

BERNIE QUETCHENBACH

Invaders

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At Storm Point, something like Maine surf pulses against something like Maine rocks with a sputtering roar. But when I look up, away from the breakers, there are the fire- and beetle-ravaged slopes of the Absarokas, the snow-traces of Mt. Sheridan, the rocket-ship Tetons. This is not Maine, not a coast at all. I am inland, at Yellowstone Lake.

Since my wife and I moved to Montana three years ago from Florida and, before that, Maine, our usual route to Yellowstone Park has been to follow the Yellowstone River all the way from Billings to the Gardiner entrance and Mammoth Hot Springs. But during the early 1990s, when Wyoming's Big Horn Basin was our home, the shortest way led through the East Entrance, over Sylvan Pass, and down the west slope of the Absarokas to Yellowstone Lake. My introduction to the strange, wondrous world of Yellowstone was dropping out of the mountains one Labor Day weekend to a grand expanse of water. A few bison slouched along the shore, disturbed neither by passing cars nor the steam issuing from fissures in the ground. In Mary Bay, my first trumpeter swan towered over a wave-swayed scatter of goldeneyes.

During the four years we lived in Wyoming, we must have been Yellowstone-bound every two or three weeks when the roads were open. At times we'd just wander through the geyser basins, my young son's favorite activity, but just as often we'd take to the shorter park trails, such as the one to Storm Point, where our hike was made memorable by a frighteningly quick thunderstorm, whipping the lake and trees into a dramatic commotion that the great naturalist John Muir, who wrote about riding a Douglas-fir in a Sierra gale, would have found exhilarating. I don't recall feeling much of Muir's ecstasy—what comes to mind is relief that we made it back to the trailhead without falling victim to lightning or toppling pines.

A decade or so later, another September leads us, minus our now-adult son, back to the austere gray perch at the tip of Storm Point, this time, thankfully, without the lightning. A stiff onshore breeze—trailbooks invariably describe the hike through old lodgepoles and blowdown to the exposed point as “windy”—makes our stay on the scoured vantage brief. From there, we follow a semi-official spur westward across a shore meadow to the next promontory, a stone mini-peninsula separated from Storm Point proper by a scalloped inlet of sand and tumbled boulders.

Down among the rocks a leeward shelf dips green bangs into a gentle swirl, the private eddy of a mallard hen now paddling her annoyed way into open water. Curtains of tiny silver fish, perhaps native longnose dace, ripple in overhang shadow. Sidelong to the persistent wind, California gulls coast by, a bald eagle, a raven, all headed west toward Fishing Bridge.

The official name for the knot of guest services just west of where Fishing Bridge spans the Yellowstone River outlet is Lake, sometimes converted to an adjective before Village or Junction.

The moniker is consistent in its simplicity with that of nearby Canyon, and, despite the presence of many other lakes and no small helping of canyons, each is quite sufficient. The Grand Canyon of the Yellowstone offers some of the park's most iconic views. And the Lake is, well, the Lake. Whether you come from Sylvan Pass, travel south along the river from Canyon, or drop down eastward from Old Faithful, a sudden sheet of blue water sprawls before you, the other side another place, fifteen, twenty, or more miles away. The mountains over there are a different range entirely, more than one range in fact. Seen from Lake Bluff, an Absaroka shoulder reached by an East Entrance spur road, the big lake is held in an even grander vastness of Yellowstone backcountry, which, as an overlook interpretive display dutifully notes, is the largest roadless area in the lower 48. Well, okay, the sign admits, there is a road around the lake to West Thumb, but it's the only one, and you can't see it from here. In a way, the road's presence is itself a statement: modern humans can ensconce our humble workings in right relation to what we know as nature. We can, in other words, still surround ourselves with wilderness, our path appropriately puny beneath the distant towers of Mt. Moran and the Grand Teton.

With a maximum depth of 390 feet, Yellowstone Lake is considerably deeper than Lake Erie, though nowhere near as capacious in surface area or volume. Erie, along with its sister Great Lakes, lies where it might be expected in a lowland basin draining a sizeable swath of continent. At 7733 feet on a high plateau rising from semi-desert sage and greasewood flats, Yellowstone Lake is a kind of miracle, a proverbial inland sea complete with whitecaps, pelicans, and "arms" reaching toward hidden coves explored by few park visitors. A mark of the lake's impressiveness can be seen on the National Park Service website: the "Frequently Asked Questions at Lake Village" include—apparently with a straight face—"Is Yellowstone Lake the largest lake in the world?" The answer may be no—not even close, actually—but the lake's size and complex geography provide plenty of habitat not only for a wide variety of indigenous and a few not-so-indigenous wildlife species, but for vacationing humans as well.

