

# Chapter 1

## Introduction

### 1.1 Background

The Cosumnes American Bear Yuba (CABY) Integrated Regional Water Management (IRWM) region was finalized through the 2009 DWR Region Acceptance Process (RAP). The CABY IRWM Plan (IRWMP) region borders established through the RAP were based on the similarities in the physiography of the watersheds, socioeconomics, hydrology, geology, hydrogeology, water storage and delivery infrastructure, and land use. The area also has similar or closely related policy issues and management entities.

Prior to the RAP, CABY had prepared an Integrated Regional Water Management Plan (IRWMP), published in 2007, funded through a Proposition 50-funded Planning Grant.



This 2014 CABY IRWMP is a full update to the initial 2007 IRWMP document and is fully compliant with the November 2012 Integrated Regional Water Management Proposition 84 Guidelines, prepared by the Department of Water Resources (DWR). The CABY-RWMP, a non-profit entity, is the grantee for the Proposition 84 planning grant which has funded the work effort. **The CABY governance group will be responsible for implementing the Plan.** The governing group is made up of representatives from agencies and non-profits in equal numbers.

The 2014 CABY IRWMP Update is the culmination of three years of work and represents thousands of hours dedicated by the CABY members and stakeholders across the region. It is important to note that the CABY stakeholder commitment to IRWM is broad and consistent – with membership (represented by adoption of the IRWMP) rising from 25 members in 2007 to 45 in 2014. Additionally, the 2007 IRWMP document was updated several times by the CABY membership using local funds and in-kind support by local stakeholders. These 2009, 2010, and 2011 updates have been integrated into the current document.

### 1.2 Purpose of the 2014 CABY IRWMP

The purpose of the 2014 CABY IRWMP includes:

- define current water resources and environmental conditions;
- document key issues, challenges, and potential sources of conflict;
- identify management goals and objectives, including those for water supply, water quality, environment and habitat, land use, and recreation;
- evaluate alternative water management strategies and identifying opportunities for cooperative actions among water resource management entities and key stakeholders;

- provide an implementation plan for priority projects; and
- establish an ongoing planning framework and management structure from which local water management policies, projects, and programs can be formulated, evaluated, and implemented.

Piecemeal planning constrains the range of potential solutions to the region’s most pressing conflicts and increases the potential for competition amongst managers and user groups. In response to this, the active groups and agencies in this region have established an oversight and governance structure and planning framework for institutional involvement and multi-stakeholder participation. The proposed governance structure will allow for collaborative management of water resources and implementation of projects in a holistic and coordinated manner.

By building on the wealth of hands-on watershed restoration experience, project-scale monitoring, and institutional capacity, it will become possible to expand water management and planning capabilities when water management conflicts require larger-scale solutions.

### **1.3 Region Description**

The CABY region consists of four watersheds (Cosumnes, American, Bear, and Yuba) and 12 subwatersheds situated within the north central Sierra Nevada in California (see Figure 1-1).

The IRWM area extends from the northern parts of the Yuba River watershed in Yuba, Nevada, and Sierra Counties to the southern part of the Cosumnes River watershed in Amador County. The CABY region land area comprises 4,351 square miles, or about 30 percent of the Mountain Counties Area as defined in the State of California Department of Water Resources (DWR) Water Plan Update (DWR 2009). All four watersheds include headwaters that drain large volumes of water into the Sacramento and Mokelumne Rivers, ultimately serving the Sacramento Delta ecosystems. The CABY region encompasses only 2.4 percent of California's total land base and is home to a small fraction of California's population, but its significance both ecologically and economically cannot be measured by its size or number of residents.

The American, Bear, and Yuba Rivers provide 24 percent of the total Sacramento River flow as measured at Freeport. The Cosumnes River, southernmost watershed in the CABY region, provides flows into the Mokelumne River that then drains directly into the San Francisco Bay-Delta. Combined, these watersheds produce water supplies for the Greater Sacramento Region – a population center of over one million people – and greatly contribute to water flowing through the Bay-Delta, helping with environmental needs, salinity concerns, and water quality issues.

The region is geographically diverse with a broad range of elevation, slope, aspect, and soils characteristics. The Plan area ranges in elevation from 400 feet at Folsom Reservoir at the western border to over 9,000 feet at the crest of the Sierra Nevada at the eastern border. The region’s geographic diversity combined with variations in average temperatures and precipitation support a wide variety of vegetation communities.

