

Eager

THE SURPRISING, SECRET LIFE OF
BEAVERS
AND WHY THEY
MATTER



Ben Goldfarb

FOREWORD BY DAN FLORES

CHELSEA GREEN PUBLISHING
WHITE RIVER JUNCTION, VERMONT
LONDON, UK

— PRAISE FOR *EAGER* —

“*Eager* is a revelation! If we only let them live, beavers are *the* solution to many of our nation’s ecological problems. Ben Goldfarb’s wonderful book will make you an even bigger fan of these intelligent, inventive, resilient rodents than (if you have any sense) you are already — and might just tail-slap a politician or two into realizing how much we need them to restore our critical wetlands.”

— Sy Montgomery, author of *The Soul of an Octopus*
and coauthor of *Tamed and Untamed*

“Beavers are easy to caricature, and they’re a bit comical. But they’ve got their serious side, too. European settlers who cut, plowed, and shot their way west also trapped the country nearly clean of mammals. Almost killing off beavers — the continent’s major water engineers and dam builders — caused widespread problems for wildlife and people. Now, though, beavers are on the rebound, and the how and who of that story, as told in *Eager*, will give you a new and completely different concept of the continent.”

— Carl Safina, author of *The View From Lazy Point* and *Beyond Words*

“This witty, engrossing book will be a classic from the day it is published. No one who loves the landscape of America will ever look at it quite the same way after understanding just how profoundly it has been shaped by the beaver. And even the most pessimistic among us will feel strong hope at the prospect that so much damage can be so easily repaired if we learn to live with this most remarkable of creatures.”

— Bill McKibben, author of *The End of Nature*

“*Eager* is the stunning story of beavers — so integral to early human landscapes of North America — and their function in support of people and later the American economy. Literally nature’s “Corps of Engineers,” beavers today play vital roles in restoring watersheds, landscapes, and flood control throughout the continent. To view them just as a cute animal with a flat tail is to trivialize a central player in both history and modern day landscape ecology.”

— Thomas E. Lovejoy, University Professor of Environmental Science
and Policy, George Mason University

“*Eager* brilliantly presents the role of the American beaver in shaping the landscape of our continent and preserving its ecological integrity and diversity — and does so in clear, readable prose. My Native ancestors — before the cultural disruptions of the fur trade — saw the beaver people as a nation worthy of the greatest respect. I believe that any thoughtful person who reads this book will come away with a much deeper appreciation of this sacred being’s place in the America of the past and, we hope, the future.”

— Joseph Bruchac, coauthor of *Keepers of the Earth*

“Long trapped for their fur and maligned as pests, beavers are finally recognized for their role in keeping water in the landscape. Goldfarb’s spirited, well-researched account tells the story of humanity’s relationship with beavers and highlights innovative efforts to ally with them to restore rivers and wetlands and boost ecological resilience. Our winsome, paddle-tailed friends could have no better champion.”

— Judith D. Schwartz, author of *Cows Save the Planet* and *Water in Plain Sight*

“There are a number of books that focus on a single species, but the amazing story of the beaver, as told by Ben Goldfarb, is in a class all its own. Dear reader, prepare yourself to be awed by a rodent!”

— Tom Wessels, author of *Reading the Forested Landscape*
and *Granite, Fire, and Fog*

“One of the best things that can be said about a book is that it is both necessary and good. Not many are, but this one is.”

— Richard Manning, coauthor of *Go Wild*

“With the perfect blend of science and storytelling, Ben Goldfarb takes us on a remarkable journey to discover the myriad ways beavers have shaped our landscapes and history — and, if we are willing, could help us fix our broken water cycle. An absorbing and eye-opening book that comes at a crucial time.”

— Sandra Postel, author of *Replenish*

“In *Eager* Ben Goldfarb demonstrates that beavers are more than just a fascinating and mysterious rodent — they’re also an ‘animal that doubles as an ecosystem.’ Optimistic and exciting, the book suggests a future where rather than destroying nature, or trying to dominate it with heavy-handed management, we collaborate with species like beavers to create a wilder, more diverse, and surprising world. *Eager* will make a Beaver Believer out of you!”

— Emma Marris, fellow at the UCLA Institute of the Environment
and Sustainability; author of *The Rambunctious Garden*

“Beavers do matter. Contrary to the popular image of beavers as trouble-making ‘varmints’ on the land, these hardworking animals play many critical roles in nature, including rewetting creeks in dry country. That might seem counterintuitive — beavers are famous dam builders after all — but as Ben Goldfarb explains in his riveting new book, the engineering prowess of these mighty rodents is essential to healthy riparian areas. And they do their work for free!”

