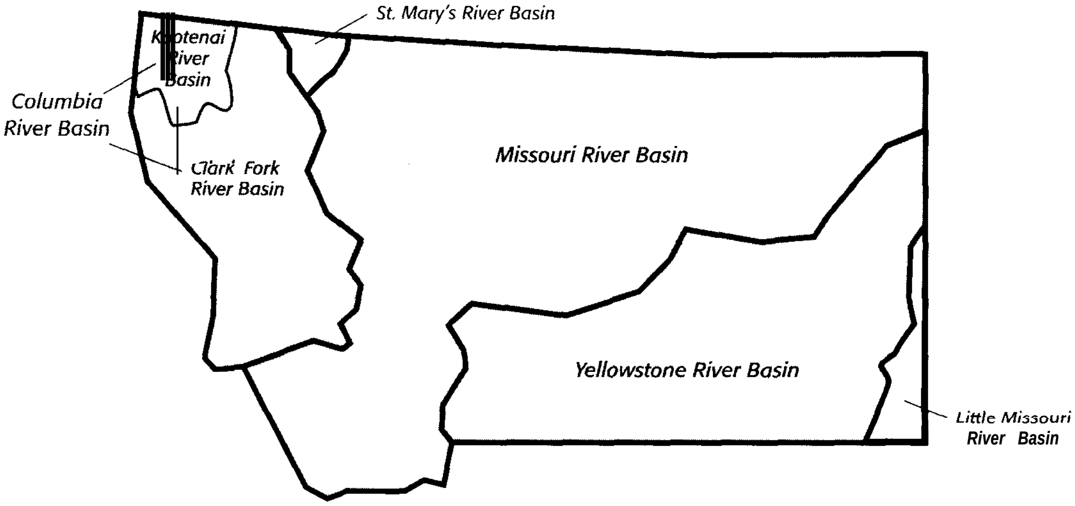
Watershed Profiles

Montana contains the headwaters for three continental watersheds-the St. Mary's River, the Columbia River, and the Missouri River. The St. Mary's drains only a small portion of the state. The major watersheds of Montana are those carved by the Columbia River's tributaries, the Missouri River, and the Yellowstone River. (The Yellowstone basin is considered separately from the Missouri watershed because their rivers merge outside the state.)

In this chapter we profile these three major watersheds. As you read, refer to the three basin maps located in the center pages of this guide (Maps F, G, and H.) Each map displays symbols indicating major uses of or impacts to water: cities, irrigated lands, sites with wastewater discharge permits, operating mines, hydroelectric dams, and thermoelectric plants.



Missouri River Basin

The Missouri River basin-the largest in Montana-drains more than one half of the state's land area, but yields less than one-fifth of the water. The river rises in southwestern Montana from the confluence of the Madison, Jefferson, and Gallatin rivers near Three Forks. It flows north, then bends east at Great Falls, and exits the state 400 miles downstream near Fairview. Major tributaries include the Big Hole, Dearborn, Judith, Marias, Milk, Musselshell, Smith, Sun, and Teton rivers.

Fifty reservoirs in the basin each have a capacity of 5,000 acre-feet or more. Fort Peck Reservoir is a huge multi-purpose project constructed on the Missouri River by the federal government beginning in 1933. It normally stores 15 million acre-feet but has a capacity of more than 19 million acre-feet-which makes it one of the largest reservoirs in the United States.

Water Use

In the Missouri River basin, irrigation is the major offstream use of water. Surface water from the major tributaries irrigates almost one and a half million acres of alfalfa, pasture, wheat, and barley. Where surface water is unavailable, ranchers pump ground water for their livestock watering and other agricultural needs.

Municipal drinking water systems use only about 1.5 percent of the water consumed in the basin, but they provide water for more than 275,000 people. This public water supply draws from both surface and ground water. Most rural residents rely solely on ground water for their domestic needs. Instream flows support electrical generation, fisheries, and recreation. Ten percent of Montana's electrical generating capacity comes from hydroelectric facilities along the Missouri and its tributaries.

