

Gristmills of Charlotte County

Written by Harry W. Martin, March 1968

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Introduction

Fish curing was probably the first commercial manufacturing industry to be established on our Atlantic coast. It is believed to antedate our earliest settlements of Europeans except perhaps those of Norsemen.

Our first agricultural settlers, French and English, probably used hand mills of various kinds that they brought with them to process cereals imported from Europe in wholegrain form. They probably continued using these hand mills for domestic processing for the first harvest in their new lands. Commercial milling is possible only when considerable volumes of cereals can be assembled. So the first gristmills appeared in those areas where several farmsteads were reasonably close together and accessible by road or water. They were small-scale enterprises catering to local needs - not export. It is hard to decide whether sawmills or gristmills came first in Charlotte County.

"*Grist*" is an (old English) word for "*grind*". Sometimes it also meant grain that was to be ground or the ground product. The grinding power for gristmills came from various sources. In some cases, mills depended on wind, but these were few. Almost all depended on the kinetic energy of water flowing from higher to lower levels. Mills using the two-way flows of tidal water were no uncommon in coastal areas but even there the one-way flow of fresh water from artificially created mill ponds supplied the power for most gristmills.

Government officials recognized the importance of mills in resource development and issued mill rights on the numerous streams of the county so as to avoid damaging competition. They even assisted millers in getting established by distributing mill stones. Under this policy mill construction kept pace with community needs.

Mill ponds appeared in stream valleys with hills on either side so you always went down to the mill with your grain, and you frequently waited at the mill for it to be ground. When the job was done, you did not ordinarily pay for it with money. Instead, the miller retained a "*toll*" which was one-tenth of the ground product. In much of the nineteenth century, the cash equivalent of the toll was reckoned as two and one-half cents per bushel for the grinding, or three cents per bushel if it was further processed into flour.

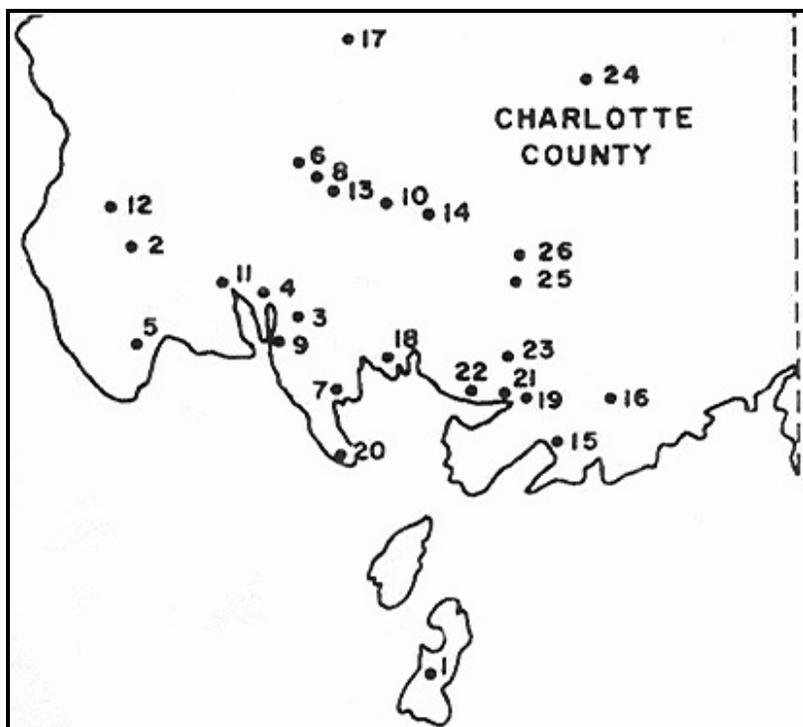
When you went to the mill, you had time on your hands and merchants and government services quickly realized this. So did those who were interested in other commercial and cultural developments. Once a mill was established, stores, post offices, schools, churches and settlements sprang up near by. In this way, a food industry created centres of population that molded our history. In some cases, settlements acquired the names of the miller. Thus we have place names like Moore's Mills and Bartlett's Mills in Charlotte County.

Information on gristmills in this County is not easy to come by. The New Brunswick Museum, the Saint John Public Library, and the Harriet Irwin Library of the University of New Brunswick have all been helpful, but there is no source of comprehensive information. As a result, many of my research findings have come from personal communications and diaries...

The accompanying map shows the location of mills in Charlotte County. Identifying these numbers correspond with those of the following sections of text which provide detailed information on the individual mills.