Shining water and snowcapped peaks offer a note of accessible beauty amid the weird apocalyptic panorama that is Yellowstone. If you don't look too closely, that is. The lake's northern and western basins occupy a still-hot volcanic caldera. The molten rock below swells and subsides, leaving a "breathing" landscape: lake levels to the south surge noticeably, inundating backcountry patrol docks, when the thermally active north end domes. At West Thumb, named for its position on the roughly palm-shaped perimeter, boiling pools seethe into cold lakewater. The Thumb itself was blasted by a colossal explosion the likes of which could happen again with a mere magmatic shrug. Even below the surface, the lakefloor seethes with underwater geysers and fumaroles; placid Bridge Bay, for example, covers a "spire field" of dramatic submerged thermal cones. Considering the titanic geologic forces shaping the terrain, the lake wears its volcanism unobtrusively: a person standing at lakeside faces mostly wind and wave, the hallmark give-and-take of big water everywhere.

As it's our good fortune to live relatively close to Yellowstone, at least by Montana standards, we generally forego the midsummer tourist blitz in favor of quick overnights during spring and fall "shoulder seasons." Interpretive programs and visitor services are fewer at those times, but we prefer to explore the park on our own anyway, and the quiet roads and unencumbered views more than make up for the lack of official guidance.

That being said, it doesn't take much of an excuse for us to head to Yellowstone, tourist season or not. Our September venture to Storm Point may be more typical, but it shouldn't be too surprising to find us, the following July, contemplating a "Bear in Area" sign, illustrated with an ominous ursine silhouette, posted at the Pelican Creek trailhead. The rain-rippled cardboard warning doesn't look especially fresh, and the collection of cars in the pulloff lot, along with a family of safely returned hikers gathering themselves with much exuberant shouting, makes a midday bear encounter seem unlikely. Or so we decide.

The Pelican Creek nature trail loops along a marshy edge to Yellowstone Lake. At least it should, according to both trailbook and memory. As we zigzag through an unfamiliar maze of downed pines, the lake's soundscape, consisting mostly of the ever-present afternoon wind, is broken by chainsaws. Rounding a bend, we confront the grinding whine's source: a trail crew, burrowing a semi-permanent right-of-way through deadfall in lieu of the original marshside boardwalk, which, the crew informs us, has been washed out. *Crew* might be a bit grandiose as a designation for two cheerful middle-aged Park Service employees. Just the night before, they say, a drenching, rafter-rattling thunderstorm poured another inch or two on the already saturated earth, which goes a long way toward explaining why, walking the beach a few minutes earlier, I sank ankle-deep into a sucking pit that wasn't there until I put my foot down on it.

Where the boardwalk used to be, eared grebes and cinnamon teal meander through grass recently reclaimed by the lake. Some of the grebes sit tight as we approach; perhaps they've built nests in the soft vegetation that was meadowland a year or two ago. On a big lake, constant adaptation is the rule, and Yellowstone is especially susceptible to climatic extremes. Even as the lake claims more ground, the burned slopes in the background attest to past droughts.

What brings us to brave the summer crowds is an affordable opportunity to experience the lake from "inside" aboard the *Lake Queen II*. When we check in at the Lake Lodge desk we're somewhat surprised, in light of the pounding breakers we encountered at Pelican Creek, to find our sunset tour still on. Yellowstone concessionaires have to get what they can from a short season; it would take more than a mere gale to keep the *Queen* in port. With some trepidation we embark on the short drive from Lake to Bridge Bay marina. In sharp contrast to the still-tossing open lake, the piney harbor is deceptively calm, the *Queen* waiting patiently at its slip with hardly a knock.

I grew up in Rochester, New York, on Lake Ontario, nearest Great Lakes sister to Erie and closest to the sea. My maternal grandfather built his own sailboats, but by the time I was born, his adventures—he once suffered a heart attack on a solo sail, rescued only because my teenage uncle fortuitously noticed his erratically drifting craft—had ossified as family legends. Most of my nautical experience beyond rowboats and canoes has, alas, been as a paid passenger on commercial ferries and tourboats. It seems, however, that my early exposure to a water horizon left me eager to prowl about a deck. At least I'm not very susceptible to seasickness. As it turns out, deck prowling on our Yellowstone Lake cruise is proscribed, the passengers confined to a closed cabin, no doubt in deference to the lake's combination of high winds and midsummer fifty-degree water temperatures.

Its gray metallic hull suggesting a military PT boat, The *Lake Queen II* seems sturdy enough, though Captain Jim's safety briefing, including how to fasten your life jacket so that it can be used to lift you from the water when necessary and how to get help should both crew members become incapacitated, is anything but reassuring. It's enough to make one wonder what became

of the *Lake Queen I*. A worried child sitting behind me asks her mother “Do we really have to go in the water?” Fortunately, Captain Jim will be manning the helm, leaving the narration to his colleague, Captain Lindsay, whose lot it will be to shout over the clank and mutter of the boat and the inevitable private conversations among family members and new acquaintances. In high summer, Yellowstone visitors come from all over the world, and our cosmopolitan cabin-mates include families from Israel and the Pacific Rim, as well as travelers from elsewhere in the States.

