity of Lake Superior."

Kohl\textsuperscript{81} has described a trap that he examined at Lac du Flambeau. A corridor of posts was driven into the ground and covered with branches and thorns to prevent the bear from securing the bait, usually meat, except from the entrance. In front of the latter was balanced a log, weighted at both ends by logs and stones. This log, "l'assommeur" (killer), was placed at such a height that the bear had to stoop to reach the bait. A trigger released the weighted log allowing it to fall on the bear's spine. Since the Indians as well as the Canadians had names for all the parts of the deadfall, Kohl believed that it was an invention adopted by the Europeans. The deadfall was in use by the Indians at least by 1684, the year that La Hontan\textsuperscript{82} came to Canada. Detailed descriptions and illustrations of the deadfalls used by modern Indians are given by Cooper,\textsuperscript{83} and by Mason.\textsuperscript{84} The trap used by the Minnesota Chippewas is described briefly by Densmore.\textsuperscript{85} They visited the deadfall every two days.

The majority of white hunters used steel traps. Prof. Moore\textsuperscript{86} states that there was a ridge covered with white oaks near his home in Ke-
waunee County, Wisconsin, where the bears fed prior to denning. The
bait used in trapping consisted of a quarter of venison that was soaked
in the presence of codfish for about two days. This was dragged across
the ridge for about one half a mile and the traps set on this trail. Usually
about four traps, baited with either fresh fish, beef, or venison,
were set. Each year 10 to 12 bears were caught during a period of ten
days.

SIZE AND WEIGHT

There are few data on the size and weight of Wisconsin bears that
carry the stamp of full reliability. Cory\textsuperscript{87} states that adult males from
Wisconsin will measure 60 to 70 inches in length and weigh 250 to 350
pounds. While there are a large number of statements on size and
weight, all too frequently the round numbers given betray that these
were estimates. The manner in which the measurements were taken
is usually not stated. The large measurements sometimes given were
without doubt made from the tip of the nose to the claws of the hind
feet with the legs extended. This was a common procedure by hunters
and was even followed by Cory. A Florida bear measured “six feet
two inches from nose to tail” and “eight feet two inches from hind
claw to nose.”\textsuperscript{88}

The best approximate weights of bears of various age classes, based
on field specimens, were obtained by Gerstell\textsuperscript{89} and are given in
Table 2.

<table>
<thead>
<tr>
<th>TABLE 2. ESTIMATED AVERAGE WEIGHTS OF BLACK BEARS</th>
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<td>(Figures pertain to late fall)</td>
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<table>
<thead>
<tr>
<th>AGE</th>
<th>ESTIMATED AVERAGE Pounds</th>
<th>ESTIMATED RANGE Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubs (10 months)</td>
<td>55</td>
<td>30 to 80</td>
</tr>
<tr>
<td>Yearlings (22 months)</td>
<td>105</td>
<td>80 to 130</td>
</tr>
<tr>
<td>2-year-olds (34 months)</td>
<td>155</td>
<td>125 to 185</td>
</tr>
<tr>
<td>3-year-olds (46 months)</td>
<td>205</td>
<td>180 to 240</td>
</tr>
<tr>
<td>4-year-olds (58 months)</td>
<td>255</td>
<td>215 to 295</td>
</tr>
<tr>
<td>5-year-olds (70 months)</td>
<td>305</td>
<td>255 to 350</td>
</tr>
<tr>
<td>Older Animals</td>
<td>(Up to 600 pounds)</td>
<td></td>
</tr>
</tbody>
</table>

When food is abundant individuals will be found that exceed the
ranges given in the table. Beatty\textsuperscript{90} weighed a pair of cubs, approxi-
mately ten months of age, of which the female weighed 80 pounds
and the male 120 pounds. He states that adults do not attain full size until the sixth or seventh year.

The average loss by hog-dressing, found by Gerstell, was 14.1 per cent of the live weight. Females lost less than the males. Schoonmaker states that a bear weighing 475 pounds after being shot lost 90 pounds, or 18.9 per cent, by dressing. The large bear mentioned by Gordon lost 15 per cent by dressing.

Some exceptionally large individuals have been recorded throughout the range of the black bear. One killed in Pennsylvania was nine feet in length, and had a live weight of 633 pounds and 538 pounds hog-dressed. An animal caught in July, 1921, on Anticosti Island, weighed 635 pounds in September when received by the New York Zoological Society. Hornaday mentioned that it soon gained 50 additional pounds.

A Yosemite bear weighed by Beatty tipped the scales at 680 pounds. One killed in Oklahoma is stated to have weighed 720 pounds, and another killed in Louisiana 671 pounds. The latter measured 9 feet, 2.5 inches from the “pad of hind foot to tip of nose” and 7 feet, 7.5 inches from “nose to root of tail.”

A black bear, reported to have weighed 900 pounds, was killed by M. E. Musgrave of the Biological Survey on the southern slope of Navajo Mountain, Arizona, in December. H. H. T. Jackson, U. S. Fish and Wildlife Service, recently investigated this record with care. It appears that no weight or measurements were taken, but he is inclined to believe that the estimated weight was approximately that given. He estimated from a photograph of the skin that the latter measured “about 8 feet from the tip of nose to tail.”

A bear killed at Randall, Morrison County, Minnesota, in the late nineties, measured “seven feet one inch from the nose to the tip of the stub tail.” Pederson states that he could not weigh the animal since the maximum capacity of his scales was 350 pounds.

Data on some Wisconsin bears, where the weights and lengths (tip of nose to end of tail) seem to have been taken with care, are given in Table 3.
Some large bears still exist in the state. One weighing 436 pounds, with the entrails removed, was killed near Solon Springs by Kenneth Smith. Another killed by Joseph Taber, Jr., in Ashland County weighed 538 pounds. Vilas County produced a bear, shot by Ben Ballering, that weighed “approximately 550 pounds.” George Ruegger was employed by the Conservation Department to kill a bear that was destroying livestock in Douglas County. He has informed me that this bear was killed on September 29, 1941, about 1.5 miles east of Paterson Park. It was a male and weighed 445 pounds hog-dressed. The live weight would have been about 523 pounds, applying a 15 per cent correction for dressing.

**BREEDING**

The *belle passion*, according to Charlevoix, arises in July. Gerstell states that breeding occurs in late June and in July. Bears were observed mating in the Yosemite Valley on June 25. As early as 1840, Emmons gave the gestation period as seven months. It is now generally considered to be seven and a half months, though Brown stated recently that in captivity it is about seven months and one week.
The growth of the embryo is remarkable for slowness. Gerstell found that between November 10 and December 15, i.e., after 70 per cent of the period of development has passed, the embryo is only 0.7 of an inch in length. The cubs when born are 6 to 9 inches in length and weigh 9 to 12 ounces. Wright gives 8 to 18 ounces according to the number in the litter.

Most reference works state that the black bear normally produces young only every other year. The cubs den with their mother during their first winter and are set adrift the following summer. Doubt has been expressed as to the regularity of this breeding period. Wright thought that this bear in the wild usually bred every year and turned her cubs adrift before denning. He saw an old bear and cubs denning together but once, and a female followed by yearlings not more than a dozen times. Bailey states that it is not positively known whether or not it breeds only in alternate years as is generally supposed. A case is mentioned by Grinnell of an old bear and two cubs in a den while "a small bear, probably her cub of the previous year, was curled up asleep . . . about ten feet from the old bear."

There is sufficient information available to justify the belief that breeding every two years is the normal procedure. Owing to the antagonism of an adult male to cubs, it is wholly improbable that the female would accept him while the cubs were with her. Should the cubs be lost prior to July, she might well mate again.

O. J. Murie, Fish and Wildlife Service, has written to me of his observations as follows:

"The question about the breeding intervals of bears is a hard one to answer. . . . During the cub's first summer the mother is very truculent toward strange bears, and there are indications, and it is believed by many, that a male bear will kill an unattended cub. This circumstance strongly suggests that the mother does not breed during the summer when she is attended by young cubs. I have not seen any sign of breeding under such circumstances, nor have I seen a mother with cubs tolerate a strange bear near her.