— Courtney White, author of *Grass, Soil, Hope* and
Two Percent Solutions for the Planet

“An important and engaging book about the nature of beavers, the forces of nature, and the hubris of humans. While I’ve read many books about how *Homo sapiens* extirpated species around the globe historically, and how we’ve wiped out birds such as turkeys and beasts such as bison and elk in the recent past, I had not read a book about beavers. This book is an eye-opening contribution with great examples of the power of beavers to restore ecosystems.”

— Fred Provenza, author of *Nourishment*

“In this beautifully written tribute to beavers, Ben Goldfarb paints a vivid and captivating portrait of two of nature’s most fascinating species, *Castor canadensis* and *Castor fiber*. Seamlessly combining history, ecology, biology, politics, and compelling stories of those battling over the proper role of beavers in today’s anthropocentric world, *Eager* resoundingly proves that these magnificent rodents do indeed matter a great deal. In so doing, this gem of a book offers hope not only for the beavers’ future, but also our own.”

— Eric Jay Dolin, author of *Fur, Fortune, and Empire*
and *Black Flags, Blue Waters*

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Developmental Editor: Michael Metivier
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Proofreader: Rachel Shields Ebersole
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THE NORTH AMERICAN BEAVER

(*Castor canadensis*)

LEGEND

■ Modern range of *Castor canadensis*

SELECTED SITES VISITED BY AUTHOR

1. Gros Ventre Valley, WY
2. Agate Fossil Beds
National Monument, NE
3. Centennial Valley, MT
4. Fort Bragg, NC
5. Grafton, VT
6. Westford, MA
7. Methow Valley, WA
8. Bridge Creek, OR
9. Scott Valley, CA
10. Martinez, CA
11. Occidental Arts
and Ecology Center, CA
12. Elko, NV
13. Yellowstone National Park
14. Logan, UT
15. Moab, UT
16. Bronx River, NY



Realm of the Dammed

In early summer, as blizzards of cottonwood seeds drift through newly blue skies and Swainson's thrushes trill flutelike from the understory, salmon begin to surge up the rivers that enter Washington's Puget Sound. Into the Skagit, the Nisqually, and the Stillaguamish they flow: sea-bright coho, ruby-fleshed sockeye, titanic chinooks, humpbacked pinks, surfing the incoming tide past crumbling coastal bluffs and through seagrass deltas. Born in streams, salmon migrate to the sea as juveniles, grow fat on the Pacific Ocean's largesse, and return to their natal rivers to reproduce, coursing like blood cells up Washington's arteries and into the capillary network of spawning streams that vein the foothills of the Cascades and the Olympics. Their spent carcasses are rent by bears, pecked by eagles, and nibbled by mice; eventually they leach marine nutrients into the soil and fertilize towering conifers. In this corner of the world, Timothy Egan has written, "a river without salmon is a body without a soul."¹

By that measure, the Snohomish River was once one of the Northwest's most soulful waterways. The Snohomish arises at the confluence of the Skykomish and the Snoqualmie, the mellifluously named rivers that drain the Cascades' western flanks, and wends twenty miles to Puget Sound, terminating in a braided salt marsh teeming with shorebirds and bivalves and fish. Native peoples thrived on the sound's bounty for thousands of years, harvesting crabs, clams, and, most important, salmon, whose annual arrival in early summer occasioned celebratory potlatch feasts. To the Snoqualmie, the Skykomish, and other Puget Sound tribes and bands, salmon were not

merely resources — they were cultural partners, symbionts who loyally sustained their human dependents so long as the tribes protected their rivers and treated fish with due reverence.²

The intrusion of white settlers threatened to disrupt that ancient relationship. In 1853 President Franklin Pierce appointed Isaac Stevens governor of the new Washington Territory, and tasked the hardheaded Virginian with cajoling the Northwest's native peoples onto reservations to clear the land for colonists. On January 22, 1855, Stevens and Chief Seattle signed the Treaty of Point Elliott, an agreement that forced the Puget Sound's native tribes onto the 22,000-acre Tulalip Reservation. Although one judge later called Stevens's treaties "unfair, unjust, ungenerous, and illegal,"³ the deals did have a redeeming feature: They permanently preserved tribal members' rights to fish at their "usual and accustomed" places, including sites on state, federal, and private land. But the treaties were seldom respected: When natives sought to exercise their rights in the 1960s and '70s, they were arrested by Washington State officials and harassed, sometimes violently, by their white counterparts. (One common refrain: "Save a Salmon, Can an Indian.") In 1974 the Supreme Court finally intervened in the Fish Wars on the tribes' behalf, granting the Northwest's native peoples half the catch and authority to co-manage their fish with the state of Washington — a ruling known, for the judge who authored it, as the Boldt Decision. It led, decades later and in a roundabout way, to beavers.