This voyage being an official tour offered under the auspices of Xanterra concessions, a good half of our time on the water is spent coasting beside the Lake developments. Dazzled by the colonial structure’s grand sunroom view, often spiced by the music of a string quartet, Fodor’s considers the Lake Yellowstone Hotel’s ambience “[m]ore Kennebunkport than Western.” The hotel predates Yellowstone’s other still-standing hostelrys; a decade or so after its 1891 opening, the simple yellow edifice was spruced up by famed architect Robert Reamer as a “plain Jane” alternative to his rustically ornate Old Faithful Inn. So says Captain Lindsay as the *Queen* wallows against the wind. She tells us that the Lake Village general store features a vintage chandelier suspended from an “unsupported ceiling”—sure enough, we’ll feel obliged to drop by and see this vaguely Scandinavian fixture after the cruise. Further along, past the original ranger station, is Lake Lodge, Reamer’s 1926 alternative for guests of modest means. Our base is a “Pioneer Cabin” behind the Lodge—no-frills to be sure, but graced with the obligatory Xanterra bear and leaf soap bars and a full complement of visitors’ guides and brochures. One particularly inexplicable item of tourism propaganda I happened upon while lazing in the cabin before our cruise extols the lake with an odd TV-matchmaker-show personification: “If Yellowstone Lake were a person, she’d be fun and yet demanding, mysterious and yet revealing, shallow and yet deep, beautiful and yet unsightly, serene and yet tumultuous.”

With a parting nod to the Fishing Bridge RV camp, we turn from shore and face into the distances of Yellowstone Lake. The “shallow” and “unsightly” are beyond me, but the “beautiful” and “tumultuous” have never been clearer. The only vessel risking a chop that would merit small-craft warnings on Lake Ontario, the *Queen* breasts the heavy swells, our progress accompanied briefly by the occasional storm-petreling swallow or quick purposeful squad of goldeneyes. Far to the south, the lake’s wilderness arms beckon, but our destination is Stevenson Island, the closest to Bridge Bay of a handful of isles scattered across the 132-square-mile surface. Stevenson is rumored to host a pair of bald eagles, and, Captain Lindsay tells us, one winter not long ago two bison crossed the ice, one staying on for two years. Both Captains—in an unusually egalitarian flouting of maritime convention, the entire crew consists of Captains—point out Dot Island, where E. C. Waters, an ambitious, egotistical concessionaire (he was labeled “one of Yellowstone National Park’s most obnoxious businessmen” by the *Billings Gazette*) once kept a makeshift zoo, its inhumane conditions ultimately leading to the proprietor’s ouster from the park. The import, plain enough if implied, is that this was how things were done before the enlightened age of Xanterra.

The passage across the open lake has been a noisy affair, Captain Lindsay maintaining a stream of informative banter above the din of crying babies, vacationers chatting in various languages, and the alarming groans of the steely craft galloping against the unyielding lake. Now, the *Queen* manages a stuttering hover in the somewhat calmer lee of the island, hard by the ribs of the 125-foot-long steamship *E. C. Waters*, named by the ubiquitous impresario for none other than himself. Shortly after its 1905 debut the ship was abandoned—the ersatz skipper had

neglected to procure an operating license. Its usable parts long since salvaged, the pitched hulk subsides, reduced in high seas to a set of diagonal spikes, though Captain Lindsay assures us that on calmer days the steamer's frame is more obviously still intact.

In the long summer twilight, the *Queen* chugs homeward. The surface smoothes to a mild churn at the entrance to Bridge Bay despite the thermal turmoil below, and the jostled passengers also settle a bit, allowing Captain Lindsay to stop shouting and speak in something like a normal voice. Her subject now is lake trout, some forty thousand of which have already been lifted from the water in gillnets this season by elite "troutslayer SWAT teams." Lakers, or mackinaws, were first reported in Yellowstone Lake around 1990, and their population has been burgeoning exponentially since then. Lake trout have a well-earned reputation as destroyers of smaller salmonids; the introduction of these prolific, long-lived predators decimated cutthroat trout in the park's Heart Lake, and they have left similar carnage in other western waters. Since the lakers' arrival, Yellowstone Lake cutthroat runs—only recently and painstakingly restored after decades of overfishing—have been reduced to a trickle. The loss has serious ecological implications. Spawning cutthroats in the creeks and rivers around Yellowstone Lake provide a keystone early summer food source for a variety of animals including eagles, ospreys, pelicans, otters, and bears. Lakers spawn in deep water, making them practically inaccessible to land-, sky-, or surface-bound piscivores. Better not take that "Bear in Area" sign at the Pelican Creek trailhead lightly. With the decline of the lake's cutthroat fishery, a grizzly might be both grumpy and hungry, not a good combination.