Except for the Owen Mill (No. 1) I have been unable to find evidence of Charlotte County gristmills antedating the arrival of the Loyalist. It was they who built the windmills, tide mills, and fresh water mills that I have studied.

Details of Individual Mills



1. Owen Gristmill

The first record of a Charlotte County gristmill appeared in a 1771 progress report by Capt. William Owen, grantee of Campobello Island. In speaking of the building of New Warrington on the island, he stated that fifteen houses were already built, and that others, as well as a wind-driven gristmill and chapel were going to be built.

A short time after giving this report: "*Capt. Owen and some of the colonists, left for England never to return. However, his company in Liverpool managed the island's affairs by agents until his nephew, David Owen, came out to take charge in 1787*". We conclude that the much needed gristmill was built as planned.

2. Moore Gristmill

Among the many Loyalists that came into Charlotte County in 1784, with the Cape Ann Association, was a Moore family. An excerpt from the paper "*Some Pioneers of Charlotte County*" by an old resident of Moore's Mills, reads as follows:

'William Moore, father of the family, had no concern as to who ruled, King George or George Washington, so long as he was let alone to carry on his farming, milling, and lumbering. But Hannah his wife was one who did her own thinking; decided to have their family of nine children removed from the influence of her family and neighbors, who were not in sympathy with her loyalty to George III.'

'The vessels bringing the families and equipment of the Cape Ann Association probably landed them at Oak Bay, and from there they made their way through the forest, up along St. David Ridge. William Moore built a log cabin on his grant of land, near the present bridge at Moore's Mills and decided to secure water power rights for himself and his sons on the Dennis and Gallop Streams. They brought mill machinery from New Hampshire and built a combined saw and gristmill just above the present bridge in Moore's Mills. This combination was burned in 1808, and rebuilt in separate buildings, with several additions. When the dam washed out in 1830, there were saw, shingle, carding, fulling, and gristmills on this site. Most of these burned in 1859. They were rebuilt and were in continuous operation until the end of the century. Finally all mills, together with a furniture and woodworking shop below the bridge, burned in 1914, and were not reconstructed.'

3. Goldsmith Gristmill

In 1789 or 1790 Henry Goldsmith (nephew of the famous poet Oliver Goldsmith) built a gristmill on Goldsmith Stream. Mr. Hollis Bartlett states: *"Some years ago while searching along the banks of this stream, a short distance above our mill we found the remains of a dam that had been built there many years ago."* The Bartlett mill was built in 1841, and the remains Hollis mentions obviously antedate it. We conclude that this was the site of the Goldsmith Mill. A record of 1875 states: *"Thither came the farmers from St. Stephen and as far away as St. George, carting their grain to have the grist ground"*. Probably the St. George farmers came via Bocabec and the old road past Bonaparte Lake.

This mill operated a few years until a fire destroyed everything Goldsmith owned. After this disaster, *"he had visions of sawmills and lumbering operations and wheels turned by this same stream"*. These visions of wealth became so real in his mind that he went to England to obtain aid in forming a company to build mills. But his mission failed and he returned to St. Andrews and his family, which had been cared for by friends during his absence.

4. Connick Mill

This mill, located on the Waweig River, a short distance upstream from the old Strang Road Bridge (now derelict) seems to have been built by James and Samuel in 1802. In December 1821, James sold his interest to Samuel, and Samuel's will registered on November 5, 1835 reads as follows: *"I give and bequeath to my sons Thomas and Samuel my saw and gristmill, above and near the Waweig River."* The sale of this mill by young Samuel to Thomas K. Connick, with all rights and privileges on the western side of the Waweig River, upon the payment of twenty-five pounds, is registered at St. Andrews under date of January 7, 1844.

The old Connick family burial lot, with its decorative red granite monument, is located on a knoll a short distance from the old mill site. In 1955 a millstone was raised from the bed of the Waweig River, for Mr. Percy Bailey of Oak Bay. It seems that this stone had been pushed a short distance downstream from the site of the Connick Mill by floods and heavy ice at low tides. This stone now rests on the front lawn of Mr. Bailey's old place at Oak Bay, now owned by Mrs. Rolf C. Syvertsen.

The following is an excerpt from a letter, dated December 10, 1962, addressed by Mr. Percy S. Bailey of 10224 134th Street, Edmonton, Alberta, to Miss Ray Cawley, St. Stephen, New Brunswick:

As for the millstone, which I presume still lies where it was placed in front of my old house at Oak Bay, here is the story. I spotted it one day as it lay in the bed of the Waweig River, just above the upper bridge on the cross road leading from Highway No. 1 to Waweig, and only a short distance from the Youth Camp of the United Church.