"It is true, furthermore, that females are often seen accompanied by yearlings. I have at least one significant observation. In the summer of 1944, I believe it was, at Fishing Bridge in the Yellowstone, a female black bear was followed for a time by three yearlings. Then they left her for a while and she was seen for a number of days in company with a male. They were indulging in the affectionate scuffling play that takes place at the mating time. Later the three yearlings were back with the mother, at least for a time."

The following information was furnished by Clifford C. Presnall, Fish and Wildlife Service:
"We have kept very close observation of a number of females during a period of five years and to the best of my memory, we noted only one case where litters were born in successive years, rather than every other year. This particular bear had a litter every alternate year, with the exception of the one case.

"The cubs almost invariably den up with the mother during the first year after birth. . . . One unusually large den which I visited, in fact it was a small cave in a talus slope, had a mother bear in one bed of leaves, and each of her 2 cubs in separate beds several feet away. Our experience in the Sierras led us to believe it was almost necessary for a cub to den up with its mother the first year, otherwise it might have a pretty tough time. We know of several orphans that wandered disconsolately late in the winter, after all the other bears had denned up, and in one case a poor misguided orphan spent a cold and fitful hibernation in the crotch of a tree."

A lone, captive cub seems to be thoroughly capable of taking care of itself on the approach of winter. Prof. Moore had one that dug a den to which it carried cornstalks. A very interesting account it given by Wright of his cub digging a den and lining it with old clothes; and Johnson mentions that a young bear stole an overcoat with which to plug the entrance to its den.

Bears reared in captivity did not breed until they were three and a half years of age. It remains to be determined if this is the normal age in the wild. Some statements regarding Wisconsin bears indicate that the female may breed at a lower age or that she was exceptionally small. On September 23, 1883, a female and two cubs were killed in Waupaca County: "For the species the game was rather small, the old bear weighing but 146 pounds and the cubs respectively 31 and 26 pounds."

On September 17, 1897, there were killed near Wausau a female weighing 160 pounds and her cub weighing 60 pounds. A female that had two cubs was killed in Barron County in September, 1905. She weighed 150 pounds.

Cartwright, while in Labrador, on August 29, 1779, killed a female black bear having the remarkably low weight of 72 pounds. Her cub weighed only eight pounds, indicating that it was born much later than usual.

The age at which the bear ceases to breed in the wild is not known. The female of a pair 24 years old, in captivity, did not breed during the last three years.

A pregnant female, when disturbed, will sometimes drop her young prematurely. This fact is not mentioned in the life histories of the species. Early in January, 1878, near Oconto, Wisconsin, John Hale
wounded a bear in a “delicate” condition. She escaped leaving behind a very small cub. He followed her two miles, fired a fatal shot and found three more cubs near her. When Kurz was at Fort Union on the Upper Missouri in 1851, he wrote in his journal: “Bears, big with young, if frightened, smoked out or in any manner driven from their dens during their winter sleep, are said to bring forth their cubs prematurely.”

The Carrier Indians of British Columbia told Macfarlane that it was extremely rare to kill a hibernating bear with unborn young; and that, “Even when attacked in their winter shelters, they will almost invariably manage to abort their young, if not already in existence, immediately on becoming aware of the near presence of men with deadly intentions.”

The young are born in Wisconsin the latter part of January and early in February. The earliest date found was January 16 (1876), the weather being exceptionally mild. On this date, within three miles of Green Bay, a party of hunters “surprised a bear lying on the top of a hollow log. They killed her and on going up to her found two cubs lying beside the log with their eyes just open.” There must have been an error in observation for the eyes do not open for 30 to 40 days after birth. The eyes of a pair of cubs taken near Chilton the end of February were still closed.

The number of cubs according to Richardson varies from one to five, probably with the age of the mother. Seton states that they are usually two in number, occasionally one, three are common, and four have been recorded several times. Recently Rowan published a photograph of a female with four cubs in British Columbia and mentions a case of a female with five cubs. Quadruplets are recorded by During and by Kinney.

The records of 284 litters taken from Wisconsin newspapers are given below:

<table>
<thead>
<tr>
<th>No. of cubs in litter</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of litters</td>
<td>43</td>
<td>119</td>
<td>91</td>
<td>27</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Per cent</td>
<td>15</td>
<td>42</td>
<td>32</td>
<td>10</td>
<td>1</td>
<td>0.35</td>
</tr>
</tbody>
</table>

The average number of cubs per litter is 2.4. This figure would be higher at birth since it does not take into account the losses that occurred. The three cases of five cubs and one of six appear to be reliable.

**Denning**

A snug, dry den is usually selected in a standing or fallen hollow
tree, a cave; or one is prepared underneath a windfall, the base of an uprooted tree, or dug in the ground. Wintering in the open is not uncommon for an old bear. Morse, the winter of 1935-36, even found an old bear and three yearlings hibernating in the open 32 miles north of Duluth.

While hunting with the Indians in Michigan, the winter of 1763-64, Henry was informed that the female dens in the upper parts of trees to secure the young from the attack of wolves and other animals. The male lodged in the ground. It should be borne in mind that the ground dens made by the females are usually well concealed and not easily found, while the den trees are located readily by the claw marks. Surface dens with cubs are not now uncommon in Wisconsin where there are few large hollow trees remaining to serve as dens. One was photographed recently in Ashland County.

The timber wolf was the chief natural enemy of the bear. A trapped bear was killed and nearly devoured by wolves in Eau Claire County. When wolves were plentiful a majority of the female bears with cubs may have denned in trees, but it is doubtful if all of the dens were ever so located. Examples of the location of Wisconsin dens containing a mother and cubs are given below:

1839. Hollow tree, Milwaukee County.
1852. Hollow tree, Sheboygan County.
1858. Upturned roots of a fallen tree in a cedar swamp, Calumet County.
1866. Burrow, Pierce County.
1866. Hole under the roots of a tree, St. Croix County.
1872. Fallen hollow tree, Pierce County.
1874. Hole under a tree, St. Croix County.
1875. Standing hollow tree, Marathon County.
1878. Under a cedar stump in a large swamp, Portage County.
1880. Under a pine tree, Marathon County.
1882. Standing hollow tree, Taylor County.
1884. Hollow tree, Clark County.
1886. Under a windfall, Wood County.
1889. Hollow log, Outagamie County.
1892. Hole under a pine tree, Price County.
1897. "An old bear and three cubs were killed on the Oneida reservation. . . . The bears had been preparing winter quarters in a hole in the side of a hill, and were seen by the Indians carrying hay to their quarters. When all were snugly nested away for the winter, they were routed out and shot as they appeared above the ground."
1897. Standing hollow tree, Marinette County.
1898. Standing hollow tree, Marinette County.
1900. Standing hollow tree, Marinette County.
SEASONAL MOVEMENTS

The early literature records the prevailing opinion that bears moved southward on the approach of winter. There is no convincing evidence that there was a consistent directional movement at any season except locally. Du Pratz\textsuperscript{77} states that bears arrived on the lower Mississippi, usually the end of autumn, in a lean condition as they did not leave the north until the ground was entirely covered with snow. They had well-beaten paths on both banks of the river. Du Pratz may have generalized from the fact that during one severe winter spent at Natchez bears in a lean condition appeared in unusual numbers.

Sibley\textsuperscript{9} obtained from hunters on the Red River information on which he based the statement that, “the immense droves of animals that, at the beginning of winter, descend from the mountains down southwardly into the timbered country, is almost incredible.” Buffalo and bear “were in droves of many thousands together.” Atkinson\textsuperscript{44} mentions a former bear crossing on the Kanawha at Charleston, West Virginia, used by the bears “in their migrations northward every spring.”

On the upper Mississippi the bears sometimes moved north in autumn. When Lanman\textsuperscript{159} was at Crow Wing, Minnesota, he wrote: “Immediately on my arrival there, I heard something about a contemplated bear hunt. It happened to be the month when this animal performs its annual journey to the south, whence it returns in October. A number of them had already been killed, and there was a crossing place on the Mississippi, where a good marksman might take one almost at any time.”

A bear pass on the St. Croix River, near the mouth of the Yellow River, is mentioned by Kohl\textsuperscript{61a}. The bears moved south to open country in spring, due to better food conditions, and returned in autumn to winter in the heavy timber. In October they crossed the river nearly every night over a period of three to four weeks.