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When Yellowstone National Park was established, the lake apparently hosted only two fish species, longnose dace and cutthroat trout. The Yellowstone River above the lake is basically self-contained, and any potential migrants from below would have been checked by the Grand Canyon's powerful waterfalls. Park tourism, however, brought a smattering of piscine newcomers. Small fish—reidside shiners, lake chubs, and longnose suckers—may have been dumped by anglers disposing of leftover bait, or perhaps in unsanctioned attempts to increase forage for larger gamefish.

A 2005 chemical study traces the lake trout to nearby Lewis Lake; in the absence of a connecting waterway—Lewis Lake drains to the Snake and the Pacific—no one knows for sure how they got to Yellowstone Lake. One of the more fanciful theories has airborne firefighters scooping them into huge suspended buckets, inadvertently sloshing them overboard into Yellowstone Lake en route to a wildland fire. It's more tempting to believe that, after a weekend spent circling a pail, the lakers were set free by a young angler's parent: a fish is a fish, after all, and belongs in the water. It would be a relief to chalk up the introduction to simple ignorance, kindness to the captives even, rather than malevolence or greed. As Great Lakes fishery managers have found, however, it isn't easy to establish self-sustaining populations of mackinaws. Yellowstone biologists believe that the rapidity and breadth of the lakers' invasion points to a sophisticated program of repeated "ecosabotage," beginning in the 1980s and extending to as late as 1996. Former park supervisor Bob Barbee characterizes this attack on the lake's ecological integrity as "an appalling act of environmental vandalism." So far, no one has been able to cash in

on the standing \$10,000 reward for information leading to the clandestine ichthyologists' apprehension, but it's likely that the shadowy introduction was intended to "improve on" the limited number of species available to Yellowstone Lake anglers.

Fiddling with the supply and variety of game species is a long-established hook-and-bullet tradition. Some introductions fail outright—thankfully, neither rainbow trout nor Atlantic salmon caught on in Yellowstone Lake. Occasionally, hatchery newcomers find an honored, apparently harmless, place in the local fauna. Who would want to eliminate Yellowstone Park's backcountry-lake enclaves of arctic grayling, which augment fragile stream populations of an uncommon beauty living at the edge of its natural range? And "fishery-enhancement" projects can boast some undeniable economic success stories. In Montana east of Yellowstone, the blue-ribbon trout mill below the Bighorn Canyon dams is almost entirely artificial, the result of adding nonnative brown and rainbow trout to a transformed river. The U.S. Fish and Wildlife Service claims that "The non-native fishery has become a boon not just for anglers but for each [Mountain-Prairie Region] state. Through a web of commerce connected to fishing-related expenditures, an estimated \$100 million is generated annually." In the Great Lakes, imported Pacific salmon have revitalized a moribund sport fishing industry. Calculating the monetary value of vast, diverse international Great Lakes fisheries involves complicated multi-variable analysis, but a SUNY-Brockport Center for Applied Aquatic Sciences and Aquaculture report estimates that anglers on New York's "North Coast," where exotic salmon, steelhead, and brown trout are among the most sought-after species, contributed \$170 million to local communities in 1996 alone.

Such profits come at a high price, as misguided managerial tinkering can distort established ecological relationships to the point of irrevocably altering entire aquatic systems. Cutthroats have been supplanted by introduced eastern brook trout, Pacific rainbows, and Old World browns in many western waters, and, where cutthroats themselves have been stocked, genetically distinct strains have sometimes been mixed promiscuously. The unharvestable inhabitants of "barren" lakes—in practice lakes without native gamefish—have seldom, at least until recently, blipped the radar screens of fisheries biologists. Even where the fish-and-game departments have exercised restraint, wildcatters have not. A few years before the mackinaw invasion, park biologists successfully curtailed a freelance brook trout introduction in a Yellowstone Lake tributary.

Once established, intruders that make their way into large water bodies can be just about impossible to dislodge. In the Great Lakes, carp, zebra mussels, and round gobies join sea lampreys in an apparently permanent and ever-growing menagerie of exotic undesirables. In Yellowstone Park, whirling disease—a trout disorder associated with "fishing ranches"—and New Zealand mud snails have already arrived, with quagga mussels likely somewhere nearby, maybe clinging to the hull of a cabin cruiser anchored at Bridge Bay marina.

As a child of the Great Lakes, I find it hard to picture lake trout in such a rogue's gallery. Lakers are spectacular fish; members of the char branch of the salmonid family, they are sleek, speckled, and—occasionally approaching 100 pounds—much larger than the biggest rainbow or brown. Restricted in their native range to cold oligotrophic lakes of North America, the outsize trout became a prize trophy fish in Canada and the northern United States following settlement.