The stone was the last remaining trace, but my good friend William Nixon, who grew up in the neighborhood, remembered having heard from old people, that once there had been a gristmill at the narrows above the bridge.

When I looked at this weighty memento of the past I realized it was a considerable job to get it out of its resting place. However the undertaking proved of no great difficulty to my good neighbours, Joseph and Herbert Richardson, for one summer afternoon, to my surprise and satisfaction, they delivered it in my front yard, where it became an object of interest to our many visitors.

The origin of this stone has been a subject for speculation. It is known, however, that when our Loyalist forefathers came to settle in Nova Scotia, of which our province was a part at the time, they received tools and other equipment from Britain. Included were millstones to grind their wheat, quarried and finished in Scotland. It is indeed quite possible that this stone is one of these. I hope someone may take the trouble some day to determine if it is actually of Caledonian rock.

The late Mr. Arthur Ganong was much interested, and we discussed some things that might be done. His idea was that it might be set up somewhere as a monument, with a bronze plaque upon it, bearing the names of the Loyalist members of the several associations who settled in our county.

One time a lady wished to buy it for the floor of her patio, but I felt it deserved a better fate, so I did not part with it. When I sold my place to Mr. Alton Cameron, we agreed that the stone, while remaining where it was, should continue in my ownership. I presume that it is still where it was when I left Oak Bay. I should be very glad to dispose of it if an organization, say the Historical Society, should undertake to make use of it. For some worthy public purpose I would be glad to cooperate in any way possible.

Sincerely, Percy S. Bailey

5. McAllister Gristmill

In 1803 John McAllister obtained water power rights for a gristmill on the St. Croix, and built a mill near the site of the old covered bridge (built 1826) over the river to Milltown, Maine. This mill produced cracked corn and cornmeal, used mainly by lumbering crews. The toll system was used in manufacturing the corn.

In 1890 this mill was known as McAllister Brothers and in 1930 it was incorporated as a company, McAllister Brothers Limited. The mill was driven by water from a dam across the St. Croix. At one time this dam powered nineteen water-wheels. This same power site was used until 1923, when the dam was washed away by a flood. The mill was then moved a few feet away from the river in case of another flood, and electric power furnished by Canadian Cottons Limited has been used since.

Until 1928-29 American corn was used, but at that time Britain began to urge use of Empire products. A heavy tax was put on American corn, which made it too expensive to process at a profit, and South African corn was used. However, when World War II broke out, submarines became such a threat to shipping that corn had to be imported from South America. After World War II, corn grinding was largely discontinued and wheat, oats, and barley took its place. Today the mill grinds and mixes these grains for dairy, poultry and other feeds, and trades throughout Charlotte County. Millstones have been replaced by the hammer mill in recent years.

6. MacFarlane Gristmill

Capt. James MacFarlane built this mill in 1827 at a falls on the Digdeguash River, near what is now called the Upper Bridge in Rolling Dam. At first it merely crushed grain. Sifting with bolting equipment was added later. Stanley Wilson, an elderly resident of that area, states that he heard that his grandfather, Hugh Wilson, one of the first residents of that area, used to tell of carrying a bushel of the first wheat he raised in 1828 on his back nearly three miles to the MacFarlane Mill, to have it crushed, then carried it back home to sift out the flour. At that time part of the distance was a mere trail through the woods.

Shortly after 1827 a sawmill was also constructed on this site. Both were operated by Capt. James, then by his son, Samuel MacFarlane, and finally by Peter Ashley, until they were burned in the late 1880's. In the 1890's both mills were rebuilt by John Maguire, and the gristmill was operated by John's brother, Thomas Maguire, until about 1907.

7. Chamcook Gristmill

In 1834, John Wilson, who later became the first president of the St. Andrews and Quebec Railway Company, owned and operated a number of enterprises in Chamcook. Among these was a shipyard near the mouth of the brook from Chamcook Lake, and a gristmill that served the community for many years. In the 1870's this mill was taken over by the Grimmer family.

