Penobscot River Restoration Project
History & Culture of the River Workshop
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Penobscot Nation

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Speaker notes:

There are a number of ways of looking at the history of the Penobscot River. I will cover what has been its most important function, the history of the forest industry.

Taking a broad look at forest history, some have posited that America owes its present position as the greatest country in the world to its original forests and the falling waters within these forests. This may sound strange, but let's examine this statement. When the first settlers landed, they found a vast forest inhabited by indigenous tribes of Indians who lived quite well with a combination of agriculture and hunter-gathering. They considered both the forest and the Indians an impediment to their way of life, and started a major program of land clearing to develop the agriculture necessary for their subsistence. They also took the land away from the Indians. Much of the clearing was done by felling and burning, with the ash becoming fertilizer. Trade in forest products started early. With an axe, saw, wedges, froe and drawshave, a man could convert trees into clapboards, shingles, barrel staves and many other simple products. Taking more of the forest, he built ships to carry his goods to market. The first of thousands of sawmills was built in 1634. By 1680 there was a major trade economy shipping wood and agricultural products to the West Indies, Europe, the Wine Islands and Africa. At the most conservative estimate, more than 300 million acres of forest land had been cleared by the beginning of the 20th century to create some of the most productive agricultural land known. Lumber from our land built our cities, farms and many of our factories. Firewood heated our homes and powered our factories, steamboats and locomotives. Pit props made it possible to mine our coal and ores. Charcoal smelted our ores. Hemlock and oak bark tanned our leather. Railroad ties provided the wooden platform on which to expand a railroad system which tied the nation together. This valuable, practically cost-free, raw material, stolen from the natives of course, not only built America, but it provided goods for international trade, particularly with wood-starved Europe and other areas of the world.

The Penobscot River has had a major role in this building process. Massachusetts appropriated Maine in 1648, using it as a buffer against Indian raids. This limited settlement to the southern coastal area. In the 1750, the population was about 10,000. The end of the French and Indian War in 1757 resulted in a flood of settlers from crowded Massachusetts into Maine, New Hampshire and Vermont. During the Revolution, settlement of the Penobscot area was undoubtedly inhibited by the presence of the British at Castine, although a few souls had settled in Bangor.

Maine has the good fortune of having five major river systems and nine minor ones, all of which have deep harbors at or near their mouths. Further, every township in these river basins has lakes, ponds and streams which can be used to transport wood by water. With the exception of wetlands, mountain tops, a few barrens and burned area, these river basins were forested with softwoods, primarily white and red pin, spruce, balsam fir, hemlock and cedar, and hardwoods, primarily beech, birches and maples, with oaks in the southern portions. Another asset is the combination of rugged terrain, adequate and even rainfall, and natural storage reservoirs which provide for excellent waterpower.

The Penobscot is the largest of these river systems, and early on became a major factor in the production of lumber for the national and world market. We do not have an estimate of the volume of timber in the aboriginal forest, but are currently trying to get an estimate of the volume of white pine. In any case, it was in the billions of board feet. The Penobscot watershed is approximately 8500 square miles in area, about one quarter of the state, and is 165 miles long. The network of lakes and streams made it an ideal waterway to transport logs.

The distance from Massachusetts and the face that Bangor was at about the Northern Limit where corn could be successfully grown inhibited early agricultural settlement, however the first lumbermen arrived in the 1770s, and built mills on streams running into the river. Leonard's Mills in Bradley is an excellent example of this type of operation. The Chemo Pond watershed is about 30,000 acres, and is drained by Blackman Stream. The uppermost waterpower site was a ledge, upon which a dam and mill were built some time prior to 1795. Lumber sawed at the mill was hauled by ox-cart to the river and rafted to Bangor for shipment. There were a series of mills on this site for about a century, with a small community built up to serve the mill and woods operation. Other sites such as Orrington, Bangor and Hampden grew into the permanent towns with the timber being logged off their watersheds. The early mills on these sites generally produced one to three thousand board feet per day.

