Watershed mapping in Halifax Regional Municipality

For RWAB, May 11th 2023

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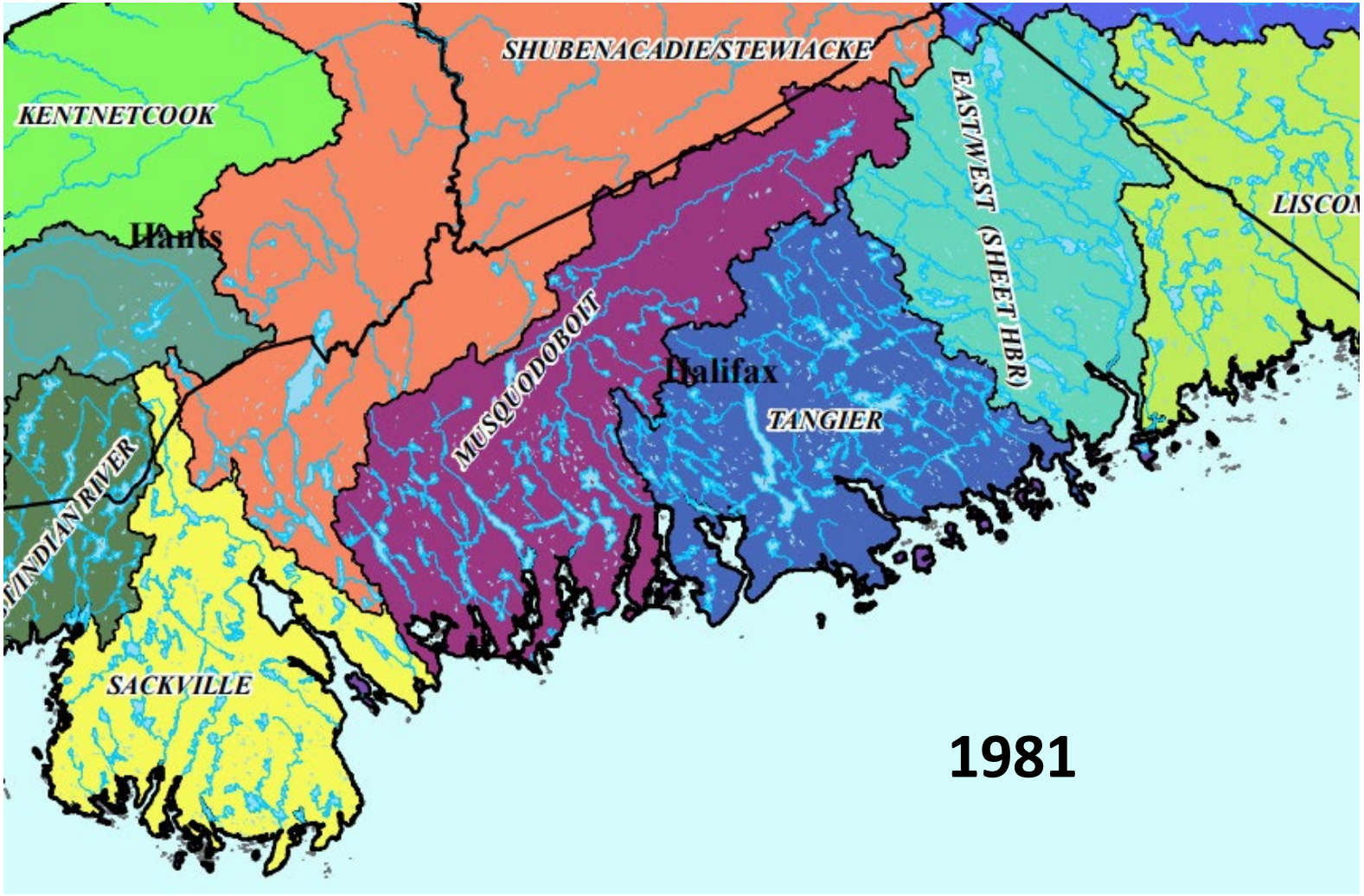
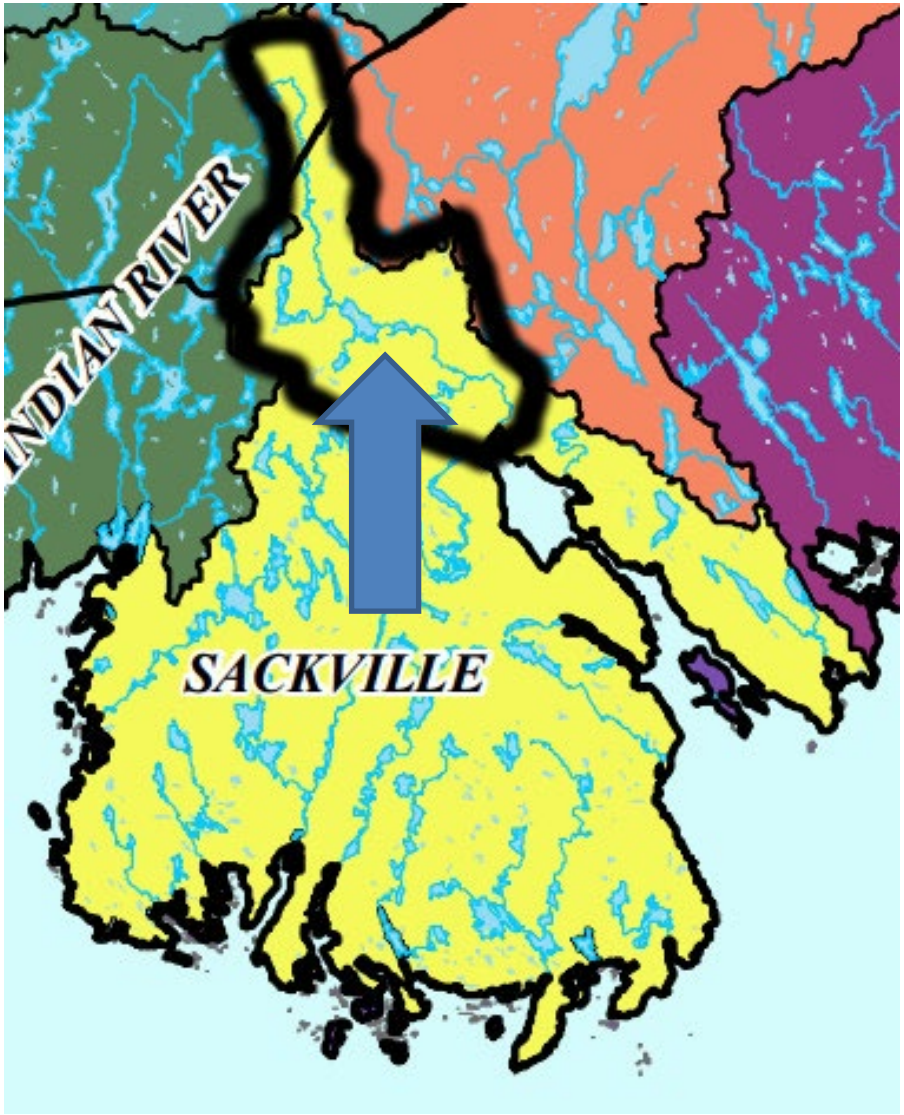
Main Points