The entire length of the Madison, and parts of the West Gallatin and Missouri are rated as Class I fisheries for trout. The lower Missouri is also rated Class I for paddlefish and sturgeon. Reservoirs in the north and east support excellent walleye and northern pike fisheries-and recreational pursuits such as boating, wind-sailing, and wildlife watching. You can float 207 miles from Montana Power Company's Morony Dam to Fort Peck Reservoir without encountering another dam. In 1976, Congress designated 149 miles of this stretch as a national Wild and Scenic River.

Water Quality

Water quality within the Missouri River basin varies from excellent to highly impaired. Generally, surface-water quality is good in the upper basin. Exceptions include stretches of the Madison and upper Missouri that contain arsenic from geothermal features in Yellowstone National Park and surrounding areas. Smaller tributaries also experience quality impairment during periods of low flow in the late summer. Water quality degrades downstream as salts, nutrients, sediment, and temperature increase due to land use practices.

Ground-water quality generally is good in alluvial aquifers along major streams and in deeper bedrock aquifers near the mountains. Quality decreases in bedrock aquifers that are farther from mountains because they are recharged more slowly. The longer that water resides in bedrock, the higher its concentrations of contaminants such as solids, sulfate, iron, fluoride, nitrogen, and trace elements. Other ground-water impairment occurs due to saline seep from some agricultural practices, arsenic and sulfate from smelting operations, pentachlorophenol (PCBs) from wood treatment practices, petroleum from leaking underground storage tanks, and chemicals from the over-application of agricultural products.

Fort Peck Reservoir, the site of the Charles M. Russell National Wildlife Refuge, is a popular retreat—as is Canyon Ferry Reservoir, the most heavily used aquatic recreation area in Montana. Photo courtesy Travel Montana/Department of Commerce.

Water Use in the Missouri River basin, 1980 (includes St. Mary's Drainage)		
	Withdrawn (1,000 acre&/year)	*Consumed (1,000 acre-feet/year)*
Hydroelectric Power Generation	37,264	0'
Thermoelectric Power Generation	0	0
Self-supplied industry	3	1
Municipal	71	25
Rural Domestic	7	7
Irrigation	7,902	1,744
Livestock	16	16
Basin Total	***45,263***	*1,793*

These **figures assume all water passing through turbines is returned to the river downstream; they don't reflect the fact that** *evaporation from reservoirs* **contributes** *great/y to consumptive losses.*

Issues ***and Concerns in the Missouri Basin***

- **Whirling disease,** a natural parasite that weakens and kills rainbow trout and some other fish species, was first detected in the Madison River. It has been seen in other drainages east and west of the Continental Divide. A task force of agencies is monitoring the problem.
- **Arsenic** occurs naturally in the Madison River and exceeds the drinking water standards at times in the Missouri upstream of Canyon Ferry. The Montana Department of Environmental Quality monitors arsenic levels.
- **Water supply** does not satisfy all demands in many sub-basins. In particular, the Ruby, Jefferson, Gallatin, and Big Hole Rivers suffer from seasonal dewatering problems. Management plans that set reservoir and stream levels and basin closures address this issue. (See Chapter 7.)
- Some species of fish **are in decline.** The pallid sturgeon in the lower Missouri, listed as a federal endangered species, is declining due to low water flow and high water temperatures. Arctic grayling in the upper Big Hole, described as a species of special concern, is affected by critical low flows during the spawning season.
- **Water rights** at large-scale dams have not yet been settled by the courts. As a result, no one knows exactly how much water will be available downstream for offstream or instream uses.
- **The 1976 federal designation** of part of the Missouri as a national Wild and Scenic River raises questions about how much water is associated with this federal right. The State of Montana is negotiating the amount with the Bureau of Land Management.
- **Reserved waterrights** are being quantified with tribes on the Blackfeet, Fort Belknap, and Rocky Boy reservations. Reserved rights have been negotiated already on the Fort Peck reservation.
- **Flow and water level fluctuations required by nine privately-owned hydropower dams** in the upper Missouri basin can affect water temperature, aquatic habitat, shoreline erosion, and the river's ability to transport toxic metals from tributaries. An interagency committee is proposing new stipulations for operating conditions during the Federal Energy Regulatory Commission relicensing process.
- **Heavy sediment load** from irrigation runoff affects water quality in the Muddy Creek, and in the Sun and Missouri Rivers that it feeds. After years of study, a citizen's task force has begun to implement solutions.
- **Fort Peck Reservoir levels** have been considerably lower over the last five years, causing an impact on the recreation industry. This is an interstate issue addressed in the Corps of Engineers' Master Manual.

