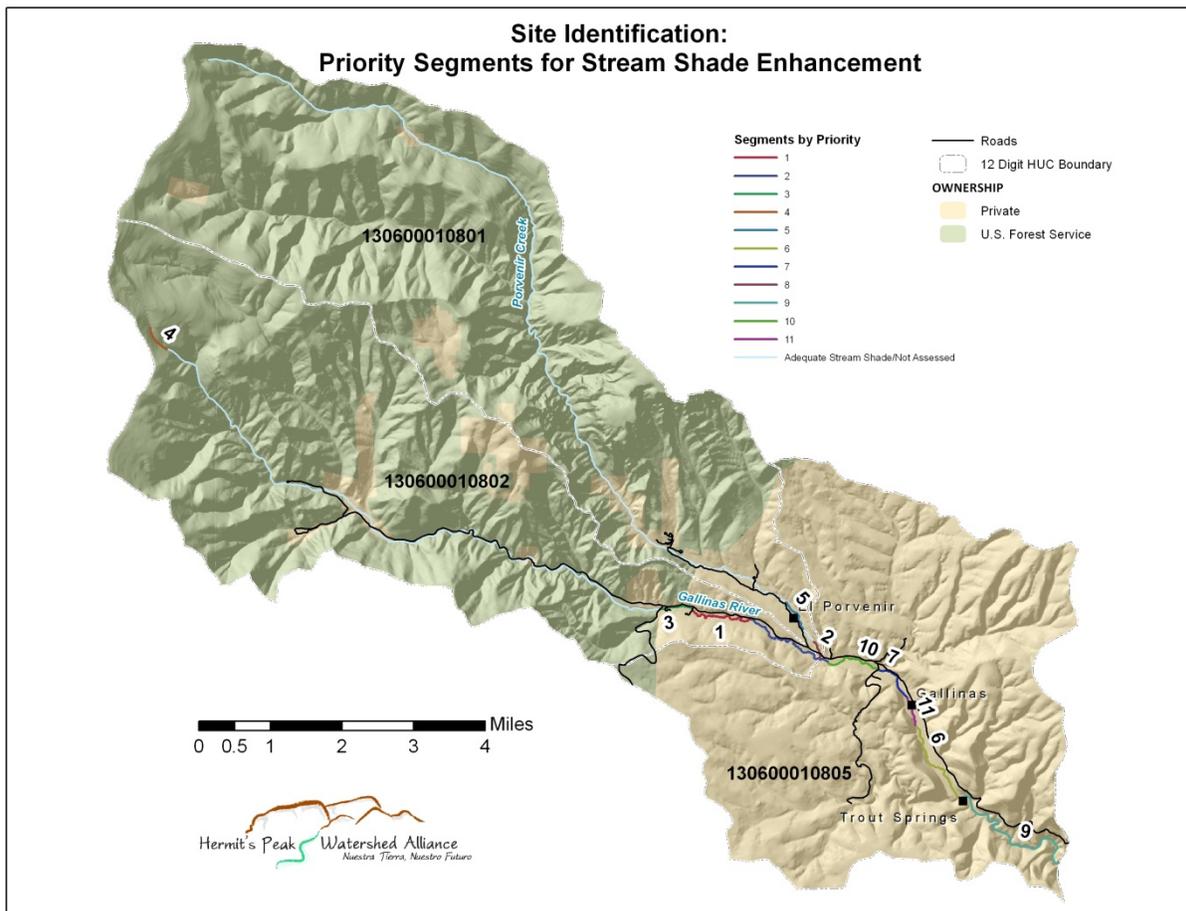


## Executive Summary of the Updated Watershed Based Plan for the Upper Gallinas River

**Purpose.** This Updated Watershed Based Plan for the Upper Gallinas River helps to guide land management and restoration efforts in the Gallinas watershed from the Las Vegas Diversion to its headwaters including Porvenir Creek. Guidance relates to activities that directly affect overall stream condition and more specifically as they pertain to restoring and maintaining stream temperatures so they meet state standards. This plan's impetus is the Federal Clean Water Act Section 319(h) Nonpoint Source Grant that provides funding through the New Mexico Environment Department. Future 319 implementation grants will then help provide the support to put this plan into action.

