

Conservation and Development

Can the Jefferson River survive our love for it?

In our relentless desire to acquire, our species has the unfortunate habit of destroying what we most love. In our efforts to get close to nature, we discover Eden, then bulldoze it to put a house there.

Montana suffers from too much love, as people seek to get their own piece of the Big Sky. Some home-builders seek ridgetop building sites for a commanding view of the landscape, but they ultimately create a landscape of houses on hill tops. Other builders desire to be close to the flowing waters and the abundant wildlife of the river bottoms, but ultimately help to destroy that as well, converting pristine rivers into channels lined by houses.

It is easy to imagine that just one house won't really change anything, that you can plunk your house down in Eden without destroying it, but it doesn't work that way. Everyone wants to build just one house in Eden, and the collective impact is that there is nothing left to cherish. Eighty thousand acres of biologically rich river banks and productive agricultural lands were lost to development in Montana between 1982 and 1992. Then the pace of development accelerated, consuming another 123,000 acres in just the next five years. But what we have seen so far may be the "tip of the iceberg."

Although family size has decreased to near equilibrium in America, the population is still exploding, especially due to continued immigration. According to a range of estimates by the U.S. Census Bureau, our nation's population could double, triple, or quadruple between 2000 and 2100, a wave of growth that is hard to fathom. The Wasatch Front, including Salt Lake City and Ogden, is expected to explode from 1.7 million people in 2000 to 5 million people by 2050. But as personal wealth continues to rise and people commute to work via the internet, they will have little incentive to stay in the cities. Suburban sprawl will hit the countryside like never before. Scenic, rural areas such as southwest Montana can expect much more than a doubling, tripling, or quadrupling of the population. Anyway you look at it, a million people are coming to this part of Montana, and it will happen at a rate that is hard to fathom.

We do not need to send people away to keep Eden intact. With a bit of farsighted planning we can make the future a lot more pleasant for all, and the present time is our last best chance to make a meaningful difference. But conserving the open space and abundant wildlife of the Jefferson River corridor will not happen as the result of government laws and planning. It will only happen when individuals decide that making a lasting difference in the world is more important than trying to get the best personal view for their limited time on earth.



The Jefferson River is at risk for becoming a channel lined with houses.

In a life where you cannot take it with you, it is worth considering what you can leave behind for future generations.

Landowners can donate or sell conservation easements to insure that open space will remain open space. Home-buyers can look for homes in established communities to be near the rivers, without bulldozing yet more riverside lands. Contributions of time and money to organizations such as the Jefferson River Canoe Trail Association will further help to sustain our open landscape and our open access to it for all generations of Montanans to come.

About Conservation Easements

When you own land you own a bundle of rights. These rights include such things as the right to irrigate, graze livestock, grow crops, cut timber, build roads, extract minerals, control recreational access, or subdivide and develop the property. This "bundle" of rights can be split among various parties to the benefit of all.

To permanently protect a ranch as open space a landowner can donate or sell a conservation easement. Conservation easements are perpetual restrictions on development—the strongest measure a landowner can take to permanently protect the integrity of his or her property. It is a voluntary contract negotiated between the landowner and a nonprofit organization known as a "land trust," such as the Montana Land Reliance, or a public agency such as the MT Department of Fish, Wildlife, and Parks. Most conservation easements are donated, but there are limited funds available to pay for conservation easements as well.

Conservation easements can be tailored to meet the economic, social, and environmental goals of the landowner. An easement can be granted on the entire property or on a parcel of land. For example, if a landowner wants to continue using the land for ranching but also wants to ensure that the property will not be subdivided in the future, he or she can stipulate such provisions in an easement. If a landowner wants to protect the majority of the property, but wants to set aside several home sites for future building, such desires also can be accommodated.

Conservation easements are a powerful tool for protecting the land as well as for protecting the family farm from inheritance taxes.

Once an easement is donated or sold, the land trust or public agency is responsible for enforcing its provisions in perpetuity. The easement and its restrictions are attached to the deed and apply to all future owners. In return for donating a conservation easement to a land trust or agency, a landowner may claim a charitable deduction based upon the value of the development rights foregone. Because conservation easements are permanent restrictions on development, landowners should consult attorneys and accountants specializing in conservation easements and tax law. (Adapted from Welcome to the West: www.northrock.org)

Thinking of Building a House?

Guidelines for Enjoying the River without Destroying it

Wouldn't it be great if every person who floated the Jefferson River could experience it as wild and pristine as it was in the days of Lewis and Clark?