Yellowstone River. Photo courtesy Marypat Zitzer.

Yellowstone River Basin

The Yellowstone River is free of dams for its entire 671 miles, making it the longest free-flowing river in the lower 48 United States. Its headwaters originate in Wyoming and Montana, and its huge watershed drains one-third of Montana. The river winds north through mountains, then turns east at Livingston, flows through Billings, and meanders through flatter eastern Montana before joining the Missouri just beyond the state boundary. Basin elevations range from Granite Peak (12,799 feet) in the Beartooth Mountains to about 2,000 feet near Sidney, where the Yellowstone exits the state. Tributaries include the Bighorn, Boulder, Clark's Fork, Powder, Shields, Stillwater, and Tongue rivers.

The Yellowstone River basin includes areas of high annual precipitation and snowpack in the upper basin. It also embraces Montana's driest valley, the Clark's Fork of the Yellowstone near Belfry, that receives six inches of precipitation each year.

Surface water of the basin is collected in reservoirs, seven of which exceed a 5,000 acre-feet capacity. The largest is Bighorn Lake, a multipurpose reservoir on the Bighorn River.

Water Use

Irrigation is the major offstream use of water in the Yellowstone River basin. Water from tributaries irrigates more than 680,000 acres. Ground water, found in both near-surface and deep aquifers, irrigates a small proportion of the agricultural land and provides an important source of water for livestock.

Municipal water supplies also consume surface and ground water in the basin, mostly for the city of Billings. Most rural residents rely exclusively on ground water for domestic supplies. Other offstream uses, such as industrial and cooling water for thermoelectric power generation, consume relatively less water.

Instream flows support electrical generation at Yellowtail Dam and Mystic Lake, plus fisheries and recreation. World famous trout fisheries like the Shields, Boulder, and Stillwater rivers are known for their annual caddisfly and salmon fly hatches. Small tributaries upstream of Livingston in the Paradise Valley annually attract visitors from around the world. The Beartooth Plateau, an alpine expanse northeast of Yellowstone Park, features 400 alpine lakes filled with species such as cutthroat, rainbow, and brook trout. Downstream of Billings, warm water species like sauger and walleye thrive. The Bighorn River, with cold water discharges from Yellowtail Dam, harbors a renowned rainbow and brown trout fishery.

Water Quality

Water quality varies within the Yellowstone River basin, Many of its upper basin tributaries are prized for their pristine quality, but some have been degraded by metals and acid mine drainage. Arsenic levels are elevated from geologic materials in some of the upper basin waters and in the Powder and Tongue River drainages. In the middle and lower basin, land-use practices impair water quality through habitat alterations, high salinity, and addition of sediment, nutrients, and chemicals. Near Billings, bacterial contamination indicates potential pollution from industrial and municipal discharge.

Ground water in the Yellowstone basin is threatened by a variety of contaminants. Surface spills of pollutants and over-application of chemicals canimpair shallow ground water deposits near rivers. Major industries can also contribute to water impairment of these aquifers. Septic systems throughout the basin can pollute shallow wells with nitrates and viral contaminants.

Water quality generally is good in deeper bedrock aquifers near the mountains. Quality decreases, though, in bedrock aquifers in the plains to the north and east because these aquifers are recharged more slowly. As water travels through bedrock for a great distance or a long time, increasing amounts of iron, fluoride, nitrates, trace metals, and salts leach into the water. These aquifers are also vulnerable from old oil drilling practices where oil and water migrate into the ground water through abandoned bore holes.