A 22 October 1877 entry in the diary of John Boyd of Lower Rolling Dam states, "*I went to Chamcook with buckwheat to be ground.*" And a recent letter from C. Stuart Grimmer of Dalhousie, New Brunswick states:

My father, John Davidson Grimmer, built a new gristmill there in the 1870's. In the earlier years of father's mill, which was before the

Canadian Pacific Railway was built, the mill yard was often crowded with farmer's carts. They were there with grain to be ground. After the railway was built wheat flour was brought in from the west. From here on much corn was imported and ground. Some years averaged two cars a month. I remember when a boy twelve years of age, I was often called on to help by driving the team which loaded at the car and unloaded at the mill. Sometimes the corn was brought in by the schooner load, for which a lower freight rate was charged. Then my task was to lead the horse back and forth as the corn was being hoisted out of the ship. Later father took over the store of his brother, G.D. Grimmer, of St. Andrews. Then I took over the operation of the gristmill until operations ended in 1905.

8. Styles Gristmill

This mill was on the west side of the Digdeguash River, about a mile below the MacFarlane mill, and was owned and operated by Henry Styles, a resident of Rolling Dam in 1838. Records now in possession of a great-grandson, Henry Styles of St Stephen, show that the frame of this mill was raised on April 2, 1836, by builder Edward Towers of Tower Hill. They also record that a Mr. Sherman was working on the mill gear, on 9 April 1836, (just one week after the frame was raised), and again on 22 August 1836. A 22 July entry mentions the hauling of a millstone. The main product of this mill was buckwheat flour. It also had a machine for carding wool. Operations ended in 1865 with the death of Mr. Styles, after twenty-seven years service to the community.

9. Bartlett Gristmill

The site for this mill on Goldsmith Stream was purchased by Leonard Bartlett for his son John, who began milling in 1841. For many years buckwheat flour was one of the main products. John was succeeded by his son Edward, and he, in turn, by his son Hollis. This mill was in continuous operation for eighty-seven years, until 1928, and still stands. In its later years it ground large quantities of corn. The timbers of this building are reinforced by the use of ship knees, a most unusual feature.

10. Carson Oat Mill

Old residents state that there was once a gristmill at Elmsville. It is said to have been owned and operated by Charles Carson whose son William went to California in 1849 during the gold rush, when only a boy of 16 years. The mill was built near the old Smart place, which later became Hanson property, just a short distance north of the present Elmsville Anglican Church on the Boyd Road. George Armstrong, a former resident of that area, states that his parents described an elevated flume from high ground east of the road. It carried water above the road and discharged it onto the mill wheel on the west side toward the Digdeguash River. This mill specialized in processing oats, and is said to have operated during the 1840's and 1850's.

11. Doten Gristmill

In 1854 the Doten family acquired property on which this mill was built on the Gallop Stream not far from where it empties into the tide at Oak Bay. Old time residents of Oak Bay say that members of the Doten family began operations about 1856. John Boyd's diary entry of 23 October 1873 states: "*I went to the gristmill at Oak Bay.*" This mill seems to have been in continuous operation until 1903 or

1904 when Russell Doten, the last operator, moved to St. Stephen. Seemingly it served the Oak Bay community for over forty years.

12. Fiske Gristmill

In the late 1860's a gristmill, and metal and woodworking shops were operating just north of Moore's Mills, near the foot of Lyles Hill. These were powered by Dennis Stream which crosses Route 3 at this point. Grain was processed in the mill, and sleighs were built in the shops by the owner and operator, John N. Fiske.

13. McCann Brothers' Mill

Thomas and Alexander McCann built this mill close to their sawmill in the 1870's and powered it by a flume from the same dam. For Rolling Dam patrons it was centrally located on the Digdeguash River about two miles below the MacFarlane Mills. Buckwheat flour was its main product in the earlier years. In 1900 both mills and the Lower Rolling Dam Bridge were swept away by a flood, and in 1901 Hugh, Charles and Maurice, sons of Alexander McCann, built a combined sawmill and gristmill on the same site. The gristmill processed great quantities of imported corn for stock feeding but ground no flour. Operations ended about 1912.



McCann Mills (No. 13) in Rollingdam. These mills were destroyed by a flood in 1900.

14. Crearer Gristmill

This mill was on Black Brook, a branch of Clarence Brook that runs into Digdeguash Lake. John Boyd, the diary keeper, was a brother-in-law of Donald Crearer, who then owned a sawmill there, but John makes no mention of a grist-mill there until 15 February 1879, when he entered: "*I took six bushels of wheat to Henry Crearer's new mill.*" This suggests that Donald Crearer's son, Henry, had built the gristmill and began operating it in 1879. Before that time Boyd's diary mentions taking grain only to Oak Bay or Chamcook. We do not know when the Crearer mill quit operating.