Terry Williams, a genial, gravel-voiced tribal member who wears a dark mustache and his hair pulled tight in a ponytail, grew up on the Tulalip Reservation in the 1960s. Even then, Williams had a passion for aquatic rodents: He and a young cousin caught juvenile beavers alive, tracking them with dogs and wrangling them into sacks, and relocated them to wetlands near their home — for no other reason, he told me, than that he was "thirteen years old and curious." They caught raccoons, too, which they kept in the house. "My mom's sister went a little crazy when they started going through the cupboards."

After a stint in Vietnam, Williams returned to Washington to work for a railroad company and attend college via the GI Bill. He tried commercial fishing in Puget Sound for a season, netting salmon to sell and flounder to take home. In the early 1980s some friends asked if he'd consider working for the tribe's fisheries department — just for a year, they promised. The

Tulalip Tribes were then embroiled in legal struggles all over Washington State in defense of its members' fishing rights, and Williams spent seven days a week on the road, preparing arguments and sitting in on court sessions. A year on staff turned into two, ten, a career. Today Williams serves as the tribe's treaty rights commissioner, and has, at one time or another, held a seat on every board, council, and commission pertaining to salmon recovery in Puget Sound, and many beyond. "I just got addicted to it," he told me.

It's easy to understand why Williams found salmon management intoxicating. It was an infinitely complex struggle, equal parts legal, social, political, and ecological; at stake was nothing less than his people's economic prospects and cultural survival. At its outset, the Fish Wars were waged over a fairly straightforward conflict: The tribes wanted access to their physical fishing sites and a guaranteed portion of the catch. Once those rights were secured, at least on paper, the battleground shifted to fish recovery. The Puget Sound's salmon had collapsed, the victims of decades of dams, overfishing, and development; Williams grew up eating not salmon but government-issued rations, including bug-infested flour and butter dyed with yellow food coloring. Thousands of acres of marsh had been paved over, hundreds of embayments wiped out. Beaches had been bulwarked, lowland forests demolished.⁴ What use was having your right to fish confirmed by the Supreme Court if there were no fish to catch?

Around 2007 Williams began to think, for the first time in decades, about beavers. He recalled his childhood experiments in beaver relocation, and how ponds expanded when he and his cousin installed their rodent captives in wetlands on the reservation. Williams had recently become worried about a new threat to Puget Sound's salmon: climate change. He began to wonder if beavers, by capturing water and creating ponded shelter for juvenile salmon, could sustain the sound's fish.

One typically misty northwestern morning, I drove to a nondescript Seattle suburb before dawn to observe the fulfillment of Terry Williams's vision. I met Molly Alves and David Bailey — biologists in the Tulalip Tribes' natural resources department, though not tribal members themselves — at a gray, duck-dotted wetland, where a flood-fearing landowner had reported a beaver colony. "We'll get a lot of calls from homeowners' associations saying someone saw a beaver again," Alves told me as we trudged down to the water's edge. "I'll say, So, what's the issue? 'Well, we *saw* it.'" She rolled

her eyes. “Seeing an animal does not constitute a nuisance. More often than not, we try to convince people to let beavers stay.”

In Seattle’s fast-growing King and Snohomish Counties, however, where lots of people live near lots of water, some conflicts could only be solved via relocation. On this morning the beavers had eluded capture, although the crew’s Hancock trap had slammed shut overnight. Alves, a lanky, affable scientist, sniffed the damp air. “It just reeks of beaver,” she said with a frown. She suspected a near miss — maybe a tiny kit that had slipped free from the Hancock. Alves wiped her hand on the trap’s frame and held it out to Bailey.

“Smell it,” she said with a grin.

He recoiled. “I’m not gonna smell your hand.”

“See if you can tell what sex it is.”

Bailey leaned in and wrinkled his nose. “Female?”

Alves tutted disapprovingly. “Male.”

Bailey sighed. “Do you want some hand sanitizer?”

