

## Chapter One

Size Matters – A Child’s View of Lake Michigan – What Tocqueville  
Missed – The Beach at Good Harbor – A View of Superior

To appreciate the magnitude of the Great Lakes you must get close to them. Launch a boat on their waters or hike their beaches or climb the dunes, bluffs, and rocky promontories that surround them and you will see, as people have seen since the age of glaciers, that these lakes are pretty damned big. It’s no wonder they’re sometimes upgraded to “Inland Seas” and “Sweetwater Seas.” Calling them lakes is like calling the Rockies hills. Nobody pretends they compare to the Atlantic or Pacific, but even the saltiest saltwater mariners have been surprised to discover that the lakes contain a portion of ocean fury.

The first time I saw Lake Michigan, I thought it must be an ocean. I was five years old, and my family had just moved to the Leelanau Peninsula, the little finger of Michigan’s mitten, and rented a hilltop house with a view of the lake. In the living room, centered before the picture window, was a brass telescope mounted on a pedestal, where I would stand on a chair at night and peer at ships on the horizon, each lit as brightly as a small city. My

father told me that they were ships five-hundred to a thousand-feet long, with cargo holds that could carry a hundred trainloads of wheat or iron ore. If they were headed south, they were probably bound for Chicago; if north, for Detroit, New York, London, Hong Kong. I would stand in our house and watch those large, bright, slowly passing vessels and sense connection with the world.

It was a magical place to live. Our yard ran in a long slope down to the lily pads of South Bar Lake, with Lake Michigan a stone's throw beyond. At the big lake was a beach empty of people most days and a playground of sandblasted swings and teeter-totters set precariously a few feet above storm waves. My memories of that summer are filled with painted turtles and watersnakes, with excursions down the beach in search of treasures, with ominous dark thunderstorms passing over the lake, lightning flashing in the distance. My mother had grown up a few miles down the shore in Glen Arbor, and my father's parents owned a cherry farm and sugarbush a few miles inland, so for them it was a homecoming. For me it was a revelation.

I remember standing in the sand, feeling very small. Gulls kited stationary above me, then banked their wings against the wind and soared away. The wind was cool and fresh and smelled like rain. A wave curled and broke; water rushed up on the sand, spread thin, and sank. The shore stretched for as far as I could see, from the haze-obscured curve of Platte Bay to the massive yellow flank of Sleeping Bear Dunes. The lake was too vast for comprehension. It was nothing but water to the edge of the earth. I thought sharks swam out there, and pirate ships sailed, and on its far shores lived people who spoke strange languages. I assumed the water was salty.

That summer my mother led my brother and me up a trail to the summit of the Empire Bluffs, a mountain of sand shoved up thousands of

years ago by glaciers. It was grown over with stunted trees and dune grasses and capped with the long-dead trunks of ancient cedars bleached pale by time and weather. The view from the top was stunning. Down the shore was a strip of yellow beach between the lake and the bunched-up hills of forest, with the dunes looming beyond.

The bluff beneath us was so steep it was disorienting. I threw a stone thinking it would soar to the lake, but it struck sand a ridiculously short distance below me. I looked down at the water near shore and saw three black fish as big as logs patrolling in the shallows. Sturgeon, I now realize – the largest inhabitants of the Great Lakes and rarely encountered, though a century ago they were so abundant that farmers around the lakes pitch-forked them during their spawning runs and used them for fertilizer. The image of the gigantic fish had mythic weight. For years I wondered if I had dreamed it.

Now, forty years later, the Empire Bluffs are sheltered within Sleeping Bear Dunes National Lakeshore, and are visited more frequently than when I was a child. Not much else has changed. The Bluffs are still topped with a ghost forest of cedars, lake and sky merge seamlessly at the horizon, Sleeping Bear Dunes tip to the water like a large golden pyramid. No sturgeon swam into view the last time I visited, but I expected none – not many remain in the lake. Down the shore, the beach in Empire was crowded with people, but I expected that also. As I looked over the water, a British tourist in shorts and hiking boots climbed huffing behind me and asked in a Piccadilly lilt, “Can one see Wisconsin?”

No, sorry, one cannot. Not even with the strongest telescope. Cross Lake Michigan by boat – cross any of the Great Lakes – and most of the way there’s nothing to see but water and sky. Here if you head west the crossing

is roughly sixty miles of open water to Wisconsin's Door Peninsula, with Green Bay beyond it. Green Bay, incidentally, is where the French trader Jean Nicolet, who was probably the first European to enter Lake Michigan, went ashore in a canoe in 1634 firing pistols in the air and wearing a silk robe embroidered with flowers and birds. He thought he had reached China. When no representatives of the Khan showed up to welcome him, he marched into a nearby Winnebago village and repeated his performance, no doubt providing much entertainment for the locals.