The CABY region provides important habitat for a variety of wildlife and plant species. Many of these habitats are considered ecologically sensitive; the region supports 121 species and nine habitats of

special concern.<sup>1</sup> Sensitive, threatened, and endangered wildlife species include the peregrine falcon, bald eagle, golden eagle, long-horn beetle, foothill yellow-legged frog, river otter, Townsend big-eared bat, and more than 86 butterfly species. There are several sensitive, threatened, and endangered plants in the region. The region also supports many endemic plant species.

The CABY region also provides significant economic resources to the entire state, serving as the source headwaters and contributing a significant portion to California's water supply, including flows for the Bay-Delta system, the Central Valley Project, and the State Water Project. Moreover, the CABY watersheds generate thousands of megawatts of hydroelectric energy serving communities far beyond the region through California's electrical grid system.

There is an abundance of scenic attractions that offer many outdoor activities including hiking, camping, and biking. The rivers and lakes in the region also support fishing and whitewater rafting, which contribute an estimated \$250 million per year to the entire Sierra Nevada region's economy.<sup>2</sup> The CABY study area also contains several Clean Water Act Section 303(d) impaired watersheds or water bodies, and two of the rivers in the study area contain impacted fish communities. There are two designated Wild and Scenic rivers: the federally designated North Fork of the American River from Heath Springs to Colfax Iowa Hill Bridge (38.3 miles), and the State-designated, 39-mile stretch of the South Yuba River.

The Mountain Counties Area in the Sierra Nevada, which includes all or portions of the 10 counties in the CABY region (Alpine, Amador, Butte, El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, and Yuba) is a distinct region in California with unique water infrastructure and watershed issues. Much of the existing water supply infrastructure was developed for mining operations, power generation, and agriculture, and then later adopted for public water supply. As mining, agriculture, and logging operations have decreased over the past decade, recreation, tourism, and residential development have significantly increased, exerting a different type of demand and effect on water resources.

Population growth in the Mountain Counties Area is predicted to grow from 100 to 500 percent in the next 10 years. Climate change is predicted by some to shrink the Sierra snowpack by 36 percent in the next 50 to 100 years, greatly reducing the water supply and snowpack storage capability of the CABY region<sup>3</sup>. Preserving regional water supplies given these constraints is critical, both environmentally and economically.

## **1.4 CABY Stakeholders**

CABY stakeholders are essential to identifying issues, populating resource management strategies, and developing objectives. Perhaps most important, as a Plan is adopted, they are integral to making an IRWMP come alive by incorporating those objectives into their respective work, and by securing funding and implementation of its programs and projects.

CABY provides opportunities for involvement for two primary types of stakeholders. The first group includes those organizations that have adopted the Plan and constitutes the primary decision-making body for CABY – the RWMG/governing body. At this time, 45 organizations, agencies, and governmental entities have adopted the CABY IRWMP. The second group, known as interested stakeholders, includes those groups or organizations that participate and have expressed an interest in CABY but have not

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<sup>1</sup> California Department of Fish and Game 2012

<sup>2</sup> Sierra Nevada Ecosystem Project Report 1996

<sup>3</sup> Wilkinson 2002, Miller et al. 2003, Timmer 2003, Luers et al. 2006 - also see [www.climatechange.ca.gov](http://www.climatechange.ca.gov)

adopted the Plan because of complex adoption requirements, limited staff capacity for meetings, or other reasons. The interested stakeholders are not part of the decision-making structure of CABY.

Most of the major stakeholders in the region with responsibility for, or interests in, water management issues are CABY adoptees. These stakeholders include water management agencies, conservation groups, counties and cities, regional watershed collaboratives, recreational interests, agricultural interests, and disadvantaged communities.

### **1.5 Coordination with other IRWMPs**

Other regions throughout California are developing IRWMPs or functionally equivalent plans to address water management issues. In some cases the regions' water management issues transcend the geographic boundaries. Coordinating with adjacent regional planning efforts is particularly important as the CABY region contributes water supplies to other IRWMP regions and may affect or be affected by water quality in other areas.

