



The unique and regional significance of the Bear River Basin Watershed and its value to the environmental health of the Great Salt Lake Basin cannot be understated. Recently conducted forums on water quality management practices have revealed the urgent need of educating and informing the public on the issues pertaining to water quality within the basin - especially with regards to non-point source water pollution.

In an effort to address these issues, the Bear River Resource Conservation and Development (Bear River RC&D) initiated the production of *A River Runs Through Us*, an internet web-site and resource center dedicated to the recognition and advancement of water quality improvement projects throughout the Bear River Basin watershed.

A River Runs Through Us was conceived as a means to provide information - in a meaningful format - pertaining to nonpoint source water pollution and related water quality issues for not only the citizens of the Bear River Basin, but the ever-increasing audience of the World Wide Web. Its purpose is to be a fun, interactive, educational tool to highlight water quality improvement sites that have been implemented through the cooperation of private and governmental groups, organizations and individuals. It is also intended to help create opportunities necessary to collaborate, network and share resources in developing sound and long lasting solutions towards the betterment of water quality. We invite you to visit *A River Runs Through Us* at <http://www.bearriverrcd.org>.



A River Runs Through Us

A River Runs Through Us is a project of the Bear River Resource Conservation and Development.

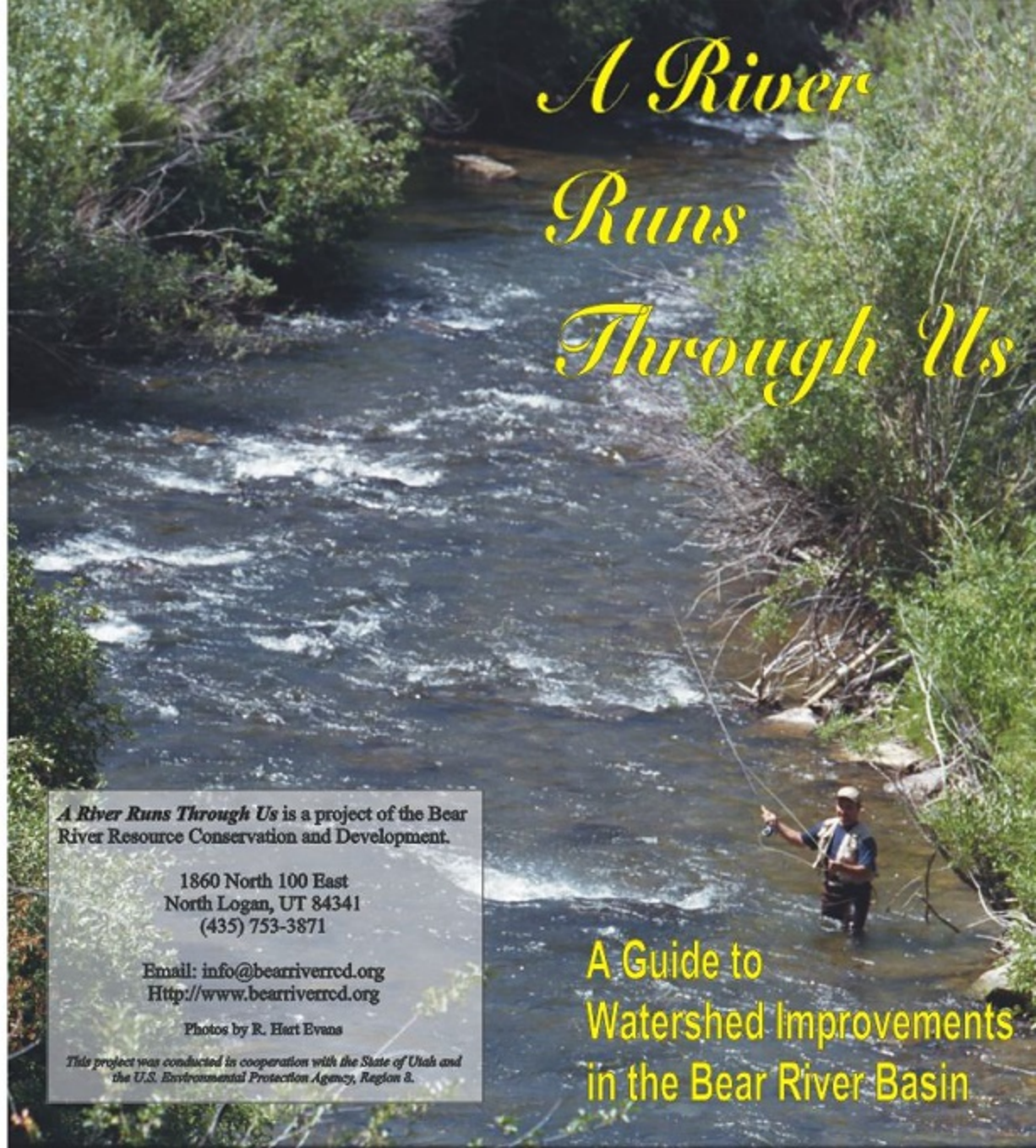
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Photos by R. Hart Evans

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A Guide to Watershed Improvements in the Bear River Basin



What is a Best Management Practice?