15. Gillespie Mill

Charles Gillespie owned and operated this mill located where Skeins Brook empties into Letang River at a spot known as Mill Cove. We do not know when operations began but we are informed that

many people from Beaver Harbour and the surrounding area brought their grain there. The mill-stones are said to have been cut in England and to have been sold to a man in Harvey, New Brunswick, after the mill operations ended about 1905.

16. Hunter Mill

John Hunter operated this gristmill about a third of a mile upstream from the Gillespie Mill. The dam was ideally located for creating a large millpond fed by a lake north of the old airstrip on Pennfield Ridge. Milling needs of the Pennfield Ridge area were served by this mill for many years, ending about 1900. Mr. Llewellyn Spinney assisted in studying this mill but so far we have not found out when operations began.

17. Flume Ridge Gristmill

This mill seems to have been on the Magaguadavic River or one of its tributaries in the Flume Ridge area. Henry Styles of St. Stephen reports that his father, Elvert Styles, used to speak of Sorel (Sorrel) and Pleasant Ridge residents taking grain to this mill, probably in the 1880's. Names of the operators are not known.

18. Hiram Hanson Mill

Hiram Hanson operated this mill on the Bocabec River near the upper bridge, not far from the Carr Ridge Road, about a mile north of Highway No. 1. This mill served the grist-grinding needs of the Bocabec area for a number of years.

19. Daniel Hanson Gristmill

Daniel Hanson's mill was on Water Street, St. Andrews, N.B., near where the store known as "*the Sea Captain's Loff*" stands today. At one time two small brooks ran into the harbour at this point. Daniel Hanson set up this gristmill in 1905 and powered it with a gasoline engine. It specialized in grinding corn and served the needs of St. Andrews and nearby communities until 1916.

20. Magaguadavic Gristmill

This mill was on the east side of the river just below the falls, near the site of the present pulp mill. This is confirmed by a photograph which may be seen in the Boyd Hardware Store in St. George. Evidently this gristmill served its neighboring areas many years ago, although today local residents have no knowledge of it whatsoever.

21. McGrattan Gristmill

This mill was at St. George near the end of the bridge over the Magaguadavic River on Highway No. 1, owned and operated by H. McGrattan and Sons. It was powered by an electric motor and specialized in processing corn. It operated from the early 1900's until 1916.

22. Campbell Gristmill

This gristmill is one of the few mills I have studied that was powered by a windmill. It seems to have operated during the 1860's. It stood on the north shore of the mouth of Magaguadavic River. This

must have been an ideal location for getting the full sweep of the wind off the river and bay. One of the original millstones may be seen where it is stored in one of the Campbell buildings. The grinding face of the stone is badly weathered, but appears to have been chipped for the grinding of oats. Different grains required different grooving patterns for best results. William Campbell of St. George states that an old time resident of that area told him of being sent to this mill with grain. No date of either the beginning or ending of operations is known to present members of the Campbell family that operated this mill in the long ago.

23. Dewar Gristmill

This mill, owned and operated by John Dewar and Sons Limited, was on the east side of the Magaguadavic River, around the bend in the river above St. George and at the rear of the present Dewar properties on Riverside Avenue. We do not know when it began operations, but its main products were cracked corn and cornmeal used for farm livestock.

Mr. Edward Dewar of St. George recalls some interesting incidents. Corn was purchased in one- and two-car lots, and delivered by the Shore Line Railway. The tracks ran past the rear of the mill, and cars of corn were uncoupled and left there while the train continued on to St. Stephen. A large crew of men immediately set to work with bushel baskets, carrying the corn from the box car and dumping it into bins in the mill. In doing this the men walked along large chutes which led from the cars into the mill. The emptied cars were taken away on the same day they arrived by the train on its return trip from St. Stephen to Saint John. Mr. Dewar states that at one time a one-hundred-pound bag of ground corn sold for ninety cents. Mill operations ended about 1900.

24. True Gristmill

This mill was located on the Piskehagan River, near the bridge on the old Fredericton Road. Arthur Gillmor of Bonny River stated that his father, Arthur Hill Gillmor, operator of the Bonny River gristmill, had mentioned that the True Gristmill had evidently begun operations between 1800 and 1805, and had continued operations until about 1830. Some time after that the mill was swept away by the floods and ice in the river. However, the millstones were broken free and had slid into the deep water below the falls, and laid there until they were found years later.

This mill was owned and operated by a Mr. True who also owned a tract of land, and an "exchange" for the use of travelers going to and from Fredericton. The millstones were cut from native granite. One of them from a large boulder located at Millstone Hill, on the road to St. George, about four miles below the Pomeroy Bridge; the flat top of the remainder of the boulder may still be seen there. The grist of this mill seems to have been mainly oats and buckwheat.

