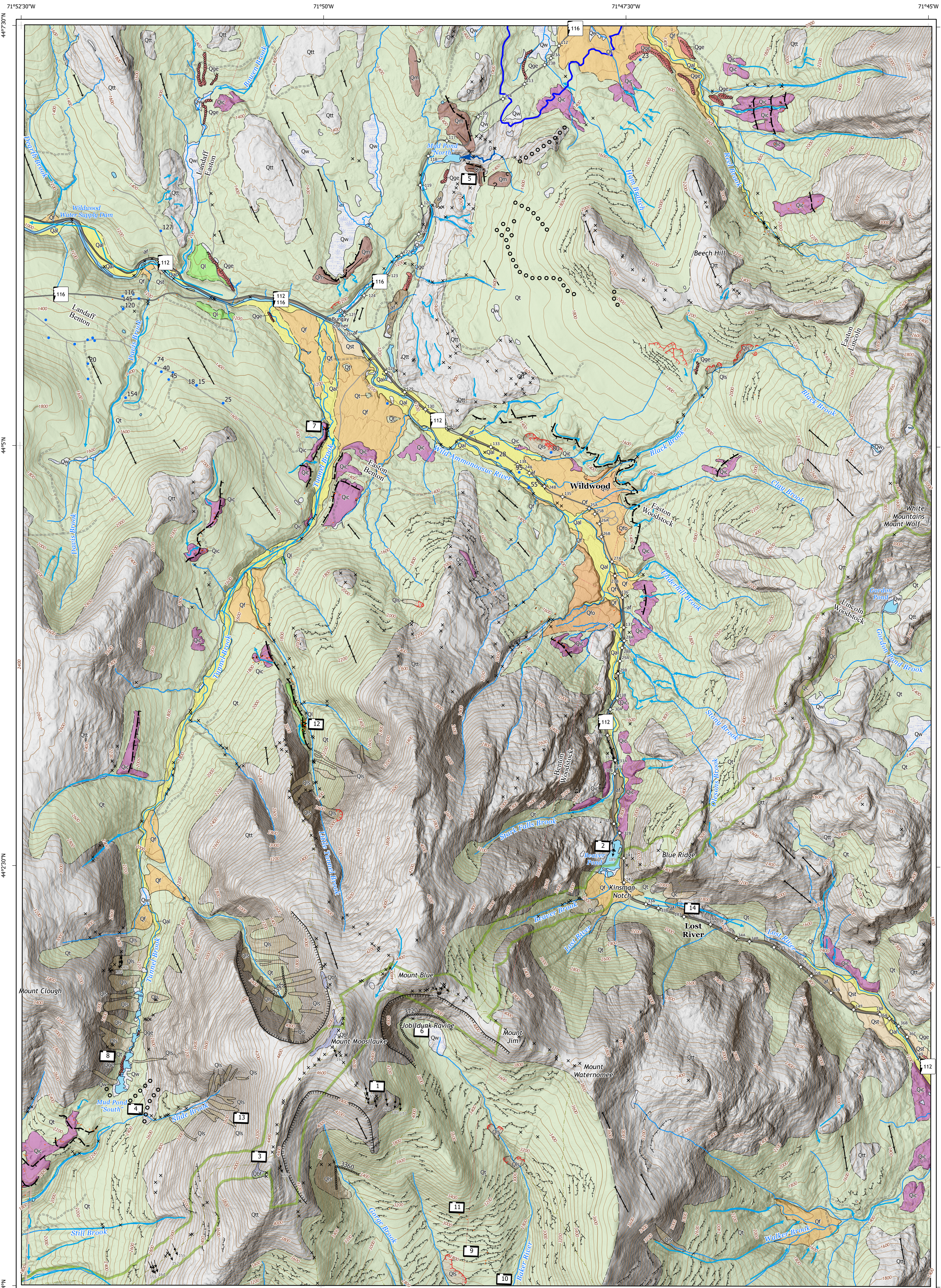


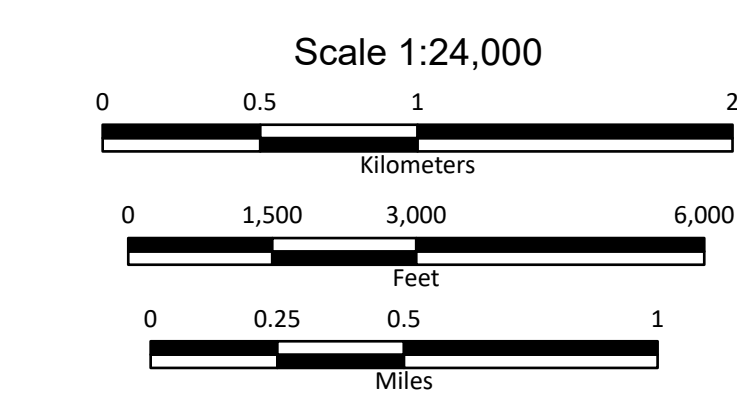
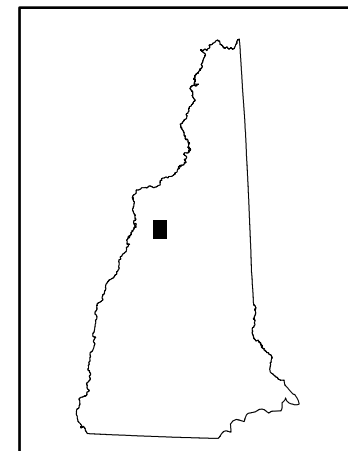
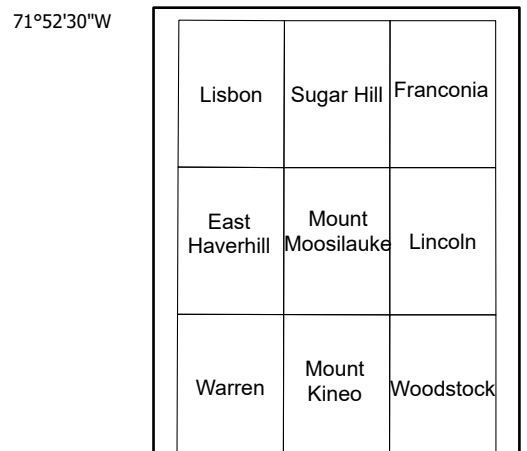