When you get into a canoe and experience the river from the viewpoint of Lewis and Clark, you discover how much the viewshed remains intact. Most existing development is away from the river enough that you see only the cottonwood groves and swamps along the river, against a backdrop of undeveloped mountains in the distance.

Still, the unfortunate reality is that the Jefferson River is gradually getting chopped to pieces, and could one day become a channel lined with houses on both sides. All it takes is one more person building just one more house... there is always just one more house.



In a life where you cannot take it with you, it is worth considering what you can leave behind for others.

Part of the problem is that once a house is built along the river, then the owner naturally wants to protect it from the river. Instead of allowing the river channel to shift back and forth naturally, home owners rip rap the bank with big rocks to keep it in place. The rip rap not only looks bad from the river, it also kills the river ecology. Cottonwood trees germinate in the flooded gravel bars left behind by the shifting river. Confining the river to a single channel insures that old trees will not be replaced by young ones.

In order to retain the remaining natural character of the Jefferson, we advocate a voluntary "Lewis and Clark" architectural standard for the Jefferson River, where all new buildings are located, designed, and constructed to preserve the viewshed from the river.



Either we sustain the Montana way of life or we lose it. The actions of individuals make the difference.

To retain as much of the true wild character of the Jefferson as possible, it is most ideal to locate new houses in towns or existing communities of houses. If you desire a house overlooking the river, then build it in town, not in the undeveloped spaces between towns.

If you do decide to build a house or any other kind of development along the river anyway, please position it far enough back from the water, behind the landscaping or vegetation, such that travelers can pass down the river without knowing it is there. Make sure you are building in an area that will not require future rip rapping of the river bank to protect your house, and please also plan for a low profile and choose natural materials and colors that blend easily into the background.

Environmental Considerations

When you are looking for the ideal spot for your Dream Home, keep in mind that what seems like the most beautiful place may not be the most practical one after all. For example, houses built on hilltops to take advantage of the view not only ruin the view for other people, they are also more exposed to the wind, leading to higher heating bills and reduced opportunities to enjoy the yard.

Similarly, houses built close to the river not only diminish the floating experience, they are also exposed to the coldest temperatures and the most mosquitoes.

It might seem really appealing to be nestled into the trees along the river to stay cool in summer, but the reality is that summers are short (really short!) in Montana. There may be two to three months of hot weather each year when the cool river bottom is most appealing, but that is also the time when the mosquitoes are out in force. Most of the rest of the year is simply cold. If you go out on a cool evening and walk up a short rise out of the bottom lands, you may notice the temperature rise by five to ten degrees. Just imagine building your home in a place that is five to ten degrees warmer for those nine or ten months of the year that are typically cool or cold! You can save energy and enjoy your yard more.

The bottom line is don't build on the hill tops and don't build on the river bottom. Seek the middle ground, up out of the cold, but down out of the wind, and preferably in the company of other houses. You can still have a great view of the river valley and all the mountain peaks, while making a more efficient house and a more usable yard. You will also be conserving habitat for wildlife and preserving the undeveloped viewshed for floaters on the river.

Keep in mind also that fossil fuels are slowly running out, and definitely getting more expensive. Whether we wear ourselves off of fossil fuels because they are scarce or due to global warming, we will, one way or the other, cease using fossil fuels. But we cannot just replace fossil fuels with firewood. That isn't sustainable either. Therefore, when you design and build your house, make it 100% passive solar, or as close to that point as you can. With a bit of creative planning it is not difficult to achieve, and it doesn't have to cost any more than standard construction. The energy savings is something you can take to the bank for the rest of your life.



Mussel shell populations have been hurt on the Jefferson and most Montana rivers by increased sedimentation and algae growth.

With a watershed encompassing 9,500 square miles of the Rocky Mountains and tributaries that include three major rivers and twenty smaller streams, you would expect that the Jefferson River would always have plenty of water to support a healthy fish population and recreational floating all summer long. But the unfortunate reality is that during dry years the flow is so low by mid-summer that there is scarcely enough water to float a canoe. Sometimes the fish suffer thermal stress from high water temperatures. Although the river is capable of supporting 700 adult brown trout per mile, the population has dropped since the 1980s to only about 200 per mile. While the Jefferson River has enough water to go around during normal years, drought years can present a problem.

