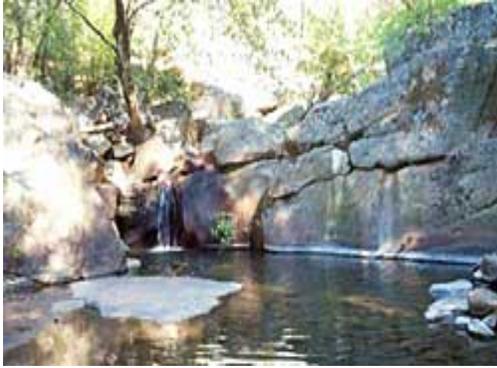


CHAPTER I: INTRODUCTION

Background



California State Law requires each county to adopt a General Plan “for the physical development of the county and any land outside its boundaries which bears relation to its planning” (Government Code Section 65300). The Nevada County Board of Supervisors (Board) approved the current General Plan in 1995, and it continues to be the long-term policy guide for the development of the county.

The 1995 Nevada County General Plan contains policies to protect and enhance the county’s open space, wildlife, vegetation, water quality, and forests. These policies recognize the importance of these resources to the ongoing social, economic, and ecological health of Nevada County. However, the biological resource information used to prepare the 1995 General Plan is inadequate because it was based on incomplete, out-of-date information that was not verified by field surveys. According to State General Plan Guidelines (2002, p.14), “A general plan based on outdated information and projections is not a sound basis for day-to-day decisions and may be legally inadequate.” These guidelines further note that, “At least once every five years, each local planning agency should thoroughly review its entire general plan and revise the document as necessary.”(p.35).

In order to fully implement the 1995 General Plan, and to assist with future planning decisions, the Board approved a resolution in May 2000 initiating a new public process, “*Natural Heritage 2020: A Vision for Nevada County.*” As part of the Natural Heritage 2020 process, the Board requested the preparation of a draft “biotic inventory” report for Nevada County.

The Board’s resolution, adopted May 9, 2000, created a Natural Heritage 2020 Community Advisory Committee (CAC) to advise county staff and make recommendations to the Board on forest, agricultural, and recreational resources in Nevada County. This resolution also created a Scientific Advisory Committee (SAC), and established a Memorandum of Understanding between Nevada County and the Sierra Business Council (SBC). SBC is a non-profit organization whose mission is to secure the economic and environmental health of the Sierra Nevada for this and future generations. SBC provided financial support for the biological resource data collection and analysis, preparation of electronic databases and printed reports, and also facilitated coordination with the CAC and SAC.

The original goals for Natural Heritage 2020 were to develop a comprehensive strategy to identify, manage, and protect natural habitats, plant and animal species diversity, and open space resources in Nevada County. However, those goals were revised in a May 7, 2002 Board Resolution, calling for the SAC to complete a Natural Resources Report. The goals of this report are to provide a scientifically-sound analysis of the distribution and characteristics of Nevada County's watersheds, habitats, and plant and animal species. Based on the Board's direction, this report is a data summary only, and it does not contain any conclusions or recommendations regarding the county's watersheds or natural resources.

Role and Composition of the SAC

The SAC consists of a panel of scientists whose mission is to provide scientific expertise to the Natural Heritage 2020 process. The SAC was structured to be an independent committee that was advisory to the CAC and the Board. The Board asked the SAC to inform this process by recommending research, guiding the science component of Natural Heritage 2020, and providing maps and data to the CAC and its working groups when requested. The SAC was also asked to prepare this Natural Resources Report by compiling the best scientific information currently available. The primary goal of this report is to provide a scientifically-based and peer-reviewed assessment of the biological and physical resources in Nevada County. This Natural Resources Report and its associated Geographic Information System (GIS) maps and databases are intended for review and use by the Nevada County Board of Supervisors and Community Development Agency, and the public.

Dr. Peter Brussard, Biology Department, University of Nevada, Reno chaired the SAC. Dr. Edward C. (Ted) Beedy, Sierra Business Council, served as the Scientific Coordinator of the SAC. Other SAC members included:

- Mr. Jeff Finn, California Department of Fish & Game;
- Ms. Maria Boroja and Ms. Vicki Campbell, U.S. Fish & Wildlife Service;
- Dr. Jim Gaither, The Nature Conservancy;
- Dr. Tom Parker, San Francisco State University;
- Dr. Bruce Pavlik, Mills College;
- Dr. Michael Soule, University of California, Santa Cruz (retired); and,
- Dr. Peter Stine, U. S. Forest Service.

Mr. Steve Self, a biologist for Sierra Pacific Industries, also was invited to join the SAC but was not able to participate. Dr. Brussard, representatives of SBC, and Community Development Agency staff asked these individuals to serve on the SAC because they are recognized authorities in the fields of conservation biology, plant and/or animal diversity, or knowledgeable about the natural history of the Sierra Nevada.

The SAC held six public meetings: September 22 and November 17, 2000; January 12, February 16, April 27, and September 14, 2001. Comments from members of the public were invited and received at each of these meetings. The purposes of these meetings were to: inform the public about SAC members' progress on reviewing data sources; to describe the field methods and techniques used to analyze these data; and, to provide an opportunity for members of the public to comment on this information.

