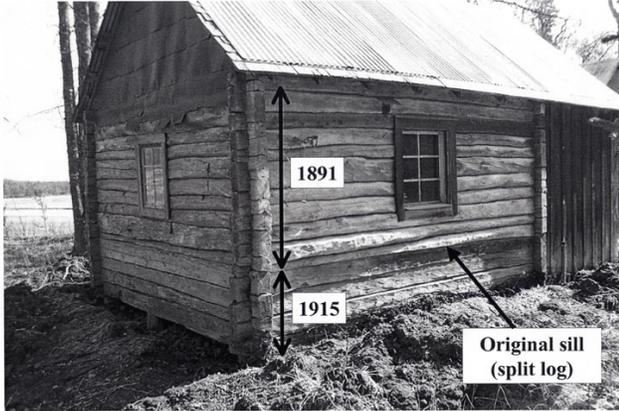


# Tree-ring dates for the Victor Holm cabins

by Ed Berg



*Photo of Victor Holm cabin near Kasilof taken prior to the restoration work. USFWS.*

Have you ever noticed the low stature of most of the old homestead cabins around the Kenai Peninsula? One might think that our local pioneers of the last century were a bit sawed off and short, but even a big man like trapper Andrew Berg (at 6 feet 2 inches) built short-walled cabins and didn't seem to mind a low ceiling.

My theory on short-walled cabins is that the builders ran out of energy after the walls get above their heads. Log building is a slow process and winter was probably approaching, so they figured that it's time to put the roof on and be done with it. Add to this the economy of heating a smaller room volume with hand-sawn firewood, and you soon conclude that high walls are a cosmetic feature fine for city dwellers who can afford paid carpenters and central heating.

Kasilof Finnish immigrant Victor Holm may have been one such winter-pressed builder, or if not Victor himself, perhaps the builder of his cabin was in such ways pressed for time during the fall of 1891. The cabin was built with six foot walls. The flat ceiling would have seemed pretty close by modern standards, and as explained below, after 24 years somebody apparently got tired of the low ceiling, and decided to jack up the cabin and add four more courses of logs. The new logs brought the ceiling up to a commodious height of eight feet.

Victor Holm arrived in 1890 as a young man to help

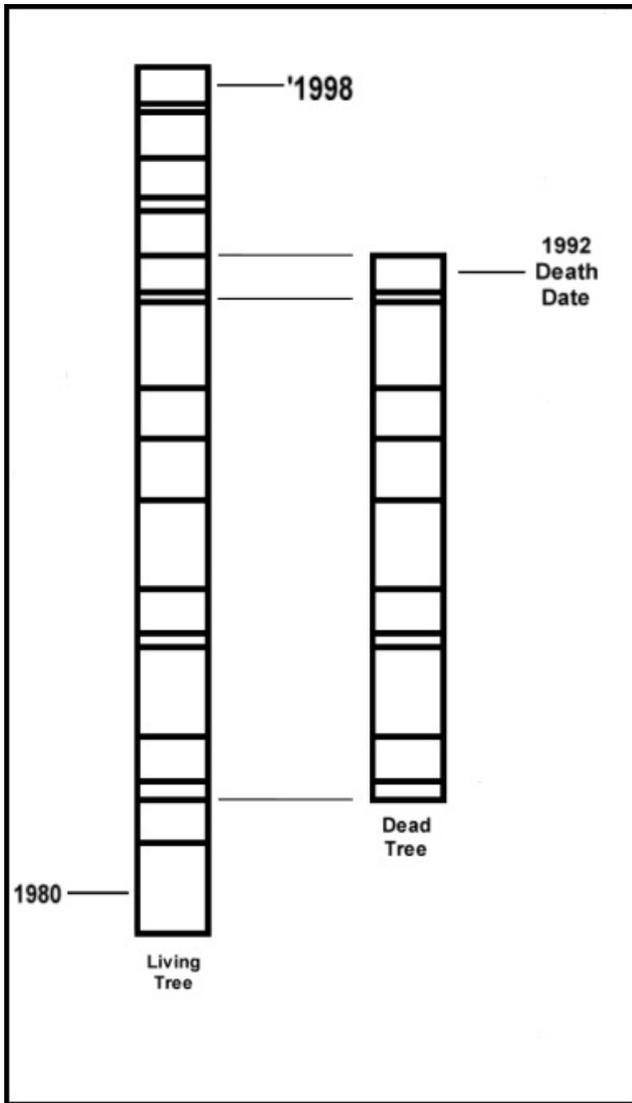
build and work at the salmon cannery at the mouth of the Kasilof River. We don't know if he built the cabin on the south bank of the river that bears his name, but we do know that he patented the land in 1921 and lived there until he left for California in 1944. He was a solitary bachelor and a skilled furniture maker. He left virtually all of his possessions behind when he left, and it is unclear whether or not he planned to return to Alaska.

