

# COMBIE RESERVOIR

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**COMBIE RESERVOIR**  
**Carrying Capacity and Safety Study**

**Nevada Irrigation District**  
**Grass Valley, California**

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## **PURPOSE AND SCOPE OF STUDY**

Combie Reservoir, is a Nevada Irrigation District (NID) owned public reservoir (see Figure 1), located on the Bear River in Nevada County and Placer County and South of the community of Lake of the Pines. The primary operational concerns of the reservoir recognized by NID are domestic and irrigation uses and the water quality provided for such uses. Combie Reservoir is the primary storage facility for the Lake of the Pines Water Treatment Plant and a secondary storage facility for the North Auburn Water Treatment Plant. Combie Reservoir is also a conduit exempt hydroelectric facility under Federal Energy Regulatory Commission (FERC) guidelines. Other uses of the reservoir include recreational use by adjacent property owners.

The current recreational use of Combie Reservoir includes water skiing, jet skiing, boating, fishing and swimming. Primarily, the adjacent property owners and their guests have realized the recreational use of this public facility. Several unauthorized facilities have been constructed on NID property to either gain access to or enjoy the water surface of the reservoir for recreational purposes. The encroachments along with the recreational use of the reservoir has prompted NID to conduct a Capacity Analysis and Safety Study for the reservoir. The purpose of this study is to evaluate and address the safe recreational carrying capacity of the reservoir and the effects the unauthorized facilities may have on the recreational capacity, public safety, and water quality.

As stated earlier, the primary operational concern regarding the Reservoir are domestic and irrigation uses and the associated water quality. These concerns must be considered when addressing the study objectives. The primary objectives of this Capacity and Safety Study are as follows:

- 1) To characterize the carrying capacity of the reservoir (or the approximate number of boats that can be safely accommodated on the reservoir surface);
- 2) To identify potential safety concerns related to the construction of unauthorized private docks and other unauthorized private facilities,
- 3) To identify potential effects of unauthorized private facilities on reservoir carrying capacity.
- 4) To identify the effects on water quality of unauthorized private facilities and recreational uses on the lake; and
- 5) To identify environmental review requirements under the California Environmental Quality Act (CEQA) that would be associated with permitting private facilities or removing unauthorized private facilities.

### ***Approach to Study***

The following sources of information were utilized in developing the Capacity and Safety Study:

- 1) Relevant agencies (including Army Corps of Engineers, Department of Boating and Waterways, Department of Parks and Recreation, Department of Water Resources, Nevada County Sheriff's Department and Placer County Sheriff's Department) were contacted to obtain pertinent standards and/or guidelines. Information was also obtained as to the methodology used to evaluate carrying capacity and identifying boating safety issues.
- 2) Information regarding use and safety issues was obtained from agency professionals involved in recreational management of reservoirs of similar size in California (including Lake of the Pines, Lake Wildwood and Lake Clementine).
- 3) On-site surveying was conducted on April 25, 2001 of the reservoir's current unauthorized facilities and the number of boats currently moored on the reservoir.

Based on these sources of information and the operational responsibility NID has of the reservoir, this study provides an evaluation of carrying capacity and the safety concerns of the unauthorized facilities. Recommendations are made to address any operational, safety and recreational concerns.

# EVALUATION OF RESERVOIR CARRYING CAPACITY AND SAFETY ISSUES

## *INTRODUCTION*

This section describes the existing site and use characteristics of Combie Reservoir. The overall carrying capacity of the reservoir is calculated and capacity and safety issues associated with unauthorized facilities are discussed.

## *SITE CHARACTERISTICS*

Combie Reservoir is located on the Bear River in Nevada and Placer Counties and is approximately two miles upstream of the State Highway 49 and Bear River crossing (see Figure 1). The reservoir is in the foothills of the Sierra Nevada Mountain Range and sits at approximately 1,600-foot in elevation and contains approximately 276 acres at the 1,600-foot spillway elevation. The topography is rolling and the native vegetation consists of primarily mixed-conifer forest. Native grasses and shrubs make up the remainder of the vegetation.

The Bear River is the primary tributary to Combie Reservoir. Wooley Creek located in Placer County is a minor tributary to the reservoir.

Combie Reservoir is the primary storage facility for the Lake of the Pines water treatment plant (serving 1,999 connections)<sup>1</sup> and a secondary storage facility for the North Auburn Water Treatment Plant (serving 2,269 connections)<sup>1</sup>. Combie Reservoir is also a hydroelectric facility with the generating capacity of 1.67 Mw. The hydroelectric facilities are Federal Energy Regulatory Commission (FERC) conduit exempt facilities.

