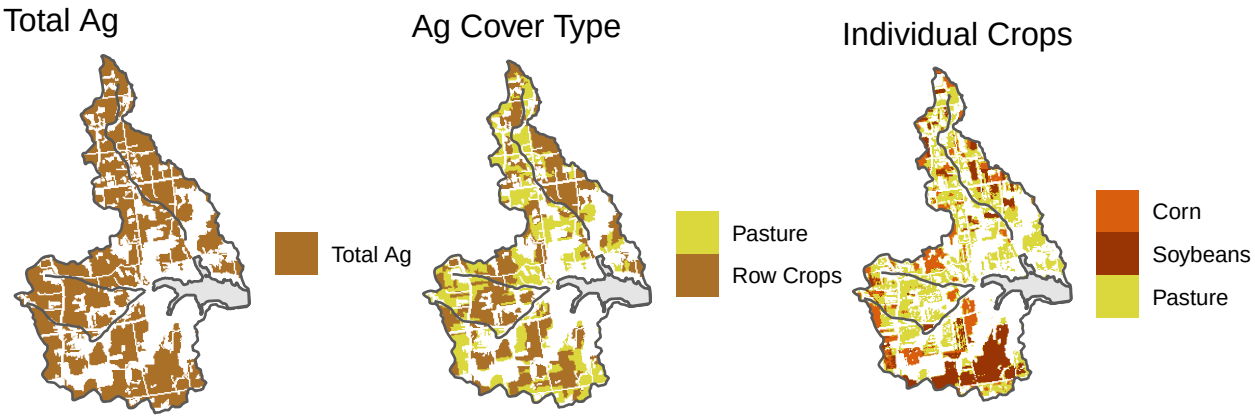

Figure 1: Example of increasing granularity for total Ag to Ag versus pasture, to pasture versus specific crops. For illustration in this example, only corn, soybeans, and pasture are shown rather than all CDL land-use categories.

Table 1: CDL category definitions. See code supplement for listing of variables classified as 'ag'

Category	Description
Corn	Corn
Corn	Sweet corn
Corn	Pop or orn corn
Corn	Non irrigated corn
Forest	Forest
Forest	Deciduous forest
Forest	Evergreen forest
Forest	Mixed forest
Pasture	Grass pasture
Soybeans	Soybeans
Soybeans	Non irrigated soybeans
Wetlands	Wetlands
Wetlands	Woody wetlands
Wetlands	Herbaceous wetlands

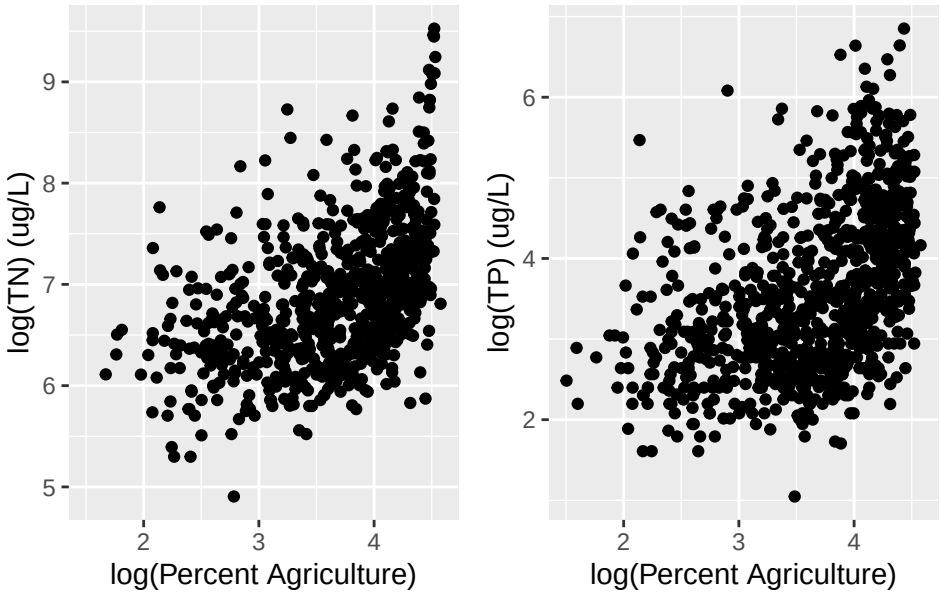

Figure 2: Lake nutrient concentrations versus percent watershed agriculture.