Tasty like most of their family, lakers were also popular market fare in the Great Lakes, where their numbers warranted the effort. For my generation, however, Great Lakes mackinaws were little more than memories of a more bountiful past when the water was cleaner, the fishermen fewer, and sea lampreys limited to occasional individuals enterprising enough to work their way up the St. Lawrence to Lake Ontario. Once the Great Lakes had been flanked by commercial waterways, these opportunistic parasites—their jawless sucker mouths are adapted to extract blood and other fluids from unlucky fish—found the murky waters of the New York State Erie Canal system an easy conduit not only to Lake Ontario but, by way of the Welland Canal, to a whole new inland fishery beyond Niagara Falls. The species prospered, and lampreys were soon breeding throughout the Great Lakes basin. Among their favorite targets were lake trout. Mackinaws, already pressed by overharvesting and pollution—they seem especially susceptible to dioxin—mostly vanished by the 1930s.

Lampreys have been advanced as a possible, if last-ditch, weapon against those same trout introduced into Yellowstone Lake. If, the proposal goes, sterilized lampreys were poured into the West Thumb—headquarters for the trout entrada—would they not prey on and eventually eradicate the lakers? It may sound good at first, but further reflection reveals some serious questions about this potential magic bullet. Even with local lamprey spawning and new oceanic recruits, and in waters made inhospitable to lakers by high dioxin levels, some Great Lakes mackinaws probably survived the assault, so the chances of success under controlled conditions at Yellowstone are dubious at best. And what if a few unsterilized lampreys managed to slip into Yellowstone Lake in the process? Or if the lampreys found the remaining cutthroats to their liking? Finally, there's the uninviting prospect of interfering with lake ecology in such a heavy-handed way. Would the original balance ever be restored, or would such wholesale intervention leave the lake on a kind of managerial life-support? Of course, one might argue that that's exactly the case now. Troutslayers are at work all summer, employing, in addition to some fifteen miles of nets, a sophisticated array of video cameras, LIDAR mapping equipment, and "electrofishing" gear to pinpoint spawning areas and remove the invasive fish, more than 350,000 of them thus far.

The jury's still out on whether these actions are having any significant impact. Useful information has been gathered concerning lake trout behavior and concentration patterns. The Greater Yellowstone Science Learning Center interprets as good news recent declines in netted laker size and in "the number of lake trout caught per unit of effort." But there may still be hundreds of thousands, perhaps millions, of mackinaws in Yellowstone Lake. Unless a durable equilibrium is established between native prey and nonnative predator, the battle will continue indefinitely, with the best that the slayers—and the forty-two species Captain Lindsay says depend on the cutthroats—can hope for is to tread water against impending disaster: the functional extinction of what was once the world's largest lake-dwelling cutthroat population.

The troutslayers' task seems the very definition of a labor of Sisyphus. Many exotics prove uncontrollable, eventually becoming so well-established that few people see them as newcomers, much less connect their presence with the disappearance of competing natives. The tide has been turned, however, in a few notable cases. The Great Lakes Fishery Commission reports that, as the result of a concentrated research program, a variety of control methods ranging from highly specific chemical "lampricides" to barriers and sterile male releases have reduced Great Lakes sea lamprey populations by 90%. As with Yellowstone's lakers, it's probably impossible to

completely eliminate these exotics, but lamprey predation is no longer considered a significant impediment to the reestablishment of lake trout in the Great Lakes.

Great Lakes mackinaws still face formidable obstacles, water quality foremost among them. Though natural spawning has occurred, the population remains dependent on hatchery inputs and managerial interventions, including a repatriation that Moses himself might be proud of. After surveying Yellowstone Park waters at the end of the nineteenth century, ichthyologist David Starr Jordan advanced the introduction of nonnative trout as a remedy for what he lamented as the park's deficient angling resources. Jordan's advice struck a can-do progressive chord among Yellowstone's early managers, and, in 1889, a grueling rail and pack mule journey brought the park's first mackinaws, forebears of the Yellowstone Lake invaders, from Lake Michigan. One hundred years later—amid rumors that a new predator was threatening Yellowstone's cutthroats—Great Lakes WATER Institute biologists dipped nets into Lewis Lake. Chosen for seedstock as the best genetic approximation of Lake Michigan's indigenous lakera, representative descendents of Jordan's hardy transplants, according to the Institute's Casey Twanow, "found their way back to their ancestral home."

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If someone had approached me in 1991 with a plan to string the Yellowstone Lake floor with gillnets, there's no question that I would have recoiled against such a fundamentally "unnatural," downright sacrilegious, imposition. After all, as Aldo Leopold saw it, wilderness provides an ecological template free from human tinkering, a robust network of interactions that changes over time, yes, but that maintains a level of stability we might as well call health. Or, to apply Wallace Stegner's phrase, a "geography of hope." And all we have to do is just leave it alone, right?