NID owns and operates Combie Reservoir. NID owns in fee title to the 1,605-foot elevation around Combie Reservoir with the exception of a few properties in Placer County in which NID owns an additional 100-feet above the 1,605-foot elevation. NID has not established an accepted recreational use for the reservoir and has not received funding to provide recreational facilities at Combie Reservoir.

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<sup>1</sup> As of March 26, 2001 (NID Summary of Water Accounts).

## ***USE CHARACTERISTICS***

### **Visitors**

Combie Reservoir is fronted by privately owned property in Nevada County and Placer County. Therefore, the recreation at Combie Reservoir has primarily been the surrounding residents and their guests. Private property owners along Combie Reservoir have restricted public access to the reservoir facility. To date NID does not have an accurate number of visitor days for the reservoir for a typical weekend or weekday.

### **Boating Use**

Boating use of Combie Reservoir is realized by the surrounding property owners and their guests. The types of boating activities being conducted on Combie Reservoir are:

- Water skiing (Speeds 35mph or more)
- Jet skiing (Speeds greater than 5 mph)
- Fishing (Speeds typically less than 5 mph)
- General Boating (Speeds Vary)

The carrying capacity study will provide NID with information regarding the type and amount of boating use the reservoir can adequately provide.

## LAKE CARRYING CAPACITY

### ***INTRODUCTION***

Carrying capacity represents an amount of recreational use above which unacceptable conditions can result. Determining reservoir carrying capacity and monitoring boating use is a useful management tool for determining when corrective actions need to be taken to ensure maintenance of safe and enjoyable boating conditions.

The methodology for determining the carrying capacity of Combie Reservoir to accommodate mixed-use boating (water skiing, jet skiing, fishing and general boating) will be based on the formula, provided by the Department of Boating and Waterways in designing and maintaining lakes in California<sup>2</sup>.

Useable acres x Planning guideline = Carrying capacity

The information and approach used in identifying each of these variables is discussed below.

### ***USEABLE SURFACE ACREAGE***

Determining the useable surface acres is based on the amount of lake surface expected to be available and useable for recreation during a normal recreation season (Memorial Day to Labor Day) and an average year of precipitation. The surface acreage information is currently available for a pool elevation of the 1,600-foot elevation. This acreage will be used for calculation purposes, but will overestimate the actual useable surface acreage due to the normal summer operating level of approximately the 1,597-foot elevation<sup>3</sup>. Surface acreage information is not available for average low water conditions and, therefore, shall not be considered. The surface acreage will be calculated as the entire surface area at the 1,600-foot elevation minus the surface acres of a 200-foot no wake zone. The no wake zone extends out from all areas as established by the California Codes of Harbors and Navigation §655.2 and other areas of shoreline activity that is otherwise not covered by local ordinances (see Figure 2).

Lake of the Pines has placed a 5 mph speed limit around the perimeter of the reservoir<sup>4</sup>. Lake Wildwood imposes a 75-foot no wake zone with all coves being included. Lake Wildwood security patrols the reservoir to insure safe operating

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<sup>2</sup> Frank Dowd, Department of Boating and Waterways.

<sup>3</sup> NID Combie Reservoir 2001 Forecasted Operation Graph.

<sup>4</sup> Donna Moore, Public Safety, Lake of the Pines.

conditions daily<sup>5</sup>. The resulting useable acreage for Combie is calculated as follows:

Acreage at 1,600-foot waterline elevation – Acreage of 200-foot no wake zone =  
Useable Acreage

$$276 \text{ acres} - 204 \text{ acres} = 72 \text{ acres}^6$$

### ***PLANNING GUIDELINES FOR USE IN DETERMINING CARRYING CAPACITY***

Planning guidelines for use in determining reservoir carrying capacity is determined by the lake surface acreage that is required to accommodate a single boat unit. The acreage amount varies with the type of single use or mixed-use boating that occurs on a single reservoir. The planning guideline used by the California Department of Boating and Waterways, California Department of Parks and Recreation and Placer County Recreation Commission is 1 boat per 5 acres. It should be stressed that this is not a standard but a planning guideline for planning in recreational boating areas. The planning guideline of 1 boat per 5 acres will be used for this study.