- Maps are essential tools for understanding watersheds
- Publicly-available maps of HRM watersheds exist but are old
- Better mapping can be achieved with modern methods
- Examples of mapping inadequacies are informative
- Citizen-science has a role to play

Primary watershed nomenclature in HRM



Actual watershed of the Sackville River

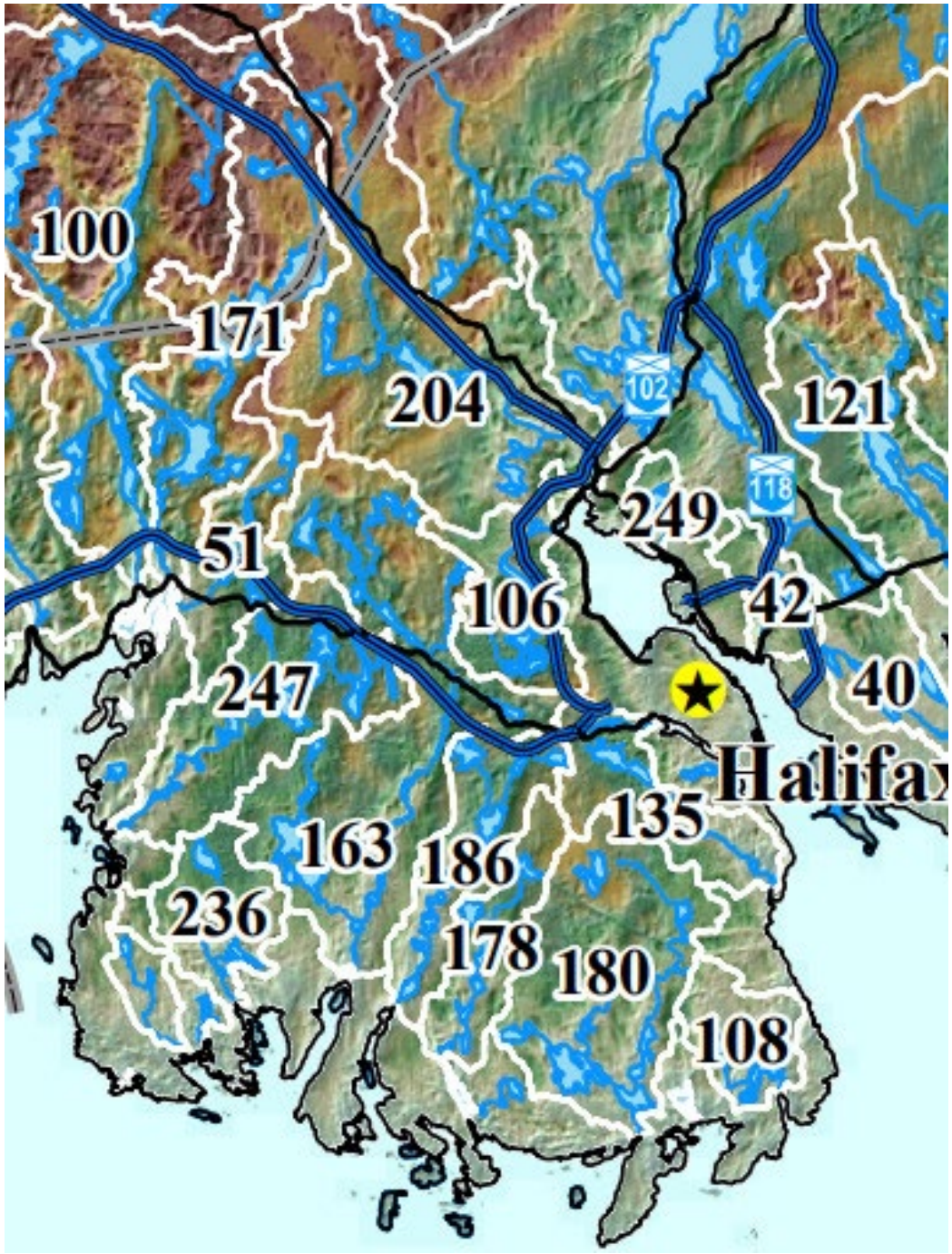


Secondary watershed nomenclature in HRM

The original coding and river allocations were calculated by the Maritime Resource Management Service for the Department of Environment in 1981.

Secondary Watershed River Names

Label	River Name	Watershed	Label	River Name	Watershed	Label	River Name
71	French R.	1DQ-2	140	Melford Brook	1ER-2	207	Salm
72	French R.	1FD-17	141	Mersey R.	1ED-1	208	Salm
73	Frenchvale Brk.	1FJ-11	142	Meteghan R.	1DA-2	209	Salm
74	Gaspereau/Black R.	1DD-1	143	Middle R.	1EG-1	210	Salm
75	Gaspereaux R.	1EN-2	144	Middle R.	1FF-2	211	Scot
76	Gegogan Bk.	1EN-1	145	Middle River Framboise	1FJ-2	212	Shag Harbou



