

Maine Geologic Facts and Localities
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Allagash Falls Geology



46° 57' 0.13"N, 69° 7' 59.15"W

Text by
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Introduction

The [Allagash Wilderness Waterway](#) is a magnificent stretch of lakes and rivers that spans 92 miles across northern Maine, beginning at Telos Lake and extending downstream to the village of Allagash. This is a popular waterway for paddling enthusiasts who seek solitude in an unspoiled natural setting. Excellent campsites, abundant wildlife and excellent fishing make any trip on the Allagash a memorable experience.



Maine Geological Survey

Photos by Kyle Marwinney



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General geology of the Allagash River area

Maine's geological landscape is varied and complex, the result of repeated and intense geological processes that operated over many millions of years. In contrast to this complexity, much of northwesternmost Maine is underlain with a remarkably uniform sequence of sedimentary rock units collectively known as the Seboomook Group. Named from exposures near Seboomook Dam in western Maine, rocks of the Seboomook Group extend nearly continuously from the Rumford area to Madawaska, and on into Canada (Figure 1). Units of the Seboomook Group consist mostly of dark gray slate and light brown sandstone, although in this area of Maine slate predominates. Another description of rocks of the Seboomook Group is found in [Bald Mountain, Washington Plantation, Maine](#). The alternating layers of sandstone and slate define many of the ridgelines along the lower Allagash that follow a northeast-southwest alignment.

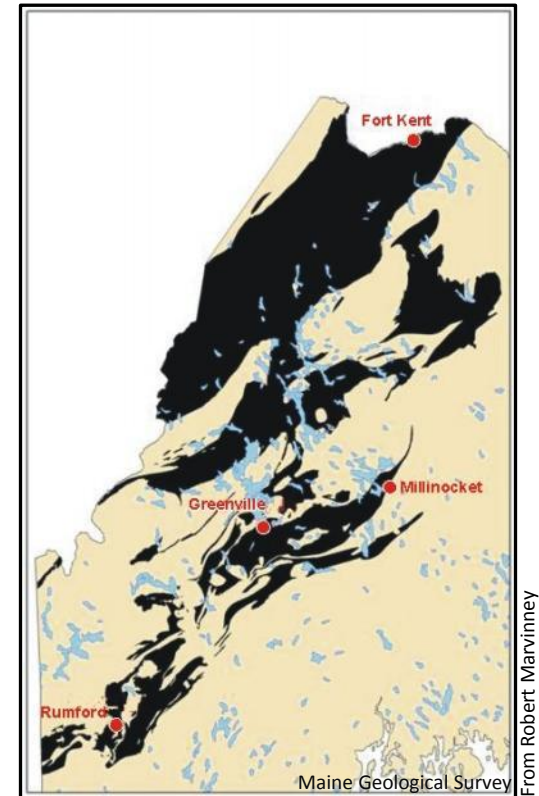


Figure 1. Rocks of the Seboomook Group extend nearly continuously from the Rumford area to Madawaska, and on into Canada.

Allagash Falls

Usually after many days on the river, canoe travelers are confronted with the awesome obstacle of Allagash Falls, announced by a persistent low rumble that seems somehow out of place while paddling among the meandering islands that make up the reach just above the falls (Figure 2). The once complacent river becomes a roaring torrent of white that plunges 30 feet into a series of pools (Figure 3). What, the traveler must wonder after many miles of river with only a hint of ledge outcroppings, is holding up the falls?

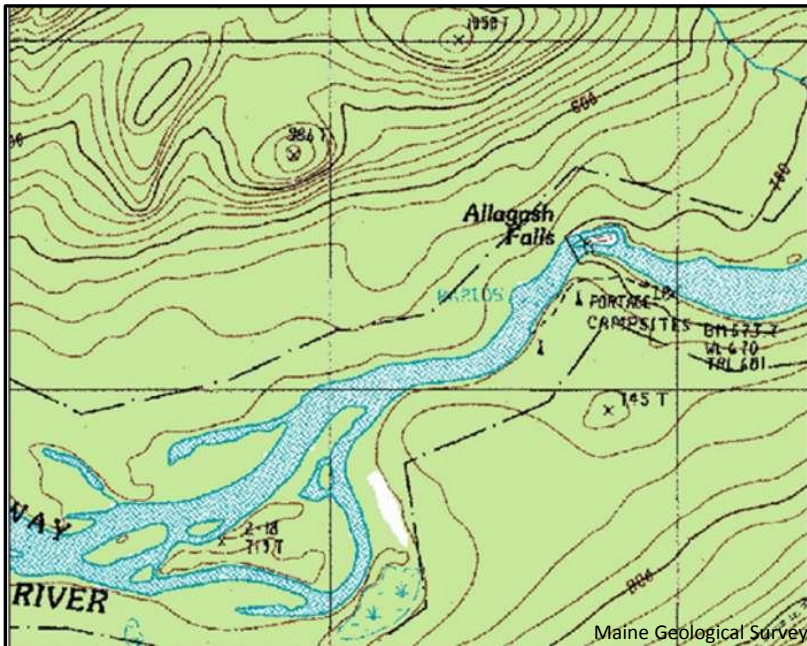


Figure 2. Topographic map showing location of Allagash Falls.