### ***CARRYING CAPACITY FOR COMBIE RESERVOIR***

Based on the above variables, estimated carrying capacity of Combie Reservoir has been calculated as follows:

Useable Acres x Planning Guideline = Carrying Capacity

$$72 \text{ acres} \times 1 \text{ boat} / 5 \text{ acres} = 14 \text{ boats}$$

The calculated carrying capacity overstates the actual amount of boating use the reservoir can support due to the reservoir elevation being taken as the spill elevation at the 1,600-foot elevation in the calculation of useable acres. The calculated carrying capacity is a numerical representation of the number of boat units the reservoir can support in a given day.

The Placer County Sheriffs Department (PCSD) has recommended a maximum amount of boats as “ 20 boats maximum per day with no more than 4 – 5 of those boats being used for water skiing”<sup>7</sup> The PCSD also felt that the reservoir could support more boating use if Combie Reservoir had a 5-mph no-wake

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<sup>5</sup> Jay Arne, Environmental Management Assistant, Lake Wildwood.

<sup>6</sup> Areas obtained from NID water level summary tables, topographic maps, and AUTOCAD software. All areas based on pool elevation of 1600-foot elevation.

<sup>7</sup> Deputy Mark Wiseman, PCSD, personal communication



restriction on the entire reservoir<sup>7</sup>. Actual use information is not readily available due to the lack of community access to the public facility.

### ***MONITORING APPROACHES AND GOALS***

Monitoring of reservoir usage has not been conducted on a regular basis by NID staff to date. Such monitoring would provide valuable information towards the planning efforts of the facility if NID were to establish a public recreational use facility on Combie Reservoir. Monitoring could provide information in the following areas:

- The type and number of boats on the reservoir during peak use periods (the highest number of watercraft in a one-hour period).
- The type and number of boats on the reservoir during normal-use periods (the average number of watercraft in the A.M. or P.M.).
- The characteristics of boating use during these periods.

The data gathered from monitoring usage of Combie Reservoir would be useful in identifying conditions where overuse would occur. Reservoir use could be associated with reservoir level to establish operating conditions and criteria for high, normal and low reservoir conditions. The following monitoring approaches can be used to establish baseline reservoir use information:

- Count the number of boats moored to, or on the shoreline of, the reservoir. This would provide information to the minimum number of boats that are on the reservoir at one time. The NCSD counted 25 boats on the reservoir surface in February 2001, which exceeds the calculated carrying capacity of fourteen (14) boats<sup>8</sup>. On April 25, 2001 NID staff counted 80 boats either on the reservoir or on the shoreline of the reservoir. Neither February nor April is indicative of the recreation season.
- Conduct on-site observations to characterize the nature of boating activities on the reservoir. This information could be compared to boat counts and reservoir levels to determine the use and safety implications of a given number of boats at a given reservoir level.

The staffing time required would depend on the scope of the observation. If baseline reservoir use is lower than the carrying capacity, then monitoring should be accomplished on an annual basis. If baseline reservoir use were at or above carrying capacity, use would have to be limited.

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<sup>8</sup> Deputy Andy Burr, NCSD, personal communication

## **GENERAL OPERATING CONCERNS**

The primary operational concern facing NID at Combie Reservoir is the storage and maintenance of a quality water supply for agricultural use, the Lake of the Pines Water Treatment Plant and the North Auburn Water Treatment Plant. Water storage for hydroelectric generation is also of importance in the daily operation of Combie Reservoir. The current mixed-use boating and unauthorized facilities pose additional concerns to the operation and maintenance of Combie Reservoir including:

- Erosion of shoreline areas surrounding unauthorized facilities due to wave action. Currently there is a study being performed by the California Department of Boating and Waterways on the effects of wave induced shoreline erosion in the California Bay Delta System.
- Water quality being contaminated from the use of materials being used for the construction, maintenance, or repair of unauthorized facilities.
- The risk of Methyl Tertiary Butyl Ether (MTBE) being detected at the Lake of the Pines Water Treatment Plant. To date MTBE has not been detected in any water samples taken by NID treatment plant personnel. However, with an increase in mixed-use boating and the reduction in pool elevation during dry years, the risk of MTBE being detected increases. Over 60 percent of the reservoirs in California have detected MTBE<sup>9</sup>.
- Maintaining optimum pool elevation for hydroelectric generation. Hydroelectric demands may impact pool elevations during dry years to the point that useable surface area would not support mixed-use boating.
- Maintaining a minimum pool elevation to provide for recreational use of the reservoir. Pool elevations may need to be reduced during dry years or for the maintenance of the reservoir. Reducing the pool elevation could beach watercraft that is moored to unauthorized facilities.
- Maintaining optimum pool elevation for gravel extraction in Combie Reservoir. Gravel extraction is an accepted land use at the reservoir and is consistent with the land use designation in Nevada County (P-ME, Public – Mineral Extraction)<sup>10</sup> and Placer County (W-MR, Water Influence – Mineral Reserve)<sup>11</sup>.

