

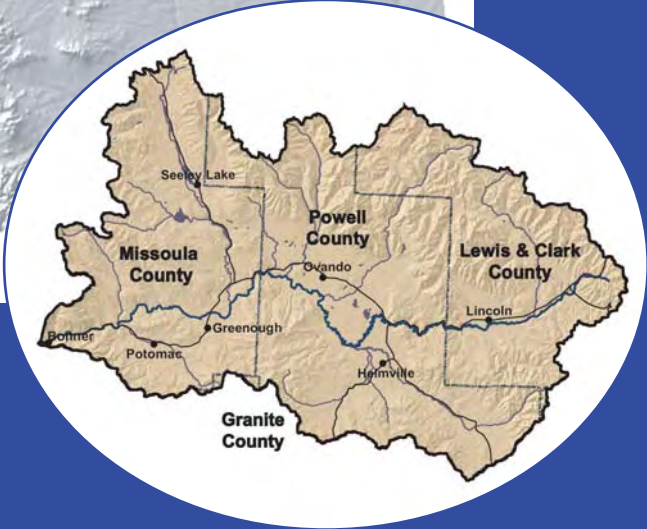
# The Blackfoot Watershed

## State of the Basin Report 2005

*Understanding Our Natural Resources and Rural Lifestyle*



A publication of the Blackfoot Challenge



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# Introduction

The Blackfoot River Watershed is well loved by its longtime residents, newcomers, visitors and national supporters. It has been explored, hunted, used, abused, nurtured, conserved, restored, tamed and kept wild over the years. The character of the Blackfoot is ever being shaped and re-defined by changing local land uses, community values, and economic forces. It has a colorful history that is still in the making. This *State of the Basin Report* provides a snapshot of the Blackfoot Watershed. It is intended to expand understanding of the watershed and to inspire folks in the Blackfoot to find a common vision for shaping the future of this unique and special place.



(Blackfoot River photo by Teri Garrison)

By Tina Bernd-Cohen  
Executive Director  
Blackfoot Challenge

## The Blackfoot Challenge

The Blackfoot Challenge is a landowner-based group that coordinates management of the Blackfoot River, its tributaries, and adjacent lands. It is organized locally and known nationally as a model for preserving the rural character and natural beauty of a watershed. Although its charter dates to 1993, Blackfoot landowners have played an instrumental stewardship role since the late 1970s - bringing conservation easement legislation, walk-in hunting areas and recreation corridor management to Montana.



(Junction of Clearwater River & Blackfoot photo by USFWS)

*The Mission of the Blackfoot Challenge is to coordinate efforts that will enhance, conserve and protect the natural resources and rural lifestyles of the Blackfoot River Valley for present and future generations. The organization supports environmentally responsible resource stewardship through cooperation of private and public interests. Private landowners, federal and state land managers, local government officials, and corporate landowners compose the membership. All share a common vision of how the Challenge operates in the Blackfoot watershed and believe in achieving success by building trust, partnerships, and working together.*

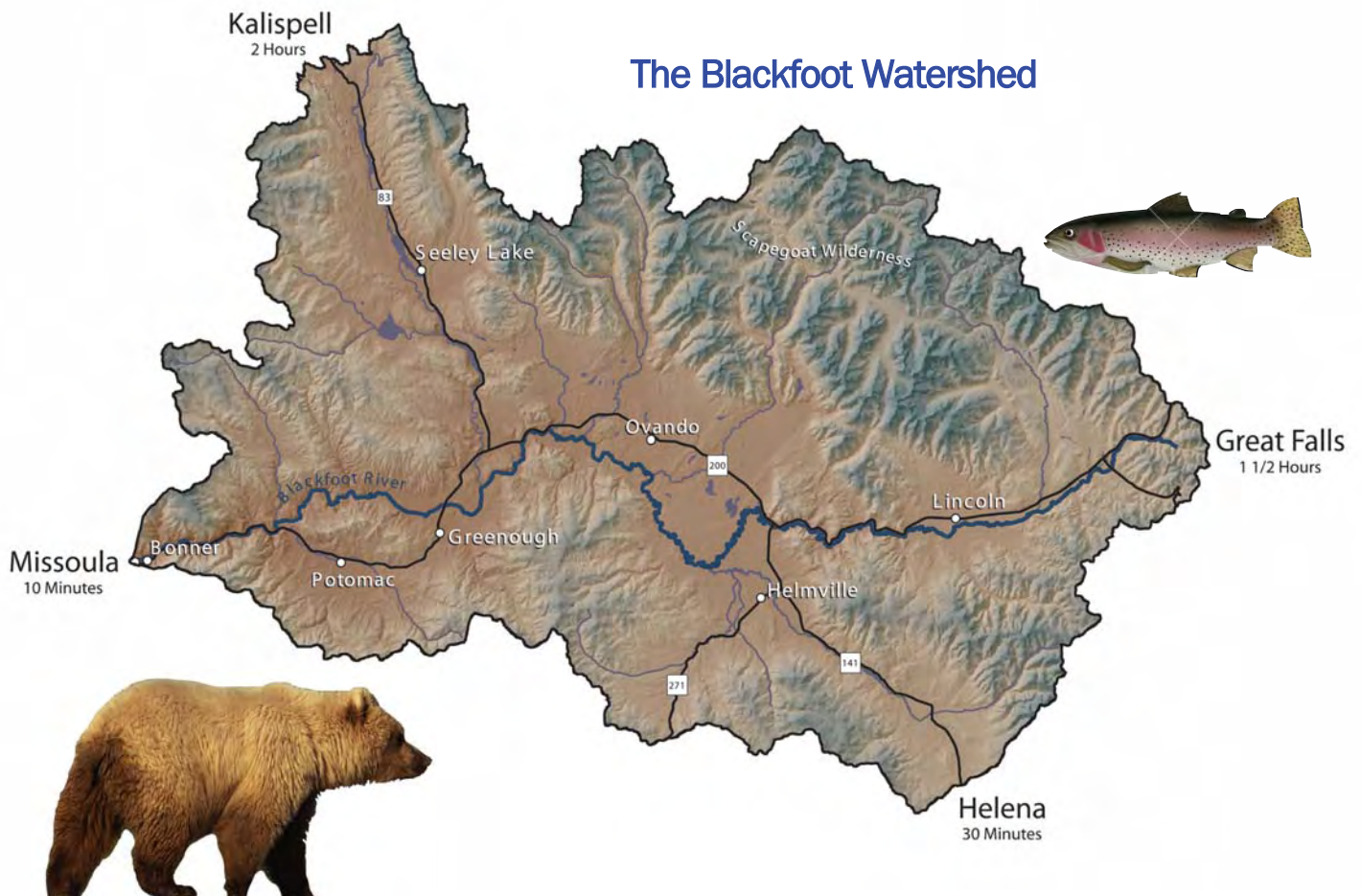
# The Blackfoot Watershed

The Blackfoot, one of about a hundred 4th code hydrologic unit watersheds in Montana, is located in the west-central region of the State. As a headwaters basin all the water leaving the basin originates within the basin. The Blackfoot River starts atop the Continental Divide at Roger's Pass and flows 132 miles westerly to its confluence with the Clark Fork River near Missoula. It is part of the Clark Fork River Basin that flows into the Columbia River and onward to the Pacific Ocean. (NRIS)

Nestled between the stunning mountain ranges of the Continental Divide, the Scapegoat Wilderness Area, and Garnet Mountains, the Blackfoot River Watershed totals about 1.5 million acres or 2,320 square miles. That's half a million acres larger than Glacier Park and over twice the size of Rhode Island. A 3,700 mile stream network, with 1,900 miles of perennial streams capable of supporting fisheries, provides over 10 million gallons of water, on average, through the Blackfoot River and into the Clark Fork every day. (Action Plan, CFTF)

The Blackfoot is located in portions of three counties -- Lewis & Clark, Powell, Missoula -- with a very small piece in Granite County. Unlike most other major valleys in western Montana, the Blackfoot Valley is predominantly rural and relatively undeveloped. Sprinkled within the watershed are some 3,000 households with about 8,100 residents living in and around the seven separate communities of Lincoln, Ovando, Helmville, Seeley Lake, Greenough, Potomac and Bonner. (Census)

The Blackfoot River runs through some of the most productive fish and wildlife habitat in the Northern Rocky Mountains. Shaped by glacial ice and a large glacial lake in the latter part of the Pleistocene Era, the valley shelters glaciated wetlands, lush riparian areas and blue ribbon trout streams. Geologic, hydrologic, and geo-



graphical features combine to produce a wide array of plant and animal communities within the Blackfoot Watershed. The main source of this diversity is the wetland features associated with glacial lakes and ponds, bogs and fens, basin fed creeks and spring creeks, scrub/shrub riparian areas, and cottonwood forests. The rolling landscape also provides the template for a rich assemblage of upland communities that include grasslands, sagebrush steppe, aspen groves, and pine forests.



(Photo by Tina Bernd-Cohen)

The economy of the Blackfoot has historically been dependent on mining, logging and ranching. Today, agriculture, almost exclusively cattle ranching, remains important. Resource extraction has been replaced by services and retail trade as the dominate industry sectors. Recreation and tourism are growing parts of the economy statewide. Here, the Blackfoot river, wilderness areas and abundant wildlife attract visitors. The life blood of the Blackfoot River itself are the tributary streams. About 1900 miles of perennial flowing streams make up the heart and soul of the Blackfoot, supporting fisheries and attracting anglers.

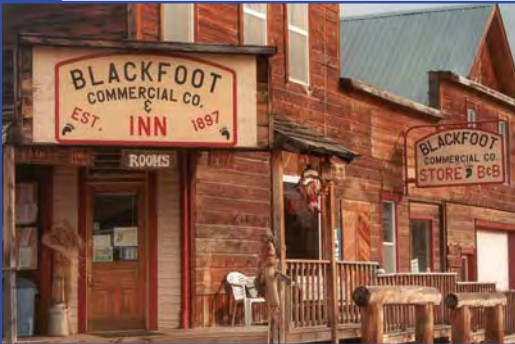
Over the years, mining and other land uses degraded water quality in the Blackfoot River resulting in a declining fishery and reduced angling opportunities. Restoration efforts lead by the Big Blackfoot Chapter of Trout Unlimited since 1990 have played a significant role in revitalizing the Blackfoot fisheries resources and riparian and grasslands habitat. (BBCTU) The valley has seen limited residential subdivision. Thanks mostly to the ranchers that manage the valley floor, the ecosystem is relatively intact and the biological diversity of the watershed has been maintained. Gradual fragmentation of the landscape into summer home sites, golf courses and other commercial developments could forever alter the natural resources and rural lifestyle of the Blackfoot. Can the Blackfoot River Valley retain its mystical qualities as captured by Norman McLean in his book and subsequent Columbia Pictures movie *A River Runs Through It* or will its discovery spell the end for one of the last best places?



(H2-O Ranch photo by Mary Bradshaw)

# Rural Lifestyle & Change

Individual communities and the Blackfoot watershed as a whole are defined as rural, based on population, income, and employment characteristics. The estimated population of the greater Blackfoot watershed is almost 8,100 people. In a 1.5 million-acre watershed that amounts to



(Photo by Teri Garrison)

less than one person per square mile. The population is generally spread throughout the valleys with largest densities of 300 persons per square mile in a very few areas. Although portions of the Clark Fork basin are experiencing accelerated population growth from in-migration, the rate of growth in the Blackfoot this next decade is expected to remain modest at between 1% and 2% a year. (Census)

The economy is dependent on local services and local retail businesses, as mining and logging have become more minor sectors of the employment industry. Agriculture remains a key rural industry. Today, more people are commuting longer distances to work. The one and two room schools are still present in the Valley. With declining elementary school enrollment, most rural communities are struggling to keep these local schools in place as they define the essence of rural Montana and a way of life vitally important to local residents.



(Photo by Teri Garrison)

Other rural lifestyle characteristics include the small town centers with community post offices, stores, bars and one-room community halls; and the fact that residents drive to regional services centers— Missoula, Helena, and Butte—for shopping and services like hospital/medical, and employment.