Example of "secondary" watersheds

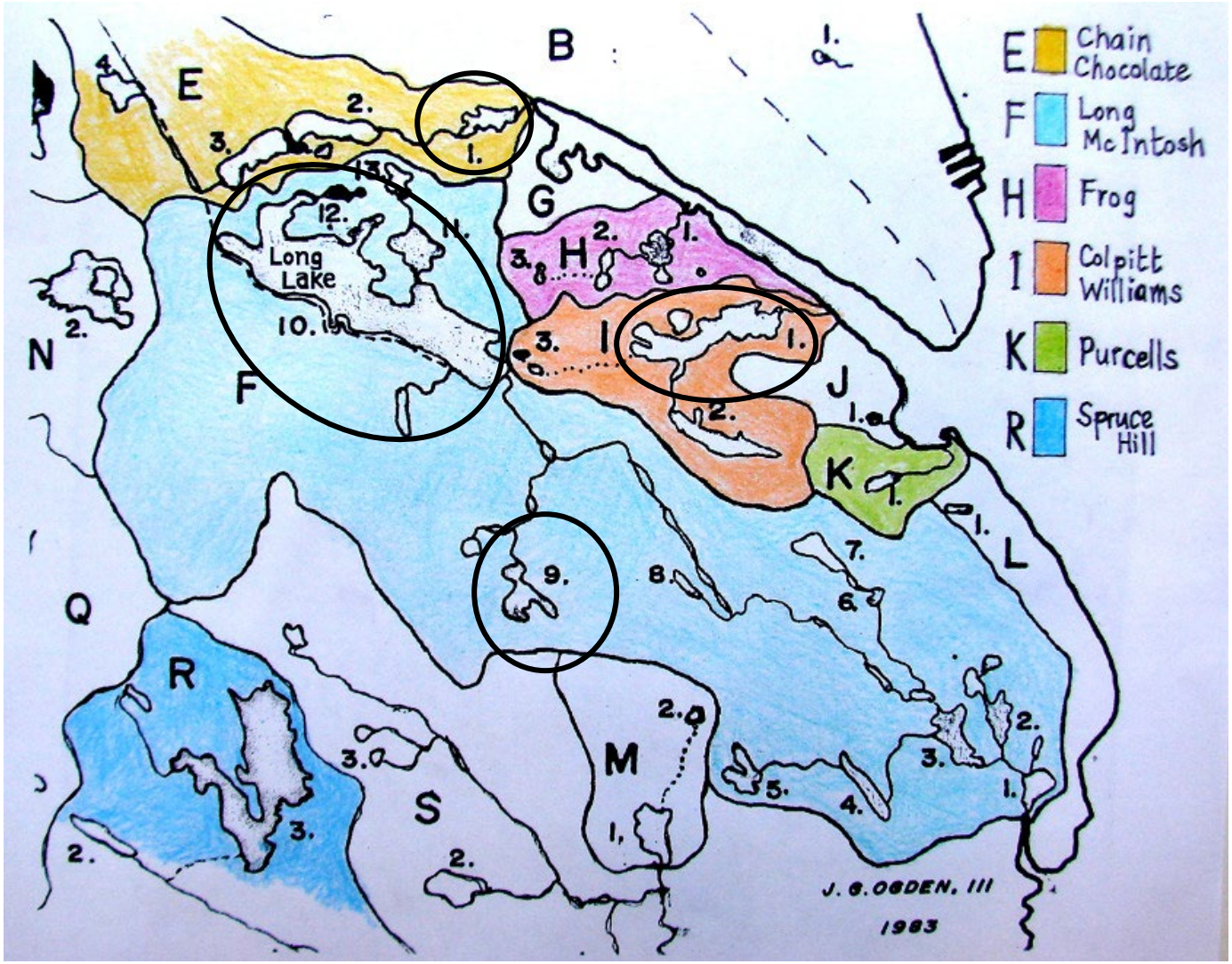
204, Sackville River

135, McIntosh Run

McIntosh Run watershed as mapped in 1981

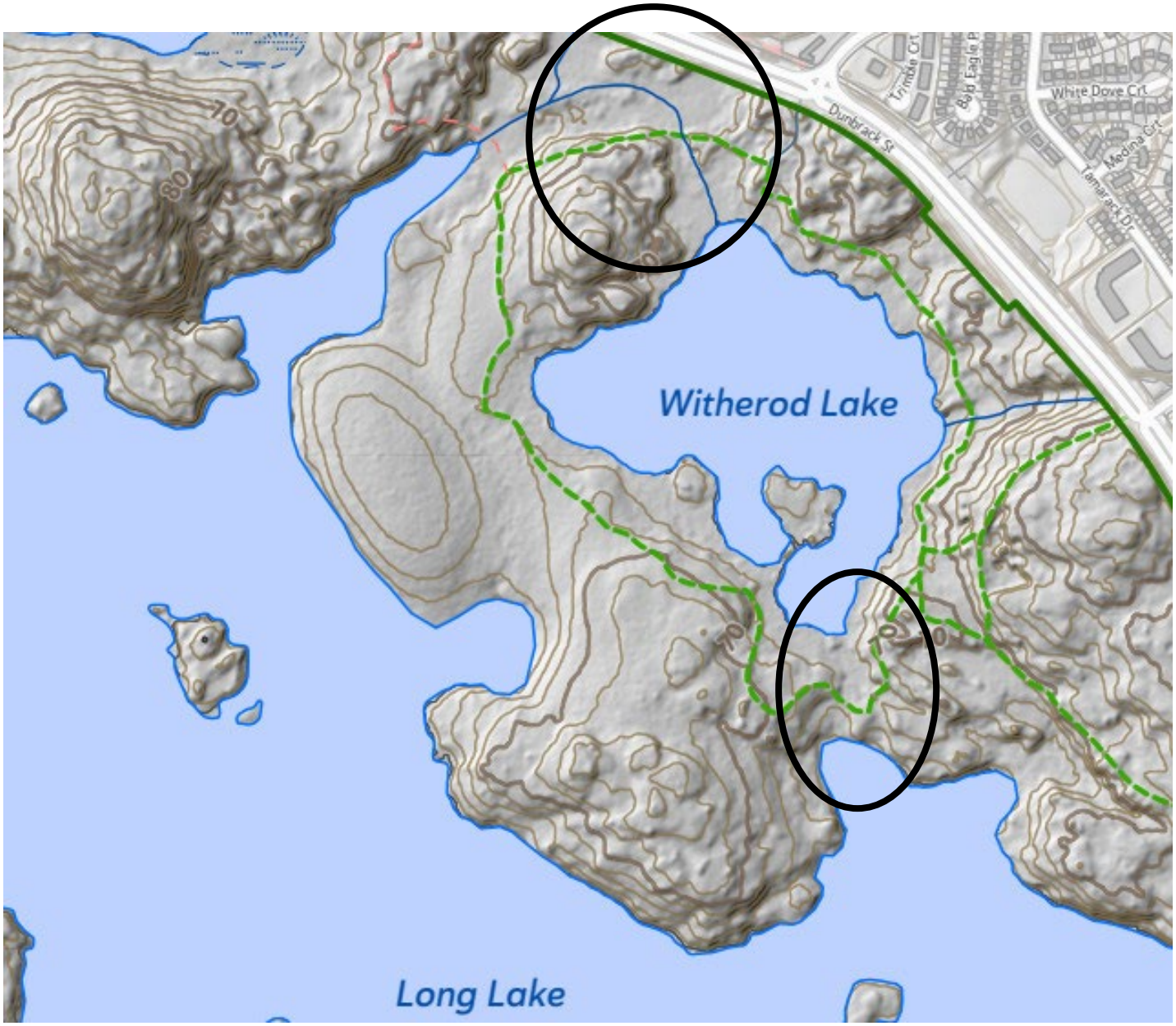
Note that Chain-Chocolate watershed and Long-McIntosh Run watershed were combined at this classification level

Ogden's 1983 map of watersheds in Mainland South region of HRM



HRM has identified Chocolate, Long, Williams, and Kidston as lakes of concern. Map has some errors, e.g. Governor's Brook

LiDAR provides much improved capacity to map watersheds (2023 map)



Database errors still need to be corrected and the corrective process will require ground-truthing. Citizen-science can assist this process

Approximate watershed of Kidston Lake, a small relatively pristine headwater lake with supervised swimming

Accurate mapping of the watershed would improve capacity to make management decisions for this slow-flush-rate lake

Conclusions

- Maps are essential tools for managing watersheds
- HRM watershed maps are currently inadequate
- Better mapping can be achieved with modern methods
- Examples of mapping inadequacies may help HRM Council's decision-making
- Citizen-science can assist the ground-proofing of maps in an iterative process