

Celebrating the *50th* Anniversary of
Montana's Stream Protection Act

BRIDGING THE DIVIDE

Fifty years ago, Montanans came together and
decided that streams were worth saving.

BY TOM DICKSON

FREELY FLOWING A few miles north of Craig, the Missouri and Dearborn Rivers meet below a railroad trestle and a bridge carrying freeway traffic on I-15. This blue-ribbon stretch of trout water shows how transportation systems can coexist with fish habitat. Montana streams gained their first protection from damage caused by new highways, railways, and other development in 1963. Photo by Steven Akre.

Every time I cross a bridge spanning a river or stream, I give a little cheer, because that structure of steel and cement represents a victory for fish.

It wasn't always so. For decades trout, sturgeon, sauger, and other species were on the losing side of Montana highway construction.

That's because when it comes to designing roads, the straighter the better. Straight routes are safer for drivers and cheaper to build and maintain. Every curve means increased costs and potential for accidents.

When it comes to rivers, the opposite is true. A ruler-straight stream has little of what fish require, while curves, or "meanders," create habitat—holes, riffles, and spawning sites—and contain more total miles of water.

There's no question Montanans need roads to move themselves and goods across the state's wide expanses. Yet they also cherish their beloved streams and rivers, part of what the Montana constitution calls "the quiet beauty of our state."

Fifty years ago people realized, for the first time, they might not be able to have both.

"Gradually disappearing"

Fishing waters took a beating during much of Montana's early history. First came the railroads of the late 1800s, which required straightening many stream stretches to facilitate train traffic. Then came the go-go

road construction years following World War II. When Congress passed the Federal Highway Administration Act in 1956, states received federal funds to build the Interstate Highway System, including I-15 and I-90 through the Treasure State. That pushed highway construction into overdrive.

By this time, fisheries biologists with what was then the Montana Department of Fish and Game already knew the state's growing transportation needs were coming at an enormous price. "Montana's best waters are gradually disappearing... whole channels are being changed by the road builders," read a 1955 department editorial in its magazine, *Montana Wildlife*.

Hoping to save the best of the best, in 1959 biologists designated a list of "blue-ribbon" trout streams containing premium productivity, public access, and aesthetics. Then, in 1961, fisheries officials devised a three-part stream preservation strategy (rumored to be hastily sketched on a napkin): protect physical habitat, preserve water quality, and maintain water quantity.

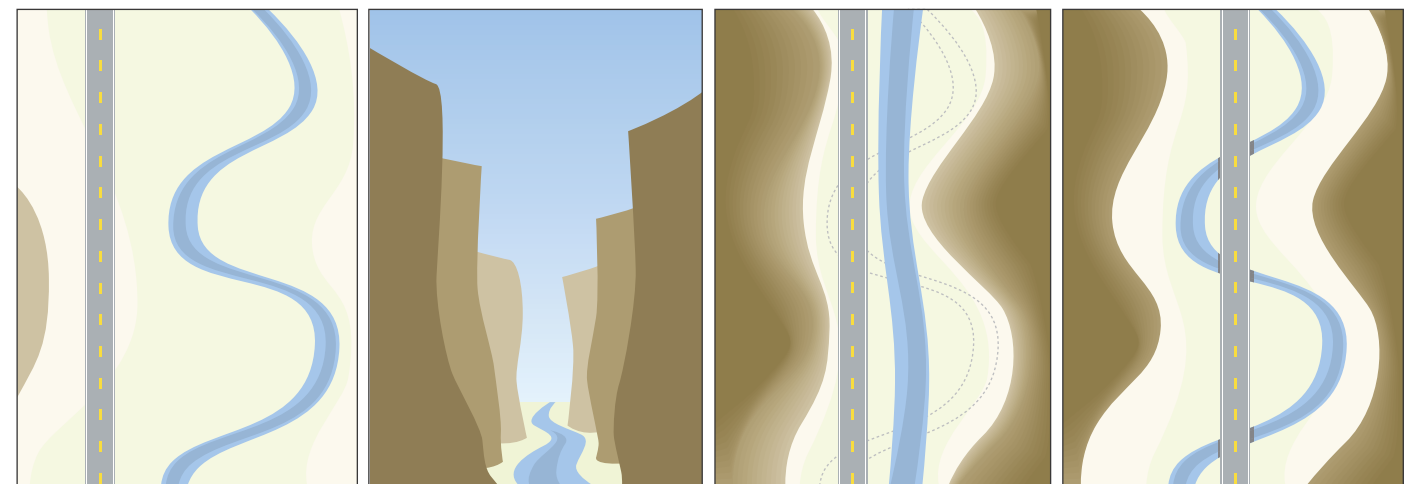
The first step of the plan was to find a way to reduce harm to streams from road and highway construction. That required documenting the damage.

The following year, the department conducted a study of 13 streams in western and central Montana. Biologists measured the amount of channel and bank alterations—including channelization, riprapping, and removing underwater habitat such as logs and gravel—and compared trout numbers before and after development. The results, issued in a 1963 report, were startling.