The presence of wide open spaces – thanks to federal lands, corporate timber holdings and private working ranches offering an abundance of outdoor recreational opportunities – provide another key element of the rural lifestyle of the

Blackfoot watershed. The great expanse of the Scapegoat Wilderness, the miles of snowmobile trails connecting Lincoln and Seeley Lake, the blue ribbon Blackfoot River and its tributary trout streams, the abundance of wildlife and wildlife hunting areas, Lewis' Return trail through the Blackfoot, collectively make the Blackfoot a popular recreation area. And, although in transition, the multi-generational cattle ranches with new owners retaining working ranchlands, continues the rural agricultural economy.



(Photo by Teri Garrison)

# Population Trends

The Blackfoot is part of the Rocky Mountain west, now called the "Third Coast", that is seeing a growing number of people moving to this area because they want to live near mountains and rivers and abundant fish and wildlife. Between 1990 and 2000, Montana's population increased by 13%. This growth is not distributed evenly across Montana or the western region. About a third of Montana's population is in the Clark Fork Basin, and hot spots of growth in western Montana include Flathead, Missoula and Ravalli counties. (Census, MFWP)

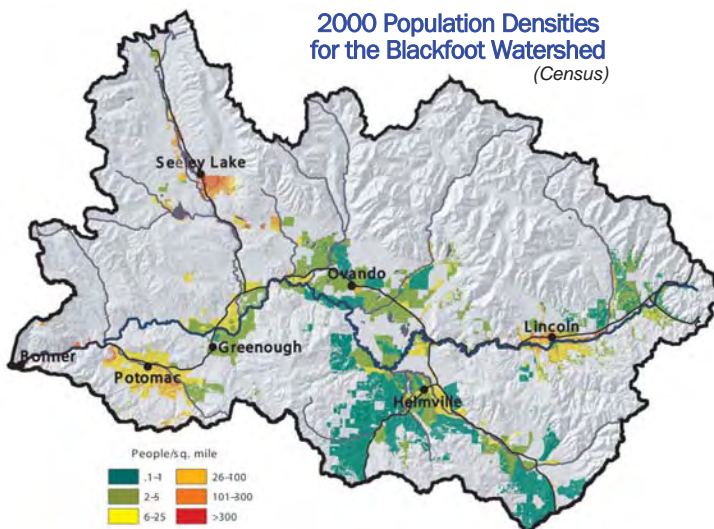
The Blackfoot basin-- the rural portions of Missoula, Powell and Lewis & Clark counties- experienced population growth of about 21% in the 1990-2000 decade, preceded by a small decline in population the previous decade. The Blackfoot population is projected to increase to over 8,680 by 2010, which is an annualized growth rate of 1.55%. As with the national trend, the population of the Blackfoot is aging and many newcomers are in the baby boomer generation. (Census)



(Photo by Bruce Andre)



(Photo by Dean Phillips)



## Population, Distribution and Density

The 2005 estimated population is 8,096. People live in or around the seven separate communities of Lincoln, Ovando, Helmville, Seeley, Greenough, Potomac and Bonner. Our population is clustered in valleys, near water, leaving large tracks of mountainous terrain unpopulated. (Census)

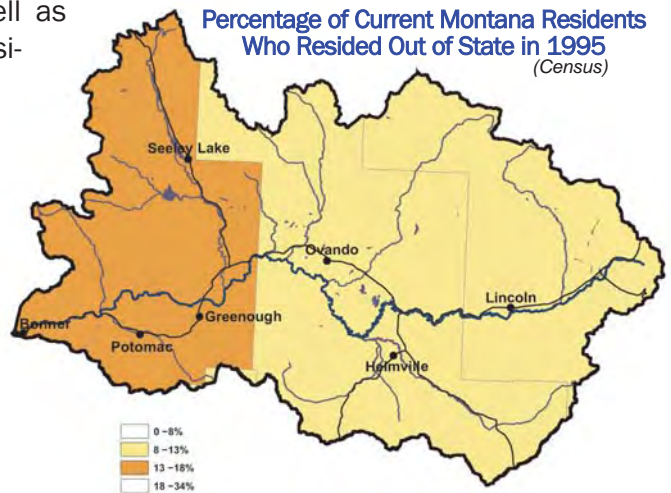
In the Blackfoot, the population remains rural and dispersed, but showing concentrations of >300 people per square mile in Seeley Lake, Lincoln and Potomac/Bonner areas. In the Clark Fork Watershed, former farmland is sprouting subdivisions and more people living near rivers increasing potential for water quality impacts. There is limited place to settle outside the valleys as the more mountainous unpopulated land is mostly public. (Census, CFC)

Only the northern portion of Powell County has 160 acre minimum zoning with smaller acreage lot sizes within a mile radius of the towns. For the Blackfoot valley communities, deciding how to accommodate future growth in the valleys will determine whether the rural intactness with working farmlands and undeveloped streambanks persist or whether 20-acre ranchettes dot the landscape and lakes and stream-side second homes become the norm.

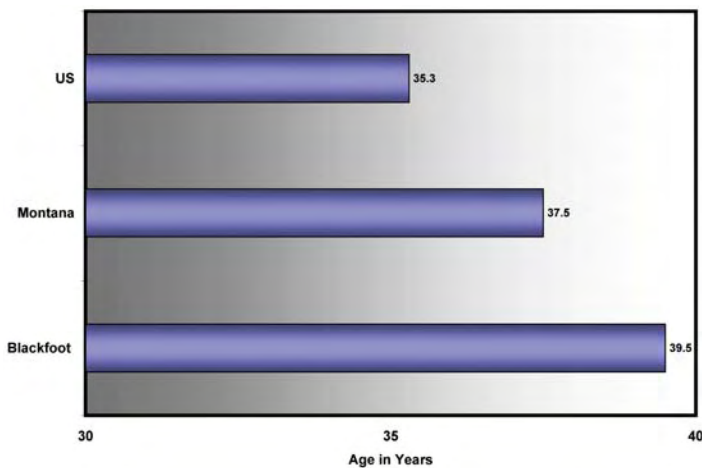


## Migration

Much of the population increase in the Blackfoot as well as across Montana is in-migration from other states. New residents are attracted to the Blackfoot because of its mystique, outstanding scenic beauty and intact landscapes, abundance of wildlife, and quaint rural character. Its proximity to Missoula and Helena services and airports is also an attractant. Between 8% and 18% of the current residents of the Blackfoot resided out of state in 1995. Newcomers bring different life experiences, values, and expectations which change the way of life in our rural communities. (Census, Rankin, Wildlife Spatial Analysis Lab)



**Median Age in 2000** (Census)



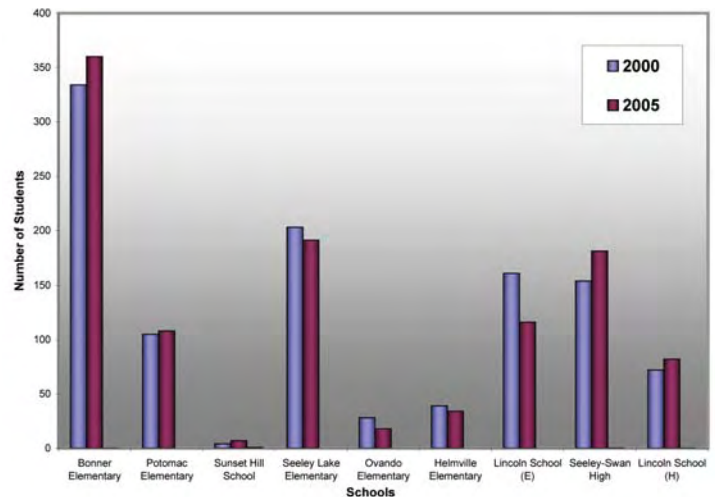
## Aging

The population in the Blackfoot and Clark Fork watersheds is older than the Montana and national average and is becoming older with retiree in-migration and as the baby boomer generation ages. Between 1990 and 2000, the median age of the Blackfoot population rose from 34 to 39.5. We saw an increase in the 65 and over population from 9.4% to 10.7% and a decrease in the 4 and under population from 8.1% to 5.5%. By 2010, the projected median age is 43. This aging population will increase demand for medical and aging services. (Census, CFC)

## School Enrollment

There are nine public schools in the Blackfoot. Seven are K-8th grade schools, one is a high school 9-12 grades and one is a combined K-12 grades. Some high school students from the Blackfoot attend Granite High School in Philipsburg or Drummond High School. There are 1,097 students enrolled in public schools in the Blackfoot. The elementary schools closest to Missoula are gaining students, as are the two high schools. All others are losing enrollment. As the local Blackfoot schools are the heart and soul of the rural communities, keeping these elementary schools open is of vital importance to the local residents. (OPI)

**Blackfoot School Enrollment 2000 & 2005** (OPI)



# Housing Trends

The amount of new construction and occupancy rates are indicators of economic health. High vacancy rates indicate seasonal and recreational housing use. Reductions in vacancy rates combined with higher priced new construction may signal a need for affordable housing in the future.

## Households, Housing Units and Occupancy

Between 1990 and 2000, the number of households in the Blackfoot increased by 35% and the average household size decreased from 2.67 to 2.50. During this same 10-year period, the number of housing units in the Blackfoot increased by 21%. About 53% of the housing units surveyed in 2000 were owner-occupied; 14% renter occupied and 32% vacant. Most (81%) of the vacant housing units in the Blackfoot are seasonal recreational housing units. The vacancy rate in the Blackfoot between 1990 and 2000 has declined from 39.1% to 32.1% and is expected to continue to decline. (Census)

	1990	2000	Change	% Change
Households in the Blackfoot	2217	3002	785	35%
Number of Housing Units in the Blackfoot	3643	4424	781	21%

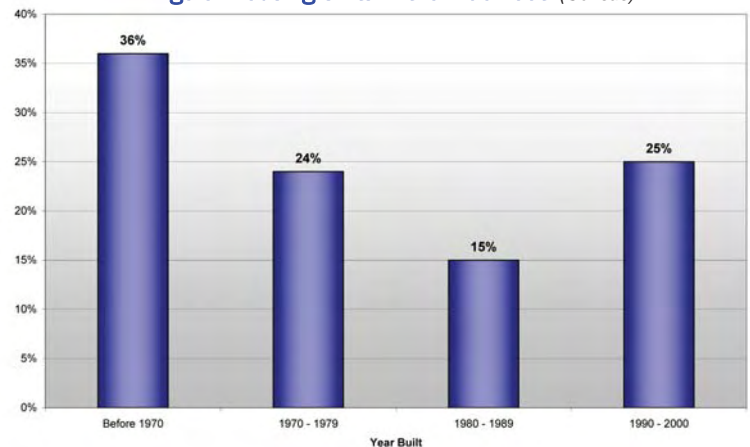
## Type of Housing and New Construction

74% of the housing in the Blackfoot is detached single-family units. 23% are mobile homes. Only 3% is duplex or multi-family housing. About 25% of the housing units in the Blackfoot were built between 1990 and 2000. New home construction in the Blackfoot exceeds the state and national average but lags behind the more urbanizing areas in the Clark Fork Basin. (Census, CFC)

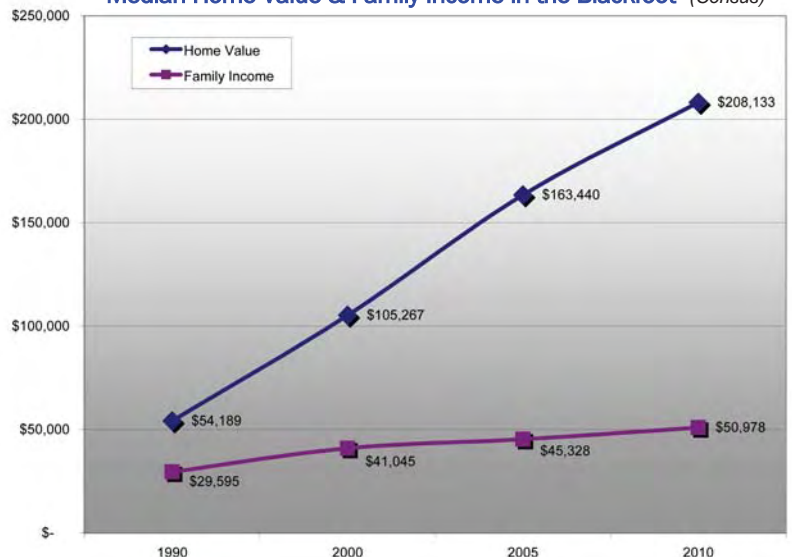
## Value and Affordability

Housing is becoming less affordable. The median home value for owner occupied housing in the Blackfoot watershed doubled between 1990 and 2000 and is expected to jump to over \$200,000 by 2010. Owner occupied homes in the Blackfoot valued at \$300,000 or greater jumped from less 1% in 1990 to 7% in 2000 and is predicted to jump to 27% of the market by 2010. In contrast the average household income in 2005 is \$45,328 and is expected to rise to \$50,978 by 2010. (Census)

Age of Housing Units in the Blackfoot (Census)



Median Home Value & Family Income in the Blackfoot (Census)



# Income & Employment Trends

The ability of rural communities to survive and thrive is dependent upon the amount, source and distribution of income. Income that is kept and spent in the local community is critical to the health of the local economy. In changing times, diversification of the employment sectors also makes it easier for rural communities to manage in periods of economic instability.