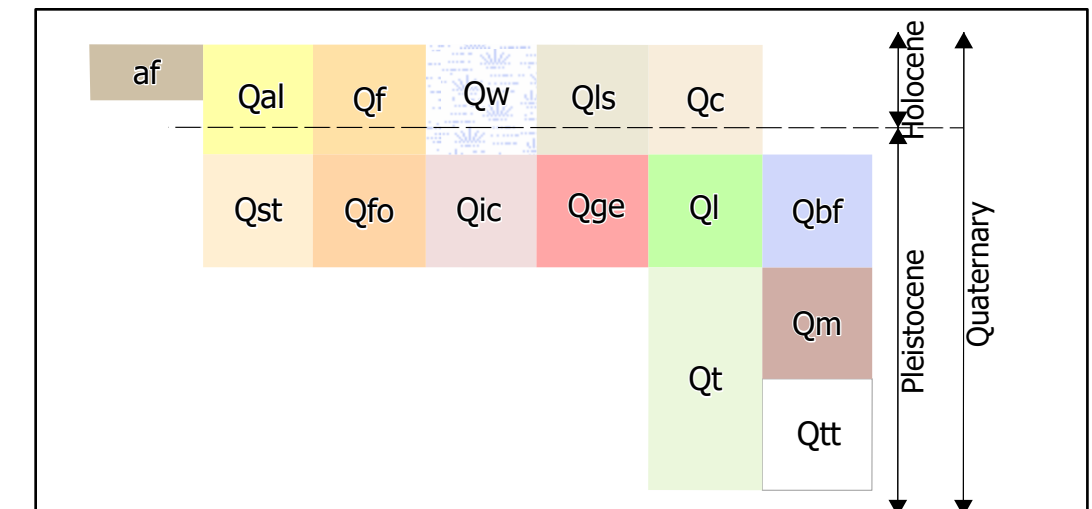
Surficial Geologic Map of the Mount Moosilauke 7.5' Quadrangle, New Hampshire, 2022