Contemporary environmental conundrums such as invasive exotics may require hands-on management way beyond the comfort level of an unrepentant wilderness-loving boomer like myself. Such issues blur distinctions between disruptive interference and necessary preservation, and, for that matter, tend to obscure the consequences of any managerial action or inaction. Nonnative organisms sometimes become insinuated into local food chains, augmenting or replacing native species as fare for desired or endangered predators. Long-established Great Lakes invaders, alewives now constitute a major food resource for both exotic and native salmonids. These abundant forage fish, however, represent a boon with a barb, a thiamine-inhibiting enzyme that impacts the predators' reproduction. Fortunately, no such complicated ecological tradeoffs are in play at Yellowstone Lake, at least at this stage in the laker entrada. We know what the lake's ecosystem should be, and we know what has to be accomplished to, as Edward Abbey's Monkey Wrench Gang would have it, "keep it as it was."

The twenty-first century is fated to be an age of planetary environmental problems. Acknowledging human influence on such a scale will require us to sacrifice, or at least modify, our ultimately illusory notion of human separateness in favor of a more integrated awareness that we are an inextricable part of the Earth's ecological systems. Despite the good intentions embodied in the 1964 Wilderness Act, there's really no place "where man himself is a visitor who does not remain." If we want wild places like Yellowstone to stay the way they are—or were, the wilderness will have to remain in our individual and collective hearts and minds, and not just

during summer vacations. These days, it seems that environmental groups are always urging us to “save” something—the redwoods, the polar bears, even the planet itself. While assuming the redeemer’s mantle reflects a certain glib hubris, the urgency of these campaigns also marks acceptance that responsibility as planetary stewards is, and will continue to be, thrust upon us and our descendants, willing and able or not.

Yellowstone answers to a special calling. From its 1872 designation as the world’s first national park to the daunting challenges—exotics, creeping edge development, climate change—it faces today, the park has served as a reservoir of physical and spiritual well-being and as a barometer measuring the connection between planetary health and cultural responsibility. Yellowstone hasn’t failed us, and, by and large, we haven’t failed Yellowstone either, at least not yet. In these destructive times, that’s saying something. If we can “save Yellowstone,” or keep saving it, then maybe there’s a chance we can avoid ruining the rest of the planet.

I’ve been exploring Yellowstone for long enough that I consider myself something of a native, but when it comes right down to it I’m really part of the most ubiquitous intrusion of all, the juggernaut of human tourism. In midsummer, even the weekday roads are clogged with the clutter of contemporary humanity. Just swinging through a roadside pull-off draws a crowd, hopeful for a bear, a wolf. A Hayden Valley buffalo jam might go back half a mile on either side, and a moose in a roadside pond will find itself performing for an audience sprawled across both traffic lanes, cameras waving from every window.

The annual tourist migration brings undeniable inconvenience. Concessionaires recommend making dinner reservations weeks or months in advance, and taking in the more famous vistas—Old Faithful, the Lower Falls—involves a bit of jockeying and concomitant irritation. July and August fill the hotels and parking lots and, I suppose, keep Xanterra, and, for that matter, the Park Service, in business. On the bustling walkways at Old Faithful, Lake, Canyon, or Mammoth Hot Springs, it isn’t always easy to remember that some 98% of Yellowstone is glorious undeveloped backcountry. Locals disparage the ignorant antics of “tourons” as a way to lay claim to a more intimate relationship with the park, and also, undoubtedly, from frustration rooted in tourism-dependant economies. Beneath the bravado, however, is the understanding that National Park crowds—despite recent assertions that the only safe visitor is one with a concealed handgun—are as a rule at least provisionally at peace with the world. A day or two in Yellowstone, even in July in the developed areas, is a recentering, a reminder that life, troubled times and all, can be pretty good.

Emergent where human culture fosters awareness of our planetary context, that good-life atmosphere permeates Lake Village the morning after our cruise. On Lake Lodge’s spacious porch, a young man in sixties garb strums a guitar to the waves’ distant accompaniment. In the Hotel lobby, church-camp congregants huddled before a window framing Mt. Sheridan’s glistening snowscape earnestly discuss a passage from the gospel of St. John. Other, less devout guests doze over novels, settling a hearty Hotel breakfast, as I am, in preparation for a full day exploring the roads and trails. Perhaps a few will board the *Lake Queen II* for a sunset cruise this evening. All alike bask in Yellowstone Lake’s generous ambience.

Poet and environmental visionary Gary Snyder once said that the descendents of European explorers “haven’t discovered North America yet. People live on it without knowing what it is or

where they are. They live on it literally like invaders.” The history of our national parks is irredeemably tangled with our manifest destiny march across America; in Yellowstone, native people—the Sheepeater Shoshones—were dispossessed for the clientele later associated with E. C. Waters. Some of us like to think we’ve moved beyond conquest and exploitation in our designs toward the continent, but today’s park patrons share responsibility for the ongoing piecemeal chipping away at Greater Yellowstone’s wilderness edges. That conceded, perhaps it’s not too much to suggest that in places like Yellowstone, we invaders are gradually “discovering what is it and where we are” and learning to quiet our worst impulses enough to hold something back from the depredations of our invading selves.