## Family Income

Household income in the Blackfoot and the Clark Fork basins is comparable to the state average. The median household income in the Blackfoot increased from \$21,521 in 1990 to \$33,499 in 2000. However, income in the urban counties with urban centers – like Missoula, the Flathead, and Silver Bow—are higher and the income gap is not expected to lessen. (Census)

## Per Capita Income

Per capita income in the Blackfoot increased from \$11,469 in 1990 to \$16,511 in 2000. Per capita income in the rural Blackfoot lags behind the more urban areas. The difference in per capita income between rural and urban counties is expected to persist. (Census)

## Poverty

About 12% of the households in the Blackfoot have incomes below the poverty level. This is down from around 14% in 1990. While some families in the Blackfoot are prospering, the pockets of poverty in the Blackfoot and throughout Montana have a profound effect on the families and the local communities. Children under the age of 18 are particularly affected by poverty. Only 3-4% of the population receive public assistance in the Blackfoot, leaving much of the support for needy families to the local communities, churches and individuals with means. (Census)

## Income by Source

Income from labor (wages, salary, and self-employment) makes up the largest percentage of personal income in Montana, the Clark Fork Basin, and the Blackfoot Watershed at about 63-65% (Census 2000). Income from dividends, interest, and rent makes up 21-23% and transfer payments including Social Security, Medicare, and public assistance makes up about 16%. Non-labor income has been increasing as a proportion of all income over the last 30 years and is expected to increase in rural counties with aging populations. (Census, CFC)

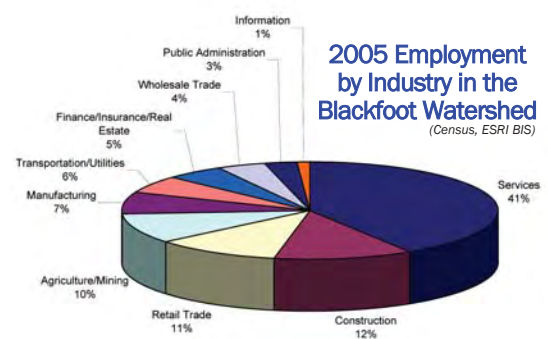
Labor Income	63%
Non Labor Income:	
Dividends, Interest, Rent	21%
Transfer Payments	16%

## Travel to Work

In the Blackfoot watershed, the average amount of time it takes to travel to work is 26.5 minutes, considerably higher than the state average of 17.7 minutes. Between 1990 and 2000, the percent of workers who traveled 35 minutes or more to get to work increased from 14% to 20%.

## Employment Sectors

The types of employment in the Clark Fork Basin and the Blackfoot Watershed have changed during the past 30 years from resource-based jobs to "services", a broad category that includes retail, business, as well as health, legal and engineering professions. Jobs in agriculture remained steady or increased slightly. Jobs in manufacturing increased slightly. The construction sector increased notably in the 1990s. As of 2005, the top four employment sectors in the Blackfoot include services, construction, retail trade and agriculture.



# Recreational Use

The Blackfoot watershed is a popular floating, fishing, hunting, hiking, and snowmobiling area. Over 60% of the land is in public ownership and much is accessible. There are 25 state stream-side and lake-side Fishing Access Sites in the Blackfoot. Snowmobile areas abound. There are over 789 miles in the groom snowmobile trail system (293 miles in Lincoln; 360 miles in Seeley Lake; 110 miles in Garnet; 26 miles in Gold Creek). Groomed snowmobile trails between Lincoln, Seeley and Gold Creek connect the two ends of the watershed. There are 20 campgrounds on state and federal lands in the Blackfoot. Although overnight accommodations are limited, the Blackfoot has quality guest ranches and outfitting services that attract visitors. (Lorentz, FWP)



(Fishing on the Blackfoot photo by Tara Disy Allden)

Montanans recreate outdoors more than Americans in general, even more than people in our Pacific Northwest region. Over 30% of Montanans participate in big game hunting. In the Blackfoot, elk populations have been increasing and the number of antlerless elk hunting permits issued have increased by 30.5% from 900 in 2000 to 1,175 in 2005. (FWP Montana Challenge, Thompson). In 2005, 38 private ranches in the Blackfoot, representing 38,680 acres, enrolled their lands into Montana Fish, Wildlife & Parks block management program, providing free-of-charge hunting access. These ranches made up 29% of the 133,000 total acres enrolled in the program. Another indicator of hunting importance in the Blackfoot is the FWP Bonner check station. Operated annually for 16 days during late October and November, hunting data is gathered as hunters return to Missoula from the Blackfoot. Over the 5-year period from 2001 through 2005, annual hunter visits averaged 7,871. (Uchtyl, FWP)

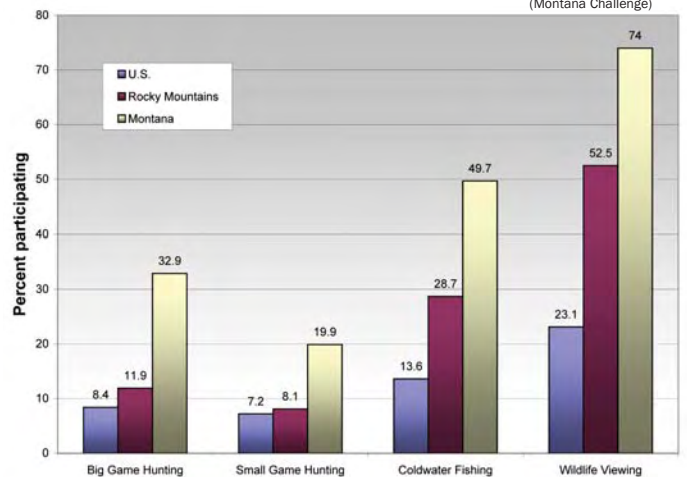
People love to fish the Blackfoot. Angler pressure has increased by 186% from 16,229 angler days in 1989 to 46,385 angler days in 2003. Non-resident anglers in the middle section of the Blackfoot River increased 1,135% during the same period. (Pierce) Summer camping, hiking and floating of the river is popular as well. An indicator of recreational use in the Blackfoot is number of visitors to state recreational sites, based on FWP traffic counts. An estimated 307,195 people visited State recreation sites in the Blackfoot in 2005; 90% were Montana residents. Some were local residents who visited the same fishing site multiple times during the year. On the Blackfoot River alone, there were 134,679 visitors, up by 5% in 2004. (Lorentz, FWP)

## Income from Recreation

Montana experiences 9.8 million visitors annually. This represents 10 times Montana's resident population and accounts for 43,300 jobs, for an economic impact of \$2.75 billion (FWP, Montana Challenge). The Blackfoot watershed recreation-oriented services benefit from visitor expenditures.

## Percent of Population Participating in Wildlife Activities

(Montana Challenge)



# Land Cover, Land Ownership & Land Use

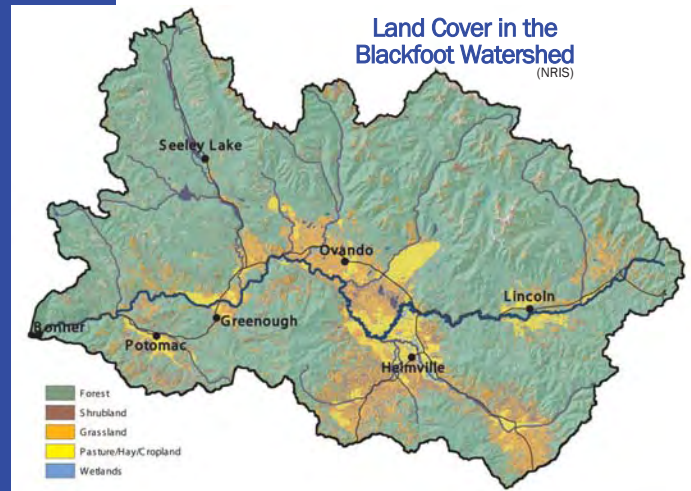
## Land Cover

High, rocky mountain peaks, narrow forested canyons, broad-ridged foothills, rolling prairies scattered with sparkling “pothole” lakes, and meandering streams lush with streamside vegetation can all be found in the Blackfoot.

Over 80% of the watershed is covered with mixed species conifer forests. The rest is intact prairie grassland (10%); pasture, hay and croplands or tame grasses that have been converted to agricultural (5%); with lesser amounts of shrublands, wetlands, lakes and streams (5%). As less than 1% is developed areas, they do not even show on the land cover map. There are more than 600 species of vascular plants, including six rare plant communities and the Howell’s gumweed, a globally threatened species found nowhere else on earth.

The central valley of the Blackfoot (yellow and orange) has soils that are productive for agricultural use. Permanent wetlands line the valley floor and dot the prairie pothole topography of the watershed. The wetlands and riparian areas are critical habitat for wildlife and agriculture.

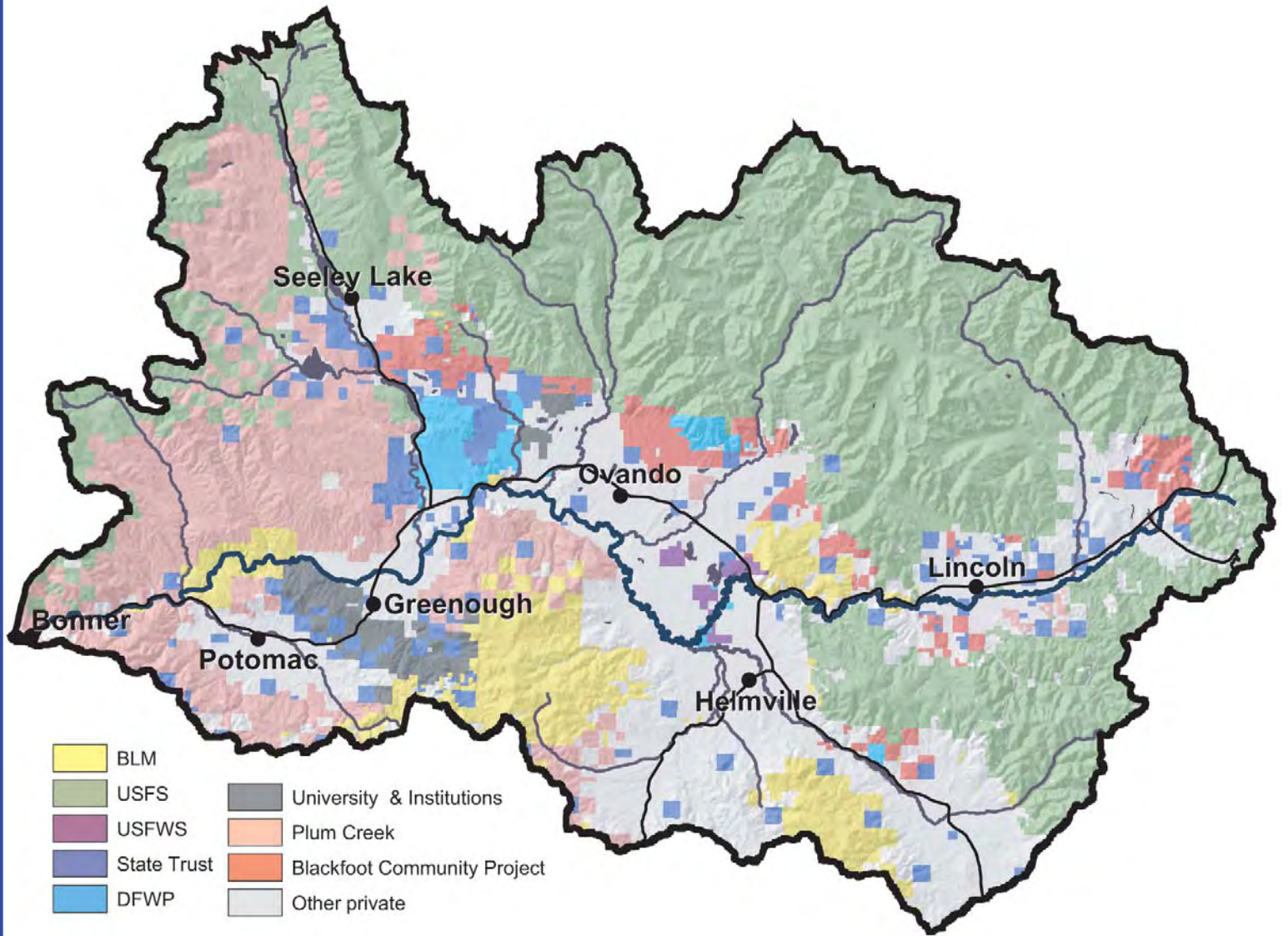
Many species of noxious weeds have been introduced by human activity to the watershed, and some of these crowd out other plants, causing problems for wildlife, humans and livestock. Some of the most problematic species are: spotted knapweed, leafy spurge, Dalmatian toadflax, oxeye daisy, and sulphur cinquefoil.