Those of us who live near the lakes take their great size for granted. We also take for granted that travel in the region is made inconvenient by water, and that in winter we're likely to be buried in "lake effect" snow when cold, dry, Arctic winds pick up moisture and heat as they pass over the lakes, conjuring ten, twenty, and in a few places as much as thirty feet of snow a year along our coastal snowbelts. We learn in elementary school that the acronym HOMES is a handy way to remember the names of the lakes. We're taught that their surface area of 97,676 square miles is roughly the size of New York, New Jersey, Connecticut, Rhode Island, Massachusetts, New Hampshire, and Vermont combined (and is slightly larger than England, Wales, Scotland, and Northern Ireland); that the shorelines of the five lakes extend for more than 10,000 miles, about equal to the combined Atlantic and Pacific coasts of the United States; and that Michigan alone is bounded by 3,200 miles of shoreline – only Alaska has more.

Give us an opportunity and we'll remind you that the lakes contain nearly a fifth of the freshwater on the surface of the planet; that if it were possible to pour all the water from all the ponds, lakes, rivers, and reservoirs in the United States into a hundred gigantic buckets, ninety-five of them would be filled by the Great Lakes; that if you distributed the water from

those ninety-five buckets evenly across the land, it would cover the lower forty-eight states in a lake ten feet deep.

We can be fiercely protective, as politicians have learned, sometimes to their dismay. When Texas congressman Dick Armey came to Michigan a few years ago to endorse a local Republican candidate for Congress, he looked at Lake Michigan and said he knew a few ranchers back home who'd like to poke a siphon in *that*. Cribbing clumsily from Mark Twain, he said, "I'm from Texas and down there we understand that the whiskey is for drinking and the water is for fighting over." His point was that if we were to give up local control, Washington bureaucrats would be sure to take charge of the water. "If we get it in Washington," Armey said, speaking for thirsty Texans, "we're not going to be buying it. We'll be stealing it. You are going to have to protect your Great Lakes." By "protect" he meant, of course, defend our right to profit from it. But Great Lakes water is not Texas crude, and it's not for sale. His candidate lost.

The lakes extend 575 miles from the north shore of Lake Superior to the south shore of Lake Erie, a spread of eight degrees in latitude. From west to east they stretch nearly eight hundred miles. Their drainage basin encompasses 200,000 square miles, an area almost as big as France. In that basin live thirty-four million people, each of them affected in ways large and small by the lakes.

Anywhere you go in the region, the vernacular designates the nearest Great Lake as "the Big Lake." Each Big Lake is different, with its own character and characteristics, but the same water flows through them and they share many qualities. All five shape the land and alter the weather and define the journeys of those who live nearby.

Circumnavigation is an ambitious undertaking. From where I live, in the northwest corner of Michigan's Lower Peninsula, I can fly in a commuter plane across Lake Michigan and be in Milwaukee in less than an hour. Or, if it's May through October, I can book passage on a car ferry, the SS *Badger*, and cross from Ludington to Manitowoc in four hours. If I choose to drive to Milwaukee, I can go south around the bottom of the lake, through Chicago, then up the coast of Wisconsin; or go north around the top of the lake and down Wisconsin. Either way, the trip is four hundred miles. That's half the distance around just one lake, and not the largest.

Drive U.S. highways from the eastern end of Lake Ontario to the western end of Lake Superior and you pass through upstate New York, a corner of Pennsylvania, most of the length of Ohio, sections of Indiana and Illinois, a good share of Wisconsin, and the slanted northeast border of Minnesota; take the shortcut through Michigan and you have to drive the length of both peninsulas. Returning by the northern route, it's all Ontario. From north to south and west to east you pass through distinct ecological zones, from boreal forest to hardwood forests to till plains to clay plains to corn-belt plains to lake plains – forest in the north, farms and industry in the south, with abandoned cutovers and vestigial prairies and abundant wetlands throughout.

Alexis de Tocqueville sailed on the Great Lakes in 1831, when he was twenty-six years old, during the tour of the United States that inspired his book, *Democracy in America*. While aboard the steamboat *Ohio*, bound for Detroit along the south shore of Lake Erie, he wrote in a letter: “This lake without sails, this shore which does not yet show any trace of the passage of man, this eternal forest which borders it; all that, I assure you, is not grand in poetry only; it's the most extraordinary spectacle that I have seen in my life.”