Watershed-Based Approach

Overview

This Natural Resources Report uses a watershed-based approach for compiling and summarizing biological and natural resource information for Nevada County. A watershed is an area of land that drains into a particular stream, river, or lake. It is bounded by a divide that separates it from adjacent watersheds. Depending on the scale one chooses, a particular watershed may be large, like the Mississippi River, which drains more than a million square miles, or can be as small as a few acres. Just as smaller creeks drain into larger rivers, watersheds are nearly always part of a larger watershed.

Nevada County has three major watersheds or river drainages: the Yuba, Bear, and Truckee. The Yuba and Bear rivers are tributaries of the Feather River which drain into the Sacramento River and eventually to the Pacific Ocean. They originate amidst the volcanic and granitic peaks near the Sierra crest, cut through pine and fir forests, oak woodlands, and chaparral, on their way to the rolling hills and agricultural lands of the western foothills. The Truckee River originates in Lake Tahoe and flows north and east through pine forest and shrubland habitats to Pyramid Lake, Nevada, a terminal water body in the Great Basin. Each of these large river drainages can be subdivided into smaller watersheds (CalWater 2002).

Members of the SAC and qualified local contractors (Science Team) obtained biological and physical resource information for each watershed from published sources and electronic databases that are maintained by a variety of universities and local, state and federal agencies. More than 200 electronic databases were obtained and evaluated for use in this process, but only about 40 of these were examined in detail. Additional non-public databases may also exist, but these were not made available to Nevada County. New information that is developed by private and public entities may be used to update the existing databases to ensure the long-term accuracy and viability of this watershed-based GIS system.

Central assumptions to using this watershed-based approach were that the SAC would consider only the most current, scientifically accurate information available, and that all selected databases would be evaluated in both the

office and field to verify their accuracy. In addition, data summaries and reports would be peer reviewed by qualified scientists from public agencies, universities, and the public sector.

As discussed in more detail in the following chapters of this Natural Resources Report, the SAC has completed an overview survey of the biological and physical resources of Nevada County. Experienced, local field technicians who are knowledgeable about the county's biological and physical resources performed reconnaissance-level surveys in each of Nevada County's watersheds to field-verify the GIS-based maps and databases.

As directed by the SAC, no trespassing on private lands occurred during the Natural Heritage 2020 field surveys. Access to individual watersheds was gained through public roads and public lands. Private lands were surveyed by written invitation only.

Advantages and Disadvantages of a Watershed-Based Approach

There are many practical advantages to using watersheds as units for cataloging biological and physical information including:

- ridgelines that define watershed boundaries may also present ecological barriers for some plants and animals;
- watershed boundaries are coincident with the boundaries of many key ecological processes such as surface water flow and most nutrient inputs to aquatic and terrestrial ecosystems;
- considerable scientific literature exists on ecosystem experimentation at the watershed scale;
- aquatic and riparian systems are good indicators of the health of a watershed;
- animal movement patterns may be related to watershed features (e.g., the location and extent of riparian migration corridors);
- considerable biological diversity is associated with aquatic ecosystems, and many of these species (e.g., some aquatic invertebrates, fishes, amphibians, and plants) reach their distributional limits near watershed boundaries, and;
- many listed and other special-status species and sensitive habitats in Nevada County are associated with aquatic systems that are defined by watersheds.

Using watershed boundaries as analytical units has two disadvantages. The first is that administrative boundaries rarely coincide with watershed boundaries. However, administrative boundaries rarely coincide with the boundaries of any ecologically or biologically significant area. The second is that terrestrial ecosystem types do not stop at watershed boundaries, and many animal species move freely from one watershed to another. Again, the

GIS databases used in this analysis spanned several watersheds, and qualified local botanists and wildlife biologists performed field surveys to ensure that the GIS-based data are accurate both within and across watersheds.

The data and findings of this report are summarized at a watershed scale and they should not be considered a substitute for site-specific surveys or biological resource analysis on public or private lands that are proposed for future development or land use conversions in the county. However, this Natural Resources Report will provide much useful biological and physical resource information for the county, state and federal resources agencies, private landowners and land trusts, land developers, scientific organizations, and members of the public.

Peer-Review Process

This Natural Resources report was authored by Drs. Beedy and Brussard. Members of the Science Team, including Mr. Eric Beckwitt (GIS support) performed watershed surveys to verify GIS-data themes, and they provided internal peer-reviews of this report. Each of these individuals has at least 10 years of professional experience in Nevada County and in adjacent foothill counties.

SAC members including Mr. Jeff Finn, Ms. Vicki Campbell, Dr. Jim Gaither, Dr. Tom Parker, Dr. Michael Soule, and Dr. Peter Stine provided detailed internal peer-review comments on the draft Natural Resources Report, its associated technical appendices, and GIS-based maps.

All of their suggestions were reviewed in detail, and they were incorporated into this final Natural Resources Report.

Outside peer-reviews of all or portions of the Natural Resources Report were performed by numerous individuals with no personal or professional associations with the Natural Heritage 2020 process. Dr. John Harris, Professor of Biology at Mills College, reviewed the entire report and all technical appendices. Summaries of plant and animal occurrences (including listed and other special-status species) were critiqued by U.S. Forest Service, California Department of Fish and Game biologists, and by several other experienced biologists at universities and at private consulting firms in northern California.