Best Management Practices (BMP) are methods, measures and practices designed to reduce or prevent water pollution, usually applied as a system rather than a single practice. Each BMP is developed or identified to be a cost effective, practicable means of preventing or reducing pollutants generated from nonpoint sources to a level compatible with water quality goals. BMPs are intended to reduce contamination of surface and groundwater while still maintaining use and productivity within the resources.

The following BMPs were highlighted in the website for *A River Runs Through Us*:

Animal Waste Management

Many years ago, dairy farmers were encouraged to position their barns and



Courtesy the Herald Journal, Logan, UT

milking operations near rivers and streams because it was believed to be an efficient and economical design for the disposal of animal waste. We've finally learned over the years that someone always lives downstream! Animal waste can have serious consequences on the quality of water in our rivers and our drinking supplies. It is estimated that one single cow can produce the same amount of waste in a day as 20 to 40 humans.

Stream Bank and Riparian Restoration

Eroded stream banks and lack of riparian corridors accelerate the degradation of water quality and loss of habitat for many species. Because of modern drainage practices, many streams receive all storm event water within a very short period of time. These heavy inflows can increase flooding and cause serious erosion in streams without vegetated banks. Stream bank and riparian restoration practices help reduce soil loss and improve water quality, as well as preserving and improving habitat.



In-Stream Reconstruction

Reconstruction within stream and river beds is needed when erosion has destroyed an area beyond simple repair. Replacing a riparian corridor is not immediately possible in this scenario because there is usually no place for plants to root. The channelized river way is a real threat to the quality of water downstream, because it is constantly sloughing sediments from the vertical banks and sending them downstream.

Upland Management

A nationwide study conducted by the USDA reported that over 3 billion tons of cropland were being lost to erosion annually. This lost cropland is depositing sediments, nutrients and chemicals into our waterways. In 1985, Congress established the Conservation Reserve Program (CRP) which is a voluntary program whose aim is to retire cropland



acreage for at least ten years. The program looks for highly erodible or environmentally sensitive cropland and establishes permanent land cover of grass or trees. Participants of CRP are compensated with an annual per-acre rent plus reimbursement for half the cost of establishing the permanent land cover.

Wetland Restoration

Healthy wetlands act as the environment's natural filtering system. They improve water quality by filtering sediment and nutrients, and help maintain groundwater levels through recharge. They also reduce soil erosion and function as flood control devices. Many different wildlife species use wetlands as their habitat, lending a recreational value to wetlands as well. Hunting, fishing, and bird watching are all popular recreational benefits.

Lower Bear River Upland Management Project

The Conservation Reserve Program (CRP) is a voluntary, long-term cropland retirement initiative. The program was created to establish a permanent land cover (usually grass or trees) by retiring highly erodible or sensitive cropland from production for 10 to 15 years.

The sloped nature of Dr. Goodenough's property made it particularly susceptible to erosion, which led to the formation of gullies and the loss of topsoil at an alarming rate. The eroding soil was responsible for increased turbidity in a pristine, spring fed stream, threatening a brook trout fishery and adding to sedimentary buildup into Deep Creek Reservoir - a popular recreation area in southeastern Idaho.



Soda Springs

Malad

IDAHO
UTAH

Logan

Bear Lake

Upper Bear River Bank Restoration Project

A nonpoint source pollution and stream channel project was initiated to address sediment and dissolved nutrient loading problems in the Thomas Fork Watershed by the Bear Lake Regional Commission.

The benefit to the streambanks was immediate by simply returning the vertical eroding banks back to their original, more durable natural slope. The willow clumps and seeded grass rooted successfully, further enhancing stream bank stability. Suspended solids were significantly reduced within the watershed which also helped address the problems with Bear River and Bear Lake downstream.



Lower Bear River Bank Restoration Project



As part of a required FERC relicensing process for Cutler Dam, its owner, PacifiCorp, in association with its local subsidiary, Utah Power, produced a management plan for the entire reservoir and surrounding lands. In addition to stabilizing and

restoring the eroding shorelines, grazing practices have been changed on the lands surrounding the reservoir and grazing leases have been reduced.

From the Benson area up to and including parts of Clay Slough and into Cache Junction, PacifiCorp has implemented just under two miles of bank stabilization and restoration, plus 12 to 15 miles of fencing.

Ogden

Evanston

Great
Salt Lake

WYOMING

Salt Lake
City

The Bear River begins its 500 mile course - give or take a meander or two - well above 12,000 feet in the alpine, conifer and aspen forest of northeastern Utah's Uinta Mountains. Its headwaters, fueled by several hundred inches of yearly snowfall, flow northward into southwestern Wyoming, back into Utah, again into Wyoming, into southeastern Idaho, diverted by man made canals into and back out of Bear Lake, and eventually makes a huge U-turn southward back into Utah and finally into the Great Salt Lake. This trek earns the Bear River the distinction of being the largest stream in the western hemisphere not flowing into an ocean. Yet from the river's headwaters to where it empties into the Bear River Bay of the Great Salt Lake, the distance is only about 90 miles in a straight line.

The red dots illustrated on this map are locations of Best Management Practices highlighted in *A River Runs Through Us*. Please visit us at <http://www.beariverrcd.org> to view more of these projects.

10 0 10 20 Miles