Young Tocqueville and his companion, Gustave Beaumont, crossed Erie to Detroit, coasted the west shore of Lake Huron and steamed up the St. Mary's River to the village of Sault Ste. Marie, where they glimpsed Superior ("This lake much resembles all the others," wrote Beaumont, but he was mistaken), then returned to Huron, passed through the Straits of Mackinac, and crossed Lake Michigan to Green Bay. They witnessed wonders, but they missed more than they saw. They did not see Lake Ontario, with its wooded shores and cobblestone beaches, the clay faces of the Scarborough Bluffs, the thousand islands at the lake's outlet to the St. Lawrence. They missed Lake Huron's Bruce Peninsula, with its limestone cliffs tumbling to the water, and enormous Georgian Bay and its thousands of clustered islands, its fjords, and its water-sculpted escarpments. They missed the sand mountains along the east shore of Lake Michigan, and the young city of Chicago, which in 1831 was on the verge of booming. Especially they missed Superior. They never saw the mountain range called the Sleeping Giant, its peaks a clear profile of feet, knees, belly, chest, and face. They missed the mineral-stained Pictured Rocks, storm-battered and brilliant with colors; the wild and lofty Palisade Head Cliffs; the pine-covered Porcupine Mountains, which though only two thousand feet above sea level were once as high as the Rockies. They missed most of the wildlife – the Atlantic salmon that ran up Lake Ontario's rivers to spawn, the whitefish and lake trout and sturgeon in all the lakes, the deer and moose, the bear and wolf, the flocks of passenger pigeons that migrated in numbers so vast they blackened the sky for days as they passed, yet would be gone forever by the end of the century. And they missed the changes of the seasons – never saw maples turn scarlet in October or trilliums fill the woods with blossoms

in May, did not witness snow squalls racing across the lakes or surf exploding against mountains of ice along shore.

Though I've lived near the Great Lakes most of my life, there came a day a few years ago when I realized how little I knew of them. To get better acquainted, I drove around each of their shores. Eventually I drove around them again. I explored beaches and shoreline villages and city lakefronts. I met passionate people who showed me the places they loved and were fighting to protect. I filled boxes with brochures, pamphlets, reports, books. I took notes and photographs. In the end I got to know some of the people, cities, and roads – but not the lakes.

For a month and a half I stayed alone in a house on the north shore of Lake Michigan. Mornings I worked at a desk in front of a sliding-glass door with a view of North Manitou Island, low and darkly wooded, and beyond it the horizon of the open lake blurring with the sky. Afternoons I walked the beach. It was February and March of an unusually warm winter, and I had the shore to myself. I would follow a trail from the house to the foredunes, walking through snow in February, then, in March, after the snow melted, on sand. Pausing at the bluff, I would look up and down the length of the bay. A few miles to the north was Whaleback, a wooded promontory in outline shaped like a giant sperm whale – Moby-Dick beached and grown over with forest, his blunt head yearning lakeward, his fluke raised behind. To the south, beyond the long swerve of the bay, was Pyramid Point, a raw sandy dune topped with forest. From a distance the Point looks like someone once tipped a knife at an angle and carved it smooth.

Every afternoon I walked along the same stretch of uninhabited beach and watched the ways it changed. I became interested in the relationship



between sand and wind. High on the beach, where the sand was dry, was a lunar landscape I had never noticed in my years of exploring Lake Michigan beaches. Scattered across it were thousands of stones the size of golfballs, each stranded on a pedestal of sand and casting a thin shadow. I learned that geologists call the stones “lag gravel,” and that they are stranded there when wind blows the sand away from them. Larger stones that stay in place for years become faceted on the side facing the prevailing wind. Geologists call them “ventifacts.”

I became interested also in the kinds of waves I saw. The smallest were capillary waves, hardly more than wrinkles on the surface of the water, which act like tiny sails to catch the wind and make larger waves. Gusts blowing over the land plummeted to the water, flurried into cat’s-paws, then gathered force and raced away toward Wisconsin. Whitecaps marched across the bay and pumped up and down against the horizon line, their tips bright as snow against the blue of the lake. Breakers purred and galloped down the shore. Low swells made sluggish by the cold seemed to rise from the bottom of the lake and crawl to shore, finally collapsing on the sand like exhausted swimmers.

From Walter J. Hoagman’s genial little guidebook, *Great Lakes Coastal Plants*, I learned the parts of the coastal zone. The fringe where the sand is always wet is called the “swash zone.” The dry beach, above the reach of ordinary waves, is the “backshore.” “Bluffs are banks built over millennia, rising a few feet to a few hundred feet above the backshore. “Foredunes” are uneven, hilly dunes, well above the high-water mark, scattered with coastal plants. “Backdunes” are larger hills of sand, where trees and shrubs live among coastal flowers and grasses, punctuated by “blowouts” of barren sand, eroded by wind.

