

DESCRIPTION OF MAP UNITS

POSTGLACIAL DEPOSITS—Alluvium is present beneath the floodplain surfaces of Big River, although many of these surfaces are also underlain by swamp deposits; swamp deposits also occur in positions isolated from the floodplain such as in kettle holes. Swamp deposits and alluvium are generally thin (less than 10 ft thick) and are underlain by thicker glacial deposits (see description below).

- Artificial fill—composed predominantly of earth materials emplaced along road embankments
- Alluvium—composed of sand and silt, locally gravel, with some organic material
- Swamp deposits—composed of peat and muck with minor amounts of sand, silt, and clay

GLACIAL MELTWATER DEPOSITS (STRATIFIED DEPOSITS)—Gravel, sand, silt, and clay particles (as described in particle size diagram), that occur in layers and are classified into three textural units based on grain-size distribution: Sand and gravel deposits, Sand deposits, and Fine deposits. The texture of glacial stratified deposits is described throughout their whole vertical extent either as a single textural unit or two or more units in various orders of superposition referred to as "stacked units." Areas where sand and gravel deposits underlie sand and fine deposits are shown by a wavy dotted pattern. Contacts between subsurface textural units are not mapped with as great an accuracy as those at the surface. All units of glacial meltwater deposits overlie glacial till and (or) bedrock which is not included in the stacked unit.

- Sand and gravel deposits—composed of mixtures of sand and gravel particles within individual layers and an alternating layers, sand and gravel layers range from 25- to 50-percent gravel particles and from 50- to 75-percent sand particles. Layers are well- to poorly-sorted; bedding may be dissected by postdepositional collapse. Origin: Proximal deltaic and fluvial deposits and deltaic topset beds.
- Sand deposits—composed mainly of very coarse to fine sand particles; coarser layers may contain up to 25-percent gravel particles, generally granules and pebbles; finer layers may contain some very fine sand, silt, and clay. Layers are commonly well sorted. Origin: Deltaic, foreset beds, distal lacustrine fan deposits and distal fluvial deposits.
- Fine deposits—composed of very fine sand, silt, and clay particles, generally in well-sorted, thin layers of alternating silt and clay and (or) very fine sand; locally may contain lenses of coarser material. Origin: Lacustrine deposits.

STACKED MAP UNITS

- Sand and gravel overlying sand—sand and gravel less than 50 ft thick, horizontally bedded and overlies thicker, inclined layers of sand. Origin: Deltaic deposits.
- Sand and gravel overlying sand overlying fine—sand and gravel is generally less than 20 ft thick, laterally bedded and overlies thicker inclined layers of sand which in turn overlies thinly bedded fine of variable thickness. Origin: Deltaic deposits overlying lake-bottom sediments.
- Sand overlying fine—sand is of variable thickness, commonly in inclined foreset beds and overlies thinly bedded fine of variable thickness. Origin: Distal deltaic deposits overlying lake-bottom sediments.
- Sand and gravel underlying sand and fine—bedded sand and gravel of variable thickness, highly collapsed faces of nonconglutinated deltaic or lacustrine fan deposits; deltas or fans are generally at land surface immediately south of the overlying fine deposits.