NID has attempted to maintain the pool elevation at or near the 1,597-foot elevation during the span of May through September for optimum water quality, supply, hydroelectric generation capacity, gravel extraction and recreational

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<sup>9</sup> Department of Boating and Waterways MTBE fact sheet.

<sup>10</sup> County of Nevada Zoning Regulations, Chapter II, 07/11/00.

<sup>11</sup> Placer County Zoning Ordinance, Edition #5, January 1998.

concerns. NID reserves the rights to manipulate the pool elevation to best serve the operational concerns of the ratepayers within the influence of the reservoir.

## **SAFETY CONCERNS**

### ***GENERAL SAFETY CONCERNS***

Combie Reservoir does not have an informational distribution point for providing safety and use information to recreational users. Such information would include boating safety laws and regulations. Safety information regarding swimming and other uses is also absent for public review. Boating circulation patterns (“chartlet”) need to be posted at all public access points to insure proper boating traffic circulation. The Nevada and Placer County Sheriff’s Department Boat Patrols are responsible for enforcing all laws and regulations on Combie Reservoir.

Through interviews with Deputy Andy Burr (NCSD) and Deputy Mark Wiseman (PCSD) the following existing safety concerns were identified for the reservoir as a whole:

- Complaints have been received regarding careless Jetski riders and the noise generated from the watercraft (operating a watercraft in a careless/reckless manner is an infraction of California Boating law).
- A launch ramp that meets Boating and Waterways standards needs to be installed to facilitate an emergency response to the reservoir. Current response times (i.e. launch times) to the reservoir by the NCSD are approximately thirty minutes or more. An approved ramp facility could reduce response time to two to five minutes.
- Accidents on Combie Reservoir are not being reported.
- Water skiing is being conducted occasionally without an on-board observer (Water skiing without an observer is an infraction of California Boating law).
- The combination (access code) was changed at one time on the access gate on Peninsula Drive. This could have significantly delayed an emergency response to the reservoir. This further demonstrates the need for an established public access point to the reservoir.
- The speed limit on the reservoir should be reduced to 10 mph due to the lack of useable acreage and the narrow nature of the reservoir.

Other general safety concerns include:

- Reducing the pool elevation during dry years or for maintenance could expose people to normally submerged hazards. A system would need to be

put in place that would provide for the proper location and identification of hazards to all users of the reservoir.

- A minimum pool elevation must be established to determine the elevation at which the reservoir could no longer safely support any type of recreational use.
- Areas along the reservoir must be identified that pose a potential risk to recreational users.

### ***SAFETY CONCERNS FOR USE OF UNAUTHORIZED FACILITIES***

Currently there are 106 unauthorized facilities located along the shoreline at Combie Reservoir (this number of encroachments does not account for all encroachments currently existing on NID property). The safety concerns relating to these unauthorized facilities vary depending on their location, size, type of construction and current condition. Some general safety concerns regarding these facilities are:

- Improper construction that could be hazardous to the users of the reservoir.
- Fluctuating water levels that could expose users to underwater hazards.
- The use of objectionable construction materials could expose the public to unnecessary hazards and degrade water quality.
- Construction of floating docks that are not constructed to Department of Boating and Waterways standards could go unnoticed to watercraft.
- Unauthorized facilities could put people at risk of coming in contact with boating users in confined areas. The lack of industry standard restricted area markings could expose swimmers to boating traffic due to the lack of a defined restricted area.
- The use of unauthorized materials or products used in the construction, repair or maintenance of unauthorized facilities could contaminate the water treatment plant's storage supply.

Carrying capacity of the reservoir is also affected by the construction of unauthorized facilities.