State standards are based on the Total Maximum Daily Load (TMDL) which identifies the Gallinas River, as temperature impaired. It was determined that the Gallinas River from the Las Vegas Diversion to headwaters and its main tributary Porvenir Creek, do not support its designated high quality coldwater aquatic life use. In order to support that designated use, water temperatures should not rise above 68 degrees F.

This planning effort examined the current condition of the Gallinas River and Porvenir Creek to identify specific causes and sources of degradation and recommend efforts that can help restore healthy conditions. This plan focuses on the management and restoration of riparian vegetation since this contributes most significantly to stream temperature regulation, offers ecosystem services related to other important watershed values, and is most controllable by human activities.



**Findings.** Temperature impairments of the Gallinas were substantiated with data collected in summer of 2011. Because of extreme drought conditions in 2011, low flows played a significant part in affecting temperature conditions, but they also provided an opportunity to examine a “worst case scenario” which will likely occur more frequently in the future.

Stream shading, principally provided by canopy cover of riparian vegetation, contributes most significantly to maintaining cool stream temperatures. Beyond riparian shading and low stream flows, warm stream temperatures and overall compromised stream conditions were identified to be caused by: over-wide stream channels, stream entrenchment, streambank erosion, straightened channels and limited wetlands. Much of the total stream length with inadequate stream shading occurs on private lands. Activities that contribute to degradation of riparian vegetation and stream channels include livestock grazing, residential development, stream channel modifications, agricultural fields, roads, and recreational use.

Social circumstances that contribute to the current impaired conditions of the Gallinas River are a misunderstanding about what constitutes a healthy stream and riparian area, a lack of community support to assist landowners in valuing and maintaining healthy stream conditions, and adequate financial support in our economically depressed area to implement sound land management measures.

**Planned Measures.** To remedy degraded conditions of the Gallinas River and Porvenir Creek, a focus on improved land management measures is emphasized. Providing landowners with assistance and tools to manage their riparian lands, including pastures and riverfront backyards, with landscaping and appropriate vegetation management that is sensitive to stream condition is planned.

In areas where land management challenges are already addressed and conditions warrant restoration measures, numerous restoration efforts are planned. All stream segments requiring riparian shading could benefit from planting. Planting would focus on tall shade trees (cottonwoods, aspen) or tall shrubs. Further needed restoration entails stream channel improvements that increase water storage in adjacent soils, aquifer recharge, and reduce erosion to support healthy riparian vegetation. Road improvements need to occur at over-wide low-water-road crossings, where water drains from road surfaces directly into the stream without traveling through vegetated buffers that cool water.

In order to offer the incentives and technical and financial support needed to act on these measures, conservation, planning, and regulatory tools such as Conservation Easements, Wetland Mitigation Banks, and financial assistance programs from various government agencies should be utilized. The development of recommended riparian/stream buffers and best management practices would provide clear guidance for land use planning efforts. Work with County, State, and Federal agencies to improve on regulatory or non-regulatory guidelines to improve and maintain riparian and stream systems are also complimentary efforts.

As a high priority, landowners need the tools to understand and implement efforts needed to improve and maintain riparian and stream areas. Direct one-on-one work with landowners will be most successful. The importance of this community support is critical since all the land management and restoration practices require landowner cooperation and long-term maintenance for them to be successful.

**Future plans.** The Hermit’s Peak Watershed Alliance plans to submit a variety of grant proposals, including EPA 319 implementation grants, to put into action the planned activities described in this document. This Updated Watershed Based Plan developed a three phased, eight year approach to restoring healthy stream conditions and reducing water temperatures in the Gallinas River and Porvenir Creek. It is a plan that conducts the necessary education and outreach, accomplishes on-the-ground management and restoration treatments, and puts into place sustainable community support systems that will carry on into the future.

**See the entire DRAFT plan at [hermitspeakwatersheds.org](http://hermitspeakwatersheds.org) or call 425-5514 for a copy.**