Yellowstone Lake’s shoreline answers to most definitions of prime real estate; it’s no coincidence that the lake is the site of both the park’s oldest and newest commercial developments. The relatively recent scar of Grant Village, completed in 1984—it was supposed to replace the Fishing Bridge RV camp, which, under pressure from Cody tourism interests and Wyoming politicians, remains open today—attests to the value of lakefront property. Fodor’s credits the Lake Hotel with “priceless views of Lake Yellowstone at sunrise or sunset.” *Priceless* is inherently ironic, suggesting that a price, a very high one, could be demanded for such property. Remote and given to extremes, the lake gains a measure of protection from its formidable blend of submerged and surface turbulence. But preventing Yellowstone Lake from strangling in its own facilities has required vigilance on the part of the Federal Government, the advocacy of citizens’ groups, and the enlightened forbearance of the populace as a whole. Aboard the *Lake Queen II*, Captain Lindsay’s script hails the Park Service’s noble intention to hold the line on “pillow count” at Yellowstone’s concessions. Complacency, however, would be ill-advised. Dressing up the good life with a beautiful lake prospect seems almost a part of human nature, the part that, when combined with the invader’s treasure-quest mentality, turns wilderness shores into “priceless” waterfront property.

Old photographs show shoulder-to-shoulder anglers lining Fishing Bridge. The river’s spawning run couldn’t meet the demand of so many hooks, so a hatchery at Lake Village dutifully provided trout for the taking. The hatchery closed in 1957, and the adoption of more meditative, less consumption-driven catch-and-release practices allowed cutthroat stocks to recover. Running the LeHardy rapids north of the lake in early summer, the cutthroats became something of a minor attraction for wildlife enthusiasts not armed with fly rods, a demographic whose attention is more typically occupied by bears and other megafauna. While the Park Service and Yellowstone anglers take pride in infusing wildlife management science with Izaak Walton philosophy, there are, undoubtedly, representatives of Cody or West Yellowstone “interests,” the ecosaboteurs themselves perhaps among them, rubbing their palms together at the prospect of a return to the ethos of less “consciousness-raised” days.

Yellowstone’s mackinaws tempt anglers with opportunities for pioneer-style excess. You can catch as many as you want, so long as you don’t throw any, no matter how small, back in. If, in its enthusiasm to rid the lake of the exotic predators, the Park Service were to encourage the development of a lake trout sport fishery, the unintended result could be to entrench the lakers in the regional economy. Great Lakes communities have been slow to embrace the international goal of restoring a self-sustaining lake trout population for fear that the more finicky, delicate lakers would interfere with the freewheeling, cashcow pursuit of nonnative Pacific salmon. It’s not hard to imagine a mid-twenty-first-century Yellowstone Lake legendary as a destination for mackinaw

enthusiasts, with outfitters lining the streets of gateway communities and a frenzy of hardy cabin cruisers chasing fishfinder blips back and forth across the West Thumb. Some future Yellowstone Mackinaw Fishfest could even offer an E. C. Waters Prize for the biggest laker, or, better yet, the fullest stringer. If such a piscine gold rush were to take hold, lake trout hatcheries would not be far behind.

When Hurons and Iroquois vied for Lake Ontario's shores, landlocked Atlantic salmon—perhaps the world's greatest concentration of the species—and harbor seals joined lake trout in a fauna unique in the Great Lakes, Niagara Falls constituting an insurmountable barrier to the most athletic salmon. It must have been quite a place. Today's Lake Ontario is a thoroughly humanized environment. The seals were killed off in the early 1800s, followed into oblivion by the salmon, which fell victim to their own popularity and to forest clearing and subsequent warming of their spawning streams. The lake's canals brought packet boats crammed with nineteenth-century immigrants, my ancestors among them, from Europe, and, since the opening of the St. Lawrence Seaway, giant tankers have plied the deep water, their bilges harboring more incipient entradas than two nations worth of fisheries biologists have been able to inflict. But amid the zebra mussels and Pacific cohos and chinooks, diminished numbers of lake trout, either natural remnants or, more likely, fish-and-wildlife replacements, hang on. And, in a 2009 breakthrough, the first handful of Lake Ontario Atlantic salmon fry in over a century were discovered in, fittingly, the Salmon River at the lake's east end. In truth, Lake Ontario is still quite a place, as I rediscover each time I amble out the Ontario Beach Park pier, which I make a point of doing each time I find myself in Rochester.