For instance, after a portion of Flint Creek, near Philipsburg, was channelized in 1957, the number of large trout declined by two-thirds. On Rock Creek, near Red Lodge, the trout population dropped 75 percent after channelization. Overall, biologists found more than three times as many catchable trout in natural stretches as they did in altered channels. And total stream length was reduced by half—from 137 natural stream miles to 69 miles of man-made channels—mainly from road building, railroad construction, and agriculture.

"The manhandling of our coldwater streams is of immediate concern," wrote the report's co-authors, fisheries chief William Alvord and biologist John Peters, who noted that "most changes could have been done without damaging the streams."

Bring us into the planning stages earlier, the biologists urged, and we can find ways to keep new roads from harming trout waters.



Roads can coexist with streams when not built too close to the natural waterway.

But when roads are routed through narrow canyons, there is less room for separation.

One option, done before 1963, is to straighten, or channelize, the stream so it runs along the road. Cheaper to build, but bad for trout.

Another option, more frequent after 1963, is to build bridges that allow roads to span portions of existing meandering streams. Good for trout, but more expensive to construct.

ILLUSTRATIONS: MONTANA OUTDOORS; PHOTOS: MONTANA FWP

1963–2013

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Conflict in the canyons

Roads generally don't harm streams when the two are kept apart. But western Montana's topography often can't accommodate that separation. Over millions of years, moving water eroded canyons through mountain ranges, creating natural human transportation routes—from Indian trails and stagecoach lines to railroads and highways. The narrower the canyon, the more potential for conflict between roads and streams.

Road builders in the early 1960s opted for straight routes whenever possible, explains Steve Kologi of Helena, a road design engineer at the time with what was then the Montana Highway Department. "We were trying to get the most road we could for the least amount of money, while still ensuring public safety," he says. To fit a road through a narrow canyon, highway engineers often channelized the stream so the two could run side by side. Unfortunately, straightening a serpentine stream harms fish. It lessens total stream miles and eliminates habitat such as pools, undercut banks, and spawning areas created by naturally meandering waterways.

Straight channels also increase current speed, creating more erosion and flooding problems downstream.

In January 1963, several Fish and Game staff presented the department's findings about channelization and other stream alterations to civic groups, the Montana Wildlife Federation, and other organizations. Among the Montanans alarmed by the study was

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Harry Mitchell, a young dairy farmer in the Great Falls area. Mitchell was also a member of the Montana Junior Chamber of Commerce, a civic group (also known as the Jaycees) comprising members in their 20s and 30s. "It really got my attention," says Mitchell, who later became a multiterm Montana senator and county commissioner. "And it didn't take much to convince other members. It seemed so logical to all of us that we had to protect these trout streams we were all so proud of."

The Jaycees, led by Mitchell and the group's president, Harrison Fagg, lobbied lawmakers during the 38th legislative assembly to pass a stream conservation bill authored by Democrat Senator Robert Durkee and championed by Republican George Darrow. Many legislators were already aware of

the growing conflict between the Highway Department and Fish and Game, which one reporter called an "undeclared war." Particularly contentious at the time was construction of I-15 along Wolf Creek Canyon. Running through the narrow gorge was Little Prickly Pear Creek, a popular trout stream and a major spawning tributary to the blue-ribbon stretch of the Missouri River below Holter Dam. Central and eastern Montana legislators regularly passed though the canyon while driving between the state capital and their home districts. No doubt many noticed the bulldozers and cranes turning parts of the scenic stream into a bare ditch.

The bill, known as the Montana Stream Protection Act, passed by a two-thirds bipartisan majority. It established a state policy that Montana's fishing waters "are to be



CHANGING CHANNELS Big Spring Creek in Lewistown was channelized in the early 1900s to make room for a railroad line. The above photo shows a later-built road next to the channel, with the original undulating channel still visible. In the early 2000s (below), FWP restored the stream to its historic course, bringing back the curves and bends that produce fish habitat.



protected and preserved...in their natural existing state except as may be necessary and appropriate after due consideration of all factors involved." The law required state agencies, counties, and public municipalities to apply for a "124 permit," administered by Fish and Game, for projects that would modify or change the natural shape of a stream or its banks.

It was the first state stream protection bill of its kind in the nation.

Seat at the table

Though the new law couldn't alter federal projects, the U.S. Forest Service and other agencies soon acknowledged its significance by signing agreements to include state fisheries biologists in their road-planning process. "From that point on, we always had a seat at the table on any projects involving a stream," says Ralph Boland, of Helena, who began working for Fish and Game as a fisheries biologist in 1960 and managed the department's Stream Protection Act (SPA) Program from 1971 to 1983. Among the recommendations made by biologists when reviewing road construction plans: widen culverts through which streams pass, increase bridge spans to allow rivers more "wiggle room" to naturally meander, and replace channelization with bridges. "Our perspective was that instead of moving the stream from where you want the road to go, move the road to accommodate the stream," Boland says.