As the industry prospered, larger waterpower sites were developed on the Stillwater in Orono and the main river in Old Town, sawing pine driven down the river. There were mills built on top of the dam in Old Town. The average log size on the drive in 1835 was 350 board feet a log 16 feet long and almost two feet in diameter. Mills in Orono in 1856 sawed 56,000 board feet of lumber plus numerous subsidiary products. The Walker Mil in the Bain was considered to the be the largest sawmill in the world under one roof. The Eastern Manufacturing mill in Brewr was considered state-of-the-art in 1905. At one time there were over 200 sawmills in the river basin. In 1850, Bangor was the largest lumber shipping port in the world, shipping over 200 million board feet. By 1850 the cut of pine had moved into the headwaters and they began to cut spruce in large quantities. In addition to the sawmills, there were a number of shipyards below Bangor, building ships to carry the product of the forest.

As an industry grows, it has to develop a management system to accomplish its goals. Maine, and particularly the Penobscot developed these systems which moved across the country to the Lake States and the West Coast as Maine companies migrated west. These

were the systems to get crews into the wilderness to cut massive amounts of logs and float them to the mills. The river was a common carrier, and an organization was developed to handle this potential. The logs in the drive became mixed up in the river and had to be sorted. Just up the river from here was the Argyle Boom, where over 200 men sorted the logs and sent them to the respective mills. Tremendous quantities of food for the men and hay for the horses had to be sent up river.

Much of the lumber from the mills was rafted to Bangor and loaded directly onto ships going to domestic ports and ports all over the world. There were even Bangor ships selling lumber to the miners in San Francisco in 1850. In 1863, 1626 ships cleared for domestic ports and 190 for foreign. The peak year, 1872, 2774 ships cleared for domestic ports. The 1910 era saw the demise of the long log sawmill industry based on the river drives.

The turn of the century in 1900 began a major change on the Penobscot. Despite the heavy cutting of the original forest for saw logs, there remained a tremendous resource of spruce. Spruce has an excellent fiber for paper-making - - long, flexible and strong. The fibers can be separated either chemically or by grinding and reconstituted into very low cost paper. The Penobscot started its second major contribution to the national economy with the establishment of the pulp and paper industry. In the 1890s pulp and paper mills were built in Great Works, Brewer, Orono, Howland and Lincoln, and in 1900 in Millinocket. The major product was newsprint. Paper became and affordable commodity for the average person. Based on paper price in the Civil War era, the Bangor Daily News would cost us $7.20 today. This low cost paper helped to develop the literate, educated population that we have today. Maine became the leading newsprint maker in the country, and is still a major producer of now a great variety of paper types and grades.

The Penobscot Basin supplied the resource in the form of spruce, and later, balsam fir. The wood was floated to the mills in the network of streams and river leading to the main river. The river itself was a major part of the equation. They used to say that newsprint was wood and water shipped south in a boxcar. Groundwood pulp, the major fiber, requires massive amounts of power in its production. There is a drop of about 600 feet in elevation between the level of the lake system and Millinocket, and this made the mill possible. In addition to the power from its falling waters, the river served two other functions. Both pulp and paper manufacture require massive amounts of clean process water. The used process water was dumped into the river below the mill, along with eh sewage from every municipality and other industries. This was a major negative, but the lack of knowledge of how to recycle or process water and sewage and the economics of what could be done made it an evil that had to be accepted. My home town on the Androscoggin turned brown overnight from sulfite pollution. The Great Works mill stopped driving pulpwood in the 1950s because the river drivers were developing skin rashes from the river water.

The last forty years have seen major changes in the forest industry on the Penobscot. Many of you are familiar with these changes. The two major ones are the change in

industry processes allowing for the recovery of chemicals formerly dumped into the river and the construction of treatment plants to handle municipal and industrial effluent.

One author, recently writing on collapsed civilizations, includes the state of Montana which he claims has exploited its resources beyond a state of recovery. What do we have today after over two centuries of exploitation? We have a river still flowing with ever cleaner water, providing megawatts of clean power, providing process water for our industries, an ever growing fishery and recreational use, and control of its headwaters to provide flood protection. The Penobscot basin is part of the largest contiguous forest resource near to the center of population in the United States. The first and second forest have been harvested and we are actively growing our 3rd. In some areas we are cutting in our third forest and starting our fourth. Forest management practices are mostly good to excellent. Multiple use is growing. Many of our nationally known rivers do not have nearly the history of the Penobscot. We have a river that was vital to the development of the national forest products industry, provided vital material for building our nation and for foreign trade, and enhanced the literacy of the population.