GLACIAL ICE-LAID DEPOSITS

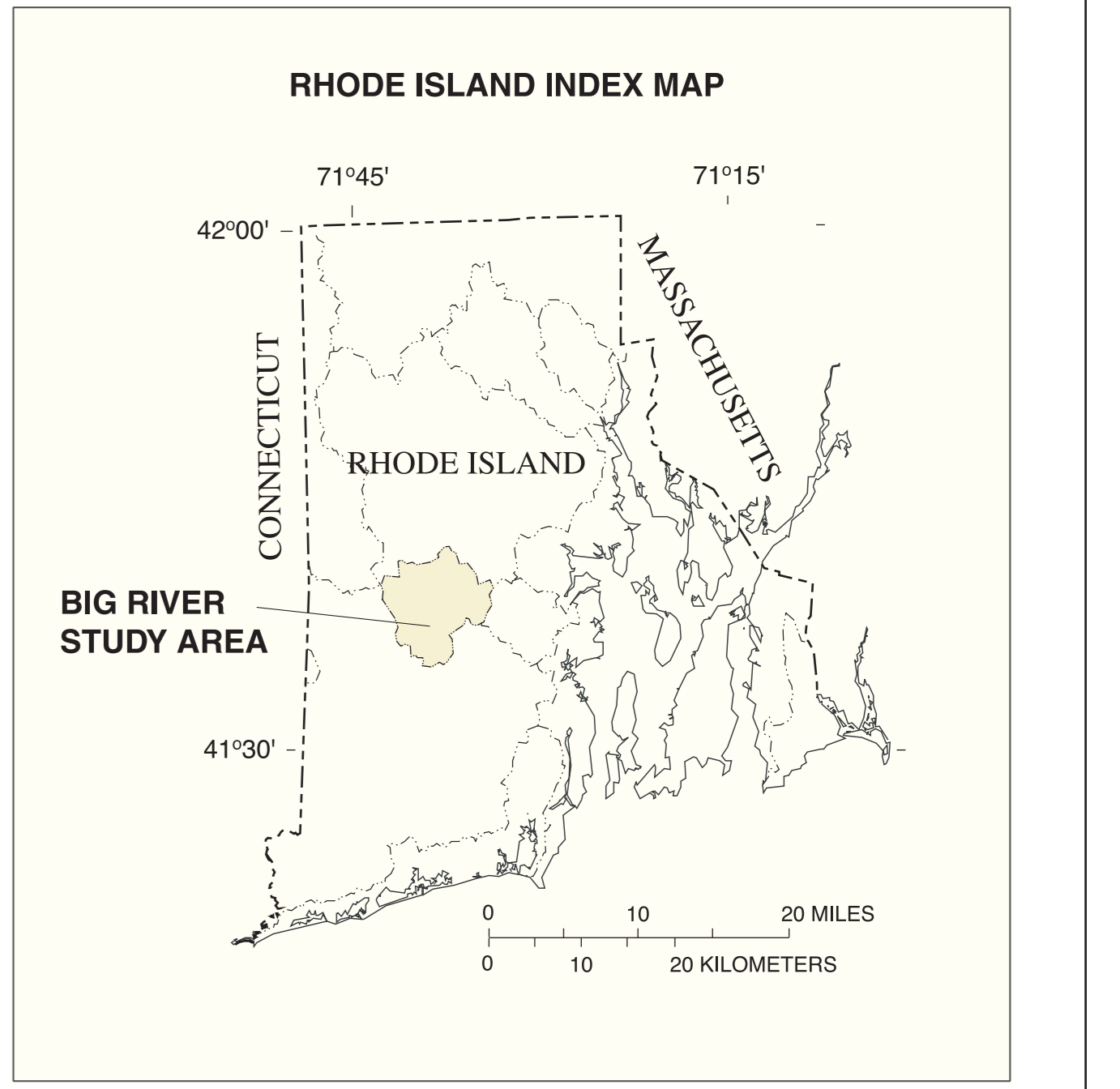
- Till—non-sorted, nonstratified, compact mixture of grain sizes ranging from clay to large boulders; matrix is largely sand particles containing up to 25 percent silt and clay. Till blankets the bedrock surface in most places and underlies glacial stratified deposits but is not included in the stacked units. Dashed shaded pattern indicates areas where till is greater than 15 feet in thickness.

MAP SYMBOLS

- BEDROCK OUTCROPS—Pattern shows areas containing numerous closely spaced outcrops
- BEDROCK CONTOUR—Shows altitude in feet above sea level of the bedrock surface; Dashed where inferred. Shows only where bedrock surface is at or below 300 feet altitude (50 ft on Hungry Hill)
- CONTACT BETWEEN MAP UNITS
- STUDY-AREA BOUNDARY
- GLACIAL LAKE SPILLWAY—Number is approximate altitude in feet
- MELTWATER CHANNEL—Curved in till
- LINE OF GEOLOGIC SECTION
- WELL OR TEST HOLE AND IDENTIFIER—Used in construction of geologic sections
- PUMPING TEST WELL AND IDENTIFIER—Circle indicates approximate area of pumping influence based on the distance from the pumping well to the farthest observation well monitored during aquifer test

PARTICLE DIAMETER	
10	2.5 0.16 0.08 0.04 0.02 0.01 0.005 0.0025 0.0015 ft.
256	64 4 2 0.5 0.25 0.125 0.063 0.031 mm
Boulders	Cobbles Pebbles Granules Very coarse sand Coarse sand Medium sand Fine sand Very fine sand Silt Clay
	GRAVEL PARTICLES SAND PARTICLES FINE PARTICLES

Grain-size classification used in this report modified from Wentworth (1922)



SURFICIAL MATERIALS MAP OF THE BIG RIVER AREA, CENTRAL RHODE ISLAND
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