With state law now on their side, biologists usually prevailed. According to Peters, the 1963 report co-author who was promoted the following year to manage the new SPA Program, plans for highway proj-

1963-2013
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ects on the Beaverhead, Madison, Jefferson, Stillwater, Bitterroot, and other rivers were modified over the next few years to lessen stream damage. On I-90, biologists convinced the Highway Department to build two new meanders of the Clark Fork downstream from Drummond to replace two that had been cut off years earlier. In long stretches of St. Regis Canyon, the east- and west-bound lanes of I-90 were separated to avoid damaging the river bed. Two bridges downstream from Craig on I-15 were built to avoid destroying large bends of the Missouri River. "If done during the preconstruction planning stage, most changes were relatively easy to make," says Peters, now living in Colorado.

While benefiting fish and anglers, the road revisions weren't without costs. "Building or expanding a bridge was expensive," says Kologi. "That meant fewer miles of highway we could build someplace else." Bridges were also a safety concern, he adds, because

the decks ice up more often than roads do.

Montanans were willing to pay that price. In 1965, the legislature voted overwhelmingly—with just a single dissenting vote—to make permanent the SPA, originally written to last only two years. "It was hugely popular," says Mitchell. "No one wanted to vote against protecting trout streams in Montana."

Concerns worked out beforehand

Fifty years after the original bill was signed, the Stream Protection Act is still safeguarding coldwater and warmwater streams, according to Beau Downing, current SPA coordinator for what is now Montana Fish, Wildlife & Parks. The department reviews roughly 480 permit applications each year, mostly from today's Montana Department of Transportation (MDT). Disagreements occasionally take place, but five decades of discussions between highway engineers and fisheries biologists have greatly reduced conflicts. "We still have our mission and MDT has its mission, but a lot of our concerns will already be worked out before the permit application is even made," Downing says. He notes that MDT now employs five biologists of its own.

Looking back a half century later, Mitchell says he can see how the 1963 act signaled a change in public attitudes toward both unbridled development and the need to protect the state's natural resources. "I think Montanans had been taking their trout streams for granted," he says. "Then all of a sudden the interstates came along, and for the first time people could see that those streams might not be around forever. It was a wake-up call. For many of us, saving those streams was simply the right thing to do." 🐾

Fisheries foresight

IN 1961, MONTANA FISHERIES OFFICIALS came up with a three-part strategy to preserve the state's rapidly disappearing trout streams: (1) protect physical habitat, (2) preserve water quality, and (3) maintain water quantity. Remarkably, they and other conservation-minded Montanans were able to fulfill that vision in little more than a decade.

After the Stream Protection Act of 1963 (made permanent in 1965), the state expanded **stream habitat protection** in 1975 with the Natural Streambed and Land Preservation Act. The new law required private individuals and organizations to obtain a "310 permit" before undertaking a project that would modify a stream. Authority for permit approval was given to conservation districts, with recommendations coming from landowners and local fisheries biologists.

To **preserve water quality**, groups like Trout Unlimited and the Montana Wildlife Federation helped pass the Montana Water Quality Act in 1969. The law established enforceable standards for clean surface water and groundwater, designating maximum allowable levels of arsenic, nitrates, and dissolved heavy metals, and making it illegal to, among other actions, pipe sewage into streams.

As for maintaining **water quantity**, in 1973 the Montana Water Use Act authorized maintaining minimum flows in streams for fish and wildlife, which it included as a beneficial use of state waters. For the first time, Fish and Game could apply to the Board of Natural Resources and Conservation (seven citizens appointed by the governor) to reserve water for the good of fish and wildlife.



The law was first put into action on a large scale in 1978, when the board ruled that 5.5 million acre-feet of instream flows on the Yellowstone River and 67 tributaries should be perpetually reserved for the good of fish and wildlife. The ruling helped defeat a proposal to divert one-third of the river's flow to accommodate coal development in eastern Montana and Wyoming, and has since restricted water removal for irrigation during critical low-water periods on several major rivers.

Though Montana has passed subsequent environmental conservation legislation, the laws enacted during the decade spanning 1963 to 1973 did more to protect the state's world famous fishing waters than any before or since. "Looking back, you realize the foresight those guys had back then," says Larry Peterman, FWP fisheries chief during the 1990s. "First with the blue-ribbon stream designation and then the [13-stream] study, they were building a public awareness of Montana's streams that, until then, had been largely taken for granted." Never before had Montana considered streams as ecological entities and not just channels that moved water around, adds Peterman. "It was the beginning of the groundswell of public opinion, which continues to this day, that says, 'Hey, stop messing with our streams.'" ■

HALF A CENTURY The year 2013 marks the 50th anniversary of legislation that has protected hundreds of miles of coldwater and warmwater streams across Montana. Shown here: rainbow trout in a tributary of the upper Blackfoot River.

JEFF SANTLER

Montana Stream Protection Timeline: 1956-1978