25. Arthur Gillmor Gristmill

The dam for this mill, which began operations in 1840, was built on the Weindor (Winder) Stream, an outlet of Digdeguash Lake, about five hundred yards above its mouth at the Magaguadavic River, and near the community of Bonny River. The gristmill was built on one end of the dam and a sawmill on the other end, so that one dam powered both mills. The first millstones used here were the old True millstones, which were found in the deep water at the site on the Piskehagan River. They were hoisted out of the water and hauled the twenty miles or so to the site of the new mill.

In the earlier years of operation, corn was brought in by vessels from the United States to the mouth of the Magaguadavic River. Here it was sacked up and landed at Red Store Wharf at Breadalbane, then hauled by team to the mill.

Much of this corn was made into meal, and some into cracked corn for feeding the many oxen and horses which were being used in the lumbering activities of that area. At times the need was so great that it was necessary to grind both by day and by night. In the later years, the corn was brought in by the Shore Line Railway. Occasionally oats and buckwheat were ground.

Arthur Gillmor, son of the proprietor, worked in this mill as a boy and gave me an interesting description of automatic action of its elevators and bolting equipment. This latter device was a revolving drum, two or three feet in diameter, about twelve feet long and between two and three feet lower at one end. It was divided into three equal sections. The upper section was covered with a fine muslin, the next with a coarser covering, and the third still coarser. As gravity moved the crushed grain along, the sections screened out flour, middlings, and bran, in that order. The hulls ran out the end of the bolter as waste. In the summer of 1903 a forest fire destroyed both mills. The sawmill was rebuilt, but the gristmill was not.

26. Daniel Gillmor Gristmill

Gorham Frost, a resident of Second Falls, has given the following information about this gristmill. It was built on the Magaguadavic River, near the present Second Falls Bridge, and began operations about 1870. The grist was practically all oats and buckwheat. The toll system was used and consisted of taking three quarts out of each bushel of finished grist. Operations ended about 1908.

Mills and Millstones in Retrospect

An early pair of grinding stones was found in the valley of the Vezere, France. They were estimated to have been in use about 25,000 B.C. From this early date until about 400 or 500 B.C. some adaptation of the saddle stone was used in Mesopotamia, Egypt, and other parts of the old world. The operator kneeled behind the lower stone, which was about twelve by eighteen inches, and had been hollowed out to hold grain. The upper rounded stone was held with both hands, and rolled or rubbed on the grain until it was crushed. In some later lower stones, shallow grooves had been cut to hold the grain while it was being rubbed by the upper stone.

The Greek Homer wrote about 1200 B.C.: "*fifty girls in palaces, working often through the night, their knees broken with weariness as they ground the meal for the people in the palaces*". With a saddlestone, one slave could grind enough meal for eight persons. In Egypt a type of mortar and pestle device was used.

About 400 B.C. the lever mill appeared in Greece and was still used there until recently. This device used a lever attached to a round upper stone, which revolved in a horizontal plane on an iron pin. The operator took hold of the lever and walked around with it.

In 19 B.C. the Roman engineer Vitruvius described a water-powered grinding mill, with gear-driven equipment (probably wooden gears). Also about this time the poet Antipater wrote: "*Cease your work, you maidens who labored at the mill. Sleep now, and let the birds sing to the rosy morn. Ceres*

has commanded the water nymphs to do your work; obedient to her call, they throw themselves onto the whirling spokes, force round the shaft and thus the heavy mill."

When the white man came to America, he found the Indians growing corn, and grinding it by using a form of saddlestone. In some places they used "*community mortars*", consisting of a number of shaped hollows in a bed rock or ledge. This allowed the wives to gossip while they worked.

The following quotation from Jury carries the story further: "*The flour milling industry in Canada dates back to 1604, when operations began on a small scale, in what is now the province of Nova Scotia (must have been at Port Royal). The credit for this and many other of the first Canadian flour mills belongs to the French. Development of the land, and of the water power mills, proceeded steadily throughout all the period of the French regime, in the settlements on the Atlantic seaboard and up the Saint Lawrence River.*"

Lescarbot describes the building of a water mill at Port Royal and the amazement of the Indians who watched it operate. One might expect that this study would have uncovered evidence of French gristmills in Charlotte County, which was once part of the Saint Croix Seignior, established in 1632. As early as 1603 wheat was planted in this county on St. Croix island. Nevertheless, I have found no record of milling on the island. It would be understandable if no mills existed in Charlotte County during the French period, because development of this area was delayed by British and French hostilities and fear of raids by Indians who were influenced by one or other of the hostile parties. Uncertainties of boundaries between American and British caused further delays. However, the coming of the Loyalists and the Queen Anne Association created a need for gristmills and the first one seems to have been built in 1785 at the present Moore's Mills.