Issues ***and Concerns in the Yellowstone Basin***

- Proposed **mining operations** in the headwaters of major tributaries to the Yellowstone River have raised concerns. A gold mine is proposed near Cooke City and Yellowstone National park in the headwaters of the Stillwater and Clark's Fork rivers and of Soda Butte Creek, which flows into another tributary of the Yellowstone. The Stillwater and Boulder rivers drain an area of the Beartooth / Absaroka Wilderness that contains the largest deposit of platinum and palladium in North America.
- Water supply is often insufficient to satisfy demands in the Powder River region.
- **The largest coal producing region** in the United States spans the basins of the Powder and Tongue rivers. Water quality in this region has shown degradation.
- **Increasing salinity** in the Powder River basin can harm soil productivity. Changes in Wyoming water management associated with coal and natural gas extraction and expansion of irrigation to more marginal soils in Montana contribute to the problem.
- **Water supply** for both instream and offstream uses may decline downstream when the Tongue River Dam is raised and rehabilitated to satisfy the Northern Cheyenne Reserved Water Rights Compact, a water rights agreement between the tribe and the State of Montana.
- **Reserved water rights are being quantified for two Indian reservations, Bighorn Canyon National Recreation Area, Little** Big Horn Battlefield National Monument, and the Forest Service. A compact has been established with the Northern Cheyenne, and negotiations are pending with the Crow. Until these rights are settled, future water availability will be uncertain.
- Most **water reservations** for consumptive uses that were granted by the Board of Natural Resources and Conservation in 1978 have yet to be developed. Their potential impact on other future water uses is not fully known.
- Yellowstone cutthroat now inhabit less than 8% of their estimated historic range. **Reduced stream flows, habitat changes and competition and hybridization from other species are contributing factors** in the population decline. Several ongoing and proposed water leases are helping to restore the species.

Water Use in the Yellowstone River Basin, 1980

	Withdrawn (1,000 acre-ft/year)	*Consumed (1,000 acre-feet/year)*
Hydroelectric Power Generation	**2,380**	**0**
Thermoelectric Power Ceneration	94	9
Self-supplied Industry	11	1
Municipal	38	15
Rural Domestic	**3**	**3**
Irrigation	**4,468**	**943**
Livestock	**9**	**9**
Basin Total	**7,003**	**980**

These figures assume all water passing through turbines is returned to the river downstream; they don't reflect the fact that evaporation from reservoirs contributes greatly to consumptive losses.

- **Geothermal features** within Yellowstone National Park could be impacted by water development in the region. A compact between the State of Montana and the National Park Service now identifies geothermal areas in Montana near the park as controlled ground water areas that require special permits for water use. Federal legislation also has been proposed to control water development in this sensitive area.
- **Nonpoint pollution** in the lower Yellowstone continues to contribute significant loads of sediment to the river.

Columbia River Basin

Montana's portion of the Columbia River basin is drained by the Clark Fork of the Columbia and Kootenai River systems. Their combined watersheds drain all the land in Montana west of the Continental Divide, about one-fifth of the state.

Clark Fork Basin

The Clark Fork of the Columbia, known locally as the Clark Fork River, originates near Butte. (Note that this river is different from the Clark's Fork of the Yellowstone, which drains into the Yellowstone River basin.) As it flows through northwestern Montana, it drains about 22,000 square miles. Although it is smaller than either the Yellowstone or Missouri River basins, it discharges substantially more water-almost 16 million acre-feet annually at the state line. Major tributaries include the Bitterroot, Blackfoot, and Flathead rivers.

The Flathead River watershed drains the northern part of the Clark Fork basin. Its headwaters arise in Glacier National Park, the Bob Marshall Wilderness, and Canada. Most of the drainage is rugged and forested. The terrain opens up along the glacially-formed trough that confines Flathead Lake, the largest fresh water lake in the United States west of the Mississippi. Elevations range from over 10,400 feet in Glacier National Park to 2,893 feet at Flathead Lake.

