

The bridges of Au Sable Valley

By Lee Manchester, Lake Placid News, August 15, 2003

Au SABLE CHASM — Bridges over rushing rivers; bridges across roaring chasms — bridges between people.

In our culture, bridges are more than mundane devices for transport, more than mere architectural artifacts. They are durable monuments to the surmounting of natural barriers. They are symbols — no, examples — of the extraordinary efforts we will make to bring divided communities together. Bridges even have a mystical side: They are material manifestations of the spiritual experience of leaping

from the known, across the unknown, into the future.

Those were among the high-flown attractions offered by a recent tour of the bridges of the Adirondacks' Au Sable River Valley.

The rationale for last month's tour, however, was more specific — and more mundane.

"The Au Sable Valley is unique in that (its river is) spanned by an uncommon variety of old and historic bridges," wrote historian Richard Sanders Allen in his book, "Old North

Country Bridges."

"There are few watercourses in America comparable in length to the Au Sable over which so many early bridge types remain," Allen added.

Steve Engelhart, executive director of Adirondack Architectural Heritage and author of "Crossing the River: Historic Bridges of the Au Sable River," put it another way when he opened last month's tour.

"Now that I've gotten to know what's on some of the other rivers," he told the tour guests, "I know how spe-



The "new" bridge through Au Sable Chasm, built in 1932, as from the old 1890 bridge upstream.

cial this group of bridges really is. Throughout the Adirondack Park there are maybe 30 truly historic bridges. More than half of them cross the Au Sable River.”

Before becoming the first full-time executive director of AARCH (pronounced “Arch”) — as Adirondack Architectural Heritage is known to its friends — Engelhart spent 10 years with an organization called Friends of Keeseville (now known as Friends of the North Country). One of his jobs during that period was to conduct a survey of all the historic bridges in the Au Sable River watershed. That study resulted in a group nomination of 17 Au Sable bridges for listing on the National Register of Historic Places, as well as his book.

Au Sable Chasm

Most of those familiar with the Adirondacks have heard of Au Sable Chasm, “the Grand Canyon of the East.” Commercial tours have been led for 130 years down the river between its steep rock walls. But long before the tourist exodus began, bridges crossed the rift carved in the rock by the Au Sable.

The earliest bridge spanned the

chasm about a mile below the new, main bridge, at a place where the rock walls rise 100 feet above the river, but where the crossing from one cliff to the other is only 30 feet across. Built in 1793 of six 20-inch logs thrown across the chasm, with planks nailed over them to make a roadbed, this High Bridge was decommissioned in 1810 when the state road’s course was altered.

“One story has it that a parson riding home one night fell asleep on his horse,” Engelhart told his tour group. “The horse knew the way home — the old way, across the decaying High Bridge, which by then was only a single log suspended high above the river. The parson didn’t realize his peril until he woke up halfway across. The rest of the way, he prayed.”

The state road served the many thriving industrial communities that sprang up along the Au Sable River, most of them founded around an iron smelt fueled with the charcoal made from the abundant timber rising from the Au Sable hills. In the hamlet of Au Sable Chasm, the iron smelt led to a horse nail factory. Other industries arose there, too, taking advantage of the ready river power: a wrapping-

paper factory, two pulp mills, a pair of starch factories, even a furniture plant.

The Paul Smiths Electric Company built a hydroelectric plant at Au Sable Chasm whose turbines were housed in a Swiss chalet-style concrete building. The plant is still in operation, its outflow known as Rainbow Falls.

A series of bridges were built to link the two halves of the Chasm hamlet below Alice Falls. The wooden bridges were all consumed, one after the other, by the mist from the falls. In 1890 a factory-built, one-lane iron bridge was placed across the river. From that bridge, which still spans the Au Sable, one can now see the “new” Chasm bridge through the rainbow of the falls below.

It is that new bridge, finished in 1934, that most visitors think of as THE bridge over the Au Sable Chasm. Seeing it, one understands why.

“We often have trouble appreciating things that are closer to us in time,” Engelhart said, “but I think this is a particularly beautiful piece of engineering. It respects and responds to its site.

“Its central feature is a 222-foot steel arch leaping across the chasm, as dramatic in its way as the chasm itself. On either end, this span is approached over concrete arches covered in local sandstone and granite. The design blends with and complements its natural environment.”

The bridges of Keeseville

After leaving Au Sable Chasm, the tour’s next major stop was Keeseville, a former industrial powerhouse on the river. The village’s three surviving bridges, all listed on the National Register, are all significant, each in their own way.

Like other Au Sable River settlements, Keeseville’s early strength lay in iron forging. But its signature industry wasn’t created until 1862, when local blacksmith Daniel Dodge invented a horsenail-manufacturing machine.

“Where formerly 10 pounds of



The 1843 Stone Arch Bridge, the pride of Keeseville and the village's main passage over the Au Sable River, which cuts the community in half.

nails were produced per day by hand,” Engelhart wrote in his book, “now 200 pounds could be easily made with no sacrifice in quality. The Au Sable Horse Nail Company manufactured and sold these machines worldwide, employed 200 persons and produced 2,000 tons of horse nails annually by 1873.”