In the foredunes and backdunes I examined winter weeds, trying to identify by stalks and dried leaves such plants as sand cress and sandwort, fringed gentian, yarrow, false heather, and silverweed. After a few weeks I was as enchanted with the names as I was with the plants they designated. Guidebook in hand I walked the beach, reciting into the wind:

*Lake tansy, calamint, Queen Anne's lace.*

*Little bluestem and horsemint.*

*Mossy stonecrop.*

*Starry false Solomon's Seal.*

*Sea rocket and beach pea.*

*Soapberry, pigweed, and spiked lobelia.*

*Indian paintbrush.*

*Seaside spurge.*

*Bugleweed, horsetail, windflower.*

Six weeks on the beach, and I never got tired of it. On the contrary – I wanted more. I wanted to see it all and know everything about it. Gradually I began to know those two miles of beach and dunes. But of course it wasn't the same as knowing the lake.

The following summer I stood on a ledge looking into the deep, clear water of lake Superior. I was on its largest island, Isle Royale (pronounce it "I'll Royal" – "Eel roy-AL" brands you an outsider and a fancy-pants). It's a big place, ten times the size of Manhattan, and raw with rock and bog and impenetrable spruce forest. It is among the least visited of our national parks, but it can't bear much use, and the few hundred visitors who come each day in the summer are probably too many. The island is home to moose and

wolves – their dynamic here is among the most carefully studied in the history of wildlife biology – and is dotted with inland lakes and long protected finger-bays of Superior where loons warble and moose wander down in the evenings to drink. My wife and I had come to canoe, hike, and camp. We never wanted to leave.

On day Gail and I walked a portage trail with three young biologists who were on the island studying loons. They were bright-eyed and tanned and wind-burned, glowing with that radiance you encounter now and then in people who are doing exactly what they were put on earth to do. They told us in detail about their work, about banding loons and following them from bay to bay around the island, keeping a careful distance while observing them through spotting scopes mounted on their kayaks. They'd been tracking the same birds for three years. Curious to see their reaction, I asked, "Honestly, don't you ever get a little tired of loons?" and they looked at me with their mouths hanging open. Finally one said the words that all three were thinking: "Are you crazy?"

Maybe. I'd been tracking the Great Lakes for three years by now and was beginning to think the task was hopeless. I'd become lost in the parts. Wherever I went, I wanted to know the water and everything in it and near it. I wanted to know the rocks around the shore, the insects that lived among the rocks, the birds that fed on the insects and nested in the trees, the trees themselves. And not just their names. Their life histories, their places in the whole, the poetry, philosophy, and science they had inspired in people like the loon researchers, who had devoted their lives to them. And I wanted the words to put it all together – every place, every moment, and all they signified.

It had become overwhelming. The water alone was defeating me. How do you describe water? What words can evoke those spangles of sunlight, those shifting wave shadows, those pellucid blue depths? I lacked the vocabulary. I wanted to take hold of the immediate world, see it independent of the names we give it, then give it name. But I couldn't grasp it. People five thousand years ago rode these same waters in canoes, then painted rocks with images of what they saw. I suspect that they too were unable to grasp the whole.

Emerson said the world lacks unity, or seems to, only if we have lost unity within ourselves. He thought a naturalist might learn to see the world whole, but only if all the demands of his spirit were met. "Love," he wrote, "is as much its demand as perception."

I had the love, I think, but not the perception. I couldn't see far enough. And I couldn't unite what I saw with what I already knew. I stood on that ledge above Lake Superior and looked down through the water at rocks the size of houses, but I couldn't get to them. I couldn't get to anything. Before me was water, billions of Mickey Mouse molecules in every drop, and every drop as pristine as mountain air, flavored with cedar and feldspar, colored with sky, granite, and spruce. I didn't want to trivialize what I saw, and to dissect it would murder it. I'd done enough dissecting. I was reaching for something else entirely. I wanted to hold what I saw, felt, heard, tasted, and scented, and to possess it always – not like a tourist snapping photos, but literally, taking possession of its physical fact and keeping it with me always – yet I couldn't get my arms around it.

It occurred to me that I should strip off my shirt, raise myself on my toes, breathe deeply, and dive. Immerse myself. Swim down into emerald depths until the weight of the lake embraced me and I could run my hands

over granite blocks that had never been touched. It would have been still and cold down there, and very quiet.

But I lacked courage. The water was too cold by far. I thought the shock might burst my heart.

So I stood safe and dry on shore and looked across all those miles of Lake Superior and saw all that I was missing – and decided I needed a boat.

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