Last May a major restoration of the Victor Holm cabin was undertaken by the Kachemak Heritage Land Trust with assistance from the Kenai National Wildlife Refuge. Grant money was obtained for a workshop on log cabin restoration and 15 people each paid \$400 for a week of log hewing and good fellowship, after having traveled from around Alaska, the Yukon and as far as Georgia. Refuge historian Gary Titus instructed the students and guided the log work, assisted by the refuge cabin crew of Iven Sjodin, Temperance Taylor and Josh Hightower, and student volunteers Bill Nelson and Bryan Taylor. I introduced the students to tree-ring dating.

When the restoration work began we knew little about the age of the cabin, and Gary invited me to try to date the cabin with tree-rings, such as I have done with other old cabins in the Tustumena—Skilak area.

Gary had also noticed something strange about some of the logs, namely, that the fifth log up from the bottom on each side had been split, with the flat side placed downward (see photo).

Log cabin builders sometimes start a wall with a split half-log placed flat side down, especially if they are building on a foundation rather than on the ground. There would be no reason to use a split log higher in the wall. This odd arrangement of the logs suggested to Gary that the original cabin had been jacked up and four more logs had been inserted underneath.



*Diagram of tree ring dating*

If Gary's hypothesis was correct, the lower four logs might well be younger than the upper logs, and this is where tree-ring dating is needed. Tree-ring dating is based on the idea of matching the ring-width patterns in wood of unknown age with ring-width patterns of known age, measured originally on wood from live trees where the date of the outermost ring is known with certainty. Basically, we line up the narrow and fat rings of the unknown sample with the narrow and fat rings of a known sample (see illustration).

The ring-width matching can be done by eye if there is a lot of variation in ring-width from year to year, as in the illustration. Practically speaking, in this area trees often grow quite steadily, especially near lakes and Cook Inlet, where the water acts as a thermal moderator for the climate. In this case we have

to measure the ring-widths in the lab (to an accuracy of 0.01 millimeter) and then use statistical computer programs to do the ring-width matching.

I and the students took 10 core samples from the logs of the Victor Holm cabin, using an increment borer, which is a threaded tube that we screwed into the log to extract a thin dowel-like core of wood. Each core is glued to a strip of wood and highly sanded so that the rings can be measured easily under a microscope.

Once I had the cores under the microscope I was surprised to see that some of the logs were birch, in addition to the normal white spruce of the area. The cabin logs are weathered and gray, and partially hewn, and we had not noticed that some of them were birch.

As a standard of known age for dating I usually use a "chronology" based on an average of 90 trees from the Tustumena Benchlands, whose oldest trees date back to 1609. If I can get 100 years of good rings, I can date most old white spruce wood in the central Kenai accurately to the year with this chronology. But as I said, there has to be enough year-to-year variation in the ring widths; if the rings are very similar in width (which is called "complacent"), one match is as good as another and dating is impossible. Unfortunately the Victor Holm spruce logs were pretty complacent and I had to do a lot of statistical massaging and head scratching to get some consistent dates. As a further check I also used a white spruce chronology from the Tote Road area, six miles north of the cabin, and got the same dates.