No wonder Seneca Ray Stoddard called the Keeseville of his day “a thoroughly wide-awake little village.” His phrase became the title of a 1998 walking guide to Keeseville’s historic district.

The abandoned horsenail works still stand along the north bank of the Au Sable in Keeseville, running right up to the village’s most famous span, the signature Stone Arch Bridge. Work on the bridge began in 1843, but a heavy rain and a river near flood stage washed all the stonework away in mid-progress. The bridge was not completed until the following year. Even so, according to Engelhart, “This is, as far as I know, the oldest bridge in the Adirondack Park.”

The second of the three surviving Keeseville bridges is also something of a landmark: the Swing Bridge, a narrow, pedestrian suspension bridge linking the two halves of this village over the Au Sable River midway between its two vehicular bridges.

“It’s the same technology as the Golden Gate bridge. Everything hangs from these cables at the end,” Engelhart said, patting one of the thick, twisted, steel support strands, “whose ends are buried deep in the soil on either end.”

It’s not called the Swing Bridge for nothing. Standing in the middle, one feels every breath of wind, every step taken by every other pedestrian making his way across.

It is perhaps no wonder that an earlier version of the Swing Bridge collapsed into the river in 1842 when a corps of militiamen marched across it in cadence. Forty people were on the bridge when a single link broke; 13 were lost in the river below.



The 1859 Jay Covered Bridge, sidelined in 1997 for safety reasons, awaits renovation on the banks of the Au Sable.

The third Keeseville bridge on last month’s AARCH tour is called simply the Upper Bridge. Built in 1878, it is made from a rare combination of wrought and cast iron, Engelhart said, one of them good under tension, the other under pressure.

“It is one of only 75 cast and wrought iron bridges left in the country,” he told the tour group. It is also one of only two surviving bridges made by its builder, Murray, Dougal & Co.

“How long will it last?” one tour guest asked Engelhart.

“It’s all about maintenance,” he replied, “which usually isn’t done until some kind of crisis occurs.”

Bridges upstream

After a stop for lunch on a shady porch in Keeseville’s Historic District, the group motored off to visit another eight bridges upstream on both the east and west branches of the Au Sable above the unincorporated village of Au Sable Forks.

The first stop in the Forks was at a tiny concrete arch bridge, faced in cut stone, crossing Palmer Brook. The bridge was built during the Works

Progress Administration era of the 1930s.

“It’s a simple little bridge,” Engelhart said, “and it’s about to be replaced. In the last flood, water backed up behind it. The opening underneath it just isn’t big enough to accommodate the flow of water that pours down in a 100-year flood.

“Sometimes it’s difficult to balance the needs of safety and preservation, but we always try to find some middle ground. Because this bridge is on the National Register, they will probably try to come up with a design for the new bridge that remembers this one.”

Next the group visited an odd little narrow-gauge railroad bridge crossing the West Branch of the Au Sable at the end of Church Street outside Au Sable Forks. A small train, called a “goo-goo” by locals, ferried supplies across this narrow steel bridge to the old J&J Rogers pulp plant, now lying in ruins in the woods on the far bank of the river.

“There has been some recent interest in restoring this bridge to connect walking trails on both sides of the river,” Engelhart said, “but there’s been an awful lot of damage done to it

over the years, especially by ice coming down in the spring melts.”

One of the most famous of the upstream bridges visited by the AARCH tour was the once picturesque 1857 covered bridge that used to span the East Branch of the Au Sable River below the Jay rapids, some 6 miles upstream from the Forks. Removed for safety reasons by the state Department of Transportation in 1997, it has been awaiting renovation for the past 6 years in a former town park on the river’s east bank.

Engelhart voiced one concern about current plans to restore the Jay bridge. Because of damage done by winter road salt and age to the bridge’s

ancient pine timbers, nearly 80 percent of the wood will have to be replaced by whichever company is chosen to renovate the structure.

“That is somewhat disturbing to a preservationist,” Engelhart said. “The product will be mostly a faithful reproduction of the original structure, with only a small percentage of surviving, authentic material. But one must be realistic.”

The AARCH tour also stopped to visit another five of the Au Sable bridges listed on the National Register of Historic Places:

- Wilmington’s beautiful stone-faced, concrete-arch bridge (1934);
- the Walton Bridge (c. 1890), off the Hull’s Falls Road between Keene

and Keene Valley, supported by a lovely and very rare lenticular truss;

- the simple concrete arch of the rebuilt Notman Bridge (1913) behind the Keene Valley Country Club, and

- two private steel bridges running off Route 73 between Keene Valley and St. Huberts, the Ranney Bridge (1902) and the Beer’s Bridge (c. 1900), both moved from other locations.

To take your own tour of the beautiful, historic bridges of the Au Sable River, get a copy of Steve Engelhart’s book from AARCH or Friends of the North Country. The telephone number for Friends is 834-9606. AARCH can be reached at 834-9328, or visit them on the Web at aarch.org.



The 1934 Wilmington Bridge, a typical product of the more aesthetically inclined architects working for the “New Deal” Works Progress Administration during the Great Depression.