## Land Ownership

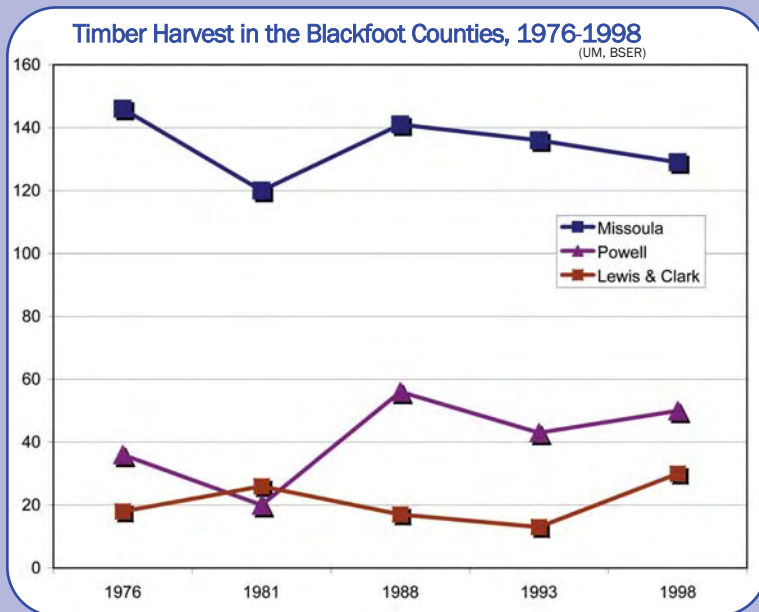
Most of the Blackfoot valley floor is in private ownership with the transition lands in corporate timber and the high elevation and mountain ranges in public ownership. Of our 1.5 million acre watershed, 60% (or 900,000 acres) is in public ownership. The green area shown on the map is U.S. Forest Service, the yellow is Bureau of Land Management, the purple is U.S. Fish and Wildlife Service, the light blue is Montana Fish, Wildlife and Parks, the dark blue is Montana Department of Natural Resources and Conservation, and the gray is Lubrecht Experimental Forest (part of University system). The residual 40% (600,000 acres) is in private ownership. The largest private owner is corporate timber owned by Plum Creek Timber Company at 20% or 300,000 acres shown in pink; 43,000 acres are shown in salmon. These lands are temporarily owned by the Nature Conservancy as part of the Blackfoot Community Project and will be resold to adjacent public and private buyers. The remaining 20% or 300,000 acres in light gray is primarily large intact ranches that average 2,000 to 3,000 acres in size.

# Land Ownership in the Blackfoot Watershed



## Land Use

Public lands in the Blackfoot watershed are mixed use areas for recreation, wildlife habitat, grazing, timber management, and research. The corporate timberlands are logged to supply the forest products industry. The private lowlands are mostly agricultural grazing lands with some hay and irrigated fields. Although there are small town centers, residential and retail land use is a very small footprint on the landscape today. Roads, primarily for logging on national forest and private timber lands, have created a spider web effect on the landscape. As new homes are built away from the major highways, the road network expands impacting water quality, wildlife, and weed management. The Blackfoot has several small abandoned mining sites, and a couple of larger state cleanup sites in the headwaters whose reclamation are vital to the long-term health of the watershed. Three major dams in the watershed are the Nevada Creek Reservoir that stores water for irrigation, the Mike Horse Impoundment Dam that provides for toxic metals containment, and the Milltown Dam that supplies electricity.



## Timber

“The past 30 years has been an extremely volatile period for the forest product industry. During this time, Montana’s industry faced record high levels of demand and product prices as well as near record low prices, economic recessions, structural changes, and declining federal timber harvest levels.” (Keegan, 2001)

Timber harvest has declined substantially from public lands in the past three decades, although production from private timberlands has remained at relatively constant levels, apart from market-driven fluctuations. Although some counties in the Clark Fork Basin have had high percentage declines in production, Missoula and Powell Counties have continued production at or near historic levels, owing to a higher percentage of private timberlands. (CFC)

Timber harvest in the three counties that cover the Blackfoot watershed have not seen the decline in timber production that other areas like the Flathead have seen in western Montana. This is because the Blackfoot has a lot of corporate (industrial) and small-owner (non-industrial) timberlands that have maintained higher production levels. Timber production in the Blackfoot will decline if federal lands do not increase production. Private lands will not be able to sustain the recent harvest levels necessary to maintain high timber production in the Blackfoot watershed. (Liane)

## Agriculture

About 14.5% of the total acreage in the Blackfoot is used for agriculture. (CFC/NRIS Digital Mapper). Grazing is the most common agricultural practice. There are 44,280 irrigated acres in the watershed. (CFTF)

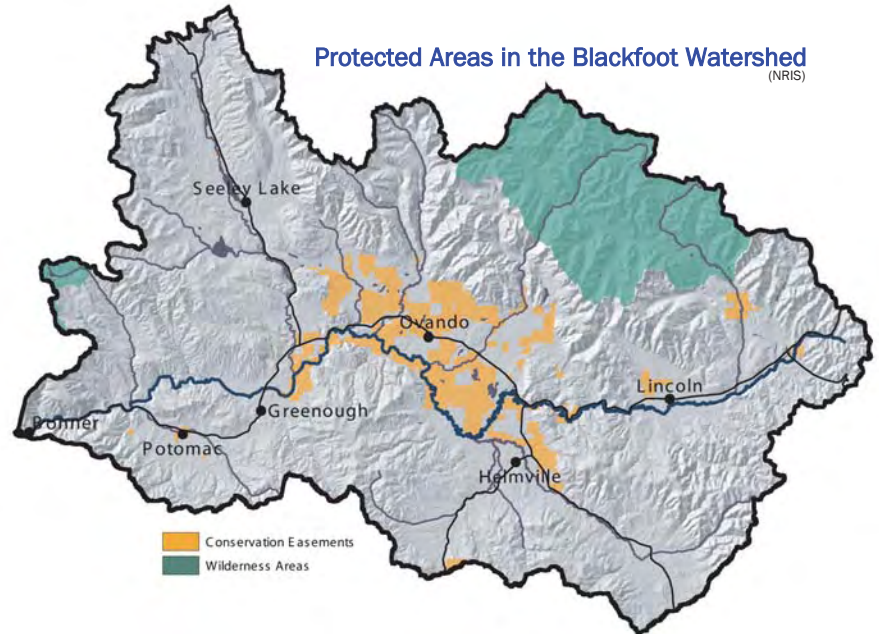
## Protected Areas

There are public and private lands in the Blackfoot that have been designated for greater protection from human use and new development. These include public “wilderness areas” and private lands with “perpetual conservation easements.”

The Blackfoot is home to the Scapegoat

Wilderness Area and the eastern edge of the Rattlesnake Wilderness that together cover 164,400 acres or 11% of the 1.5 million acre watershed. The Scapegoat abuts the Bob Marshall Wilderness Complex. Together these lands cover about 1.5 million acres of federally-protected lands with an incredible diversity of plant and animal species.

Starting in the 1970’s, private ranchers in the Blackfoot began using conservation easements to keep their working ranches from becoming subdivided. Today, about 17% of the private lands in the Blackfoot (90,000 acres of the 600,000 acres in private ownership) have perpetual conservation easements in place that prohibit subdivision and residential development. Many of the landowners also protect habitat and wildlife values by land and water stewardship practices, including careful grazing management, stream and wetland protection and restoration, water conservation measures, and sustainable resource use.



(Photos by Teri Garrison)



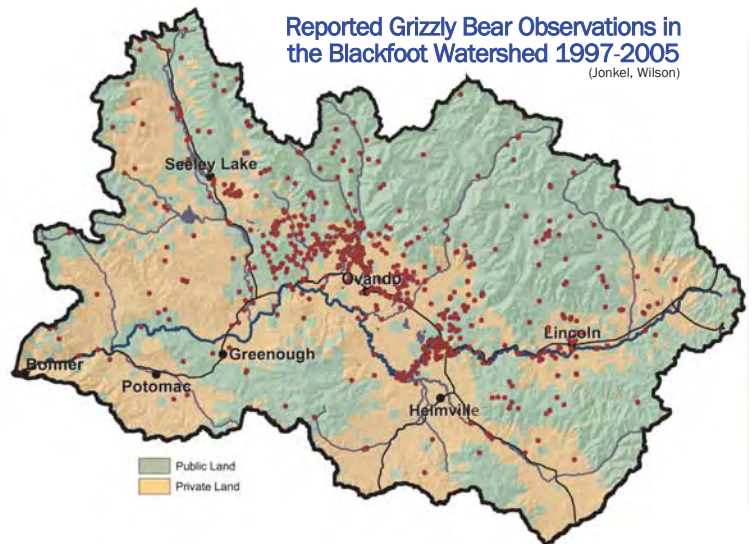
# Natural Resources

## Wildlife

The Blackfoot is blessed with an abundance and diversity of wildlife that include 250 species of birds, 50 species of mammals, 5 species of amphibians, and 4 kinds of reptiles. There are 12 native fish species and 13 non-native fish species or exotics living in the streams and lakes of the watershed. Because of its rural and largely unspoiled nature, it retains the full complement of rare and large mammals, many of which have been lost in most other areas. The following wildlife in the Blackfoot are threatened or endangered species: Bald Eagle, Grizzly Bear, Gray Wolf, Canada Lynx, Bull Trout, and Water Howellia. Here is a snapshot of some of the wildlife and their distribution in the Blackfoot.