The Upper Clark Fork basin, which extends from Butte to Missoula, contains heavily forested mountains and broad valleys. Elevations range from about 10,700 feet in the Pintlar Wilderness near Anaconda to about 3,000 feet near Missoula. This part of the basin includes the driest area, the rainshadow east of Anaconda where less than ten inches of precipitation falls each year.

Flathead River float trip. Photo courtesy Travel Montana/Department of Commerce.

The Lower Clark Fork basin is alsomountainous and forested, and contains the long, broad Bitterroot Valley. Elevations range from over 10,000 feet in the Bitterroot Mountains to 2,175 feet at Cabinet Gorge Reservoir, where the Clark Fork leaves Montana. In the mountains of this far western part of the state, 100 inches of precipitation may fall each year.

More than twenty large reservoirs, including natural lakes, collectwater in the Clark Fork River basin. Each has greater than 5,000 acre-feet storage capacity. The largest natural water body is Flathead Lake whose capacity was increased by the construction of Kerr Dam at its southern tip.

One-third of Montana's population lives in the Clark Fork basin, concentrated in three of the state's largest population centers-Missoula, Butte, and Kalispell. Timber harvesting, tourism, and agriculture are the major industries, but the economy also relies on mining and metal processing, light industry, and government and university activities.

Water Use

As in the Yellowstone and Missouri River basins, irrigation is the major offstream use of water in the Clark Fork basin. Surface water irrigates fields of alfalfa, hay, and wheat, plus produce such as cherries, mint, and seed potatoes. Irrigation uses about 95 percent of the total amount of offstream water used in the basin-public drinking water supplies use less than three percent. This public water supply draws from both surface and ground water, depending on the location. For example, Missoula and Kalispell receive their water supply from aquifers. Most rural residents also rely on the ground water for their domestic needs. If they live in the Upper Flathead Valley, their water comes from a sand and gravel aquifer about 30 feet deep and up to 5 miles wide. In other parts of the basin, water may come from alluvial aquifers, 200400 feet below the surface, and from bedrock aquifers in the hilly or mountainous areas.

Instream flows support electrical generation, fisheries, and recreation. About 25 percent of Montana's electric generating capacity comes from hydroelectric power generation in the Clark Fork basin. The region's six blue ribbon streams lure flyfishing enthusiasts from around the world. They also flock to the Flathead basin's unique bull trout and westslope cutthroat fishery. Boaters, floaters, and swimmers enjoy the rivers, lakes, and reservoirs of the Clark Fork basin.

Water Quality

Water quality ranges from blue ribbon trout streams to the nation's largest complex of Superfund sites along the Clark Fork. The upper Clark Fork, from Butte to Missoula, was a world-famous mining area from the late 1800s to the 1970s. Waste products from these mining and smelting operations resulted in heavy metals such as copper and zinc accumulating in the sediments. When the rivers are running high, they can disturb the sediments and release these toxic contaminants that can kill fish and other aquatic life. The contaminants are also migrating into the ground water. Wells in the Anaconda area were contaminated by smelting operations, and some domestic wells in the Milltown areas were closed when arsenic began appearing in the water.

Water Use in the Clark Fork River Basin, 1980

	Withdrawn (1,000 acre-ft,,year)	*Consumed* (1,000 acre-feet/year)*
Hydroelectric Power Generation	**27,611**	**0**
Thermoelectric Power Generation	**0**	**0**
Self-supplied Industry	**34**	**5**
Municipal	**46**	**17**
Rural Domestic	**5**	**5**
Irrigation	**1,852**	**521**
Livestock	**3**	**3**
Basin Total	*29,550*	**551**

These figures assume all **water passing through turbines is returned to the river downstream; they don't reflect the fact that evaporation from reservoirs contributes great/y to consumptive losses.*

Near Missoula, municipal runoff and agricultural practices impair aquifer quality; in Kalispell, septic systems are contaminating ground water. Wood-pulp plants, municipal wastewater treatment plants, and the addition of nitrates and phosphates from high-impact residential development in areas like the Bitterroot and Flathead valleys also impair ground and surface water quality in the region.

