



- Legend**
- Intrusive rocks**
- 13 Granitoid intrusions; equigranular to weakly porphyritic granodiorite to granite plutons and dikes
- Upper stratigraphic sequence (Island Lake group?)**
- 11 Upper mafic volcanic flows; pillow basalt, variolitic and vesicular in lower-strain outcrops; commonly bleached/alterated to assemblages containing calcite, quartz, epidote and/or fuchsite
 - 10 Upper felsic volcaniclastic rocks; tuff to lapilli tuff; minor monomictic volcanic breccia
 - 8 Upper sedimentary rocks; planar-bedded greywacke-mudstone turbidites; minor ungraded coarse quartz sandstone; polymictic conglomerate
- Lower stratigraphic sequence (Hayes River group)**
- 4 Lower sedimentary rocks; planar-bedded quartzofeldspathic greywacke to mudstone, commonly graded
 - 3 Lower felsic volcaniclastic and volcanic rocks; welded tuff to lapilli tuff; monomictic volcanic breccia; plagioclase-phyric dacite
 - 2 Gabbro to melagabbro; fine- to medium-grained, equigranular
 - 1 Lower mafic volcanic flows; aphyric, locally shelled and variolitic pillow basalt; massive, plagioclase-phyric basalt; rare interflow hyaloclastite breccia and garnetiferous mudstone

Geology drawn inland and in the Wapusk and Clam lakes areas is based mostly on a compilation of historical drilling (1938-1986), regional aeromagnetic data, and traverses by McIntosh (1941), Ermanovics (1975), and Neale (1985).

The generations of structures indicated on the map reflect overprinting relationships observed in individual outcrops, and do not necessarily correspond to the deformation events observed regionally. In most cases, the first generation of foliation measured in outcrop corresponds to regional D3 deformation, and the youngest generation of fabric corresponds to D5 or D6. A discussion of the regional structural trends is provided in Rinne et al. (2016).

- Fold axial plane: generation 1, 2, unknown
- Mineral lineation
- Stretching lineation
- Fault plane: dextral, sinistral, unknown sense
- Crenulation cleavage, dextral, generation 2
- Foliation: generation 1, 2, 3, unknown
- Spaced cleavage: generation 1, 2, 3, unknown
- Fracture
- Bedding: tops known, overturned, unknown
- Igneous layering
- Pillows: tops known, unknown
- Vein margin
- Shear zone, dextral: generation 2, 3, unknown
- Shear zone, sinistral: generation 2, 3, unknown
- Shear zone, sense unknown
- Outcrop location
- Contact, approximate
- Contact, assumed
- Contact, underwater
- Early anticline axial plane, approximate
- Early syncline axial plane, approximate
- Shear
- Winter roads

Preliminary Map PMAP2019-1

Bedrock geology of the Knight Lake area, Manitoba (parts of NTS 53E11, 12, 13, 14)

Geology by M. Rinne (2016, 2017, 2019)
Cartography by A. Santucci

Suggested reference:
Rinne, M.L., 2019: Bedrock geology of the Knight Lake area, Manitoba (parts of NTS 53E11, 12, 13, 14); Manitoba Agriculture and Resource Development, Manitoba Geological Survey, Preliminary Map PMAP2019-1, scale 1:20 000.

This map is a provisional summary of work carried out during the summer field season and is produced directly from the geologist's manuscript. It is not to be regarded as a final interpretation of the geology of the area.

- References:**
- Ermanovics, I.F., Park, G., Hill, J. and Goetz, P.A. 1975: Geology of Island Lake map area (53E), Manitoba and Ontario; Geological Survey of Canada, Report of Activities, Part A, Paper 75-1A, p. 311-316.
 - McIntosh, R.T. 1941: Bigstone Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 38-1, 12 p., map at 1:63 360 scale.
 - Neale, K.L. 1985: Geological investigations in the Knight Lake-Bigstone Lake area; in Report of Field Activities 1985, Manitoba Energy and Mines, Geological Services/Mines Branch, p. 200-202.
 - Neale, K.L. 1985: Knight Lake-Wapusk Lake; Manitoba Energy and Mines, Minerals Division, Preliminary Map 1985B-1, scale 1:20 000.
 - Rinne, M.L., Anderson, S.D. and Reid, K.D. 2016: Bedrock geology of Bigstone Lake, Manitoba (parts of NTS 53E12, 13); Manitoba Growth, Enterprise and Trade, Manitoba Geological Survey, Preliminary Map PMAP2016-4, scale 1:20 000.

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