# Appendix A. Variable definitions and summary statistics.

Table A1. Full suite of variables evaluated in the random forest analyses. For each variable the abbreviated variable name (as it appears in the figures and tables), a brief description, and the source (GIS or National Lake Assessment) are shown with summary statistics (mean and standard error).

Table A1.

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| Variable Name | Description | Source | Mean | Std. Error |
| AlbersX | Longitude (Albers meters) | GIS | 126757.1 | 34305.5 |
| AlbersY | Latitude (Albers meters) | GIS | 436908.1 | 17367.2 |
| BarrenPer\_3000m | % Barren | GIS | 0.7 | 0.1 |
| BASINAREA | Watershed Area (sq. meters) | GIS | 3208.5 | 788.1 |
| CropsPer\_3000m | % Cropland | GIS | 13.3 | 0.6 |
| DDs45 | Growing Degree Days (Days) | GIS | 2750.0 | 41.0 |
| DeciduousPer\_3000m | % Decidous Forest | GIS | 17.1 | 0.6 |
| DevHighPer\_3000m | % High Intensity Development | GIS | 0.4 | 0.0 |
| DevLowPer\_3000m | % Low Intensity Development | GIS | 3.0 | 0.2 |
| DevMedPer\_3000m | % Medium Intensity Development | GIS | 1.4 | 0.1 |
| DevOpenPer\_3000m | % Developed Open Space | GIS | 5.4 | 0.2 |
| ELEV\_PT | Elevation (meters) | GIS | 607.6 | 20.1 |
| EvergreenPer\_3000m | % Evergreen Forest | GIS | 12.2 | 0.6 |
| FetchE | Fetch from East (m) | GIS | 1652.8 | 80.3 |
| FetchN | Fetch from North (m) | GIS | 2009.6 | 106.9 |
| FetchNE | Fetch form Northeast (m) | GIS | 1645.0 | 80.9 |
| FetchSE | Fetch from Southeast (m) | GIS | 1642.0 | 80.5 |
| GrassPer\_3000m | % Grassland | GIS | 13.8 | 0.7 |
| HerbWetPer\_3000m | % Herbaceuos Wetland | GIS | 1.7 | 0.1 |
| IceSnowPer\_3000m | % Ice/Snow | GIS | 0.0 | 0.0 |
| LakeArea | Lake Surface Area (sq. meters) | GIS | 12.2 | 2.3 |
| LakePerim | Lake Perimeter (meters) | GIS | 33.6 | 4.5 |
| MaxDepthCorrect | Est. Maximum Lake Depth (m) | GIS | 8.4 | 0.3 |
| MaxLength | Maximum Lake Length (m) | GIS | 2972.1 | 137.2 |
| MaxWidth | Maximum Lake Width (m) | GIS | 1567.5 | 76.0 |
| MeanDepthCorrect | Est. Mean Lake Depth (m) | GIS | 2.9 | 0.1 |
| MeanWidth | Mean Lake Width (m) | GIS | 1370.1 | 122.6 |
| MixedForPer\_3000m | % Mixed Forest | GIS | 3.8 | 0.3 |
| PasturePer\_3000m | % Pasture | GIS | 7.7 | 0.3 |
| PercentImperv\_3000m | % Impervious | GIS | 2.6 | 0.2 |
| ShoreDevel | Shoreline Development Index | GIS | 2.7 | 0.1 |
| ShrubPer\_3000m | % Shrub/Scrub | GIS | 10.4 | 0.6 |
| VolumeCorrect | Est. Lake Volume (cubic meters) | GIS | 101211909.9 | 27438696.4 |
| WaterPer\_3000m | % Water | GIS | 4.1 | 0.2 |
| WoodyWetPer\_3000m | % Woody Wetland | GIS | 5.2 | 0.3 |
| WSA\_ECO9 | Ecoregion | GIS | NA | NA |
| ANC | Acid Neutralizing Capacity (ueq/L) | NLA | 2584.2 | 171.7 |
| ANDEF2 | Anion Deficit (ueq/L) | NLA | -506.4 | 143.2 |
| ANSUM2 | Sum of Anions using ANC (ueq/L) | NLA | 8043.1 | 1197.9 |
| BALANCE2 | Ion Balance (%) | NLA | -0.7 | 0.1 |
| CA | Calcium (ueq/L) | NLA | 1388.3 | 54.0 |
| CATSUM | Sum of Cations (ueq/L) | NLA | 7536.7 | 1105.0 |
| CL | Chloride (ueq/L) | NLA | 1600.3 | 438.2 |
| COLOR | Color (PCU) | NLA | 16.1 | 0.5 |
| CONCAL2 | Calculated Conductivity (uS/cm) | NLA | 949.0 | 148.1 |
| COND | Conductivity (uS/cm) | NLA | 656.0 | 72.6 |
| CONDHO2 | D-H-O Calculated Conductivity (uS/cm) | NLA | 618.6 | 55.1 |
| DATE\_COL | Date Samples Collected | NLA | NA | NA |
| DEPTHMAX | Maximum Depth (meters) | NLA | 9.6 | 0.3 |
| DO2\_2M | Dissolved Oxygen (mg/L) | NLA | 7.9 | 0.1 |
| DOC | Dissolved Organic Carbon (mg/L) | NLA | 8.6 | 0.5 |
| H | Hydrogen Ions (ueq/L) | NLA | 0.2 | 0.1 |
| K | Potassium (ueq/L) | NLA | 245.6 | 40.6 |
| MG | Magnesium (ueq/L) | NLA | 2190.4 | 282.2 |
| Na | Sodium (ueq/L) | NLA | 3709.7 | 816.3 |
| NH4 | Ammonium (mg/L) | NLA | 2.9 | 0.2 |
| NH4ION | Calculated Ammonium (ueq/L) | NLA | 2.5 | 0.2 |
| NO3 | Nitrate (ueq/L) | NLA | 5.4 | 0.7 |
| NO3\_NO2 | Nitrate/Nitrite (mg N/L) | NLA | 0.1 | 0.0 |
| NPratio | Nitrogen:Phophorus Ratio | NLA | 34.5 | 1.8 |
| NTL | Total Nitrogen (g/L) | NLA | 1109.9 | 56.4 |
| OH | Hydroxide (ueq/L) | NLA | 3.1 | 0.2 |
| ORGION | Est. Organic Anions (ueq/L) | NLA | 85.9 | 4.8 |
| PH\_FIELD | pH | NLA | 8.1 | 0.0 |
| PTL | Total Phosphorus (g/L) | NLA | 103.1 | 7.8 |
| SIO2 | Silica (mg/L) | NLA | 8.6 | 0.3 |
| SO4 | Sulfate (ueq/L) | NLA | 3853.4 | 935.7 |
| SOBC | Sum of Base Cation (ueq/L) | NLA | 7534.1 | 1105.0 |
| TmeanW | Mean Profile Water Temp. (C) | NLA | 24.1 | 0.1 |
| TOC | Total Organic Carbon (mg/L) | NLA | 9.6 | 0.6 |
| TURB | Turbidity (NTU) | NLA | 12.3 | 1.0 |

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