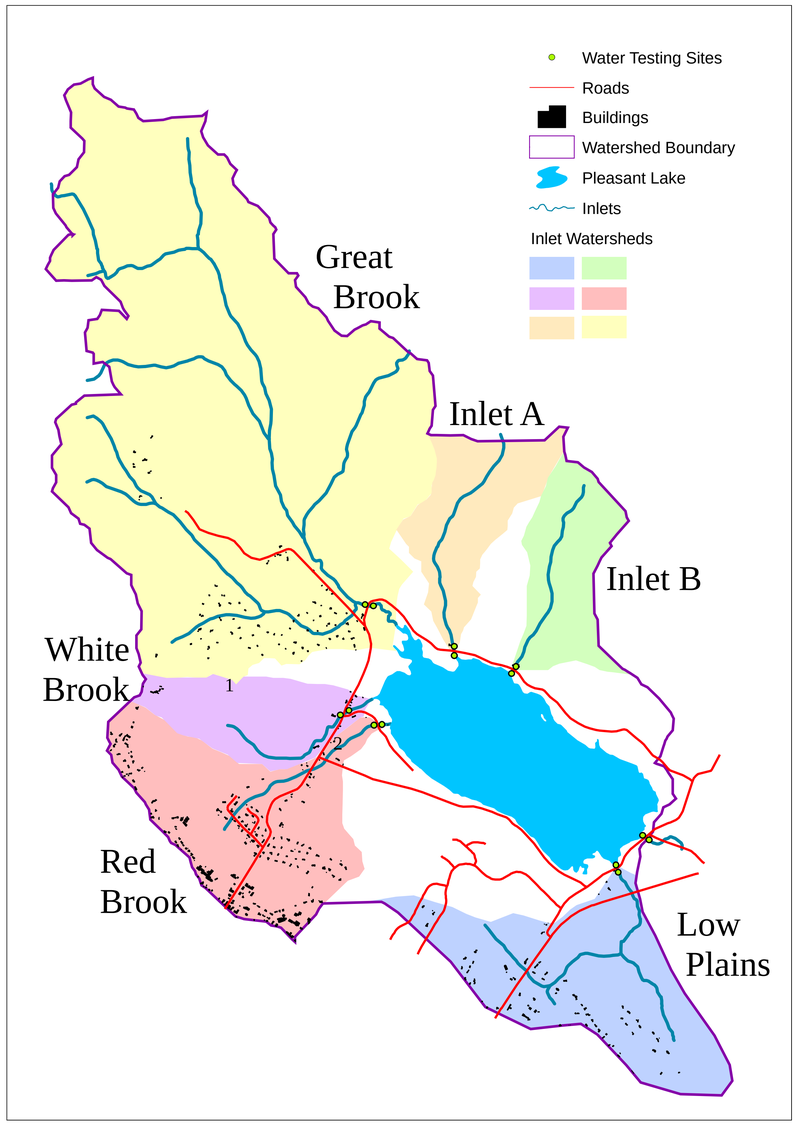
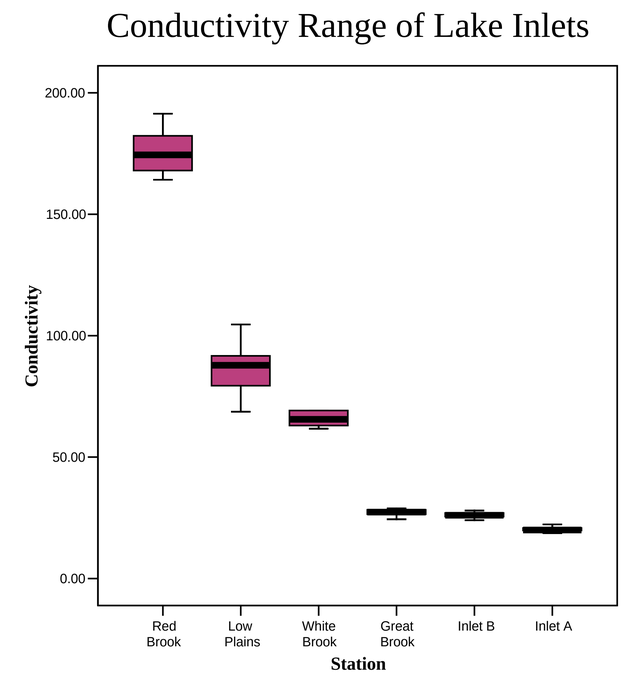
Water Testing and Flow



Winter Water

Over the winter months we took water samples at the six perennial inlets of Pleasant Lake as well as the outlet. The samples were brought back to the water lab to test their conductivity, which is the amount of salt present in the water. Sampling and testing took place on five different occasions between January and March. For each stream, two samples were collected, one above and one below the point where the stream passed under a road.



We found correlations between the amount of development in the watershed of each stream and its average conductivity over the winter season. Red Brook consistently had a much higher level of conductivity then the other streams. It also has a much higher amount of development in its watershed. More development could contribute to higher conductivity due to increased amounts of impervious surfaces which create more runoff. Although we are suggesting possible correlations between development and conductivity, more testing is required to support these conclusions.

Stream	Average Conductivity (µS/cm)	Structures/Acre in Watershed	% Road Coverage
Red Brook	175.40	0.40	9.00
Low Plains Inlet	85.28	0.13	2.00
White Brook	68.75	0.06	9.00
Great Brook	27.14	0.04	0.50
Inlet B	26.14	0.003	0.01
Inlet A	20.25	0.01	0.01

Fall Flow

In mid Fall we took flow measurement on the six perennial inlets of Pleasant Lake as well as the outlet, at the dam. We found that at that specific time the outflow exceed the inflow by three times. These measurements were taken shortly after a significant rain event which creates many intermittent streams and sources of input into the lake, and our results can not account for these other inputs. The level of discharge is also higher than usual due to the rain event. Despite these factors which we can not account for, the data does show a significant difference between the in and out flows in the fall season. This may suggest that winter melt plays a significant role in re-charging the lake's water. Further analysis is needed to draw any concrete conclusions.

Stream	Flow (m^3/second)
Red Brook	.144
Great Brook	.558
Low Plains Inlet	.059
White Brook	.090
Inlet B	.105
Inlet A	.063
Total Input	**.960**
Outlet (Dam)	3.166
Total Discharge	**3.166**