According to Philip Tome, the famous Pennsylvania hunter, “In the month of August they were to be found traveling west, and crossing Pine Creek, twenty-four miles from the mouth, where they had a beaten road that might be followed fifteen or twenty miles. . . . I have noticed generally that every seventh year the bears travel west in August, and return about the middle of October, but scattering wide apart and paying no attention to the path.”\textsuperscript{160}
Regarding the fall movement Merriam wrote: "In Lewis County . . . is an uninhabited tract of evergreen forest. . . . In this forest dwell many bears, and in the fall they often cross over the intervening valley, a fertile farming country, and enter the Adirondacks."\textsuperscript{161}

In autumn the bear settles down to the serious task of converting as much food as possible into fat in preparation for hibernation. It is therefore normal for the species to seek a region having an abundant supply of food. Kennicott wrote: "At times, it migrates a considerable distance in search of food, particularly in autumn, when the males travel southward in large numbers. In Michigan, it has been known to traverse many miles in order to reach a locality where white-oaks bear a full crop of acorns."\textsuperscript{162}

Bunnell\textsuperscript{163} found bears quite numerous in the La Crosse, Wisconsin, region about 1845. When food was scarce the bears would wander. They were known as "traveling bears," of which his brother killed three in one day on the Trempealeau River.

\textbf{Emigration and Its Cause}

The appearance at intervals of black bears in unusual numbers has been noted throughout much of the range of this species. It is not always possible to distinguish clearly a migration from an emigration. In this paper any spring or fall movement over regular trails or passes, or a concentration due to abundance of food in certain localities, is considered a migration. An emigration may be defined as the passing of an unusual number of bears through a region without a return. There is no information indicating a return after these periodic irruptions. Hardy\textsuperscript{164} mentions two westerly movements of bears in autumn in Maine, one about 1827, the other about 1867, with no evidence of a return in spring.

Mass movements of bears have been mentioned frequently, but beyond the statement that they were caused by lack of food there is little information. Seton\textsuperscript{121} remarks, "What the nature and extent of this migration are, or whether regular in time or direction, I have not been able to determine."

Felt relates that, "In Sept., Oct. and part of Nov. [1663] there came many bears out of the wilderness, soe that severall hundreds were killed in the severall parts of Colone."\textsuperscript{165} There was another invasion in 1699. Josselyn wrote in 1672: "About four years since,
acorns being very scarce up in the country, some numbers of them came down amongst the English plantations, which generally are by the sea-side. At one town called Georgiana, in the province of Meyn ... they kill'd fourscore.”

In the fall of 1759, bears moved down the Hudson River in large numbers and caused great damage to corn and livestock. It is added, “. . . they are more numerous than has been known in the memory of man. And, particularly, he was at a tavern on the post-road, near Poughkeepsie, when the landlord counted to him thirty-six, that had been killed within three weeks of that time, in the compass of four or five miles.”

Belknap, writing of New Hampshire in 1792, said: “In the autumn of some years, the bears come down into the old settlements, and they have been seen in the maritime towns; but now, their appearance in these places, is extremely rare.” However, the exodus of bears continued for, “The season, this year [1794], was unpropitious to the husbandman. . . . On the 17th of May, there was a heavy frost, so thick as to resemble snow, and so severe, that . . . apples, nuts, acorns and berries, were entirely cut off. For want of these, the bears were forced to leave their woody retreats, and seek subsistence nearer the sea shore. . . . It was said, that more than 300 were slain or taken in the whole State . . . of Maine.”

In the fall of 1796, bears came down from the northern regions of Canada and were “most numerous in the neighborhood of Lakes Ontario and Erie, and along the upper parts of the River St. Lawrence. On arriving at the borders of these lakes, or of the river, if the opposite shore was in sight, they generally took to the water, and endeavored to reach it by swimming. Prodigious numbers of them were killed in crossing the St. Lawrence by the Indians, who had hunting encampments, at short distances from each other, the whole way along the banks of the river, from the island of St. Regis to Lake Ontario.”

Willey relates that in the White Mountains, “In the autumn of 1804, it required all the vigilance and courage of the inhabitants to preserve their cattle and hogs from the ferocious creatures. The nuts and berries, their usual food, had failed them, and driven on by hunger, the infuriated beasts would rush almost into the very homes of the settlers.”

By 1840, the bear was a “stranger” in most parts of Massachusetts; however, a few years earlier great numbers appeared in the Hoosic
Mountain Range and between twenty and thirty were taken in one autumn.\textsuperscript{119}

It is mentioned by Copway\textsuperscript{80} that the Indians take bears when they are crossing a body of water. His statement that, “Some years ago, they were thus captured at the head of Lake Superior,” is indicative of an emigration. The fall of 1945, St. Louis County, Minnesota, was invaded by bears.\textsuperscript{172} The surprising number of 157 adults and 77 cubs was presented for bounty. The influx was attributed to the absence of wild fruits.

Kohl has written: “Several years have become remarkable for enormous bear migrations. Thus, I heard much at Rivière au Désert [Vilas County, Wisconsin] of the year 1811, as a perfectly extraordinary bear year. . . . In the said year however, they migrated the whole summer through from the northward across the river [Sault St. Marie] to what is called the ‘upper peninsula of Michigan’. Above six thousand are said to have been killed on the island and banks of this moderately long river. Many traders bought five hundred or six hundred skins in the course of a year, and several even more. A hundred bears were sometimes killed in a night, and many a clever hunter brought down as many to his own gun during the season. Young bears were even taken out of the water by hand.”\textsuperscript{81b}

There is another statement that formerly, once in about three years, the bears collected on the northern shore of Lake Huron and “pushed their course southwesterly across St. Mary’s River in hundreds and even thousands.”\textsuperscript{173}

Climate was not a factor in producing emigration, for the movements took place also on the Lower Mississippi. Father Gravier while on this stream below the Maramec River, Missouri, wrote on October 15, 1700: “Today we saw over 50 bears, and of all that we killed we took only 4, in order to obtain some fat. Those that came down the Mississippi were lean, and Those that came from the direction of the river Ouabachei [St. Joseph] were fat. They were continually moving from the South to the North. It must be better there for them.”\textsuperscript{174} The reasons for a movement in two directions seem contradictory.

The southward movement of bears in Pennsylvania in the fall of 1834 was due to lack of food.\textsuperscript{175} In the fall of 1877 there was an unusual concentration of bears in the Mississippi bottoms near Memphis. The animals were particularly destructive to corn in Coahoma and Tunica counties, Mississippi.\textsuperscript{176}

It was commonly believed that the bear would not hibernate if
lean, but would wander in search of food. De Kay wrote: “Indeed this condition of fatness is so necessary, that when the supply of food is cut off, instead of retiring to winter quarters, they migrate southward to warmer regions. Hence great numbers are occasionally known to enter our territory from the north, composed entirely of lean males, or females not with young.”

In very severe winters, according to Richardson, a great number of bears have been known to enter the United States from the north. These were lean and nearly all males. He states that in the northern regions the bears mate in September after fattening on berries. Becoming poor in flesh during the rutting season, they will travel south if an early winter prevents them from becoming sufficiently fat for hibernation. This explanation is scarcely tenable since to the best of our knowledge mating does not take place later than July in even the northernmost part of the bear’s range.

Merriam states that it is a rule that when a male bear can find sufficient food he will not den regardless of the severity of the weather. There are so many exceptions that this cannot be considered a rule. Hardy says that, of the two migrations of which he was informed, “lack of food did not seem to be the reason for moving.” When King was at Niagara, a bear in very poor condition was brought into town. He remarked that scarcity of food causes the species to migrate.

The Canadian Indians could not give Macfarlane a satisfactory explanation for the “recurring seasons of exceptional scarcity of bears in regularly occupied tracts.” The simplest solution was to assume that a migration had taken place.