For all the fun Alves and Bailey seemed to have on the job, it was serious work. Since 2013 Tulalip biologists, leaning on protocols adapted from the Methow Valley, have transplanted more than a hundred beavers from Puget Sound’s densely developed lowlands to tribal treaty lands in the Mount Baker–Snoqualmie National Forest, a wonderland of cedars and Douglas firs that straddles the North Cascades. The forest’s steep slopes and crosshatching of logging roads prevent beavers from reaching the forest’s headwaters on their own, making the dense woods a perfect candidate for release.

After our fruitless trapping session, Alves and Bailey drove me along the Skykomish River, roaring and turquoise in its narrow timbered valley, to their favorite release site, a nameless tributary ringed by bigleaf maple. A colony of relocated Tulalip beavers had conjoined several separate streams into a mirrored pond, nearly the size of a baseball field, from which side channels radiated like spokes from a hub. “You know it’s succeeded when you need a flotation device to monitor your site,” Bailey half joked.

The beavers’ arrival had been a boon for wildlife: Motion-activated cameras had caught bobcats, coyotes, otters, bears, and mink slinking through the new wetland, many tiptoeing along the crests of dams as though traversing a balance beam. But the most dramatic changes occurred below the surface. Before the Tulalip Tribes restored beavers to this place, the skimpy

wetland had stood fishless for years, largely cut off from the nearby stream. As beavers broadened the pond, though, it rejoined the creek, swelling from an isolated pocket of water to a connected side channel. And the fish had followed: Within two years of the rodents' arrival, Alves spotted fry sheltering in the pond.

Even so, Alves and Bailey were little prepared for the dozens, maybe hundreds, of juvenile fish that teemed in the pond on the day of our visit. The multitudinous babies darted into nooks and crevices within the dam at our approach, white flashes along their anal fins betraying them as young coho. Beavers, I realized, had reunited this tiny pond high in the western Cascades to a vast and interdependent coastal ecosystem. Some fraction of these fry would survive to reach Puget Sound, where they'd grow fat on krill and anchovies, enter the nets of tribal fishermen, star in potlatches, and transmit a durable culture across generations.

"It's kind of blowing my mind how many fish are here," Alves said, her voice full of wonder. "From the Tribe's perspective, this is what it's all about."

To their credit, the Tulalip Tribes have not merely been content to reintroduce beavers themselves — they have also expended considerable political capital to help advance the larger cause of rodent restoration. In 2012, recall, Washington passed its "Beaver Bill," the law that permitted relocations and turned the state into a nexus of castorid activity. Though the legislation was well intended, it contained a flaw: While it permitted biologists to move beavers to sparsely settled eastern Washington, it prohibited releasing them west of the Cascades — the region that's home, of course, to Seattle, Tacoma, Olympia, and the state's other population centers. The message: Beavers can do good, but keep the damn things away from people.

Thanks to their salmon rights, the Tulalip weren't bound by the prohibition: Several years earlier, the tribes had struck a deal with the federal government to co-manage watersheds within the Mount Baker–Snoqualmie National Forest, granting the tribe authority to restore habitat as it saw fit, beaver relocations included. Still, the law's illogic irked Terry Williams. More beavers on more Washington rivers would mean more Puget Sound salmon, he figured. In 2017 the tribe dispatched a lobbyist to Olympia to advocate for a revision to the Beaver Bill. The stubborn lawmaker who'd pushed for the ban on western Washington relocations had retired, and the revised bill sailed through. No longer were the Tulalip Tribes the sole

entities capable of moving beavers around western Washington — the doors had been flung open.

Williams couldn't have been more pleased at the outcome, though he wasn't surprised. When he began his career in fisheries management, he told me, he'd found himself bound by a skein of laws intended to thwart tribal fishing. Decades ago he'd griped to the tribe's chairman about the bevy of legal obstacles. "Well, that's not so difficult," the chairman retorted. "If the law doesn't work for you, change it."

Williams chuckled hoarsely as he recounted the story. "Because of that simple statement," he told me, "I've changed so many laws I can't count 'em anymore."

To Terry Williams, the fact that beavers create salmon habitat is so self-evident that it's worth changing the law. In other quarters, however, the relationship between the mammal and the fish remains a point of contention. Throughout the Pacific Northwest, salmon are the primary rationale for beaver restoration, yet the intransigence of some fish biologists still impedes the rodent's return.