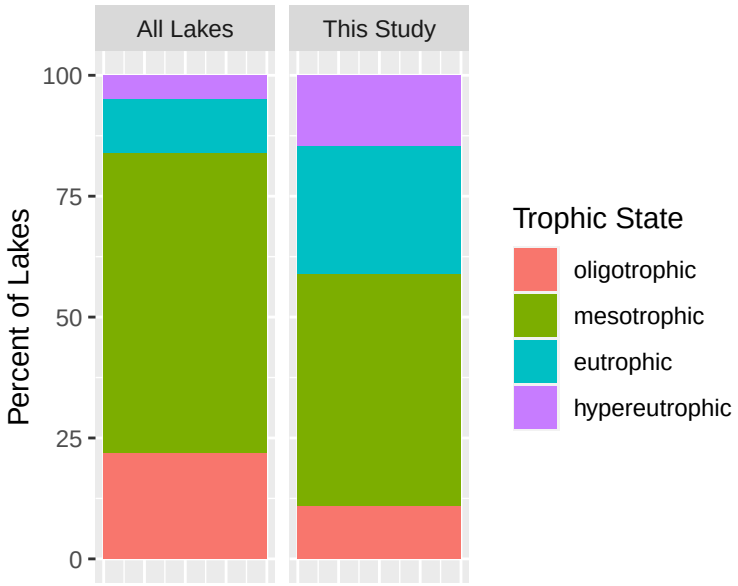

Figure 3: Lake trophic state in our study lakes versus all lakes in the study extent.