From 1770 to 1800 food in this area was very scarce. There were times when settlers exchanged maple sugar for flour. Others attached a heavy piece of hardwood to a bent-over sapling, such as was used by Indians, to make a "*plunking mill*" to crush the grain. In 1815, Nova Scotia and New Brunswick governments issued proclamations inviting the importation of all kinds of agricultural products, duty free.

In 1824, with a population of 74,000, New Brunswick was importing goods, to the value of 515,000 pounds sterling. Most of these were agricultural products, such as 123,000 barrels of wheat and rye flour, and 74,000 bushels of grains, peas, and beans. On February 1, 1825, the speech of Lieutenant Governor Sir Howard Douglas, before the legislature, indicated urgency for producing much more of the province's food. Here is a quotation from that speech:

"Vast sums are sent from this province in specie for the purchase of foreign agricultural produce. I appeal to your wisdom, your patriotism, to the real interests and public spirit of the country, to augment the production of subsistence products. By this means too, we may expect soon to possess a population sufficient for the operative parts of all other branches of industry. When these several operations shall all be executed by British subjects, the province will feel and exhibit in her condition, the good effects of having closed those drains, that have long carried off much capital, which otherwise would have been laid out in the merchants stores, in cultivation of the soil, and in other productive enterprises of vast advantage."

Just how well the country responded to this appeal is not clear, but we do know that by 1846 there were 247 gristmills in New Brunswick. Sixteen of these were in Charlotte County.

The first mills were small and of primitive design. Little thought was given to the use of mechanical power, except for the grinding process itself. The millers who worked in them were constantly busy dumping and moving heavy sacks of grain or the finished products from place to place over and over again. They were slaves to their machines.

As agriculture progressed and the volume of cereal production increased, their lot must have become well near intolerable. It is understandable that imaginative millers sought relief from their drudgery by making fuller use of the mechanical power that was available. Americans showed the way. It was Oliver Evans, an inventive genius of Newport, Delaware, who developed the "*automatic*" gristmill in the last decade of the eighteenth century. His book "*The Young Millwright and Millers Guide*" was first published in Philadelphia 1795, a later edition appeared in 1853. Its rather involved drawing shows that this mill had three storeys. Grain was dumped in a bin on the second storey and from there it was moved mechanically by a series of chutes and elevators through the whole milling process. This was a great forward step in labour-saving. However, even though Evans gave very clear descriptions of the use of elevators, they did not come into use until 1843 in the United States.

By the 1870's this design was adopted by several European countries and revolutionized the milling industry. The same general design was adopted in building mills in Charlotte County in the late 1800's.

Since then there have been many further innovations not only in the layout of mills but also in their mechanical equipment, water wheels, crushing devices and sifting equipment. These were made possible by technological advances in many very different fields. As a result, modern mills bear little resemblance to their progenitors which could be built in a wilderness by a few ingenious people once they had the essential millstones.

Messrs. Maurice and Guerne Bateman, Shediac Cape, N. B., lent me a copy of an illustrated 1888 catalogue of Toronto Mill Furnishings Co. by Wm. & J.G. Greey proprietors. They also gave me a drawing of their father's automatic gristmill. This has been checked by Hollis Bartlett of Bartlett's Mills who states that it "*corresponds very closely with the automatic system used in his mill and those used in this county during the later milling years*".

As early as 1888 the roller mill was coming into general use in much of Canada and this made millstones obsolete. The Greey catalogue lists second-hand millstones for sale. These had been turned in by purchasers of the new roller mills. The types and sizes of stones and their prices are interesting...

French Burr - diameter 4 feet, price \$150.00. Also found in Arkansas, U.S.A
Cologne - produced in Germany, 4 feet, \$150.00
Derbyshire Peak Stone - 4 feet, \$100.00

There were also some of Ohio Hard Free Stone, a type of sandstone and others of granite; no price indicated for these latter. It is useful to summarize the historical development of gristmills from earliest times.

Development of Milling Devices Summarized

Saddlestone Mill - A very crude manual system, with round upper stone to do the crushing against a lower stone.