The origins of that skepticism are hard to untangle, but it probably has much to do with wood. For modern paddlers and fly fishermen accustomed to free-flowing rivers and streams, it is impossible to imagine the woody wrack that once cluttered American waterways. Trappers and explorers found many watercourses blockaded by impenetrable logjams composed of gargantuan old-growth trees. Puget Sound's Skagit, for one, less resembled a river than a lumberyard. "Tier upon tier of logs up to eight feet in diameter, and packed solidly enough to be crossed almost anywhere, formed a stable obstacle that supported a forest of 2-to-3-foot-diameter trees growing on its surface," wrote David Montgomery in his book *King of Fish*.⁵ All that woody debris, Montgomery added, created prime fish habitat: "Perennially submerged wetlands and sloughs provided ideal summer rearing habitat and slow-water refuges for salmon during winter floods." Beavers don't get credit for the logjam: Not even the most inexhaustible chewer could take down the massive firs and cedars that formed its superstructure. But beavers abounded in the Skagit watershed, and their upstream gnawing surely contributed to the jam's mass. (In Quebec, Bob Naiman found that beavers

mobilized more than half the willow and aspen that clogged streams.⁶) And the 150 square miles of Skagit Valley that the epic logjam flooded must have been a glorious beaver-and-salmon playground.

But American rivers did not remain so thoroughly jammed. In the late 1800s the US Army Corps of Engineers, fixated on turning rivers into free-ways for shipping, embarked upon an anti-logjam crusade. On the Skagit, Stillaguamish, and Snohomish Rivers, corps “snagboats” extracted more than 150,000 logs.⁷ As industrial logging intensified in the twentieth century, the war on wood shifted battlegrounds. Profit-minded loggers dumped unmarketable lumber into rivers, where the woody waste created unsightly logjams and scoured holes. At first state agencies cleared streams only of logging detritus, which they feared impeded the upstream passage of spawning salmon. Soon, however, that well-intentioned practice transformed into an all-out campaign against in-stream wood, no matter its provenance. In 1972 Oregon passed a law mandating wood removal, and Washington and California followed suit. “All along the West Coast,” wrote Montgomery, “a clean stream not only looked like a good idea, it was the law.”⁸ Beaver dams, in many cases the most visible blockages, were not spared.

Biologists eventually realized the folly of extracting wood for salmon’s sake. But the fallacy that beavers and fish couldn’t coexist persists — not only in the Northwest, but everywhere that salmonids thrive. The Miramichi Salmon Association, devoted to restoring Atlantic salmon in New Brunswick, cuts notches in dozens of beaver dams each year to assist returning spawners upstream.⁹ The Forest Service has been known to destroy dams on Lake Tahoe tributaries to clear the way for stocked kokanee salmon — demolishing a native mammal’s works to advantage an introduced fish.¹⁰ And even that nuttiness pales in comparison with a 2009 proposal funded by the Atlantic Salmon Conservation Foundation, which suggested trappers eradicate beavers from ten river systems on Canada’s Prince Edward Island and enforce “beaver-free zones” in others.¹¹ The report, based heavily on anecdote and conjecture, was never acted upon in Canada, but it influenced policy across the Atlantic: Scottish sportfishing groups referenced it to oppose beaver reintroduction in Britain.¹²

The fish fervor reached its apex in northern Wisconsin, where, from 1993 to 2014, Wildlife Services eliminated more than sixteen thousand beavers and dynamited thousands of dams to “rehabilitate” habitat for

brook trout — an Orwellian policy that makes one wonder how the poor brookies survived before benevolent trappers came to their rescue.¹³ The Badger State’s castor-killing campaign has been guided primarily by a 2002 study suggesting that controlling the rodents, and converting their pond complexes into free-flowing streams, helped trout grow larger and more abundant.¹⁴ Critics counter that the study lacked comparison streams, that its statistical analyses suffered from fatal flaws, and that trout populations swelled for different reasons, like cleaner water or stocking.¹⁵ Other Wisconsin-based research has found that, contra the state’s fear that beavers heat up creeks by felling shade trees and exposing ponds to sunlight, dams little affect stream temperatures.¹⁶ “To keep every cog and wheel is the first precaution of intelligent tinkering,” wrote Aldo Leopold; one wonders what Wisconsin’s most beloved ecologist would have made of his state’s hyper-aggressive approach to beaver management.