If that sounds like a recipe for a western war over water claims, then you might be surprised to attend a meeting of the Jefferson River Watershed Council, where you will find farmers, ranchers, fishermen, outfitters, biologists from the Montana Department of Fish, Wildlife, and Parks, and conservation groups, such as Trout Unlimited, all working together in a voluntary effort to improve conditions on the river. In fact, many of the local farmers and ranchers are fishermen, hunters, and conservationists themselves. Given the rise in property values, many of them could choose to sell their land to developers and retire rich, but instead they choose to roll out of bed early and work long, hard days to keep their farm and ranch operations alive. These farmers and ranchers are the first line of defense against encroaching development, and through the Jefferson River Watershed Council they are working on creative solutions to improve and sustain the river and a traditional way of life.

The Council already has many projects in motion, including:



Painted turtles live in ponds along the Jefferson River.

• Irrigation efficiency measures to enable more controlled use of the water, so that extra water can remain in the river.

• A drought management plan that encourages members to turn irrigating water back into the river when flow drops below certain critical thresholds.

• Weed projects, emphasizing biological controls to help keep weeds like leafy spurge in check.

• Watershed monitoring to collect flow, nutrients and metals data for the river and its tributaries. The data will be used to determine water quality restoration needs.

For more information about the Jefferson River Watershed Council, please visit their website at: <http://www.jeffersonriverwc.org>

Fishing, Floating, and Farming

Jefferson River Watershed Council forms constructive partnerships

The mission of the Jefferson River Watershed Council is to coordinate efforts, through a spirit of community cooperation and sharing, that will enhance, conserve, and protect the natural resources, quality of life, and economic vitality of the Jefferson River watershed.

The Council has already developed and implemented a drought management plan relying on voluntary action to maintain critical water flows in the river. This plan may not provide enough water for recreation, but at least it helps keep enough water in the river to keep the fish alive.

Other goals of the Jefferson River Watershed Council include:

- Improve communication between water users and natural resource managers in the Jefferson, Beaverhead, and Ruby Valley watersheds.
- Conserve and enhance natural resources while sustaining the rural quality of life and economic vitality within the watershed.
- Facilitate a coordinated approach to problem solving between public and private interests.

• Provide educational opportunities for basin residents to become more aware of natural resource issues and concerns.

• Support cooperative research projects designed to promote scientifically sound decision-making.

• Support floodplain planning and the responsible development of the Jefferson River Valley.

• Promote opportunities to enhance the health of wild fisheries in the Jefferson River and associated tributaries.

A tracker might notice the passing of a mink or raccoon in the mud along the shore, or note the perch of an owl by the remains of the mice in the owl pellets on the ground below.

A person who doesn't have much experience as a naturalist may not find the river that interesting, beyond the great scenery and the occasional surprise that jumps out as you paddle by. Nature is a lot like wallpaper. It makes a pretty background, but not the sort of thing you pay much attention to. But the more you know about nature, the more you will see and experience along the way. With practice, it is

all around us, with every road and house that cuts into wildlife habitat.

Equally tragic is the fact that few people would notice the difference if we lose half of all life on earth, since few people know what is around them right now. But when you learn about nature, you begin to discover a secret world that has always been right in front of you. You notice more, and when you notice more, you ultimately care more, and that is the key to making a real and tangible difference to sustain our wildlife and wild places for future generations to discover and appreciate in their time. So get out the field guides and get on the river, and experience it in a way you never have before!

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Fish, Wildlife, and Flowers

The Jefferson River is a corridor of great abundance and diversity

The Jefferson River has been described by some as being like an African safari, with its great abundance of wildlife, wild birds, and wildflowers. The Jefferson has all the right ingredients to with lots of water, swamps, sloughs, cottonwood groves, meadows and fields. Diversity of habitat allows for diversity of wildlife, and you will find just about everything along the river from painted turtles and rattlesnakes to sandhill cranes and yellow warblers, beavers and otters, foxes and coyotes, deer and moose,—even the occasional black bear.

For optimal wildlife viewing, try getting out on the river as early as possible, the closer to sunrise the better. Paddle quietly and keep your voices down. You may be amazed at how much wildlife you will see.

Keep in mind that every person will experience the river in a unique and different way, in a large part due to background experiences. A geologist will see the river in a very different way than a botanist, an entomologist, a fly fisherman, a tracker, a historian, or a bird expert. For example, a geologist might read the story in the hills, recognizing large scale events covering hundreds of millions of years of sedimentary, igneous, and metamorphic geologic activity. Every stone in the river will tell a different story about the past.