Emigrations of bears and gray squirrels have been recorded several times as occurring simultaneously. Statements can be found that emigration takes place when food is plentiful and when it is not. The fact that both species enter or pass through a region supplied with food does not prove that they left one where food was sufficient. Weld mentions that the southward movement of bears in Canada in 1796 was accompanied by a northward emigration of gray squirrels. Since the latter, in some sections, destroyed two thirds of the corn, there was presumably a shortage of food in the region left. The great migration of squirrels in Michigan in the fall of 1866 was followed by one of the bears. “The same reason accounts for both — a scarcity of mast.”
An emigration of gray squirrels in Pennsylvania was followed by one of wild turkeys in droves, while "the rear was brought up by scores of very serious half-famished-looking bears."\textsuperscript{179} The exodus of squirrels from Clinton County, Pennsylvania, in the fall of 1889 was also followed by one of bears.\textsuperscript{180} Rich\textsuperscript{181} states that the abundance of bears in the Rangely Lakes region of Maine in the fall of 1894 was due to "lack of beech nuts and berries." Gray squirrels were "unusually abundant." On the other hand Strickland\textsuperscript{181.1} claimed that bears and squirrels were numerous in Canada only when there was a good crop of mast.

Hough wrote in 1896: "I am told that the Delta country of Mississippi, where the black bears were so numerous last year, has this year almost no mast at all, in consequence of which no bears are to be found in that country. . . . It is supposed that the bears have gone to Arkansas or the hereafter."\textsuperscript{182}

Only two logical reasons can be advanced for an emigration of bears, lack of food, or a population so high that it results in intra-specific intolerance. The weight of opinion rests on a shortage of food.

There were several clearly defined emigrations of bears in Wisconsin during the latter half of the past century. These are described in Table 3.

The information on which the various emigrations are based is given below.

**1844**

"We noticed last week the capture of three bears . . . and since that time it has been ascertained that the country is full of them. Nearly one hundred have been seen in this county [Dane] within a week, and some twenty-five or thirty have been killed. . . . We understand that they are in great numbers in the counties west of us."\textsuperscript{183} Dr. W. H. Fox, town of Fitchburg, Dane County, wrote: "That same fall (1844) there were a great many bears prowling about."\textsuperscript{23a} Some appeared in the town of Springfield.\textsuperscript{183.1}

"Many of our contemporaries are noticing the emigration of bears from the northern regions of the Territory to more southern latitudes."\textsuperscript{184}

The crew of the steamer Cleveland, in October, captured in Lake Michigan a large bear swimming off Long Point, Racine County.\textsuperscript{184.1} One was killed in August in the town of Albany, Green County.\textsuperscript{21}

In this year Judge Erwin held court at Prairie du Sac, then the county seat of Sauk County. "In the midst of the session some one
### TABLE 3.
**Bear Movements in Wisconsin**

<table>
<thead>
<tr>
<th>Years Between Emigrations</th>
<th>Year of Emigration</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1844</td>
<td>Heavy emigration to southern end of state. Squirrels abundant in Milwaukee County.</td>
</tr>
<tr>
<td></td>
<td>1849</td>
<td>Emigration southward. Squirrels abundant at Watertown.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1854. Plentiful in the Lake Winnebago area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1855. Very few records.</td>
</tr>
<tr>
<td></td>
<td>1856</td>
<td>Emigration into southeastern section of the state. Squirrels abundant and migrating.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1857. Few records.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1858. Numerous in the north but no movement southward.</td>
</tr>
<tr>
<td></td>
<td>1859</td>
<td>Broad movement to southern boundary. Few data on squirrels but they were abundant at Oshkosh.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1860-63. Very few records.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1864. Numerous in Western Wisconsin and exceptionally so in eastern Minnesota.</td>
</tr>
<tr>
<td></td>
<td>1866</td>
<td>Very few records. Squirrels abundant and migrating.</td>
</tr>
<tr>
<td></td>
<td>1867-70.</td>
<td>Comparatively few records.</td>
</tr>
<tr>
<td></td>
<td>1871</td>
<td>Common to abundant. Reach southern counties. Squirrels abundant and migrating.</td>
</tr>
<tr>
<td></td>
<td>1872</td>
<td>1873. Numerous but no extensive movement southward. Squirrels abundant and migrating.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1874. Few records.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1875. Numerous but no movement southward.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1876. Very few records.</td>
</tr>
<tr>
<td></td>
<td>1877</td>
<td>More plentiful than in 1876. Squirrels abundant.</td>
</tr>
<tr>
<td></td>
<td>1878</td>
<td>Abundant and reach southern counties. Squirrels abundant and migrating extensively.</td>
</tr>
<tr>
<td></td>
<td>1879</td>
<td>Few records.</td>
</tr>
<tr>
<td></td>
<td>1880-81.</td>
<td>Quite numerous.</td>
</tr>
<tr>
<td></td>
<td>1883</td>
<td>Abundant and reach southern counties. Squirrels abundant and migrating extensively.</td>
</tr>
<tr>
<td></td>
<td>1884</td>
<td>Few records.</td>
</tr>
<tr>
<td></td>
<td>1885.</td>
<td>Abundant. A few reached Sauk County.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1886-87. Less numerous and no movement.</td>
</tr>
<tr>
<td></td>
<td>1888</td>
<td>Abundant and reach southern counties. Squirrels were abundant throughout the state but no well defined migration.</td>
</tr>
<tr>
<td></td>
<td>1891.</td>
<td>A few were killed in Sauk and Adams Counties. Squirrels numerous in western part of state.</td>
</tr>
<tr>
<td></td>
<td>1894.</td>
<td>Numerous and a few reached Sauk County.</td>
</tr>
<tr>
<td></td>
<td>1895.</td>
<td>Quite numerous. One killed in Sauk County. Squirrels plentiful and migrating.</td>
</tr>
<tr>
<td></td>
<td>1896.</td>
<td>Few records.</td>
</tr>
</tbody>
</table>
cried from the outside that there were three bears crossing the Wisconsin river. A general stampede ensued . . . without the formality of adjournment. The mother bear was caught and her throat cut. . . . The cubs were finally caught and killed. . . . During the sitting of this court there were seven bears killed in the vicinity of the Sauk villages.

1849

Rev. Breck in the fall of this year walked from Nashotah to Green Bay. On November 21 he wrote from Appleton that he was afraid of encountering wild animals in the dense woods on the eastern side of Lake Winnebago for, "I knew this year to be noted for the many bears that had come down from the North, for they had come even as far down as Nashotah [Waukesha County]." The hunting of bears in this county was one of the common sports this autumn.

"From notices which we have seen in several of our exchanges, we draw the conclusion that the bear family are becoming quite familiar in Wisconsin. . . . Three of the shaggy gentlemen were taken a few days since on Blue River in Iowa County. . . ."

1856

Bears were very numerous at Green Bay, Oshkosh, and Appleton. One was killed in Dodge County, and several were seen or killed in Jefferson, Milwaukee, and Waukesha counties.

1859

"Report says that the people of the northern portions of the county [Iowa] have become alarmed within the present week, on account of the numerous Bears prowling about. As high as eight are reported to have been seen."

Bears were killed in Rock, Grant, Crawford, Iowa, Dane, Racine, Milwaukee, Green, Richland, Columbia, and Dodge counties.

1866

"Bears are getting to be very abundant in this section [Berlin, Green Lake County]. Several have been brought into town, and we hear of them being seen in every direction – almost – within a few miles. . . ."

"Our exchanges from the northern and less thickly settled parts of the State have reported bears unusually plenty this fall and an unusually large number have fallen victims to the hunters, but we did not expect to hear of any of the varmints appearing in Dane county.
A very large one, however, was killed among the woody hills in the center of the town of Perry. . . . on the 30th [October].^209

The killing of a bear at Waterloo, Jefferson County, “about 1865,”^210 probably took place in 1866. Bears were found also in Richland,^211 Adams,^212 and Rock^213 counties.

1871

“The bears are ‘coming in’ thicker and faster. On either side of us we get reports of the appearance of bruin. . . . Mauston has been invaded by them; Sparta has hunters in pursuit of them; Black River Falls is surrounded with them; the islands in the Mississippi river in close proximity to La Crosse, are inhabited by them. . . .”^214


Bears were common in northern Wisconsin in the fall of 1872 and did considerable damage to domestic animals. The three recorded for Columbia,^222 and Adams^223 were too few to constitute an emigration. The bear seen near Darlington,^224 Lafayette County, on January 28, 1872, undoubtedly arrived during the emigration of 1871.