The CABY IRWMP development has included outreach and coordination with other regional planning efforts as needed to discuss water policy, implementation projects, data management, monitoring, or other water management issues.

Adjacent regional planning efforts with which CABY has coordinated are:

- American River Basin
- Mokelumne Amador Calaveras
- Yuba County
- Upper Feather River Watershed
- Tahoe Sierra

### **1.6 How This Document is Organized**

The IRWMP is organized by chapters, which describe the intentions, current management, resource conditions, strategies, and plans to implement projects in the CABY region.

**Chapter 1, Introduction:** Introduces the purpose and vision of the IRWMP, provides a general regional description and explanation of the boundaries, including stakeholder participation.

**Chapter 2, Stakeholder Involvement:** A detailed description of the CABY IRWMP planning process, including a thorough description of the unique and effective process of stakeholder participation and consensus decision-making. The core of the CABY IRWMP is based on the cooperative and transparent nature of the CABY planning process.

**Chapter 3, Coordination:** This section describes the efforts the group has undertaken to involve and collaborate with federal and State agencies, adjacent IRWM regions, and other key groups with an interest in the CABY region and/or the Sacramento Region Funding Area of which CABY is a part.

**Chapter 4, Governance:** Describes the historic and current governing structure of the organization – how decisions are made, which entities participate in decision-making, and how the network of Work Groups serve to advance CABY issues and objectives.

**Chapter 5, Region Description:** Describes the regional geology, soils, hydrology and groundwater, water supply infrastructure, subwatersheds, land and water use, biological resources, social and cultural characteristics, and the economic conditions.

**Chapter 6, Water Quality:** This chapter describes the water quality conditions throughout the CABY region. Detailed information is provided on water quality concerns such as mercury, sediment, temperature, and contaminants.

**Chapter 7, Water Supply:** This chapter presents a broad water demand forecast for the CABY region. Understanding the magnitude of future water demands, and any potential changes to existing water demands, allows managers to make recommendations that will meet or manage demands for water quality and quantity into the future.

**Chapter 8, Water and Land Use:** A descriptive summary of the relation to local pre-existing management plans (mandatory documents) that have statutory authority, or legal standing. These plans describe the current management obligations that affect water resources and decision-making in the region.

**Chapter 9, Issues and Objectives:** This chapter describes the major issues and conflicts affecting the management and conditions of water resources. These issues were identified in the CABY planning work groups. The CABY IRWMP goals and objectives are then presented in the context of the issues which they seek to address and mitigate. The goals and objectives are the source from which unique strategies and on-the-ground actions will be formulated, i.e. implementation projects.

**Chapter 10, Resource Management Strategies:** The RMS included in the State Water Plan are addressed in detail – with a matrix that presents each measure and a clear statement as to its relevance to the CABY region and the IRWMP document (this is also addressed in the projects section in a project-by-project assessment of which RMS each project addresses).

**Chapter 11, Climate Change:** Describes the historic conditions and trends, projected trends, identified vulnerabilities, and available adaptive management strategies. This section includes the results of extensive Work Group interaction and assessment and also includes an appendix which focusses on the relationship of fuel and fire to the projected changes in regional precipitation.

**Chapter 12, Project Review Process:** This chapter describes the proposed implementation projects and how each project integrates with the CABY IRWMP. The extensive integration process used by project sponsors to achieve maximum number of multi-objective, multi-benefit, and multi-stakeholder projects is also described.

**Chapter 13, Plan Performance and Monitoring:** This chapter describes how the Plan will be evaluated using project and plan performance measures, monitoring, and adaptive management.

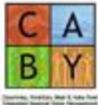
**Chapter 14, Impacts and Benefits:** Describes the projected impacts of both project- and Plan-level implementation impacts and benefits.

**Chapter 15, Technical Analysis:** Describes the ongoing data management mechanisms and technical aspects and analyses that are essential to scientific understanding and measurement of effective change to water resources.

**Chapter 16, Finance:** Describes both the process and reliability of obtaining project-level funding and the mechanisms and strategies open to the group to sustain the RWMG, overall Plan implementation, and other aspects of maintaining a strong and durable group to support IRWM activities in the region.

**Appendices:** The appendices include all supporting documents, including references, GIS metadata for maps, and the project solicitation and prioritization documents.

Figure 1-1



CABY Location Map



Figure 1-1