## Grizzly Bears

Despite dramatic losses of habitat throughout North America, grizzly bears have maintained a presence in Montana and live in portions of the Blackfoot watershed. The watershed is the southern boundary of the Northern Continental Divide Ecosystem, the largest of Montana's grizzly bear recovery areas. This population of grizzlies is currently protected as a threatened species and will remain so until researchers know more about their population through a DNA study due to be released in 2007 and consider other factors related to maintaining a healthy population. (FWP, Wilson)



(Grizzly Bears by Randy Smith)

In recent years, the Blackfoot watershed has experienced an upsurge in grizzly bear activity and the area appears to be an important habitat link for grizzlies that are re-colonizing historic ranges to the south. Grizzly bears move from high mountain elevations to lower valley bottoms to forage seasonally for available food. Lakes, ponds, bogs, and spring fed creeks that characterize portions of the valley floor make excellent bear habitat. Additionally, the vegetation found along certain reaches of the Blackfoot River and its tributaries provide bears with cover, food, and natural movement corridors. Important food sources found in the Blackfoot include riparian berries, chokecherries, serviceberries, hawthorns, and rosehips. As opportunistic and adaptive omnivores, they feed on a variety of forbs, roots, seeds, berries, insects, fish, birds, and mammals. On any given year, there may be as many as 20 different grizzlies roaming the Blackfoot. (Jonkel)

As grizzly bears spend more time on private agricultural lands in the Blackfoot, particular attention is being focused on preventative management to reduce human-bear conflicts, protect human safety, and reduce impacts to rural livelihoods. (Wilson)

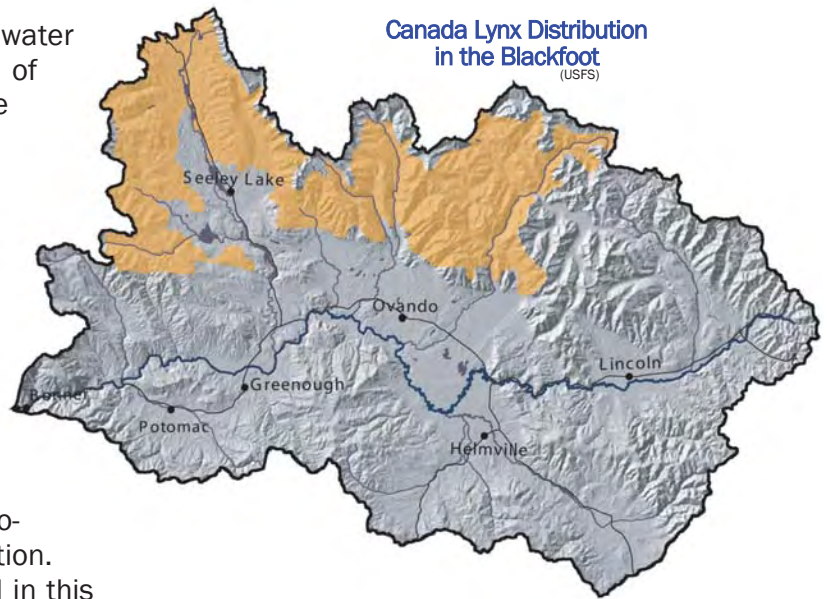


(Photos by Milo Burcham)

### Canada Lynx

The Blackfoot/ Clearwater and Yakk watersheds of western Montana are strongholds for Canada lynx in the Northern Rocky Mountains. In this region, cold, wet

spruce/subalpine fir forests with dense understories and seasonally high snow-packs provide critical habitat for the lynx and for snowshoe hares, the primary lynx food source. Based on ongoing research efforts in the Upper and Middle Blackfoot, lynx populations appear stable, although low reproductive rates are characteristic of this population. Since 1998, over 80 lynx have been monitored in this watershed providing information on habitat use, reproduction, mortality and movements. (Squires)



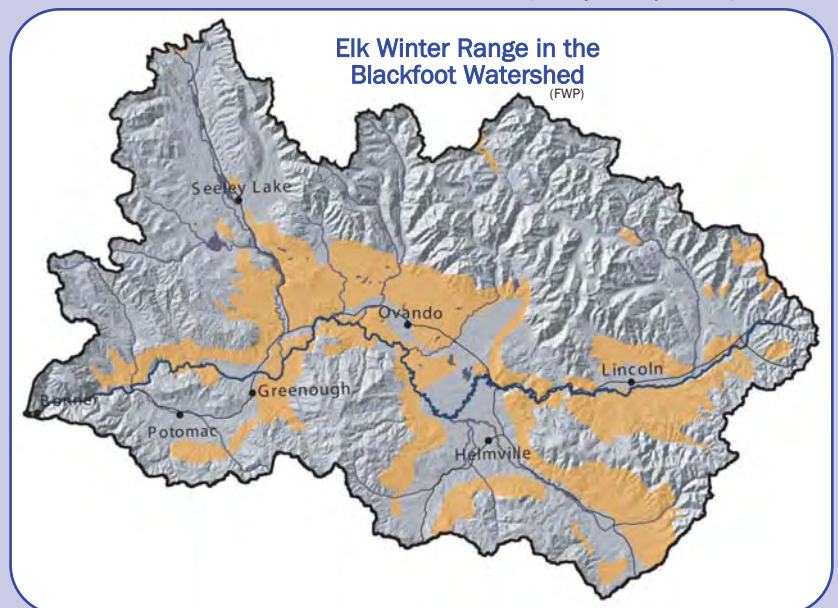
(Elk by Randy Smith)

### Elk

Elk were nearly decimated from most of their historic range in North America at the turn of the century due to unregulated hunting. A nationwide effort was begun in the 1940s to restore elk and other wildlife populations. The Blackfoot remained a reservoir for elk due to its intact landscape. Even so, elk were transplanted from Yellowstone National Park to the Blackfoot in the 1950s to speed population restoration. (Thompson)

Critical habitat for sustaining elk populations in the Blackfoot ranges from high elevation wilderness areas to private valley lands including a mosaic of aspen stands, serviceberry and native bunch grass prairies. The elk population in the Blackfoot has been increasing at a rate of about 5% per year over the last decade. Counts show at least 5,039 elk in the Blackfoot in 2005, up from 3,910 in the year 2000. The Blackfoot-Clearwater Wildlife Management Area currently provides winter range for 1,424 elk, 1,000 mule deer and 800 white-tail deer. (Thompson)

The elk population is regulated by the harvest of antlerless elk (cows and calves) through hunting permits. Generally twice as many hunters apply for these limited permits annually, which assure that virtually all available State elk hunting permits are issued. Elk numbers are now at a level above the objectives set in the State's 2005 Elk Management Plan. Overpopulation issues include damage to crops and fences on private lands, overuse of natural winter ranges, and ultimately the health of the herds. (Thompson)





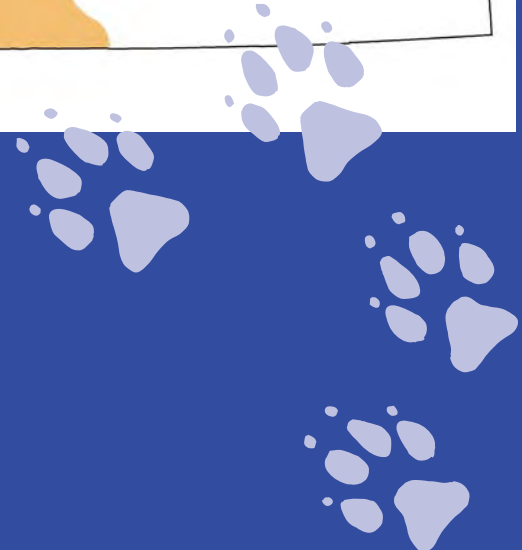
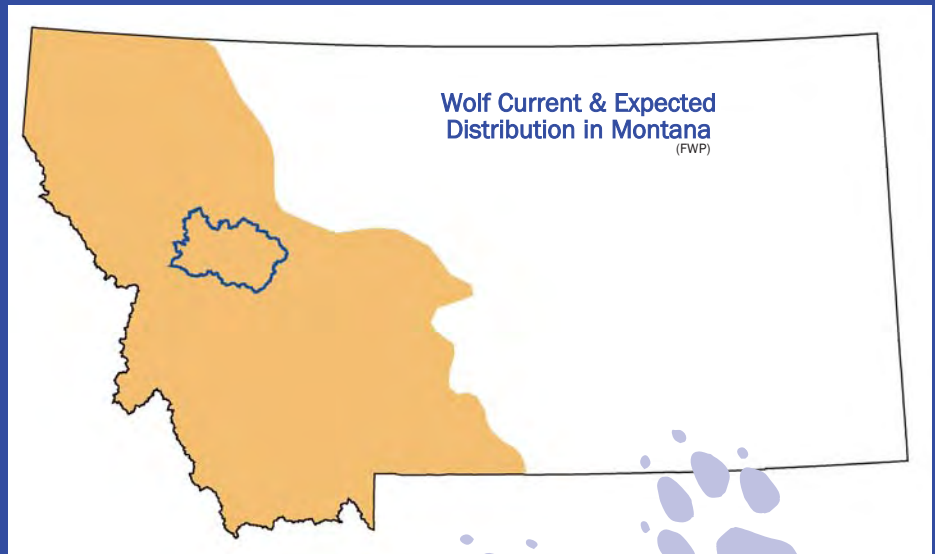
(Photo by Val Asher, FWP)

### Gray Wolves

The gray wolf was eliminated from Montana by the 1900s, primarily due to loss of habitat and conflicts with people. In the late 1970s, wolves from Canada began to naturally re-colonize the Glacier National Park area of northwestern Montana and grew to about 48 wolves in this area by 1994. Gray wolves were reintroduced into Yellowstone National Park and the wilderness areas of central Idaho in 1995 and 1996 to hasten recovery. Wolf populations in these areas grew rapidly and distribution expanded with new wolf packs forming outside the core areas. By the end of 2004, there were an estimated 835 wolves and 66 breeding pairs in the tri-state northern Rockies federally-designated wolf recovery areas – Northwestern Montana, Central Idaho, and the Greater Yellowstone. The Blackfoot River drainage lies at the confluence of all three recovery areas. (Sime)

Wolves in Montana are still found primarily in the western third of the state where there are vast tracts of public lands. Wolf pack territories in Montana average about 200 square miles in size. There were an estimated 153 wolves and 15 breeding pairs in Montana. Down from a peak of 183 animals in December 2002, declines in recent years are a result of lethal control to resolve livestock conflicts, and other sources of mortality including illegal human-caused, vehicle strikes, natural mortality and dispersal, and disease. (Sime)

The Blackfoot drainage has had wolves intermittently over the last ten years and reports keep coming in. The Halfway pack lives in the farthest reaches of the Halfway Creek drainage south of Helmville. Wolf activity has also been reported in the Upper Dannaheer, Trapper Mountain, and Blanchard Creek. In November 2005, a male wolf was killed by a vehicle on Highway 200 east of Lincoln. The Blackfoot remains a likely place for wolves from any of the three federal recovery areas to meet other wolves and establish a new pack. (Sime)



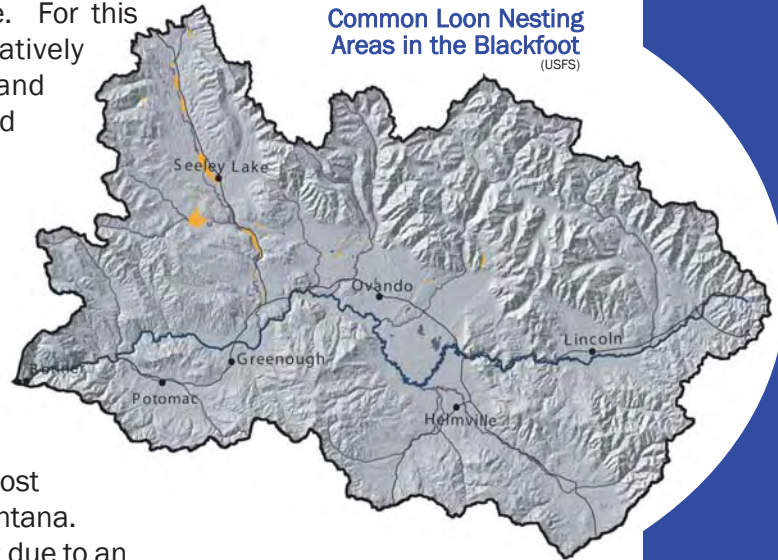


(Loon photo by Donna Love)

### Common Loons

The common loon is a species of special concern in Montana. In the west, this species breeds and nests on inland lakes and ponds and then migrates to winter habitat in the Pacific. During the nesting period, human caused disturbance can cause loons to leave the nest resulting in nest failure. For this reason, relatively remote and undisturbed lakes are considered important for loon populations to persist.

