2 Protecting the Water
Who are the Water Walkers?

The Great Lakes

The Great Lakes—Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario—form a connected system of five large freshwater lakes spanning the United States and Canada. Together with the St. Lawrence River, they hold about 20% of the world's fresh surface water, making this the largest freshwater system on Earth by surface area.

Statistics:

- **Surface Area**: The Great Lakes collectively cover approximately 244,780 square kilometers, making them the largest group of freshwater lakes by total area in the world.
- **Retention Time:** The average retention time—the time it takes for water to be replaced—in each lake varies. For instance, Lake Ontario has an average retention time of about 7.5 years, while Lake Erie has the shortest at approximately 2.7 years. (Lake Superior, 179.8 years; Lake Michigan, 110.2 years; Lake Huron, 21.3 years)
- **Watershed Population:** The Great Lakes–St. Lawrence River Basin is home to over 40 million people, encompassing parts of 8 U.S. states and 2 Canadian provinces, and includes more than 150 Indigenous Nations.

The Great Lakes-St.Lawrence Watershed

The Great Lakes-St.Lawrence Watershed, also called the Great Lakes Basin, is the area of land where all the water drains into the Great Lakes. A watershed (sometimes called a drainage basin or catchment) is any land where rainfall or snowmelt flows toward the same outlet, like a stream, river, or lake.

Watersheds include surface water—lakes, rivers, streams, wetlands, and reservoirs—as well as groundwater underground. Water in a watershed moves through streams and rivers, often joining larger lakes, and eventually makes its way to the ocean.

A Brief History of the Great Lakes

Two-Eyed Seeing brings multiple perspectives on the history of the Great Lakes together: Western science helps us understand the physical processes that formed the lakes, while Indigenous knowledge emphasizes the spiritual and cultural relationships people have had with them since time immemorial. Both ways of knowing honor the Great Lakes as a source of life, sustenance, and wonder.

Western science suggests the lakes were formed over 10,000 years ago during the retreat of the Laurentide Ice Sheet at the end of the last Ice Age. The massive ice sheet carved out deep basins as it moved, and meltwater filled these basins to form the lakes we know today. The land, previously weighed down by ice, slowly rebounded, and leftover glacial ice created smaller lakes, shaping the unique landscape of the Great Lakes region. Archaeological evidence shows that humans, called Paleo-Indians, were living in this region at least 15,000 years ago, adapting to a changing environment as they hunted, fished, and gathered food.

From Indigenous knowledge, the Great Lakes have existed since time immemorial, created by the forces of the land and water as told through oral histories, stories, and teachings. For example, Anishinaabe stories describe the lakes as gifts from the Creator, shaped by spirits and the land itself, reflecting a deep understanding of the interconnectedness of water, land, and all living beings. Indigenous Peoples have always lived in harmony with the lakes, sustaining communities and learning from the waters for countless generations.

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Protecting the Great Lakes

Despite their vast size, the Great Lakes are vulnerable ecosystems. Each year, less than 1% of the water in the lakes is renewed through precipitation, runoff, and groundwater inflow, making them a near-closed system. This slow water turnover means pollutants can persist for extended periods, impacting water quality and aquatic life.

Historically, the Great Lakes ecosystem was considered "ecologically naïve," meaning its native species evolved in isolation and lacked defenses against new threats. Since European settlement, the introduction of invasive species, pollution, and habitat destruction have significantly altered the ecosystem. For instance, over 180 non-native species have been introduced, many of which are invasive and disrupt local ecosystems.

Ongoing Challenges

The Great Lakes face several ongoing environmental challenges:

- **Habitat destruction:** Over half of the original wetlands and two-thirds of coastal wetlands have been lost due to development and land use changes.
- **Pollution:** Runoff from agriculture, urban areas, and industrial activities introduces harmful substances into the lakes, affecting water quality and aquatic life.
- **Invasive species:** Species like zebra mussels and sea lampreys have disrupted native ecosystems and fisheries
- **Climate change:** Rising temperatures and altered precipitation patterns are affecting water levels, ecosystems, and the frequency of extreme weather events.

A Call to Action

The Great Lakes have provided invaluable resources—drinking water, food, energy, transportation, recreation, and prosperity. Protecting this vital system requires a combined effort that honors both Indigenous wisdom and scientific knowledge. By understanding and strengthening our connection to the water, we can ensure the health and sustainability of the Great Lakes for future generations.