

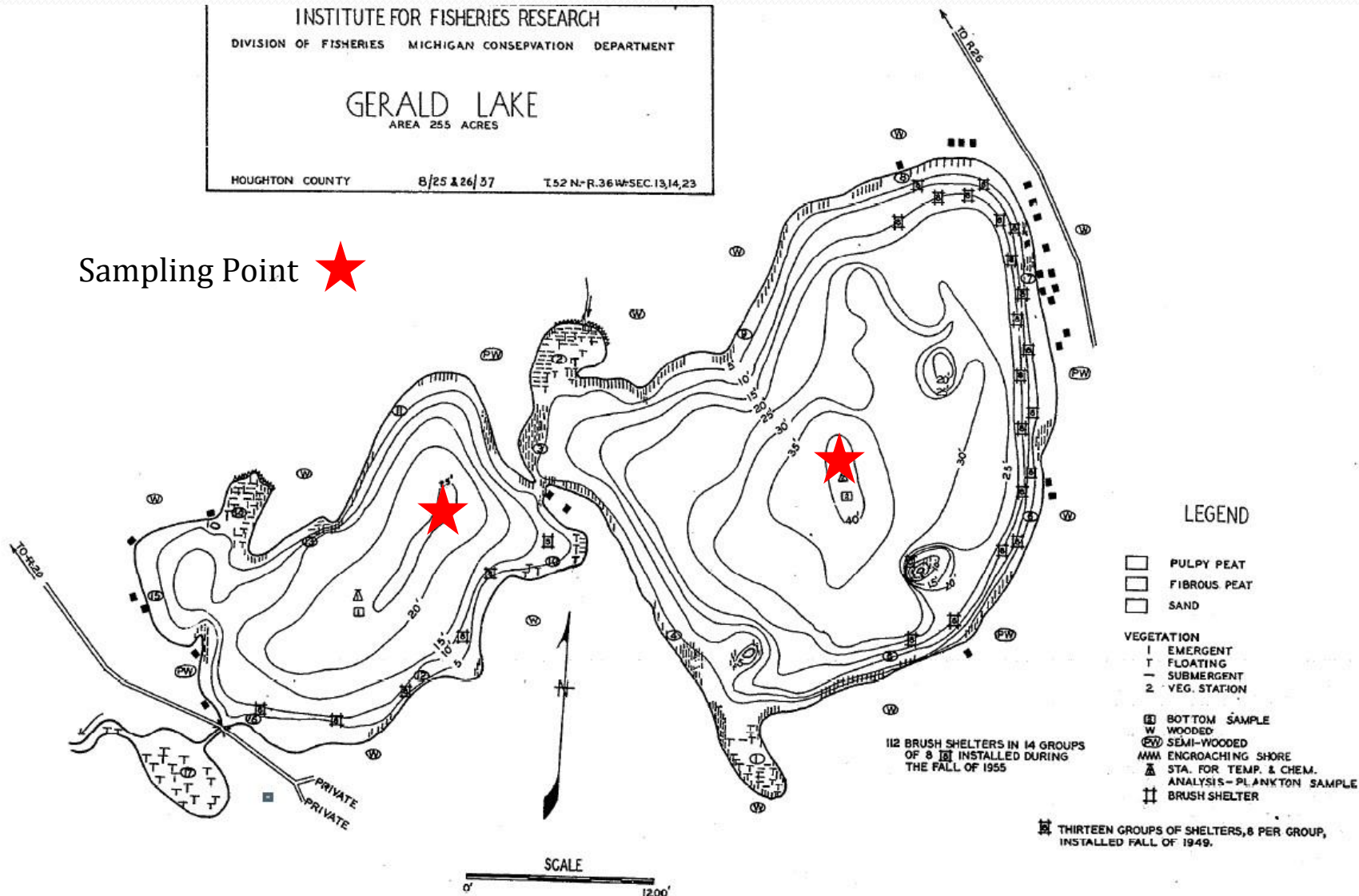
Lake Gerald 2011

INSTITUTE FOR FISHERIES RESEARCH
 DIVISION OF FISHERIES MICHIGAN CONSERVATION DEPARTMENT

GERALD LAKE
 AREA 255 ACRES

HOUGHTON COUNTY 8/25 & 26/37 T.52 N.-R.36 W-SEC.13,14,23

Sampling Point ★



Temperature & Oxygen Profile: Lake Gerald (Basin 1)

DEPTH (m)	TEMPERATURE (°F)	D.O. (mg/L)
Surface	75	8.64
1.0	76	8.57
2.0	76	8.52
3.0	76	8.48
4.0	75	8.43
5.0	71	7.62
6.0	63	3.68
7.0	59	1.31
8.0	57	0.26

Temperature & Oxygen Profile: Lake Gerald (Basin 2)

DEPTH (m)	TEMPERATURE (°F)	D.O. (mg/L)
Surface	77	8.41
1.0	77	8.39
2.0	77	8.35
3.0	77	8.27
4.0	73	8.36
5.0	64	1.71
6.0	60	0.42

Review of Findings: Lake Gerald (Basin 1)

PARAMETER	FINDING	INTERPRETATION
Lake Type	Drainage	Inlet and outlet
pH	7.06	Neutral
Alkalinity	14 ppm	Low sensitivity to acid rain
Hardness	17.4 ppm	Soft water (ZM susceptible)
Secchi (clarity)	15.3 feet	Good to very good
Chlorophyll 'a'	0.7 ppb	Very little planktonic algae
Tot. Phosphorus	Non detect (ppm)	Very good/excellent quality
Total Nitrogen	0.49 ppm	Ratio N:P indicates P-limited
Trophic Status	TSI (chlorophyll) =27.1	Mesotrophic - Oligotrophic
Conductivity	63.8 μ S/cm	Moderate dissolved material
<i>Escherichia coli</i>	ND (MPM/100ml)	No fecal contamination found

Historic comparison: In 1937 Secchi=9, pH=5.8

Review of Findings: Lake Gerald (Basin 2)

PARAMETER	FINDING	INTERPRETATION
Lake Type	Drainage	Inlet and outlet
pH	7.32	Neutral
Alkalinity	13 ppm	Low sensitivity to acid rain
Hardness	14.0 ppm	Soft water (ZM susceptible)
Secchi (clarity)	15.3 feet	Good to very good
Chlorophyll 'a'	0.7 ppb	Very little planktonic algae
Tot. Phosphorus	Non detect (ppm)	Very good/excellent quality
Total Nitrogen	0.60 ppm	Ratio N:P indicates P-limited
Trophic Status	TSI (chlorophyll) =27.1	Mesotrophic - Oligotrophic
Conductivity	65.8 μ S/cm	Moderate dissolved material
<i>Escherichia coli</i>	ND (MPM/100ml)	No fecal contamination found

Historic comparison: In 1937 Secchi=9, pH=5.8

Lake Gerald: Habitat & Observations

- Fairly built-out with lawns to water's edge
- Riparian areas in some places undeveloped
- Sand-gravel substrate; little large woody material; aquatic vegetation principal cover
- Aquatic plant community dominated by *Potamogeton gramineus* (contrast to 1937)
- Watershield is dense in some areas
- Active eagles nest
- Common loons present but not nesting