Slab Mill - A flat stone with another smaller upper stone to be grasped with both hands.

Push Mill - A lower flat stone with grooves and an upper stone with a small hopper to allow the grain to feed down evenly, hand operated.

Lever Mill - A lower stone with a pin in it, and an upper round stone with a hole in it to receive the pin. A lever was attached to the upper stone, to be pushed by the operator as he walked in a circle.

Hour Glass Mill - An upper stone shaped so that it was self-centering over a lower stone, was turned manually with a crank.

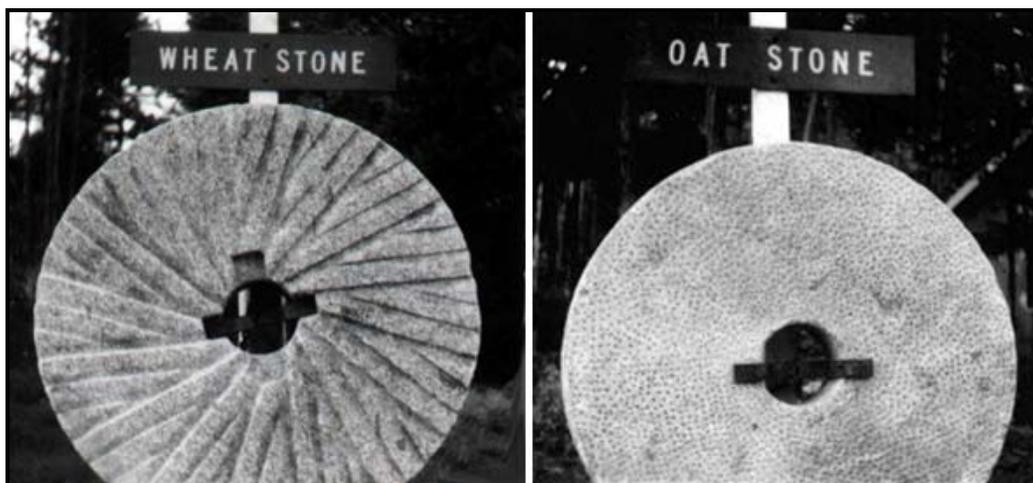
Delian Mill - Upper and lower stones made from blocks of lava bound together, with iron strapping.

The Quern - This mill made of stone consisted of two parts. A heavy round lower stone about 15 or 16 inches in diameter, flat on the bottom with the top sloped about 40 degrees, and a small hopper cut out of the upper edge. An iron pin was fastened in the center of the slope. The upper stone was a heavy disk with a central hole, and revolved on the iron pin turned by a handle. This device ground the grain at 12 times the rate of the early saddlestone.

Millstones - Two heavy disks of stone, the lower fixed and the upper power driven, have brought us ground grains at high speed and modern milling.

The Roller Mill - Single and double roller mills were developed about 1880 and brought in the age of high-speed scientific flour production.

The Hammer Mill - This mill is used for crushing such grains as wheat, oats, and barley for livestock feeding, a recent development.



Granite millstone, Wheat (left) and Oat (right) stones. On display at Bear Island Park, York County, New Brunswick.

Origins of Charlotte County Millstones

Millstones were often found at sites of Charlotte County gristmills I have. Efforts to obtain definite information as to their origin have been baffling. The suggestion that some were sent from Britain to aid the Loyalists has not been confirmed. Professor W. S. MacNutt of the University of New Brunswick states: "*I can find no evidence of British millstones being sent over here. I believe that it is more likely that these stones were brought here by coastal traders from Penobscot, Maine. These traders were operating around Passamaquoddy Bay during that period.*" Some of them may have been produced by experienced stone cutters among the early settlers of this county or province.

Whatever the origin or origins of our local millstones, their variety is amazing. This is a whole subject in itself. I have not studied them sufficiently to do more than illustrate something of this variety.

Conclusion

I hope that what I have told you tonight has communicated some of the pleasure and fascination this subject holds for me. I hope too that my efforts to preserve a true historical record will not have been in vain. The role that gristmills, and the men who operated them, played in our county's history is so obscure that few appreciate it.

In closing, I would like to make note of a millstone that you may see in front of the community hall at Lower Brockway. It was placed there as a memorial by people who value the past as well as the present and the future. Its inscription reads:

*Commemorating the pioneer settlers of Brockway
Founded in 1818*

Reuben Brockway

Rufus Brockway

Thomas Cloney

Solomon Stone

Solomon Vail

James Young

Harry W. Martin, March 1968

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