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TEAM ONE PROJECT PROPOSAL.

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anada has many lakes, rivers, and streams that humans and other animals drink from, get electricity from and – through fishing – get their food from. However, they are not always safe for drinking and swimming in. Some fish are also not available all year round due to various factors that leads to the fluctuation of the fish population. it is paramount for us to monitor the fish population, when migrations happen as well as the various routes taken.

Our team’s solution is a data visualization dashboard that will allow users to look at the trends of different characteristics of bodies of water in Canada, such as the amount of dissolved oxygen, turbidity, pH, temperature and so on. These trends will be communicated through statistical graphs including line charts, bar graphs, scatter plots and boxplots. These metrics must be monitored because they indirectly affect the lives of ordinary people that depend on water bodies for their sustenance. This is because factors like less dissolved oxygen in the water due to higher temperatures in Canada’s summers, lead to fish deaths. The local community needs to know why this occurs as it affects their daily lives. The proposed dashboard’s UI will be user-friendly. It will have a sleek design, with filters that will allow users to seamlessly pick different types of graphs, choose different metrics to gain insights from, and even change time scales from weeks to months to years when looking at trends over time. It will contain both high level descriptions of the insights garnered that can be understood by non-technical stakeholders, as well as low level descriptions that cater to more advanced users such as environment scientists who have domain knowledge in the field. It can therefore be used by anyone.

The proposed dashboard will also show recommendations on what species of fish one can expect to find in various lakes, as well as whether the body of water is safe to swim or even irrigate your land with, through evaluating the various metrics. These recommendations will be visualized through a map, with an array of overlays. This is made possible through utilization of the coordinate data that can be used to implement a geographical information system.