Issues and Concerns in the Clark Fork Basin

- The Flathead Basin Commission is monitoring activities that contribute to the following problems.

  -Nutrient overload, which initiates eutrophication (aquatic plant overgrowth), is occurring in Flathead Lake as a result of the most rapid population growth in Montana.

  -Releases of water from Hungry Horse Dam are of concern because of tradeoffs between power generation and downstream anadramous fishery demands.

  -Changes in plant and fish distribution are occurring, especially migratory fish species, in Flathead Lake and Flathead River.

- Multiple jurisdictions complicate management of the Flathead basin. The jurisdictions which share overlapping management responsibilities include the Salish and Kootenai Indian Reservation, the Northwest Power Planning Council, Glacier National Park, the Flathead National Forest, and British Columbia.
- Hydropower production **and providing for salmon** are two issues pending between Canada and the United States as they negotiate the Columbia River Treaty and the long-term management of Hungry Horse Reservoir.
- Reserved water rights claims of the Salish and Kootenai Confederated Tribescreate uncertainty regarding water available for future water users.
- Water quality degradation on the Blackfoot River has led to the U.S. Environmental Protection Agency identifying it as a river with nationally significant problems. The problems have accumulated from long-term logging, mining, and agricultural practices. The Blackfoot Challenge, a consortium of landowners, farmers and ranchers, interest groups, and agencies is developing a strategy to protect the natural resources and rural lifestyle of the Blackfoot River valley.
- **Rapid development** in the Bitterroot drainage is increasing nonpoint source pollution and the withdrawal of water by suburban users. A group of local citizens has formed the Bitterroot Water Forum to address these issues.
- **Water quality degradation** along the Upper Clark Fork from old mining operations is also affecting water quality in the Lower Clark Fork. These Superfund sites are under intense study.
- **Inadequate water supply** in the Flint Creek drainage has led citizens and agencies to prepare a return flow study that will allow water users to better gauge water use scheduling.
- **Years of** dewatering in the upper Clark Fork basin led to proposals for water reservations for both instream and offstream uses, which then generated conflict. To handle these complicated issues, the Montana legislature set up the Upper Clark Fork Basin Steering Committee to develop a water management plan balancing all water uses upstream of Milltown Dam. Subsequent legislation imposed a moratorium on the issuance of water rights for new uses, closed the basin to most additional water appropriations, and authorized development of a ten-year Upper Clark Fork instream flow pilot program.

- To address **nutrient build-up** and ***eutrophication*** in Idaho's Lake Pend Oreille and in the entire Clark Fork-rend Oreille basin, the states of Idaho, Montana, and Washington, and many agencies and interests have developed a watershed plan that includes phosphate detergent bans, installation of centralized sewage systems for developed areas on Lake Pend Oreille, and nutrient loading targets for Clark Fork River.

Kootenai River Basin

Located in the northwest corner of Montana, the Kootenai River basin carries huge amounts of water on its brief 95-mile journey through the state. Its headwaters originate in British Columbia, and the river loops through Montana and Idaho and back into Canada before discharging into the Columbia River just north of the Washington State border. The basin drains less than three percent of Montana, but it discharges more than the Yellowstone or Missouri rivers. Three-fourths of this water originates in Canada. Warm, wet air masses from the Pacific contribute to this volume of water, bringing abundant rain and from 40 to 300 inches of snowfall each year.

Montana's portion of the Kootenai basin is narrow, with steep, densely-wooded mountains and slender flood plains along the river and its two major tributaries-the Fisher and Yaak rivers. The upstream portion of the Kootenai River is dominated by Libby Dam and its reservoir, Lake Koocanusa, which impounds 48 miles of the river in Montana and extends an additional 43 miles into Canada. The reservoir's storage capacity is exceeded **only** by Fort Peck in the Missouri basin. Downstream of Libby Dam is Kootenai Falls, a 700-foot wide, 30-feet high natural falls that was once considered for hydroelectric development. Elevations range from 7,500 feet in the mountains to about 1,800 feet where the river exits the state.