Figure 3. Photograph of Allagash Falls.



Geology of Allagash Falls

At this locality on the Allagash, the rocks of the Seboomook Group consist of very thickly bedded sandstone. These thick, resistant beds succumb to the erosive forces of the river slowly and have held the falls here for perhaps thousands of years following the melting of the last ice sheet. The sandstone layers have regular joints oriented perpendicular to the bedding direction and promote the breaking away of very large blocks which litter the falls.



Photo by Robert Marwinney

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Figure 4. Very thickly bedded sandstone in the middle of the falls. Beds dip steeply from upper left to lower right and some are 3 meters or more thick. Note people on the far side for scale.



Geology of Allagash Falls

Photo by Robert Marvinn

Figure 5. Bedding is nearly vertical in this photograph, taken a short distance below the falls. Here the thickness of the sandstone beds decreases, and they are clearly defined by interlayered slate layers.



Geology of Allagash Falls

Figure 6. An example of coarse-grained sandstone near the base of the falls. The tube is aligned parallel to bedding.

Geology of Allagash Falls

Figure 7. Farther downstream, medium to thinly bedded layers predominate. This close-up photograph shows thin alternating layers of brown sandstone and dark gray slate aligned parallel to the tube. Cutting across the image from lower left to upper right and cross-cutting the bedding are cleavage surfaces that developed in the rock in response to great pressure.

Erosion of Allagash Falls

Photo by Robert Marvinney

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Figure 8. When weathering and erosion attack the bedding layers and cleavage surfaces, oddly pocked surfaces like this develop. Bedding runs nearly up and down in the image, while cleavage runs from lower left to upper right.



Structural Features of Allagash Falls

These rocks also show minor and major folding.



Figure 9. Fine layers are folded above the tube which is parallel to cleavage surfaces.

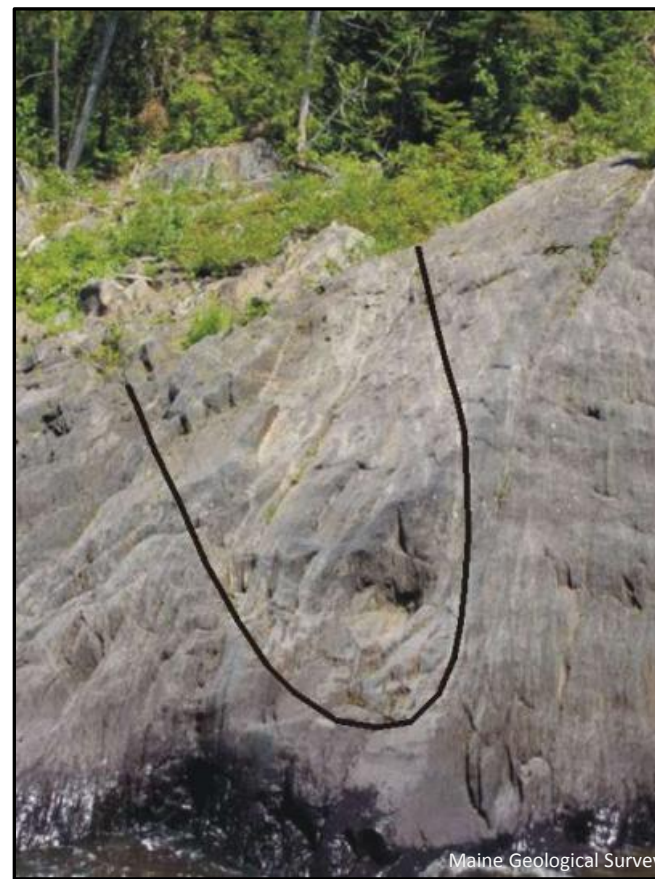


Figure 10. Thinly bedded alternating layers of brown sandstone and dark gray slate are asymmetrically folded, indicated with the black line, with a very steep limb on the right side, and a gentler limb on the left side.