

River Restoration

We take pride in our ability to solve complex river restoration problems. By successfully merging engineering studies with geomorphic studies, we take a “systems approach” to our design process. Our experience in river restoration has included a wide variety of investigations ranging from municipal riparian corridors (Fossil Creek, CO) to larger river systems (Provo River, UT).

Representative projects illustrating ACE experience in river restoration include:

- *Spring Creek Channel Restoration, Fort Collins, CO:* Within the City of Fort Collins, Colorado, ACE has designed improvements to the Spring Creek channel. Flooding associated with a 500-year precipitation event in 1997 caused extensive damage. Improvements and rehabilitation included a new bridge crossing, preservation of the existing low flow channel and riparian habitat, bicycle and recreational usage, improved flood conveyance.
- *Provo River Restoration, Heber Valley, UT:* ACE prepared a geomorphic, sediment transport and hydraulic analysis of design alternatives for the restoration of over ten miles of the Provo River, downstream of Jordanelle Reservoir. ACE developed the design guidelines and restoration details for the proposed project. The project engineering and geomorphic phases were coordinated with a multi-disciplinary team, including civil and hydraulic engineering, fisheries, water rights, land use, land ownership, Threatened & Endangered species and wetland mitigation experts. ACE attended numerous public hearings and interdisciplinary council meetings throughout the course of this highly visible and publicly funded project.
- *Little Medicine Bow Restoration, Shirley Basin, WY:* As part of a \$50M mine reclamation project, ACE staff participated in the design and permitting of the Little Medicine Bow River Restoration project (Shirley Basin, Wyoming). ACE staff participated in the geomorphic analysis of design alternatives for 3.5 miles of river and wetland restoration. The final design and constructed river reflected the balance of hydrologic, geomorphic, hydraulic and sediment transport considerations. Ground water and surface water interaction and the development of an alluvial floodplain-pilot channel were essential design components.
- *Little Thumb Creek Reconstruction, Yellowstone National Park, WY:* ACE staff conducted the hydrologic, geomorphic and hydraulic design of a permanent river reconstruction of Little Thumb Creek. Fisheries habitat, cutthroat trout spawning, wetland restoration, channel capacity and long-term channel response were integrated into the final design.
- *Goose Creek Rehabilitation, Acme, WY:* ACE staff evaluated the impacts of past Coal mining activities including the placement of a 30 acre/100-foot high spoils pile in a historic meander bend immediately upstream of the confluence of Goose Creek and the Tongue River. The study involved hydrologic, geomorphic, sediment transport and channel stabilization analyses to assess the existing condition of the creek. Recommendations were made and conceptual design plans prepared for a bank protection system to prevent degradation of downstream waters.