In fairness, beaver dams *can* pose a temporary obstacle to migrating fish, especially when flows drop in the fall. Usually, though, fish pass the blockades without much trouble. A Utah study that tagged over thirteen hundred trout (some of which the scientists caught on hook and line, proving that research doesn’t have to be tedious) found that native cutthroat easily negotiated even large dams. Non-native brown trout, meanwhile, had more trouble — suggesting that beavers could be a valuable tool for preserving a stream’s indigenous fauna.¹⁷ Fish have plenty of clever methods for circumnavigating beaver works. They often bypass dams via side channels, like motorists avoiding highway traffic by taking local roads. Sometimes they wait patiently in the plunge pools below dams for high flows. Adult salmon may simply soar over barriers; the Atlantic salmon, *Salmo salar*, isn’t dubbed “The Leaper” for nothing. Rebekah Levine has observed adult grayling — trout cousins with colorful sails for dorsal fins — squirming through Montana dams like children navigating a jungle gym. “They just wriggle right through,” she told me, still amazed.

Befitting their reputation as a keystone species, the munificent rodents actually help fish in many ways. Beavers mitigate drought: When western Wyoming dried up in the early 2000s, researchers found that young cutthroat trout survived best in rodent-created pools in a place called, fittingly, Water Canyon.¹⁸ Beavers make fish food: Bob Naiman found that ponds contain up to five times more invertebrates than open channels, an almost

unfathomable seventy-three thousand bugs per square meter.¹⁹ And while fish folks sometimes complain that silty pond floors make lousy breeding habitat for salmon and trout, which prefer rocky bottoms, every particle that gets trapped by a beaver is a particle that won't smother spawning gravel downstream. During 2001 floods, three beaver dams in Russia trapped 4,250 *tons* of solids — about twenty blue whales' worth.²⁰

It gets better. Beavers — perhaps ones with delusions of becoming sea otters — build dams in the Skagit River estuary, a brackish marsh inundated twice a day by Pacific tides. When the sea comes up, the dams vanish; when it goes out, the structures reemerge, trapping the ocean and allowing their creators to navigate underwater even at low tide — and providing prime shelter for young chinook salmon and other fish.²¹ Elsewhere beavers carve out salmon habitat without even building dams. In 2014 and 2015 Marisa Parish snorkeled among beavers' works on California's Smith River for her PhD dissertation at Humboldt State University, peering into the dark entrances of submerged bank burrows with a flashlight. "Sometimes you can almost get your whole body into the entrance of the burrow, and your heart gets racing pretty fast," she recalled to me. Although she may not have been comfortable in the burrows, fish certainly were: Parish found four species of juvenile salmon taking cover in the underwater enclaves.²²

In 2012 a group of British researchers, led by Paul Kemp, waded through the morass of scientific literature to settle the matter once and for all. Kemp reviewed 108 published papers, discovering that scientists cited beaver benefits to fish much more frequently than they did negative consequences. What's more, while the majority of beaver benefits — improved habitat complexity, steadier flows, jacked-up insect production — were grounded in hard data, more than 70 percent of the purported detriments were merely speculative. Decades of grist from the anti-beaver rumor mill had congealed into unchallenged truisms. Even scientists, it turns out, can be awfully unscientific.²³

I'll cop to oversimplifying a complex issue here, but at an intuitive level, it's ludicrous to me that the harmony of beavers and fish remains up for debate. Before fur traders and colonists trashed the place, North American streams were stacked with hundreds of millions more beaver dams than they are today — and yet our rivers so churned with fish that European colonists claimed they "ran silver." Castorids and salmonids — along with other fish

EAGER



A thirty-foot-long dam near Taos, New Mexico, transforms a straight, relatively featureless stream into a wonderland of pools and side channels.



Half-Tail Dale awaits a mate at the Methow Beaver Project's rodent love motel.

EAGER



A Beaver Dam Analogue, the joint creation of human and rodent labor, furnishes coho salmon habitat in California's Scott Valley.



Steelhead, including this juvenile captured in Oregon's Bridge Creek, are among the many species that benefit from beavers.

EAGER



Photos captured in 1992, 2013, and 2017 illustrate how a combination of managed cattle grazing and beaver recovery restored the ecological and hydrological health of Susie Creek, a badly degraded stream in Elko County, Nevada. *Photos courtesy of Carol Evans.*

NOTES

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CHAPTER FIVE: REALM OF THE DAMMED

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About the Author



Terray Sylvester

Ben Goldfarb is an award-winning environmental journalist who covers wildlife management and conservation biology. His work has been featured in *Science*, *Mother Jones*, *The Guardian*, *High Country News*, *VICE*, *Audubon Magazine*, *Modern Farmer*, *Orion*, *World Wildlife Magazine*, *Scientific American*, *Yale Environment 360*, and many other publications. He holds a master of environmental management degree from the Yale School of Forestry and Environmental Studies.