DESCRIPTION OF MAP UNITS

- Water**
- af** **Artificial fill**— Areas of constructed fills, burrow excavations, debris dumps, and railroad embankments related to historic logging activities, with most too small to be individually mapped.
- Qw** **Wetland deposits (Pleistocene-Holocene)** — Fine-grained and organic-rich sediments deposited in low, flat, poorly drained areas. Located along streams and several upland areas, such as Gordon Pond east of Kinsman Ridge. Wetland deposits may overlie stream alluvium, stream terraces, alluvial fans, and till. Wetlands occupying the floor of Tunnel Brook valley and the banks of the Wild Ammonoosuc River were not differentiated from their underlying units to emphasize the subsurface geology.
- Qal** **Stream alluvium (Pleistocene-Holocene)** — Gravel, sand, silt, and organic material deposited by late-glacial to modern streams. Sediment textures vary widely depending on the local depositional environment.
- Qc** **Colluvium (Holocene)** — Loose, heterogeneous, unconsolidated angular blocks and boulders deposited by rockfall at the base of bedrock cliffs. These features are also known as talus slopes and the most prominent example occurs at the foot of the Dilly Cliffs in Kinsman Notch.
- Qf** **Alluvial fan deposits (Pleistocene-Holocene)** — Coarse gravel and minor sand deposited in mountainous areas where steep upland streams discharge into more gently sloped, larger valleys. Diamicts may also be present locally from the deposition of debris flows derived from steep valley walls, such as in Tunnel Brook valley. Similar to stream terrace deposits, fans commonly overlap with one another as base levels dropped over time.
- Qls** **Landslide deposits (Pleistocene-Holocene)** — Slide blocks, slumps, debris flow tracks, and minor rockfall deposits composed of poorly sorted diamict, rock fragments, and colluvium that are subject to downslope movement or mass wasting. Debris flow tracks commonly consist of a scarp, trough, and levees on the sides of the trough, but fans rather than toes in the runout zone.
- Qst** **Stream terrace deposits (Pleistocene-Holocene)** — Sand, gravel, and minor silt deposited on abandoned floodplains of former rivers often left perched on valley sides at various levels as streams eroded down to their modern levels.
- Qfo** **Older alluvial fan deposits (Pleistocene-Holocene)** — Coarse, moderately sorted gravel and minor sand deposited at the mouths of tributary valleys adjacent to Wild Ammonoosuc River in the area of Wildwood. Older alluvial fans have either been cut by more recent stream erosion (units Qal and Qf) and/or have surfaces higher in elevation than adjacent alluvial fans.
- Ql** **Glacial-lake deposits (Pleistocene)** — Fine sand to thinly laminated clay and silt deposited in small glacial lakes ponded between glacial ice and valley walls. Two small isolated glaciolacustrine units were mapped—one at 2000 feet elevation in Little Tunnel Brook ravine, consisting of up to 82 feet of laminated clay and silt, and the other at 1200 feet elevation along Bowen Brook, consisting of a thin flat-lying plain of fine sand.
- Qic** **Ice-contact stratified deposits (Pleistocene)** — Sand, gravel, silt, and minor clay interbedded with minor diamict deposited in contact with or adjacent to glacial ice in glaciolacustrine and glaciolacustrine settings. The deposits make up a wide variety of landforms, including eskers, kame terraces, kettles, and ice-contact deltas. In the upper Wild Ammonoosuc and its tributaries, as well as Reel Brook in the northeastern part of the quadrangle, ice-contact sediments are found in several locations between 1870 and 2000 feet elevation, which suggests deposition in contact with a waning remnant of the continental ice sheet. Eskers and glacial lakes are broken out from Qic and mapped separately as units Qge and Ql.
- Qge** **Esker deposits (Pleistocene)** — Coarse gravel and sand, dominantly composed of cobbles, well to poorly sorted, usually stratified and possibly interbedded with and overlain by several feet of diamict (till). The cores of eskers were deposited by glacial meltwater in ice-walled channels or tunnels at the base of the ice sheet. Any overlying till was deposited when the ice downwasted and draped its poorly sorted material over them.
- Qm** **Moraines (Pleistocene)** — Ridges or hummocky mounds of unstratified till interbedded with stratified sand and gravel lenses constructed on the margins of the ice sheet during stillstands or slight readvances. In some areas, stratified material was deposited from glacial meltwater flowing from the terminus or from the surface of the ice sheet.
- Qb** **Block Fields (Pleistocene)** — Also known as felsenmeer, block fields are continuous veneers of large angular to subangular blocks of rock derived from underlying bedrock by intensive frost action in flat or gently sloping areas. Two prominent block fields occur at about 4250 feet elevation on the south side of the Glenciff Trail below the south summit of Mount Moosilauke and between about 4400 and 4600 feet elevation on the northwest side of Mount Moosilauke between the summit and tree line.
- Qt** **Till (Pleistocene)** — Poorly sorted mixture of gravel, sand, silt, and clay deposited in direct contact with glacial ice, either beneath (subglacial), within (englacial), or on top of (supraglacial) the ice sheet. Till ranges from compact and clay-rich to loose and sandy. Compact, clay-rich till is exposed in deeply incised valleys such as Reel Brook, Tunnel Brook, Little Tunnel Brook, and other headwater streams on Mount Moosilauke. Sandier, unconsolidated till generally overlies compact till and was deposited in the presence of abundant meltwater or was redeposited as flow till.
- Qit** **Thin till (Pleistocene)** — Areas of abundant bedrock outcrops and till generally less than 10-15 feet thick. Mapped dominantly using topographic roughness analysis of 1-meter LIDAR and aerial imagery.