The Blackfoot/Clearwater, with its abundance of lakes and ponds, provides quality nesting habitat for loons. Successful reproduction is documented each year through monitoring of known nesting pairs. (Tompson)



### Westslope Cutthroat Trout and Bull Trout

The mainstem of the Blackfoot River is one of the most diverse and biologically complex rivers in western Montana. Large sections of the river support low densities of trout due to an array of natural causes such as severe icing, low stream flow and fine sediment; and human influences such as metals contamination, dewatering, stream and riparian habitat alteration, Milltown Dam and sub-standard road crossings. (BC Action Plan, Pierce)



Westslope cutthroat trout and Bull trout are native to western Montana and the Blackfoot watershed. These fish are very sensitive to changes in temperature and water quality and their health is an indicator of cold and clean water. Westslope cutthroat trout have declined over much of their historic range within the last century due in part to habitat loss and degradation and over-harvest. However, in the Blackfoot, cutthroat occupy about 90% of historic range compared with about 39% statewide and the Blackfoot supports a nearly basin-wide distribution of cutthroat trout. Unfortunately, densities of both bull trout and westslope cutthroat trout in the Blackfoot watershed are far below habitat capacity. (BC Action Plan, Pierce)

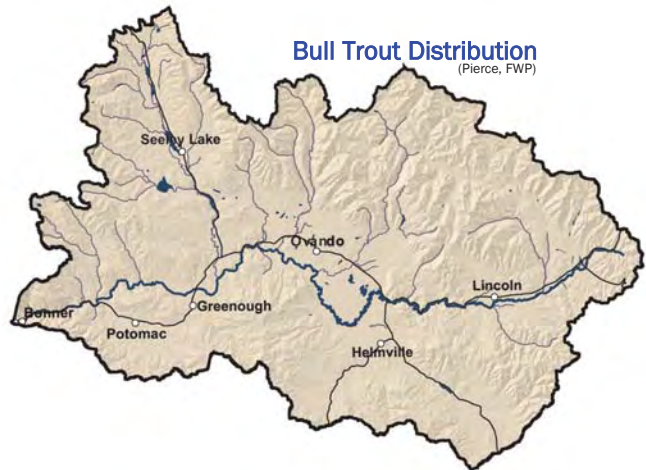
Westslope cutthroat trout in the Blackfoot watershed are far below habitat capacity. (BC Action Plan, Pierce)

Bull Trout primarily occupy the river and the tributaries to the north of the Blackfoot River. A Montana species of special concern and threatened under the Endangered Species Act, densities of bull trout are very low in the upper Blackfoot River, but increase downstream of the North Fork. Outside the Clearwater drainage, bull trout occupy about 25% of the drainage or about 355 miles of stream. Key bull trout streams include Monture Creek, the North Fork, Copper Creek, Gold Creek, and Dunham Creek. (BC Action Plan, Pierce) Bull trout spawning data is measured by the number of "redds" which are identifiable female bull trout nesting areas. For five of these tributaries, data

**REDD Counts in Blackfoot 1989 - 2005** (Pierce, FWP)

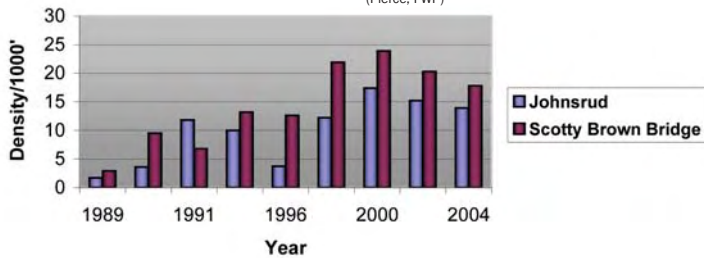
	Monture	North Fork	Copper Creek	Gold	Dunham
1989	10	8	21		
2000	74	123	20		
2003	80	41	4	4	6
2004	44	42	12		6
2005	41	43	15	7	4
<i>Average 1989-2003</i>	56	56	15		

indicate that Monture Creek has an upward trend from 10 redds in 1989 to 80 in 2003, averaging 58 redds over a 14-year period. The North Fork showed an upward trend from 8 redds in 1989 to 123 redds in 2000. Unfortunately both streams have shown sharp declines in the last few years due to drought. (FWP, Pierce)



Westslope cutthroat trout densities in the mainstem of the Blackfoot River have generally increased between 1989 and 2004. This is despite the fact that angler pressure from instate and non-resident anglers has increased dramatically in recent years. Trout health can be attributed in large part to protective harvest regulations that began in 1990 in conjunction with a decade of successful stream restoration projects in the Blackfoot. (Pierce, BBCTU)

**Estimated Densities of Westslope Cutthroat Trout for Two Sections of the Blackfoot River, 1989-2005** (Pierce, FWP)



Whirling disease is an exotic parasite (*Myxobolus cerebralis*) now found in many waters in Montana that causes deformities and increased mortality in trout. First detected in 1995 near Ovando, it has increased in distribution and intensity affecting the lower 122 miles of the mainstem of the River and continues to expand in the lower reaches of many tributaries. (BC Action Plan, Pierce)

# Water

## Water

*"The health of the Big Blackfoot River is a barometer of the health of the entire Blackfoot River Valley."  
- Land Lindbergh*

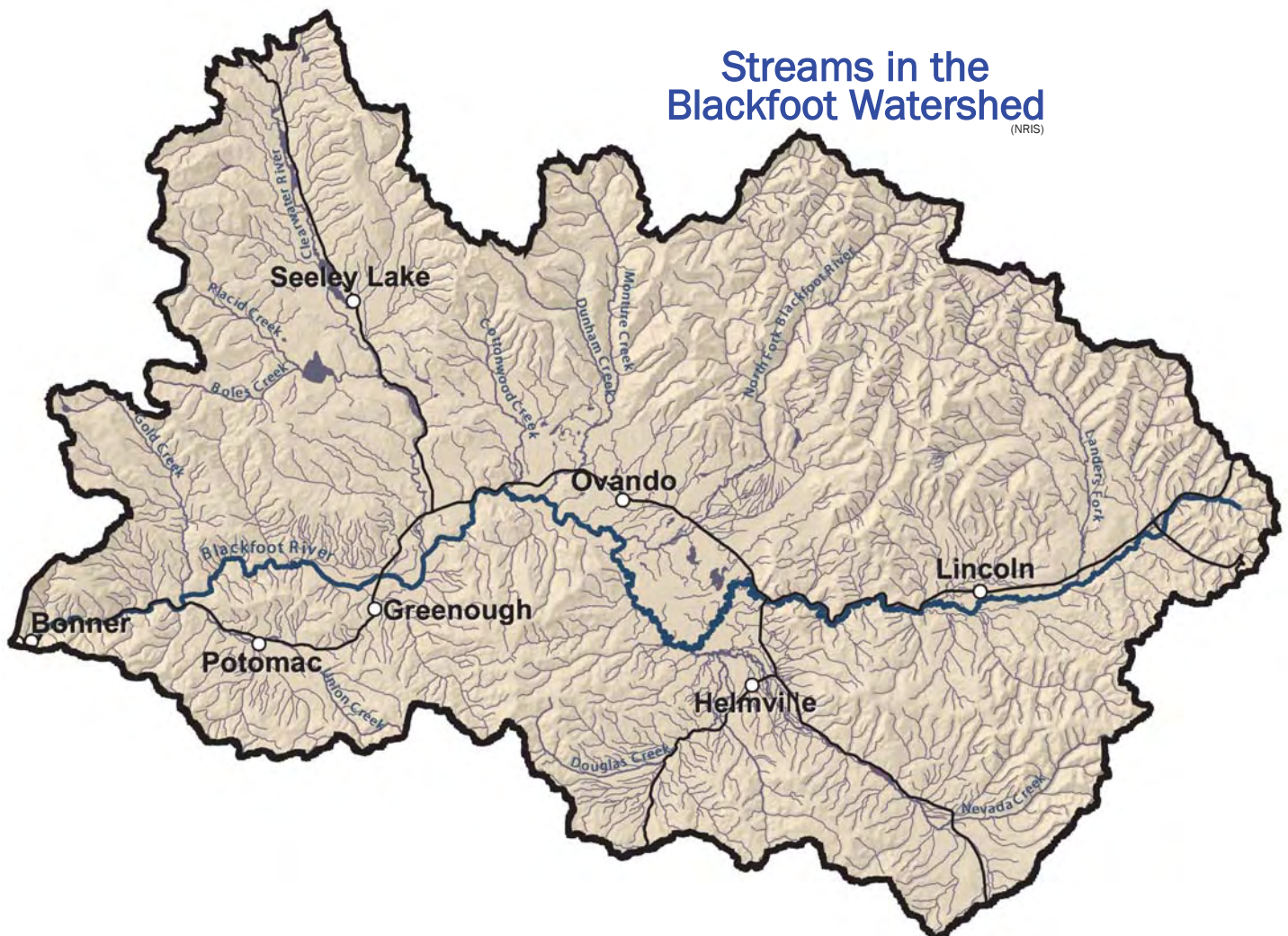
Water is a precious commodity and waters flowing from the Blackfoot River and its tributaries, as well as groundwater, are vitally important for humans, fish and wildlife. Water in the Blackfoot has historically been used in mining, agriculture, timber harvesting, fire suppression, recreation, and for domestic and municipal uses. New demands for less traditional uses include golf courses, private ponds, and landscaping. Native trout and wildlife rely on clean, cold water for their survival. As human uses and population of the watershed grows, balancing competing demands as well as restoring and maintaining water quality are critical quality of life needs.



(Photo by Bruce Andre)

## Streams

The Blackfoot drains a 2,320 square mile watershed through a 3,700 mile stream network of which 1,900 miles are perennial streams capable of supporting fish. The physical availability of water in the basin is a function of climate and precipitation, geology, local and regional hydrology, and water use practices.



## Flows/Discharges

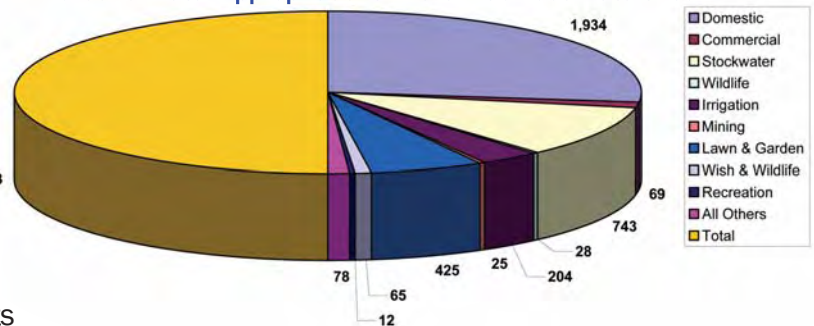
The historic mean daily discharge or flow in the Blackfoot is 1,968 cubic feet per second as measured at the Bonner USGS Gage Station. In 2000, a drought year, the mean daily flow was 1,261 cfs; peak flow was 4,860 cfs (April); and low flow was 466 cfs (September). The Blackfoot is a free-flowing river to its confluence with the Clark Fork River where Milltown dam, a hydroelectric facility, blocks the free flow creating the Milltown Reservoir. The dam is scheduled for removal in 2008. (CFTF)

Major tributaries that flow into the Big Blackfoot River include Lander's Fork, the North Fork of the Blackfoot River, Nevada Creek, Monture Creek, and the Clearwater River. The watershed is also home to numerous ponds and lakes including Kleinschmidt Lake, Browns Lake, Coopers Lake, Lake Alva, Lake Inez, Placid Lake, Seeley Lake, and Salmon Lake.