1878

Bears were abundant in the northern half of the state. Several were seen and killed in Richland County.^225 One appeared as far south as Spring Green, Sauk County, the only one that “has been heard of in this section in fifteen years.”^226 One was seen at Prairie du Chien,^227 and three were killed in Adams County.^228

1883

“Bears are uncommonly thick this fall. The number that have been seen and killed within a short distance from the city [Eau Claire] has seldom, if ever been paralleled at so early a date.”^229

“Bears are unusually plenty this fall, or at least they exhibit themselves more than is their custom.”^230

“Bears are migrating from the pine woods to winter quarters further south.”^231

The emigration extended to Crawford,^232 Richland,^233 Adams,^234 and Sauk counties^235

In 1885 bears were abundant; however, the number that moved southward in the center of the state to reach Adams,^236 Marquette,^237 Columbia,^238 and Sauk^239 counties, was too small to form a well-defined emigration.

1888

Bears were very numerous and this is the last year of unques-
able emigration. The exodus extended to Adams, 240 Columbia, 241 Sauk, 242 and Iowa 243 counties.

Local opinion was preponderately in favor of a shortage of food as the cause of emigration. Some weight was attached to forest fires. The prevalence of bears in 1871 was attributed in four cases to the extensive forest fires that occurred in the fall of that year; however, bears were equally numerous in the autumn of 1872 in northeastern Wisconsin when fire was not a factor. The influx of bears into Jackson County in the autumn of 1901 was discussed as follows: "In former years the usual reason advanced for the visits of these animals in this section has been the occurrence of forest fires in the northern woods. This year, however, there have been no extensive areas swept by fire. . . . It would seem that they are led in this direction by their migratory instinct, and their course followed up in a search for particular kinds of food [corn and acorns] which bears enjoy." 244

The black bear is notorious for lack of discrimination in food. Schoolcraft was told by the Indians that it is fond of nuts, esculent roots, honey, corn, berries and other wild fruits; and that, "it is only in the utmost extremity that it takes hold of animal food, and in a region where its favourite fruits are plenty, it will pass by the carcass of a deer without touching it." Few bears show so much restraint.

When in northern Wisconsin, Kohl paid considerable attention to the food of the bear. He wrote: "Now and then Du Roy pointed out to me spots in the forest where the bears had been scratching for 'makopin'. This is a small tuber, which the Canadians call the bear's potato [Arisaema triphyllum], nearly a translation of the Indian term. We dug some, and I tasted them, but found them marvellously bitter." 245

There were at least a dozen plants to which the Indians had attached the bear's name, bear potatoes, bear roots, bear berries, etc. The latter is the serviceberry (Amelanchier canadensis) of which Kohl wrote: "At this time we found it covered with glistening red berries, and our Canadian told us that the bears bend down the whole tree with their paws, and then eat off the berries. . . ."

The fall feeding habits of the bear as related by Moore 86 for Kewaunee County may be considered normal: "First they ate raspberries, then they visited the numerous blackberry patches, then they went into the swamps and ate blueberries. After the blueberry
season came to a close, they sallied out of the swamps and into the white oak forests.”

Acorns are a highly favored food. Cooke called the bur oak acorn the “bear acorn.” It is doubtful if this acorn is preferred by bears. It is the first to fall in late summer and the first to disappear due to poor keeping quality. He mentions that bur oaks were plentiful in his region, hence it was known as “good bear hunting grounds.”

There is much opinion as well as considerable data to support the view that the exodus of bears and squirrels is due to lack of food. The importance of blackberries and other soft fruits for the production of fat for hibernation is questionable when it is considered that the bears emigrated in 1871 and 1878, years when blackberries were abundant; and that in Wisconsin about six weeks elapse between the disappearance of blackberries and the time for denning.

The hardwoods of the southern half of the state are largely oaks, principally red (Quercus rubrum), white (Q. alba), bur (Q. macrocarpa), black (Q. velutina), scarlet (Q. coccinea), and northern pin oak (Q. ellipsoidalis). The Central Plain region, and particularly the Glacial Lake Wisconsin area, was the most productive of bears. The principal oak here is Quercus ellipsoidalis. So many species of oaks were conducive to a large population of bears since a complete failure of acorns in any year would occur only at intervals. An attempt has been made in the Appendix to resurrect the food conditions in the state from about 1850 to 1900. The study covers the important fall foods, such as the blueberry, blackberry, wild plum, wild grape, and acorns. The bear ate hickory nuts on occasion but they formed an unimportant item in its diet.

The nut-bearing trees, hickory, walnut, and butternut, were too few to be a factor in supporting the large population of gray squirrels, and the latter competed with the bears for acorns. Bailey states that in Sherburne County, Minnesota, the gray squirrel subsists largely on acorns when corn is not available. This is equally true of Wisconsin.

The simultaneous exodus, in so many cases, of the black bear and the gray squirrel is striking. However, there are exceptions. In 1873, e.g., gray squirrels were abundant and emigrated, but there was no extensive movement of bears southward. It is not to be expected that the emigrations of the two species would always occur simultaneously owing to the vast difference in reproductive power. With good food conditions the gray squirrel has two litters, each of three to five
young, in a year. In contrast the bear, having only about 2.5 cubs every two years, would produce only a fraction over one cub per year.

The data on the annual yield of acorns are too incomplete to determine if each emigration of bears was due directly to a failure of the acorn crop. Acorns were exceptionally abundant in 1870 and therefore a failure may well have occurred in 1871 when the bears emigrated. They emigrated again in 1878 and 1883, years when there was a definite scarcity of acorns. No sweeping conclusion can be drawn. The available information indicates that in this state, Wisconsin, emigration resulted from the coincidence of a high bear population and a failure of acorn mast.

The age and physical condition of the bears that reached southern Wisconsin during the emigrations have a bearing on the reason for the exodus. Unfortunately the information is not extensive, but it is sufficient to state that the van consisted preponderately of non-breeders. Most of the bears were either old and in poor condition, or were yearlings and two-year-olds in good flesh. There were exceptions such as the bear weighing 380 pounds, killed near Beloit in 1859, that "was so fat that he was unable to run very fast." Some of the bears must have fared well on corn after reaching the southern counties. No cubs were reported south of Prairie du Sac.

The direction of the emigrations was distinctly southward, though a few bears are known to have crossed the Mississippi River into Minnesota. The geographical position of the state, with Lake Michigan on the east, Lake Superior on the north, and the Mississippi River on the west, may have steered the emigrations southward. This is doubtful, however, since the bulk of the emigrants passed through the center of the state.

APPENDIX

LAST DATES OF APPEARANCE OF BEARS IN THE SOUTHERN COUNTIES

The dates given on the map (Fig. 1) are tentative. All dates later than those given were rejected, after careful examination, as erroneous or for equally valid reasons. Occurrences based on memory going back forty or fifty years were considered unreliable. Recent dates for the central counties were furnished by Walter E. Scott.

ADAMS. One was reported seen in the town of Monroe in 1945 and one in the town of Grand Marsh in 1946.

A large bear was killed by Theodore Hawkins, town of Richfield, on October 21, 1895.—Friendship Press, Oct. 26, 1895.