CORRELATION OF MAP UNITS



Topographic basemap developed from high resolution (1 meter) LIDAR data (multidirectional hillshade), The National Map basemap, and NHDOT roads data. Place names from the Geographic Names Information System (GNIS) dataset. Wetland delineation modified after the National Wetland Inventory Plus dataset (NWIPlus).

Map Projection: North American Datum 1983 New Hampshire State Plane Feet.

EXPLANATION OF MAP SYMBOLS

- Contact — Boundary between map units. Solid where certain and accurate, dashed where approximately located, and queried where location is questionable.
- Glacially streamlined till ridge — Symbol shows axis of till ridge which has been elongated and streamlined by glacial ice flow. Most of these features are evident only on LIDAR imagery.
- Ice margin — Inferred glacier margin position based on ice-contact deposits, till benches, and meltwater channels. Ticks indicate up-ice direction.
- Meltwater channel — Channel eroded by glacial meltwater stream. Arrow shows inferred direction of former stream flow.
- Meltwater spillway — ~1,315-foot-elevation spillway for Glacial Lake Franconia, as mapped on the Sugar Hill quadrangle (W. B. Thompson, 2014), where delta tops are between 1320-1340 feet in elevation.
- Boulder train — Linear accumulation of large blocks and boulders on till/thin-till ridges and hillslopes near Mud Pond "North" and Mud Pond "South".
- Esker — Segments of narrow sinuous ridges composed of moderately to well-sorted and well-stratified sand and gravel deposited in ice-walled tunnels at the base of a glacier. May be overlain by till.
- Landslide scarp — Headwall or imbricate scarp of landslide, slump, or debris flow.
- Water well — Label indicates depth to bedrock
- Moraine ridge — Crest of moraine, locally sharp-crested near Mud Pond "North" to broad-crested elsewhere, deposited along the margin of the last glacial ice sheet.
- Glacial Lake Franconia — As mapped on the Sugar Hill quadrangle (W.B. Thompson, 2014), where delta tops are between 1320 and 1340 feet in elevation.
- Ice-marginal till benches/terraces — Mapped at crest of slope-break with ticks toward steep, down-ice side. Derived from meltwater deposition of till along the lowering continental ice sheet surface. Some of the till originated upslope and some directly from the ice downslope. The till dewatered and stabilized soon after the ice surface lowered.
- Cirque — Steep-walled half-bowl basin at the heads of glacial valleys in the alpine zone of Mount Moosilauke. Line marks the top rim of the cirque.
- Schrund line — The base of the bergschrund (highest crevasse on glacier between cirque wall and ice) at a late-stage in the excavation of the cirque basin.
- Glacial striation or groove — Arrow shows glacial ice-flow direction inferred from striations on bedrock. Number is azimuth (in degrees from north) of flow direction from arrow midpoint (dot).
- Photo points — labeled with photo number. See companion document for photographs.
- Northern Pass borehole. Labeled by borehole name. See borehole logs at www.nh.gov/dot/media/northern-pass/#logs
- Observation station
- Observation photo
- Bedrock outcrop
- Stream
- Elevation contours (feet)
- Index contour, 200-foot interval
- Intermediate contour, 40-foot interval
- Transportation
- State Route
- Local Road
- Not Maintained
- Trails
- Borders
- Appalachian National Scenic Trail (National Park Service)
- White Mountain National Forest (US Forest Service)
- Town boundaries

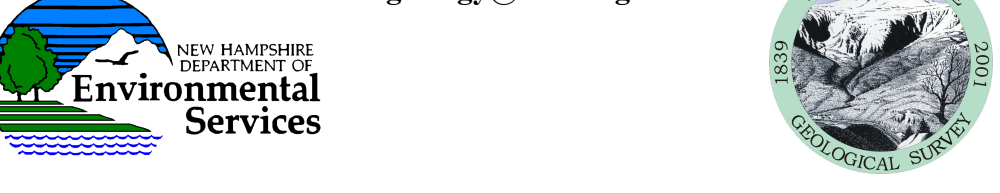
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 Digital Compilation by Joshua A. Keeley
 New Hampshire State Geologist: Shane Csiki, Ph.D.

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 Map pamphlets can be found at <https://www.des.nh.gov/land/geology>

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