## Water Rights

There are 6,452 water rights in the Blackfoot including 3,583 ground water permits and 2,869 surface water permits. Over 50% of groundwater permits are for domestic uses. Groundwater is also being used for stock water, irrigation and lawn and garden. As of 1991, the entire Clark Fork basin, including the Blackfoot drainage, was closed to development of new water rights, with limited exceptions, in recognition of over-appropriated surface water. In the next five years, water rights adjudication will verify actual water rights. (CFTF)

Ground Water Appropriations in the Blackfoot Watershed

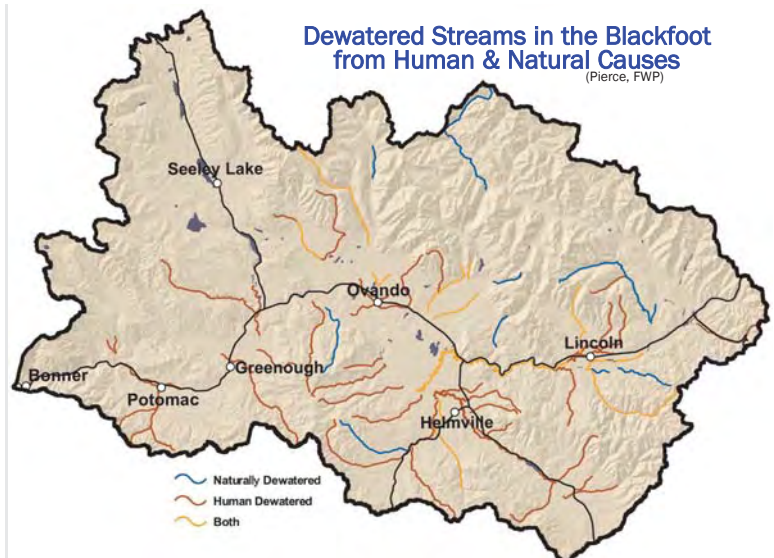


Although stock water represents the greatest number of permits, the largest volume of water diverted and consumed is for irrigation (65%) covering almost 44,280 irrigated acres. This translates to 217,000 acre-feet or 80,486 acre-feet of water per year. Over the irrigation season, this volume of water translates to a flow of about 730 cfs in diversions and 365 cfs consumed. Projected demand for future water use by irrigation depends on the amount of irrigable lands that remain in the basin and the frequency of future droughts. With sparse population, domestic and municipal demands for groundwater are limited. (CFTF)

## Dewatered Streams

There are 54 water bodies affecting 194 miles of streams in the Blackfoot that are periodically or chronically dewatered. The resulting seasonal low flow conditions adversely affect fisheries health. Natural dewatering on 17 streams and 49 river miles includes 11 miles of the Upper Blackfoot. Human-related dewatering occurs on about 45 tributaries and 165 miles including 34 miles in the middle Blackfoot River most notably up and downstream of Nevada Creek. In favorable flow years, the lower Blackfoot River from the North Fork to the mouth of the Blackfoot River generally has flows sufficient to meet minimal aquatic needs and satisfy relatively junior in-stream flow water rights. In low flow years, the lower Blackfoot may fall to less than 50% of minimum instream flow needs. (BC Action Plan, Pierce)

Dewatered Streams in the Blackfoot from Human & Natural Causes  
(Pierce, FWP)



**Impaired streams**

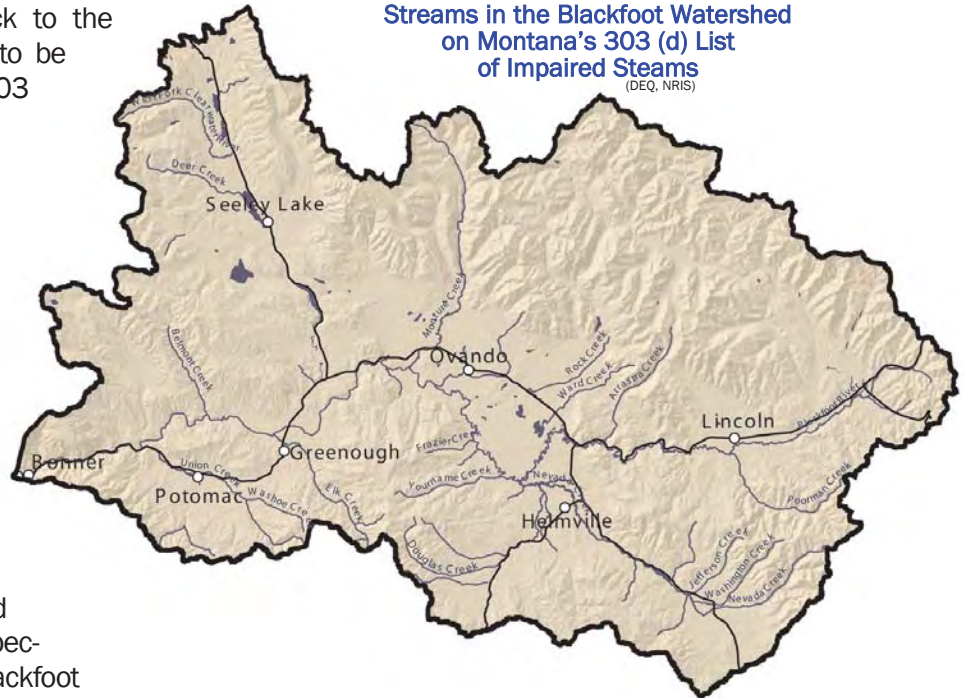
The Blackfoot has 56 streams considered impaired, meaning that the Montana Department of Environmental Quality has determined that these streams do not fully support beneficial uses such as aquatic habitat, recreation, and drinking water. Destruction of habitat, excess sediment-loading, and metals contamination are key causes of stream impairment. These impairment listings known as the 303(d) list are required to be assessed and addressed. In the Blackfoot, as a result of stream restoration dating back to the 1990s, nine streams have been found to be fully-supporting and removed from the 303 (d) list. (BC Action Plan)

**Water Quality Indicators**

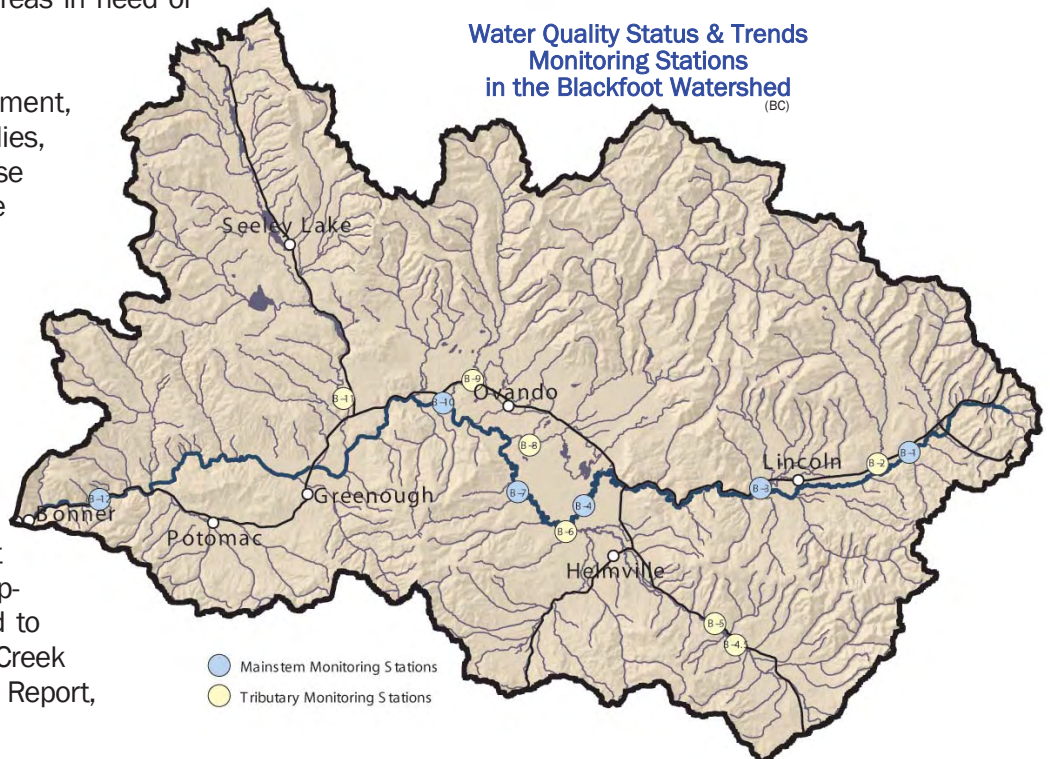
The health of the Blackfoot watershed was monitored in 2004 at twelve fixed stations spread throughout the basin. The status and trends monitoring focused on a suite of physical, chemical and biological measurements to evaluate water quality and the overall watershed health. The monitoring looked at changes in stream flow, water temperature, sediment, toxic metals, algae-stimulating nutrients, as well as aquatic and riparian habitat. From a basin-wide perspective, it appears that water quality in the Blackfoot watershed is supporting beneficial uses such as fisheries, although there are problem areas in need of restoration.

As part of the biological assessment, macro-invertebrate (mayfly, stoneflies, caddisflies, etc.) were used because characteristics of this assemblage are considered good indicators of stream ecosystem health or impairment. They are sensitive to human influences to both water quality and habitat and can reflect the effects of turbidity, metal contamination, and loss of riparian habitat. A multimetric assessment, using 6 community attributes was used. The biological monitoring indicates that only one of the twelve sites is not supporting aquatic life uses; this is tied to impacts from the dam at Nevada Creek Reservoir. (BC Status and Trends Report, Bollman)

**Streams in the Blackfoot Watershed on Montana's 303 (d) List of Impaired Steams**  
(DEQ, NRIS)



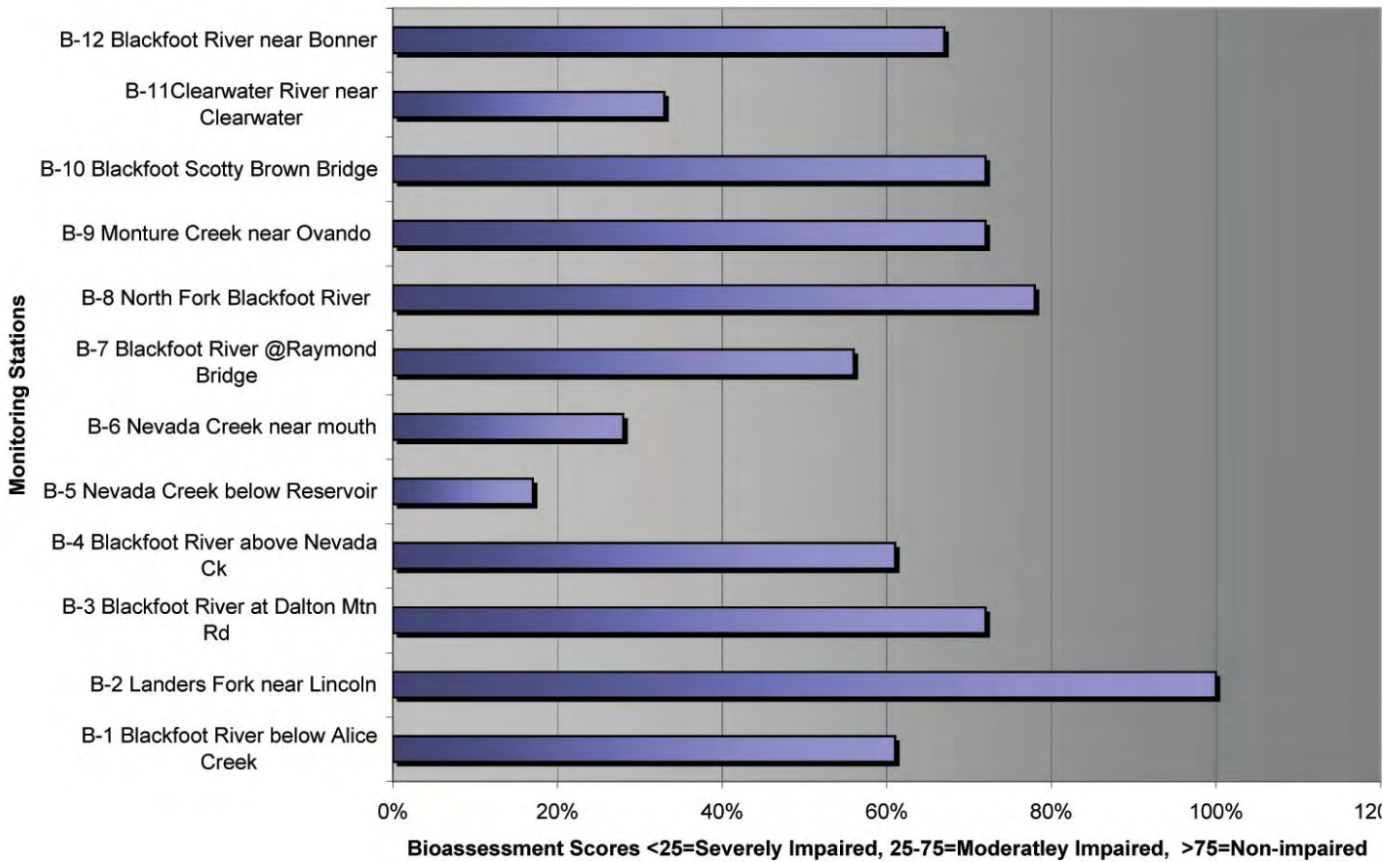
**Water Quality Status & Trends Monitoring Stations in the Blackfoot Watershed**  
(BC)



● Mainstem Monitoring Stations  
● Tributary Monitoring Stations



Macro-Invertebrate Health at Monitoring Stations in the Blackfoot 2004 (Bollman)



Data collected as part of the biological health assessment also included periphyton (attached algae) that occur in aquatic habitats as a biofilm on submerged substrates. Algae (especially diatom algae) are highly sensitive to physical and chemical factors and are good indicators of environmental conditions and freshwater health. A composite periphyton sample was collected at twelve monitoring stations in 2004 and analyzed for several factors such as species richness, diversity, and stability and well as pollution tolerance and disturbance. Using diatom algae as indicators, the data indicates that all but one of the monitored sites had good biological integrity, minor to no impairment, and full support of aquatic life and other beneficial uses. The one problem site, Landers Fork, sustained disturbances probably associated with the severe forest fires that occurred in this drainage in 2003. (BC Status and Trends Report, Ingman)

When all physical, chemical and biological parameters were combined into a multimetric assessment at the twelve monitoring sites assessed in 2004, the data indicates that only three sites have severe impairments.