On this summer's pilgrimage to the lakefront, we stumbled unwittingly into the city's Harborfest. Craft booths displayed t-shirts designed by local artisans. Adding to the organ-grinder strains of Ontario Beach Park's Gustav Dentzel carousel, an exact contemporary of the *E. C. Waters* steamship, a scatter of rides—the roundup, the Ferris wheel—crowded a parking lot midway. The adolescent redolence of hot dogs and elephant ears beckoned from behind counters decked out in festive Fourth-of-July-style bunting. A regatta, or at least a handsome if coincidental constellation of colorful sailboats, glided toward port in slant late-day sun. Gulls raided picnic tables while a community orchestra cranked out oompah versions of popular standards in the park's bandshell. In a hurdy-gurdy Americana kind of way, it was grand.

I honor Lake Ontario, and if it deserves better than the state its people—myself included—have brought it to, it's still one of my most important places. To a large extent, Lake Ontario defined nature for me when I was young. Hemmed in by neighbors' docks, my grandparents' small beach held the unfathomed journeys of winter goldeneyes and migrating shorebirds, and the equally mysterious smaller-scale pathways of crayfish and clams. Strange washed-up skeletons—lampreys, carp, the occasional bass or pike—hinted at lives transpiring where no human could be more than a fleeting guest. The lake gave me a horizon, and a vast implied world beyond. I don't think I regret a single minute I've spent along those shores of cobble and shipped-in sand. With so much of contemporary American life contained within indoor "controlled environments," urban and suburban dwellers need the restorative generosity of that good life: a hot dog and a

cold beer, a wheeling ring-billed gull, the corny honk of a summer carnival drifting across the sound of the waves.

But maybe, at least somewhere, just the waves.

After a sunset cruise on the *Lake Queen II*, if you drive a few miles from Bridge Bay marina to Gull Point, you can clamber down a stony bank and be pretty much alone with Yellowstone Lake. As the lingering afternoon bluster gives way at last to calm, bottomless night, water's rhythmic pulse emerges from beneath the flagging wind. If it's early summer, and you lean out far enough, you can almost feel the deep pull of river in the soul of a cutthroat trout.

Notes

John Muir describes his tree-climbing adventure in his 1894 book *The Mountains of California*.

The National Park Service's "Frequently Asked Questions at Lake Village" can be reached through the NPS Yellowstone park webpage.

Details about volcanism at Yellowstone Lake are taken from "When Yellowstone Explodes" by Joel Achenbach, published in the August 2009 *National Geographic*.

The Fodor's reference is from "Lake Yellowstone Hotel Review," on the company's website.

The *Billings Gazette* published "E. C. Waters Left to Rot in Yellowstone National Park" on July 16, 2007. The phrase quoted is from the Editor's Note introducing Mike Stark's article.

The Lewis Lake source for Yellowstone Lake mackinaws is established in "Natural Chemical Markers Identify Source and Date of Introduction of an Exotic Species: Lake Trout (*salvalimus namaycush*) in Yellowstone Lake" by Andrew R. Munro, Thomas E. McMahon and James Ruzycki, published in the *Canadian Journal of Fisheries and Aquatic Sciences* 62 (2005).

The oft-repeated Barbee quote appears, along with the foiled brook trout introduction in Arnica Creek, on page 18 of John Varley and Paul Schullery's *Yellowstone Fishes: Ecology, History and Angling in the Park*, published in 1998 by Stackpole Books.

The U. S. Fish and Wildlife Service reference is from "Native vs. Non-native Fish: A Difficult Issue," available at the bureau's Mountain-Prairie region web site. The states referred to in the quote are, presumably, those of the Service's Mountain-Prairie Region, Montana and Wyoming included.

Joseph A. Makerawicz's SUNY-Brockport study *New York's North Coast: A Troubled Coastline* was released in 2000. The cited figure is on page 2

Information concerning lake trout removal is from The Greater Yellowstone Science Learning Center's article "Lake Trout Control" on the organization's website.

The Great Lakes Fishery Commission's "Sea Lamprey Control" is also available online through the Commission.

Casey Twanow's "Lost and Found: Lake Michigan's Lake Trout" can be accessed through the University of Wisconsin at Milwaukee's website.

Wallace Stegner's phrase "geography of hope" first appeared in 1960 as the conclusion of his influential "Wilderness Letter." The 1964 Wilderness Act text is available online at Wilderness.net.

The Gary Snyder quote is from "The Real Work," a 1977 interview with Paul Geneson published in *The Ohio Review* and later collected in *The Real Work*, where it appears on page 69.

Information on Atlantic salmon in the Salmon River is derived from "Wild Atlantic Salmon Found in New York's Salmon River," a United States Geological Survey press release. The "wild" fish are descendents of hatchery salmon, not survivors of the original lake population. See also the Associated Press's "NY Salmon Resurgence Indicates Species Recovery."