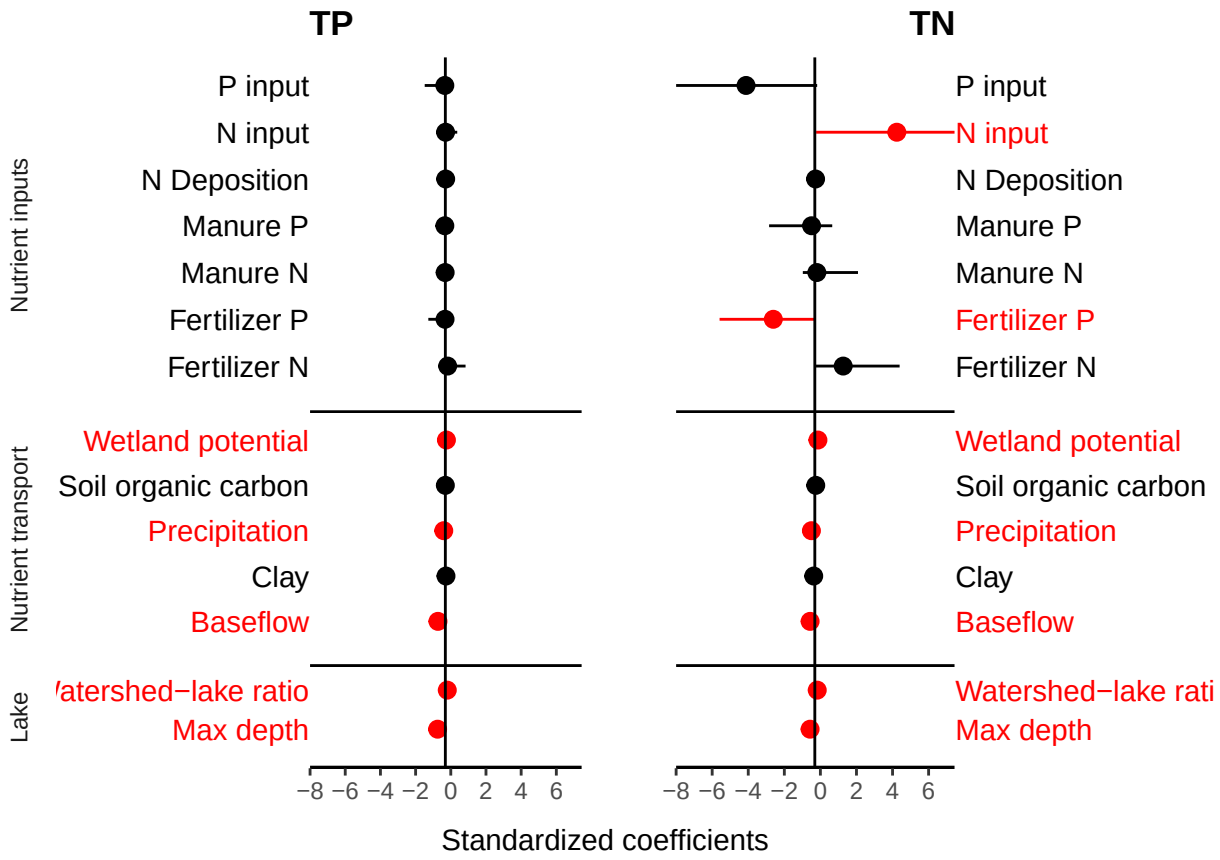

Figure 4: Global (fixed effect) coefficient values and credible intervals for best-fit lake TP and TN models when land-use predictors are excluded. Values that do not overlap zero are shaded in red. Horizontal bars separate coefficients in distinct predictor categories. Coefficient estimates are reported relative to standardized predictor variables centered at zero with unit variance.

Figure 5: Heatmap showing absolute value correlation coefficients among predictor variables.

Table 2: Coefficient summaries for top-ranked TP model.

variable	5%	50%	95%	SD
Ag	-0.01	0.10	0.24	0.08
Max depth	-0.46	-0.39	-0.33	0.04
Watershed-lake ratio	0.06	0.12	0.18	0.04
Buffer Ag	0.02	0.12	0.22	0.06
Buffer Natural	-0.15	-0.06	0.01	0.05
Baseflow	-0.48	-0.35	-0.20	0.08
Clay	-0.04	0.03	0.15	0.06
Precipitation	-0.20	-0.06	0.02	0.07
Soil organic carbon	-0.13	-0.03	0.03	0.05
Wetland potential	-0.05	0.00	0.06	0.03
Fertilizer N	-0.09	0.09	0.57	0.23
Fertilizer P	-0.18	0.04	0.52	0.24
Manure N	-1.04	-0.37	0.04	0.36
Manure P	-0.70	-0.04	0.24	0.30
N Deposition	-0.09	0.00	0.10	0.06

Table 3: Coefficient summaries for top-ranked TN model.

variable	5%	50%	95%	SD
Ag	0.25	0.44	0.62	0.11
Max depth	-0.21	-0.14	-0.06	0.04
Watershed-lake ratio	0.04	0.10	0.17	0.04
Buffer Ag	0.07	0.16	0.26	0.06
Buffer Natural	-0.10	-0.01	0.05	0.04
Baseflow	-0.44	-0.28	-0.10	0.10
Clay	-0.37	-0.24	-0.10	0.08
Precipitation	-0.38	-0.24	-0.08	0.09
Soil organic carbon	-0.02	0.06	0.19	0.07
Wetland potential	0.00	0.07	0.16	0.05
Fertilizer N	-0.11	0.30	0.91	0.34
Fertilizer P	-0.21	0.16	0.94	0.38
Manure N	-0.74	-0.07	0.22	0.30
Manure P	-0.95	-0.24	0.11	0.35
N Deposition	-0.11	-0.01	0.09	0.06