BROWN. G. Grosse of Suamico shot a bear weighing 200 pounds on November
27, 1899.—Green Bay Gazette Dec. 2, 1899, 3.
BUFFALO. On the night of October 25, 1909, a bear killed two hogs at Eleva.—Mondovi Herald Oct. 29, 1909.
The local warden thought in 1946 that there were still two bears in the county.
CALUMET. In the summer of 1890 one bear was seen at Dundas and another at Brillion.—Chilton Times July 5 and Aug. 16, 1890.
Three were shot by G. M. Beach, town of Brillion, in September, 1886.—Chilton Times Oct. 2, 1886.
COLUMBIA. A bear killed many sheep in the towns of Fort Winnebago and Buffalo in September, 1888.—Portage Democrat Sept. 28, 1888.
One was killed in the town of Marcellon by Loyal Husbrook on October 5, 1885.—Portage Democrat Oct. 9, 1885.
CRAWFORD. One was seen on the railroad track at Glendale on September 17, 1883.—Prairie du Chien Union Sept. 21, 1883.
DANE. A bear weighing "over 400 pounds" was killed in the town of Perry on October 30, 1866. The carcass was sold in Madison at 20 cents per pound.—Madison State Journal Nov. 1, 1866.
DODGE. One was killed in the town of Trenton early in September, 1859, and another seen on the 6th of this month.—Fox Lake Gazette Sept. 8, 1859.
DOOR. Two were seen near Forestville in September, 1901.—Sturgeon Bay Advocate Oct. 19, 1901; Algoma Record Oct. 11, 1901.
A bear was seen in the county in December, 1945, and another in June, 1946. These were probably not natural occurrences since cubs were liberated in the county by the Conservation Department three years previously.
FOND DU LAC. A bear was shot at Ripon in October, 1883.—Princeton Republic Oct. 11, 1883.
Cory27 was informed that a bear was killed in the county in the summer of 1906, but he expressed doubt that it was a valid record.
GRANT. One was killed in the town of Muscoda in May, 1871.—Lancaster Herald May 9, 1871.
Bears were reported "roaming" at Boscobel in September, 1875.—Milwaukee Commercial Times Sept. 11, 1875.
GREEN. One bear was killed in the town of Sylvester in September and another in the town of Monroe in October, 1859.—Monroe Sentinel Sept. 21, 28, and Oct. 12, 1859.
GREEN LAKE. The Conservation Department has paid for damage made by a bear north of Princeton in October, 1945. Under date June 18, 1945, W. E. Scott wrote to me that he was informed by the local warden that "recent tracks show that the animal is still in the county." This bear probably drifted down from Waupaca County.
Apparently no bear has been killed in the county for about fifty years. Two were shot on the Goymo farm northwest of Berlin on September 22, 1897.—Berlin (w) Journal Sept. 23, 1897, 8.
IOWA. During the irruption of 1888, bears were seen near Pine Knob and one weighing 175 pounds was killed at Cobb.—Dodgeville Chronicle Sept. 21, 1888; Montford Monitor Sept. 20, 1888.
JACKSON. The local warden was informed by a farmer in the town of Portland that he saw a bear in 1944. Bears were liberated in the eastern part of the county in 1937 or 1938 but there has been no sign of them during the past two years.
However, George Hartman of the Conservation Department, was informed by an Indian, James Funmaker, that he saw a large bear along Morrison Creek, town of Komensky, in January, 1946.

No published account of bear being seen later than 1903 was found. In September of this year several were observed at Knapp.—Black River Falls Banner Sept. 17 and 24, 1903.

JEFFERSON. Four bears were killed in the county during the emigration in the fall of 1856.—Watertown Democrat Sept. 25, Oct. 9, 1856; Jefferson Jeffersonian Oct. 9, 1856; Milwaukee Sentinel Nov. 26, 1856.

JUNEAU. George Hartman, Game Manager of the Central Wisconsin Area, reported as follows: “On February 19, 1946, while in the field with Fred Jacobson and several of the Deer Research men, we saw the tracks of a small to medium sized bear in the north end of the Necedah Wildlife Refuge. The men stationed on this refuge informed me that Robley Hunt had seen a bear in this vicinity while he was superintendent of this refuge. The tracks were seen in the western part of the Town of Finley, Juneau County.”

A large bear, apparently the last one killed, was shot in the town of Fountain on October 23, 1897.—Mauston Star Oct. 28; Chronicle Oct. 28, 1897.

KENOSHA. No satisfactory record for this county was found.

KEWAUNEE. In September, 1893, a bear remained for a week in the vicinity of the Strausky mill, west Kewaunee, and evaded all attempts at capture.—Kewaunee Enterprise Sept. 29, 1893.

Rumors of their presence in December, 1897, in the large swamp south of Ryan were recorded.—Kewaunee Enterprise Dec. 10, 1897.

LA CROSSE. A wild bear was killed in the county on November 25, 1944. Warden Elmer Lange wrote further: “I saw a bear in Garber Coulee about a month before this one was killed. This bear was killed near Gills Coulee about 7 to 8 miles from the city of La Crosse.”

LAFAYETTE. A large bear was seen three miles east of Darlington on January 28, 1872; and on June 14, 1873, a bear and a cub raided a chicken coop near this town.—Darlington Republican Jan. 28, Feb. 3, 1872; June 21, 1873.

MANITOWOC. A farmer living a few miles north of Two Rivers attempted to trap a bear in August, 1896.—Two Rivers Chronicle Aug. 25, 1896.

No accounts of bears killed were found after 1890. In August of this year a bear with four cubs was seen in the town of Maple Grove and one of the cubs was captured. In November a female that had one cub was killed in the town of Rockland.—Manitowoc Pilot Aug. 21, Nov. 20, 1890.

MARQUETTE. Warden E. F. Evans reported in 1946 that at least one bear was using the bottoms of the White River in northeastern Marquette County and northwestern Green Lake County.

MILWAUKEE. In October, 1859, a bear was brought to Milwaukee that had been killed within 15 miles of the city.—Milwaukee (d) News Oct. 13, 1859.

MONROE. Warden John F. Adamski reported that in the summer of 1946 a bear and two cubs were seen between Sparta and Tomah (town of Adrian), the only ones reported for several years.

Fred Moses and Austin Wilson killed a bear weighing 280 pounds at Warrens in the fall of 1909.—Alma Journal Nov. 4, 1909.

OZAUKEE. A large bear was killed near Port Washington in September, 1858.—Port Washington Advertiser. In Madison (d) Patriot Sept. 15, 1858.
PEPIN. One was caught in the act of killing two sheep on Cady Creek in September, 1889.—Durand Courier Sept. 6, 1889.

PIERCE. A bear with a cub was seen in the town of Clifton the end of November, 1899.—River Falls Journal Nov. 30, 1899.

RACINE. The end of October, 1859, two bears were found in the town of Yorkville and one was killed.—Racine Advocate, Nov. 2, 1859.

RICHLAND. A bear weighing about 200 pounds, in poor condition, was shot by J. A. Roudebush in the town of Marshall on May 8, 1905. Richland Center Republican Observer May 11, 1905; Rustic May 12, 1905; J. A. Roudebush in litt.

ROCK. A large bear was killed between Beloit and Janesville on October 30, 1859.—Beloit Journal Nov. 2, 1859; Janesville Gazette Nov. 1, 1859.

All subsequent statements of occurrence are doubtful. There are circumstantial accounts of a bear being pursued by men with dogs in the town of Lima on February 11, 1881; however, the bear was not again reported seen in this section of the state.—Whitewater Register Feb. 17; Delavan Republican Feb. 18, 1881.

SAUK. Jessie Walker, Baraboo, informed the Conservation Department that he saw a large and two small bears west of Devils Lake State Park in October, 1946.

M. Gallagher, town of Dellona, killed a bear in December, 1898.—Kilbourn Mirror-Gazette Dec. 17, 1898, 1.

According to Cole, the last bear seen in the Baraboo Hills was killed on Thanksgiving day, 1891, by the Farnsworth brothers.

SHEBOYGAN. One was reported to be in the cedar swamp, town of Mitchell, in November, 1897.—Plymouth Reporter Nov. 18, 1897.

One of the local wardens informed George Becker in 1940 that the last bear was taken in the early 1900’s. No published account of a kill was found later than 1889. In October of this year, J. Couch and E. Dean killed a bear in the swamp near Glenbeulah.—Sheboygan Falls News Nov. 6, 1889, 8.

TREMPEALEAU. A bear was killed near Osseo on October 16, 1898, and one was seen near this place in September, 1900.—Independence News-Wave, Oct. 22, 1898; Sept. 15, 1900.

VERNON. One was seen in a tree near Hillsborough on October 10, 1888.—La Crosse (w) Republican and Leader Oct. 20, 1888, 3.

WALWORTH. Only one record for this county was found. Baker states that one was killed in the town of Lafayette in 1836.

WASHINGTON. In May, 1856, a farmer in the town of Jackson killed three cubs in a hollow tree, the old bears escaping.—West Bend Democrat. In Horicon Argus May 14, 1856.