Meanwhile, the fly fisherman might be attuned to the insects in and around the water, noting subtle differences in the river to know the best places to land the right kind of fly to hook a big brown trout.

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Wild roses (Rosa spp.) bloom along the Jefferson in mid June.



A robin nest. Springtime on the Jefferson is nesting time, when numerous birds return from the south to raise their young.

even possible to learn to interpret the language of the birds to know what is happening beyond your line of sight.

That is how the whitetail deer always seem to know you are coming through the woods when you haven't made any sound. The deer pay attention to the alarm calls of the birds. A robin, for example, will squawk and fly straight up when people are walking through the woods. That is a different alarm call than it gives for other threats in the woods, such as a hawk flying overhead. The deer are very familiar with the different alarm calls of the birds, so they can know you are coming long before they see you. You too can learn skills such as these to enhance your experiences in nature. It all starts with the basic field guides, or outings with trained naturalists, to help you identify the tracks, flowers, birds, bugs, etc. that you encounter. Just looking for things to identify will help you to tune in more to the world around you, to see and hear more than you would have before.

At first it may seem like a bit of work to identify things you know nothing about, but success breeds success. The more successes you have, the easier and more fun it becomes to identify and learn about more rocks and trees and birds and bugs. And the more you know about nature, the more familiar it becomes, until seeing a downy woodpecker, or finding a morel mushroom, becomes an experience like running into an old friend. You've known them and missed them, and you are glad to see them again.

The sad reality is that we are losing plant and animal species to extinction every day, and scientists predict that we may wipe out half of all life on earth this century. This isn't just a problem that belongs to someone else in some other part of the world. It is happening all around us, with every road and house that cuts into wildlife habitat.

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Invasive Species Threaten Campsites

Help "pay for your stay" by pulling knapweed along the way

Imagine for a moment that as a child you lived near an open field and a creek, and every day you took your dog there for a walk. You liked to watch the cows and the deer and you fished in the creek. But then you grew up, moved away, got a job, and raised a family. Before you realize it twenty years have past, and you are reminiscing about your childhood years spent playing in the field. So you load the kids and their dog in the car and take them back home to show them your old haunt.

But amazingly, the field is full of scraggly-looking plants, and the soil is half-barren. There are only a handful of cows in the field and the deer are nearly gone. The creek is silted-up with soil eroded off the land, and try as you may, the fish just don't seem to be biting—because they are mostly gone too. You gather up your kids and dogs at the end of the walk, and everyone has scratchy seeds stuck into their clothing or fur.

This imaginary scenario is all too real. Invasive foreign weeds spread fast, crowding out native plants, reducing forage capacity for stock and wildlife, and increasing soil erosion. The economic viability of the land is nearly destroyed, and the recreation opportunities are greatly diminished. We cannot take for granted that the landscapes we knew as children will still be there for our own kids. Every day across the U.S., invasive weeds spread to over 4,600 new acres of public lands. The impact to private lands is equally staggering.

The population of any living plant or animal will grow at an explosive or exponential rate, if given the ideal habitat.

Invasive weeds are usually not a problem in their native lands where they have co-evolved with other plants, but they have little competition here in the New World. Spotted knapweed for example, forms a relationship with a soil fungus that enables the plant to steal carbon away from nearby grasses, reducing their ability to compete. According to research at the University of Montana in Missoula, grasses that evolved with knapweed were able to adapt and survive. Our native plants did not have the

scratchy weed patches.

Spotted knapweed is colonizing sand bars up and down the river and spreading to the adjacent dry hills. But there is no need to let the weed situation get out of control. All it takes is a little bit of effort from everyone that uses the river. Students at Whitehall High School are already releasing root boring weevils to help control knapweed.

Recreationists can help control spotted knapweed too, by pulling a few knapweed plants along the way. We ask you to "pay for your stay" by pulling ten knapweed plants per person per day. Start by looking for the purple blossoms when the plants are in bloom, but then study the leaves and learn to identify it before the flowers come on. Any weeds pulled before blooming can be dropped and left. Those that are in bloom, or have already gone to seed, should be hauled out to the trash in bags, being careful not to spread seeds along the way. Don't wait until the end of the day to pull knapweed at camp. Pull them when you find them at any stop along the way. If we all do a little, then we can make a big difference.



Knapweed infestations make riverside stops unpleasant to visit. All river users are asked to "pay for your stay" by pulling ten knapweed plants per person per day.



The spurge hawk moth has been released along the Jefferson River to help control leafy spurge.