The Kootenai basin is sparsely populated. It encompasses only one county, Lincoln. Its county seat, Libby, has a population of 2,532; the entire basin population is 17,500. Forest products, mining, and recreation provide the main economic activity in this region.

Water Use

Although little agriculture occurs here compared to other parts of Montana, irrigation still utilizes the most water in the Kootenai River basin. Most irrigation water is drawn from surface supplies. Mining and the wood products industry also use significant amounts of water. Public and rural water supplies-drawn almost equally from surface and ground water-account for about three percent of the water used.

As in the other major river basins, instream flows in the Kootenai River basin support electrical power generation, fisheries, and recreation. Hydroelectric generationat Libby Dam, which provides one-tenth of Montana's electrical generating capacity, uses the most instream water. Rainbow trout, mountain whitefish, and Montana's only population of white sturgeon also depend on instream flows of the Kootenai and its tributaries. Their presence attracts people to this region for fishing and boating.

Water Quality

Water quality in the Kootenai River basin depends on what kind of human activities have occurred nearby. Forest practices, agriculture, and mining have all contributed contaminants to local waters. Septic systems impair some ground and surface waters. Creosote compounds and pentachlorophenol from an abandoned disposal pit at a lumber mill have contaminated the aquifers beneath Libby. Overall, though, most alluvial aquifers in the basin contain good quality water and the basin's waters contain lower concentrations of dissolved chemicals than elsewhere in Montana.

ootenai River Ba

	Withdrawn (1,000 acre-ft/year)	Consumed* (1,000 acre-feet/year)
Hydroelectric Power Generation	6,729	0
Thermoelectric Power Generation	13	0
Self-supplied Industry	15	2
Municipal	2	1
Rural Domestic	1	1
irrigation	38	13
Livestock	**	**
Basin Total	6,768	17

***These** *figures assume all water passing through turbines is returned to the river downstream; they don't reflect the fact that evoporation from reservoirs contributes greatly to consumptive losses*

*** Insignificant*

Issues and Concerns in the Kootenai Basin

The Kootenai River Network, an interstate and international alliance of agencies and interest groups, formed in 1991 to develop a watershed protection strategy for the Kootenai basin. The issues listed below inspired this effort.

- **Water releases** from Libby Dam concern recreationists and proponents of increased power development. Boaters wish the reservoir to remain at full pool for easier access. (See diagram on page 22.) People who fish want to ensure sufficient water downstream to maintain the water velocity and depth that sturgeon requires for spawning.
- Anadromous kokanee salmon are threatened in British Columbia due to changes in river and reservoir levels caused by operations at Libby Dam and decreases in nutrient availability in Kootenai Lake.
- **Planned mining practices** on Libby Creek concern people because of the potential impacts on water quality should tailings ponds leak.
- **Hydropower production and** providing for ***salmon and sturgeon*** are two issues pending between Canada and the United States as they renegotiate portions of the Columbia River Treaty which could affect the long-term management of Libby Reservoir.
- **Widespread logging** and associated road building, which occurs throughout the basin at all elevations, can impact trout populations by increasing the amount of sediment **in surface waters.**
- **Ground water contamination** in the town of Libby forced residents to cap their private wells and use an alternative water supply. The contaminated soils are being excavated in an effort to mitigate the pollution.

For More **Information**

- *How the River Runs: A Study of the Potential Changes in the Yeliowstone River Basin.* **1981. Montana Department of Natural Resources and Conservation.**
- **"The Yellowstone River." 1985.** *Montana: The Magazine of Western History.* **Autumn 1985. Montana Historical Society***
- *The Missouri River Report.* **A quarterly publication of the Missouri River Basin Association. Box 9193, Missoula 59807.**
- *Flathead Basin Commission 1993- 1994 Annual Report*
- *Upper Clark Fork River Basin Water Management Plan. 1994.* **Upper Clark Fork River Basin Steering Committee.**