Degree of Impairment at Blackfoot Watershed Monitoring Stations During 2004 (Ingman)

Monitoring Station	Physical Parameters							Chemical		Biological Parameters		
	Streamflow	Water Temperature	pH	Specific Conductivity	Dissolved Oxygen	Turbidity	Suspended Sediment	Nutrients	Metals	Macro-Invertebrates	Periphyton	Chlorophyll A
B-1 Blackfoot River Below Alice Creek	Slight	None	None	None	None	None	None	None	Moderate	Slight	Slight	None
B-2 Landers Fork Near Lincoln	Slight	None	None	None	None	Moderate*	Moderate*	Slight*	Moderate	None	Moderate	Moderate
B-3 Blackfoot River at Dalton Mtn Rd	Slight	None	None	None	None	None	Slight	None	None	Slight	Slight	None
B-4 Blackfoot River Above Nevada Ck	Slight	None	None	None	None	None	Slight	Slight	None	Slight	Slight	Moderate
B-5 Nevada Creek Below Reservoir	Moderate	None	None	None	None	Moderate	Moderate	Severe	None	Severe	Slight	None
B-6 Nevada Creek Near mouth	Moderate	None	None	None	None	Moderate	Moderate	Severe	Slight	Moderate	Slight	Severe
B-7 Blackfoot River @Raymond Bridge	Slight	None	None	None	None	Slight	Slight	Moderate	None	Slight	Slight	Severe
B-8 North Fork Blackfoot River	Slight	None	None	None	None	None	None	Slight	None	Slight	Slight	None
B-9 Monture Creek Near Ovando	Slight	None	None	None	None	None	None	Slight	None	Slight	Slight	Slight
B-10 Blackfoot Scotty Brown Bridge	Slight	None	None	None	None	Slight	Slight	Slight	None	Slight	Slight	Moderate
B-11 Clearwater River Near Clearwater	Slight	Moderate	None	None	None	None	None	None	None	Moderate	None	Moderate
B-12 Blackfoot River Near Bonner	Slight	None	None	None	None	None	None	None	None	Slight	None	Slight

\*Reflects one extreme event in August 2004.

# Community Choices



(Blackfoot-Clearwater Game Range photo by FWP)

The Blackfoot is at cross-roads. Local communities in the Valley have land use choices such as where to encourage new development and how that development might look on the landscape. There are also rural lifestyles choices such as retaining rural schools, supporting local fire departments and local businesses and community events. Some economic forces are beyond local control, such as the future of ranching and agricultural in a changing global economy. However, local ranches who take advantage of incentives for improving their lands and management practices will be more sustainable in the market.

With large areas of public ownership and public land management, wildlife and recreational opportunities will remain a part of the Blackfoot way of life. But much of the Blackfoot is in private ownership. So, will the Blackfoot retain large intact landscapes that provide linkage zones for large mammals, like grizzly bears and elk, to move within their native habitat; or will subdivision and human development break up these lands and will human-wildlife conflicts destroy large mammal populations, driving them out of the watershed?

People in the Blackfoot have a long history of conservation stewardship and deep respect and care for the land. Public and private partners have worked hard to conserve, restore and manage the natural resources in the Blackfoot. The stewardship results since the 1990s are impressive: Over 32 miles of streams and 51 miles of riparian areas have been restored. At least 300 miles of fish passage barriers have been removed. About 2100 acres of wetlands and 2300 acres of native grasslands have been restored, where migratory birds and other wildlife now thrive. Grazing system has been implemented on over 35,000 acres. Human-grizzly bear conflicts have been reduced by 67%. At least 14,000 linear feet of electrified predator-friendly fencing and 80-bear resistant dumpsters installed, 60% of the apiary yards have been fenced. Water users have sacrificed to retain instream flows in drought years to save fish. Over 90,000 acres of private lands have been placed in conservation easements. At least 380 landowners utilizing integrated weed management practices on over 45,000 acres of noxious weeds in 11 Weed Management Areas.

Local communities in the Blackfoot will continue to forge a common vision for shaping the future of this unique and special place.



(Jim Stone bagging weeds at Blackfoot Weed Pull photo by Jason Smith)



# Blackfoot Chronology

- 7,795 BC** One of the oldest archeological sites west of the Continental Divide in Montana, located in Douglas Creek drainage on north side of the Garnets between Drummond and Helmsville.
- 1600s** Kootenai, Salish, Nez Perce, and Shoshone Indian tribes camped along the river and created well-worn trails to buffalo hunting grounds east of the Continental Divide.
- 1803** Louisiana Purchase by US Government from French, followed by Western Montana purchase from British in 1846. Railroad survey parties came into the Blackfoot in 1854.
- 1806** Captain Meriwether Lewis expedition party traveled the Road to the Buffalo Trail on their journey back to St. Louis.
- 1860s** Homesteading began in the Blackfoot with ranching and trapping economy and Ovando became a trade Center and in 1882 the first post master was hired and the town "Ovando" was named.
- 1885** Big Blackfoot Milling Company began logging in Blackfoot-Clearwater drainage that continued for 15 years. Potomac Valley logging with a spur RR tracks from Garnet to Johnsrud Park 1905-1915 and then extended from Greenough up to the lower end of Ovando with the last river logging drive in 1926.
- 1889** Calliope Lode discovered leading to Heddleston District underground lode mining and start of the Mike Horse, Carbonate, Paymaster, Midnight, and Anaconda mines.
- 1894-1997** Original structure for Ovando Community Church (1894), Ovando Town Hall (1895) Blackfoot Commercial Company Store (opened 1897). Fire of 1919 destroyed five buildings. 1973 Ovando Town Hall, Fish Hatchery, Crown Bar collapsed.
- 1900s** Goal rush began in the Blackfoot where in 1899 some 1,000 people lived in Garnet (now a ghost town)
- 1911** Big Blackfoot Railroad construction began by Anaconda Copper Mining Company to supply logs to the Bonner sawmill operated from 1936-1978
- 1920s** Outfitting began in the Blackfoot
- 1930s** Logging trucks and gasoline trawlers replaced horse and RR transport of logs to mills that continue today. Anaconda Copper Mining Company sold timber holdings to Champion Timber Company in 1972 who sold to Plum Creek Timber Company in 1993..
- 1940** Nevada Creek Reservoir built 10 miles south of Helmsville providing 12,640 acre feet of total water storage and instream water service rights for 14 Nevada Creek Water Users (Association 1937). Canal constructed 1939. Reservoir owned by DNRC including 183 acres of surface water plus a section below the dam and a half section above the dam. Two main delivery ditches are the Nevada North Canal and the South Douglas Creek Canal.
- 1940** Bob Marshall Wilderness established administratively by the US Secretary of Agriculture
- 1948** Blackfoot-Clearwater Wildlife Management Area established by FWP to provide winter range for elk, mule deer and white-tail deer today spans 67,000 acres
- 1959** Trixi's saloon opened in Ovando.
- 1964** Congress recognized the 950,000 acre Bob Marshall through the Wilderness Act
- 1972** Scapegoat Wilderness citizens' initiative established 240,000 acres of wilderness
- 1975** Tailings Dam in Headwaters burst flushing 100,000 tons of toxic, metal-laden tailings from Mike Horse Mine into the wetlands and the Blackfoot River killing fisheries.
- 1976** *A River Runs Through It* by Norman Maclean (Became a movie in 1992)
- 1980s** Blackfoot River Recreation Corridor established creating public access along the river for floating, angling, and camping.
- 1985** Block Management Program established out of concerns that public hunting access to private land was Diminishing and to provide incentives for private and enrollment in program to manage public hunting on their property.
- 1986** Sunshine Mining Company proposed open-pit gold mine in Lincoln area.
- 1987** Big Blackfoot Chapter of Trout Unlimited (BBCTU) chapter meeting
- 1992** BBCTU held a Symposium to develop a communications network among agencies in the Blackfoot.
- 1993** Blackfoot Challenge watershed organization was chartered to coordinate watershed-wide conservation partnership efforts.
- 1995** Montana legislature grants FWP temporary authority to enhance existing hunting access programs and fund them through a new variable-priced outfitter-sponsored nonresident elk and deer license.
- 1997** *One Round River* by Richard Manning
- 1998-2005** Proposals for a cyanide gold mine near Lincoln spurred debate in the basin and two statewide initiatives (1998 & 2004) that affirmed a statewide ban on the use of cyanide in mining; and the 1998 Initiative I-137 banning heap leach mining was upheld as constitutional by the Montana Supreme Court in 2005.

# Blackfoot Facts

## Geology:

600-2500 million years ago, in the Precambrian era, mostly belt sedimentary rocks formed the bedrock in the Blackfoot.

65-145 million years ago, there are some granite and Paleozoic rock intrusions in the Garnet Range between Missoula and Ovando. Also during this period, the Precambrian sedimentary rock moved eastward in great slabs forming the Rocky Mountains bringing metallic minerals with them when shallow seawater flooded this region during Cretaceous times.

70,000-130,000 years ago, the Bull Lake Ice Age created the glacial moraines and outwash plains 15,000 years ago Glacial Lake Missoula, a major ice dam near Lake Pend Oreille, Idaho, created a lake that extended up the Blackfoot River to Clearwater Junction.

10,000 years ago, the Pinedale Ice Age formed large ponds of stagnant ice and left small rumpled hills, known as "prairie of the knobs," from glacial movement through the valley.

## Elevation:

Highest point of land is Scapegoat Peak, at 9202 feet.

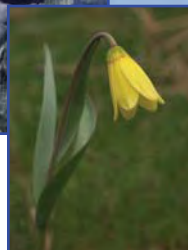
Lowest point is 3280 feet, near Bonner, where the Blackfoot enters the Clark Fork River.

## Climate:

The average annual maximum temperature is 55 degrees F. The average minimum temperature ranges is 24 degrees in Ovando to 34 degrees in Bonner. The annual precipitation varies from 12.6 inches in Ovando to over 21 inches in Seeley Lake. Snowfall range from 38 inches in Ovando to over 125 inches in Seeley Lake.



(Photo by Greg Neudecker, USFWS)



(Photo by Bruce Andre)



(Photo by Bruce Andre)

# Sources

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Mike Thompson, Wildlife Biologist, Fish, Wildlife and Parks. Unpublished data. mthompson@mt.gov  
Scott Tomson, Wildlife Biologist, USFS, Seeley Lake/Missoula Ranger Districts 406.677.3925  
Ron Uchtyl, Fish, Wildlife and Parks, Region 2 Block Management Coordinator, 406-542-5530, ruchtyl@mt.gov )  
Seth Wilson, Wildlife Consultant, 406- 543-2792, swilson@bigsky.net  
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## Sources for Photos, Maps and Charts:

Cover Photo of the Blackfoot River - Teri Garrison  
Cover Photo of Blackfoot Spread Ridge Fire - Greg Neudecker  
Inside Cover Map of Blackfoot Watershed Location in Montana - NRIS  
Inside Cover Map of Blackfoot Counties - NRIS  
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 Note: All base data on maps came from NRIS

**Disclaimer:**

*Population, housing, income and employment data for the Blackfoot watershed was derived from the US Census data based on a hand-drawn shape file approximating the boundaries of the Blackfoot Watershed. The data sets were derived from portions of at least 7 separate Census Blocks Groups using weighted distance to Block Centroids data. As all US Census data is based on Census Blocks and County boundaries, deriving data for a watershed that lies within the rural portions of three counties is subject to a wide margin of error. It is very possible that the data in this report includes information on people and housing just outside the watershed in the Milltown area.*





**BLACKFOOT  
CHALLENGE**

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