WAUKESHA. A large bear started in the town of Hebron, Jefferson County, was pursued into Waukesha County and finally killed on November 8, 1856, in the town of Concord, Jefferson County.—Milwaukee Sentinel Nov. 26, 1856.

WAUSHARA. The local warden reported that a bear was seen in the town of Rose in September, 1944, and another in the town of Deerfield in October, 1945.

As far as known, the last bear killed in the county was in 1897. On September 19, 1897, an old bear and four cubs were killed at Aurorahville.—Wautoma Argus Sept. 23, 1897; Berlin (w) Journal Oct. 7, 1897, 5.

WINNEBAGO. In October, 1885, a bear was seen at Lake Butte des Morts.—Appleton Crescent Oct. 10, 1885.
A correspondent from the town of Rushford reported that John Gaughan killed two bears at Black Creek. No place or creek of this name could be found for the vicinity, so that it may refer to Black Creek in Outagamie County.—Oshkosh Northwestern Oct. 8, 1885, 8.

The drift of bears southward in the state in recent years is pronounced.

FOOD CONDITIONS IN WISCONSIN

ACORNS (Quercus)

In attempting to determine the annual status of the acorn crop, so many gaps remained that an indirect approach to the investigation was also made. The passenger pigeon depended largely on acorns for nesting, so that a nesting in any one spring is presumptive evidence of a good crop of acorns the previous autumn. This would not hold necessarily for the eastern edge of the state where the beech occupied a narrow range along the shores of Lake Michigan and Green Bay.

1847. Mast abundant in Grant County.
1852. Mast reported scarce north of the lower Wisconsin River.
1854. Abundant in Jefferson and Outagamie Counties. There was a large nesting of pigeons in Waupaca County in 1855.
1857. The pigeons nested in Outagamie and Oconto Counties in 1858.
1858. Abundant in Iowa County.
1859. ‘Shack’ scarce north of Green Lake County but reported good at Tomah.
1860. Heavy crop in Dane County. The pigeons nested in Green County in 1861.
1861. The pigeons nested in Green County in 1862.
1863. There was a large nesting of pigeons along the Kickapoo River, Vernon County, and in southwestern Monroe County in 1864.
1864. Pigeons nested in Fond du Lac County in 1865.
1866. ‘Shack’ was abundant in Adams County. The pigeons nested in Fond du Lac County in 1867.
1867. The pigeons nested in Outagamie County in 1868.
1868. There were large nestings of pigeons in Green, Monroe, and Fond du Lac Counties in 1869.
1870. Acorns were abundant in Dane and Fond du Lac counties, and in the center of the state. There was a large pigeon nesting in 1871 that extended from Kilbourn to Sparta.
1871. Plentiful in Winnebago County.
1872. A professional pigeon trapper stated that few pigeons nested in the state in 1873 due to the great scarcity of mast.
1873. Deer were reported to be feeding on black oak acorns in Dunn County.
1874. Plentiful in Portage County. The pigeons nested in Pierce and Wood counties in 1875.
1875. The pigeons nested in La Crosse County in 1876.
1876. Plentiful in Dunn and abundant in Rock County. The pigeons nested in Monroe County in 1877.
1877. There was a bountiful crop of red oak acorns in St. Croix County. Acorns were plentiful in Dunn and unusually abundant in Eau Claire County. “Unusual quantities” were reported for the state. The pigeons nested in Adams County in 1878.
1878. Acorns were reported scarce in Dunn, Chippewa, Winnebago, and Oconto counties.

1879. Abundant in Walworth, Kenosha, Chippewa, and Pierce counties.

1880. Plentiful in Pierce and Barron counties.

1881. Plentiful in Trempealeau, Monroe, Adams, and Waushara counties; abundant in Chippewa; and "immense" in Winnebago County. There were large nestings of pigeons near Sparta, Tomah, and Kilbourn in 1882.

1883. Very scarce in Richland, Iowa, Juneau, and Dunn counties.

1884. Pigeons nested in the southeastern corner of Langlade County in 1885.

1885. Princeton, Green Lake County, reported that the "immense acorn crop" is bringing the bears down.

1886. Large crop in Waupaca County. Pigeons attempted to nest near Wautoma in 1887.

1887. Large crop in Sheboygan County.

1892. Abundant in Kewaunee County.

BLUEBERRIES (Vaccinium) AND HUCKLEBERRIES (Gaylussacia)

1853. Abundant in Outagamie County.

1856. Plentiful in Sauk County.

1858. Abundant in Marathon and Waushara counties.

1860. Abundant in Douglas County.

1861. Enormous crop in Waushara, Green Lake, Sauk, Portage, and Juneau counties.

1862. Plentiful in Juneau County.

1863. Plentiful in Waushara and Marquette counties.

1864. Crop fair to poor.

1865. Plentiful in Waushara, Portage, and Brown counties.


1867. Abundant in Marathon, Chippewa, Douglas, Shawano, Portage, Eau Claire, and Monroe counties.

1868. Poor crop in most of the northern counties.

1869. Plentiful in Marathon, Chippewa, Polk, Sauk, Juneau, and Jackson counties.

1870. Abundant in Chippewa, Polk, Waushara, Marquette, Brown, Juneau, and Jackson counties.

1871. The crop was spotty being plentiful in Marathon, Chippewa, Polk, Juneau, Jackson, Portage, and Brown, and scarce in Outagamie, Winnebago, and Shawano counties.

1872. Plentiful in Juneau, Shawano, Adams, Eau Claire, Jackson, Waupaca, and Ashland counties.

1873. Abundant in Clark, Polk, Winnebago, Shawano, Juneau, Adams, Eau Claire, Jackson, Marinette, and Door counties.

1874. Plentiful in Portage, Wausau, Chippewa, Douglas, Shawano, Monroe, Jackson, and Marinette counties.

1875. The crop was exceptionally large in Oconto, Wood, Waushara, Monroe, Portage, Juneau, Adams, Eau Claire, and Jackson counties.

1876. Abundant in Adams, Monroe, Jackson, Barron, Door, Shawano, Mara-
thon, Pepin, Trempealeau, Dunn, Waupaca, and Portage, and medium in Marquette and Outagamie counties.

1877. The crop was fair in Juneau, Eau Claire, and Monroe, and very light in Wood, Douglas, Barron, Jackson, Portage, Door, and Shawano counties.

1878. The yield was small in Eau Claire, Oconto, Chippewa, Wood, and Juneau, and medium to large in Monroe, Jackson, Brown, Shawano, Pepin, and Marquette counties.

1879. Abundant in Jackson, Shawano, Barron, Wood, Waushara, Juneau, Eau Claire, Monroe, and Pierce, and scarce in Oconto and Marinette counties.

1880. Large crop reported by the blueberry counties.

1881. Again plentiful.

1882. The crop was good in Oconto; fair in Eau Claire; about one-third of “normal” in Monroe; and poor in Waupaca, Juneau, Jackson, Wood, Shawano, Chippewa, Burnett, and Waushara counties.


1884. The berries were abundant in Ashland, Douglas, and Juneau; plentiful in Wood, Monroe, Jackson, Clark, Waupaca, Shawano, and Florence; and few in St. Croix and Brown counties.

1885. Plentiful to abundant in all of the blueberry counties.

1886. Plentiful in Forrest, Bayfield, Burnett, Eau Claire, Jackson and Oconto; few in Barron, Waushara, Marquette, Adams, and Monroe counties.

1887. Abundant.

1888. The crop was poor in Monroe, Jackson, Marinette, Clark, Burnett, Waushara, Waupaca, and Eau Claire; good to plentiful in Oconto, Florence, Door, Wood, Iron, Forest, Douglas, Marquette, Juneau, and Adams counties.

1889. Poor crop.

1890. Abundant.

1891. Poor to fair. The Wisconsin Weather Bureau estimated the crop to be one fifth of average.

1892. The crop was light in Clark, Jackson, Trempealeau, Waupaca, Adams, Columbia, and Monroe; good in Chippewa, Eau Claire, Wood, Florence, and Shawano counties.

1893. Large crop throughout most of the blueberry counties.

1894. Very few to one third of last year’s crop.

1895. Poor crop, smaller than that of the previous year.

1896. Abundant.

1897. Crop poor in Burnett and Price; fair in Monroe, Jackson, and Shawano; plentiful in Vilas, Brown, and Florence counties.