Fortunately, the unusual presence of birch logs provided an independent check on my spruce dates. To date the birch logs I used a chronology of 45 birch trees from the Bufflehead Lake area north of the Swanson River oilfield and the Headquarters Lake area. The Victor Holm birch logs had more year-to-year variation and were easier to date than the spruce logs.

There are some definite limitations of tree-ring dating that should be kept in mind. First, a tree-ring date only tells you when the tree died, not when the cabin was built. The builder could have used a dead tree, or he could have let the logs cure for a period of time before he put them up. Like I said at the beginning, the old timers were usually in a hurry, so they probably put up green logs. In that case the date of the outermost ring would be the date of construction, assuming that the trees were cut during the summer after the new ring had begun to form. The Victor Holm logs were hewn flat on two sides with a broad-

axe, which can only be used effectively with green wood, so this would suggest that builder was dressing the logs and putting them up during the same year that the trees were cut.

Second, weathering can erode the outer rings. To avoid this, it is best to core through the bark, if any bark remains. If the log was completely peeled, as with most of Victor Holm's logs, the outermost rings may be missing and there is no good way to assess this. In dating a cabin we generally try to take as many cores as possible without defacing the logs, and choose the youngest date as the earliest possible date of construction.

Most of the upper logs of the Victor Holm cabin dated from 1882 to 1891, so I would choose 1891 as the earliest date of construction. The pre-1891 dates are probably too old because of erosion of the log surfaces and loss of outer rings. The four birch logs dated from 1885 to 1890.

Most interestingly, the "new" logs on the bottom four courses dated from 1907 to 1915, which indicates 1915 as the earliest year for the remodeling operation. Thus, the cabin was apparently jacked up and the new logs added 24 years after the original construction. The style of log notching at the corners was the same, which suggests the same builder.

There is a second, larger cabin on the Victor Holm site. The logs in this cabin dated from 1907 to 1915, and as usual we would pick the youngest date of 1915 as the earliest possible year of construction, which is the same year that the smaller cabin appears to have been raised.

It is entertaining to speculate about why smaller cabin was raised 24 years after it was originally constructed. Local old timers remember Victor Holm liv-

ing in the larger building in the 1930-40s, and using the small cabin as an auxiliary building. Perhaps Victor Holm or whoever was originally living in the small cabin finally decided that more space was needed.

Having gotten into the building frame of mind, the owner spent the summer of 1915 putting up the larger cabin and decided to raise the small cabin at the same time, while he was set up for carpentry and log work. If so, it appears that a second builder was brought in for the larger cabin, because the corner joints use a much more complex, dovetail style. The builder of the small cabin would have been at least in his 40s, if he did indeed build both the lower and upper parts, as we propose. Such dates would fit Victor Holm's age as best we know it, so it is possible that Victor turned again to work on his small cabin and relinquished the building of his new and larger home to a more experienced logsmith.

At this point, we simply don't know the answer to these puzzles, but, perhaps, the answer might be lurking in some old letters, diaries or photographs tucked away in a local attic. If you are the keeper of such old treasures, please give us a call at Refuge Headquarters (262-7021) before you purge the attic.

In the meanwhile, Gary Titus and his crew have been taking more wood samples from old cabins and remnants thereof, and at last count we have wood from 29 cabins waiting in the lab to be dated. When we have these samples dated, we will publish the results in a historical journal so that they will be part of the permanent historical record for our remarkable area.

*Ed Berg has been the ecologist at the Kenai National Wildlife Refuge since 1993. Previous Refuge Notebook columns can be viewed on the Web at <http://www.fws.gov/refuge/kenai/>.*