1898. Abundant.

1899. Abundant.

1900. Poor to one third of normal.

**BLACKBERRIES (Rubus)**

1853. Abundant in Fond du Lac, Outagamie, and Jefferson counties.

1854. Abundant in Ozaukee County.

1855. Abundant in St. Croix County.
1856. Abundant in Portage County.
1857. Abundant in Marathon County.
1858. Abundant in Marathon, St. Croix, Monroe, Iowa, Outagamie, Winnebago, Portage, Richland, Brown, Sheboygan, and Manitowoc counties, and along the Wolf River. The crop was apparently heavy throughout the state.
1859. None in Washington (due to drought); “medium” in Waushara; plentiful in Monroe and Marathon; and abundant in Pierce, Green, Winnebago, Shawano, and Sheboygan counties.
1860. Unusually fine crop in Marathon County.
1861. Plentiful in Marathon, Outagamie, Portage, and Brown counties.
1862. Fair crop in Brown County.
1863. Abundant in Outagamie and Door counties.
1864. Poor crop in nearly all the counties.
1865. Abundant in Polk, Brown, Door, and Winnebago counties. Good crops of nearly all wild berries.
1866. The crop was practically a failure in Polk, St. Croix, Clark, and Waupaca counties. There was a fair crop in Shawano, Green Lake, and Outagamie; and a good one in Brown County. All wild berries were close to a failure in Waupaca County.
1867. Abundant in Marathon, Polk, St. Croix, Waupaca, Jackson, Shawano, Portage, Lafayette, Richland, Monroe, and Brown counties. Good year for most kinds of berries.
1868. Poor crop throughout most of the state.
1869. Scarce in St. Croix, but plentiful to abundant in Polk, Outagamie, Winnebago, Marathon, Crawford, Iowa, Sauk, Kewaunee, and Brown counties.
1870. Plentiful in Polk, Outagamie, Winnebago, Jackson, and Brown counties. Good year for all wild fruits.
1871. Abundant in Grant, Waupaca, Manitowoc, Marathon, Polk, Dunn, Outagamie, Shawano, Monroe, Jackson, Kewaunee, Brown, Door, St. Croix, and Portage counties.
1872. Scarce in Marathon, Dunn, Winnebago, Shawano, and Jackson counties due presumably to fire and drought. Plentiful in Portage County.
1873. Scarce in Marathon, Dunn, Shawano, Calumet, Jackson, Door, Wood, and Waupaca; quite plentiful in Clark and Eau Claire counties.
1874. The crop failed in Polk and St. Croix, but was abundant in Wood, Kewaunee, Marathon, Clark, Oconto, Marinette, Outagamie, Jackson, Winnebago, Calumet, Monroe, Vernon, Eau Claire, Brown, Door, and Wood counties.
1875. The crop failed in Oconto, Brown, Door, Outagamie, and Marinette counties, and was reported poor throughout the state.
1876. The berries were exceptionally abundant throughout the state.
1877. The crop was either light or a failure.
1878. Immense crop throughout the state.
1879. The crop was either small or a failure.
1880. Immense crop throughout the state. Berries of all kinds were in profusion.
1881. Practically a failure throughout the state.
1882. Huge crop.
1883. Plentiful in Eau Claire, Marathon, Chippewa, and St. Croix; quite plentiful in Trempealeau, Clark, and Monroe; and few in Oconto, Brown, Door, Outagamie, Waupaca, Juneau, Price, and Pierce counties.
1884. Plentiful in Chippewa, Marathon, Waushara, Adams, and Jackson; few in St. Croix, Dunn, Waupaca, Marinette, Brown, and Door counties.

1885. Plentiful in Marinette, Oconto, Door, Florence, Adams, and Monroe; quite plentiful in Outagamie; scarce in Wood, Marathon, Chippewa, Dunn, St. Croix, Waupaca, and Jackson counties.

1886. The berries were plentiful in Door, Shawano, Marathon, Iron, Price, St. Croix, Pierce, Waupaca, Marinette, and Oconto; quite plentiful in Florence and Barron; few in Clark and Jackson counties.

1887. The almost complete failure in the state was attributed to the dry weather.

1888. The crop was poor in Florence and Dunn; fair in Adams; but 17 counties reported it abundant.

1889. Scarce in Waupaca, Adams, Jackson, and Shawano; plentiful in Iowa, Crawford, La Crosse, Monroe, Florence, Marinette, and Door counties.

1890. The crop was unusually large in the northern half of the state.

1891. Poor crop except in Door County where it was stated to be immense.

1892. Large crop in the northern half of the state.

1893. Scarce in Oconto, Kewaunee, Vilas, Jackson, and Monroe; quite plentiful in Adams; plentiful in Crawford, Shawano, Langlade, and Florence counties.

1894. Poor crop.

1895. Poor crop. Poor year for all fruits.

1896. Abundant.

1897. Scarce in Florence, Vilas, Jackson, and Shawano; plentiful in Door, Brown, Marinette, Oconto, Marathon, Chippewa, and Brown counties.

1898. Abundant. All wild fruits were plentiful.

1899. Poor crop except in Marathon County where it was reported large.

1900. Unusually large crop.

**WILD PLUMS** *(Prunus)*

1852. Plentiful in the Milwaukee market.

1853. Abundant in Fond du Lac County.

1854. Plentiful in Grant, Dane, and Fond du Lac counties.

1856. Quite plentiful in Jefferson County.

1857. Plentiful in Dane and Dodge counties.

1859. Abundant in Pepin County.

1861. Plentiful in Dane and Rock counties.

1863. Plentiful in Outagamie County.

1865. Exceptionally large crop in Dodge and Vernon counties.

1866. Abundant in Vernon County.

1867. Scarce in Lafayette County.

1868. Abundant in Waukesha County.

1869. Plentiful in Marathon and Jackson counties.

1870. Heavy crop in Dane and Jackson counties.

1871. Abundant in Grant and Polk; scarce in Outagamie, Jackson, Juneau, and Manitowoc counties.

1872. Plentiful in Outagamie, Eau Claire, Polk, and Jackson counties.

1873. Scarce in Jackson County.

1874. Abundant in Lafayette, Marathon, and Polk counties.

1875. Plentiful in Outagamie and Jackson counties.

1876. Abundant in Pepin, Douglas, and Outagamie counties.
1877. The crop was "unusually large" in Brown; very light in Rock; and a
failure in Chippewa County.
1878. Failed in Chippewa County.
1879. The crop was small in Sauk; good in Barron; large in Eau Claire, Buffalo,
Chippewa, and Green counties.
1880. Large crop in Jackson, Chippewa, Buffalo, and Trempealeau counties.
1881. Scarcely in Trempealeau and Door; quite plentiful in Marathon; plentiful
in Iowa County.
1883. None in Douglas; plentiful in St. Croix County.
1885. Scarcely in Douglas and Jackson; abundant in Door, Rock, Iowa, and
Grant counties.
1886. Abundant in Vernon County.
1887. Scarcely in Jackson; abundant in Chippewa, Eau Claire, and Kewaunee
counties.
1888. Plentiful in Eau Claire County.
1891. Plentiful in Chippewa and Pierce counties.
1894. Plentiful in Vernon County.
1896. Very plentiful in Vernon County.
1897. Plentiful in Crawford County.
1898. Abundant in Chippewa County.

WILD GRAPES (Vitis)

1859. Abundant in Pepin County.
1870. Abundant in Fond du Lac County.
1871. Abundant in Marathon County.
1872. Plentiful in Outagamie County.
1879. Abundant in Richland County.
1881. None in Trempealeau; plentiful in Iowa County.
1882. Very abundant in St. Croix County.
1883. "Unusual abundance" in Door County.
1885. Abundant in Grant County.
1886. Abundant in Sauk and Vernon counties.
1889. Plentiful in Vernon County.
1890. Abundant on the islands in the Mississippi River.
1891. Plentiful in Vernon and Waupaca counties.
1892. Plentiful in Vernon County.
1893. Plentiful in Fond du Lac, Waupaca, Richland, Vernon, and Pepin counties.
1897. Plentiful in Pierce County.
1899. Abundant along the Mississippi River.

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