## **EFFECTS OF UNAUTHORIZED FACILITIES ON RESERVOIR CARRYING CAPACITY**

The effects of unauthorized facilities on the carrying capacity of the reservoir are realized throughout the analysis of the Carrying Capacity and Safety Study. The California Code of Harbors and Navigation §655.2 requires a 200-foot no wake zone extending out onto the reservoir from beaches, docks, platforms and other areas of shoreline activity that is otherwise not covered by local ordinances. By placing floating or stationary facilities along the shoreline of Combie Reservoir the useable acreage has been reduced due to the increase in distance the 200-foot no wake zone is realized from shoreline. The useable acreage without shoreline facilities increases from the 72 acres to 99 acres (see Figure 3) resulting in a new carrying capacity of 20 boats per day.

The unauthorized facilities also provide for mooring of boats that have to be accounted for in the daily use of the reservoir. On April 25, 2001 80 watercraft were counted by NID staff during a video inventory of the reservoir. The count of 80 watercraft far exceeds the carrying capacity of the reservoir; however, the assumption should be made that only a small percentage of the watercraft would be using the reservoir surface during a normal day use. Reservoirs that are narrow in nature do not support a large number of high speed boating uses. Lake Clementine in the Auburn State recreation area only allows 25 boats launched per day due to the reservoir's confinement<sup>12</sup>. Unauthorized facilities constructed along the shoreline further exacerbate the narrowness of Combie Reservoir.

A lack of liability insurance due to the presence of unauthorized facilities and unauthorized recreational activities exposes the District to financial risk. Other recognized and authorized recreational activities on District reservoirs maintain \$5 million of coverage.

Dilapidated and unattended docks and debris are often set adrift causing navigational hazards. Thence items must be removed and disposed of by the District.

There is no entity or organization that represents all property owners that place facilities on the reservoir or recreation on it.

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<sup>12</sup> Jill Dampier, Auburn State Recreation Area

## CEQA CONSIDERATIONS

### *INTRODUCTION*

NID in the operation, maintenance and management of public systems, facilities and lands strives to preserve the public's interests and concerns in the most fiscally responsible manner. NID also supports the legislative intent regarding the California Environmental Quality Act (CEQA) in the operation, maintenance and management of assets held in public trust by NID. The California Public Resources Code<sup>13</sup> defines legislative intent as follows:

The Legislature finds and declares as follows:

- The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.
- It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.
- There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.
- *The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.*
- *Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.*
- The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.
- It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.

The Legislature further finds and declares that it is the policy of the state to:

- *Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.*

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<sup>13</sup> California Resources Code §21000, §21001.

- *Take all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.*
- Prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.
- Ensure that the long-term protection of the environment, consistent with the provision of the decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.
- Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.
- Require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.
- Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.

#### ***DEFINITION OF A PROJECT***

The statutory definition of "project" is "an activity which may cause either a direct physical change in the environment, or a reasonable foreseeable indirect physical change in the environment, and which is any of the following:

- (a) An activity which is directly undertaken by any public agency.
- (b) An activity by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- (c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies."<sup>14</sup>

The issuance of permits for the existing encroachments and the removal of unauthorized encroachments falls within the statutory definition of a project.

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<sup>14</sup> California Public Resources Code §21065.



## **EXEMPTION STATUS**

NID will be the “Lead Agency” on the issuance of permits or removal of unauthorized encroachments. Therefore, as the lead agency NID is required to determine if the project is exempt under CEQA. A project is exempt under CEQA if:

- (a) The project is exempt by statute. (Article 18, commencing with §15260) or,
- (b) The project is exempt pursuant to a categorical exemption. (Article 19 commencing with §15300) or,
- (c) The activity is covered by the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA or,
- (d) The project will be rejected or disapproved by a public agency.<sup>15</sup>

In evaluating the exemption status of the project the lead agency has determined that the project does not meet the requirements or definitions of a statutorily exempt project under Article 18 of the CEQA guidelines.

The argument can be made that the project is categorically exempt under the following CEQA guideline section:

Article 19, §15301 Existing Facilities.

Class 1 consists of the operation, repair, maintenance, permitting, leasing, license, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency’s determination. The key consideration is whether the project involves negligible or no expansion of an existing use. Item (h) of §15301 further describes an existing facility as:

Maintenance of existing landscaping, native growth, and water supply reservoirs (excluding the use of economic poisons, as defined in Division 7, Chapter 2, California Agricultural Code).

Item (1) under §15301 further supports a categorical exemption: Demolition and removal of individual small structures listed in this subsection, accessory (appurtenant) structures including garages, carports, patios, swimming pools, and fences.

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<sup>15</sup> California Environmental Quality Act Guidelines §15061.

## ***CEQA CONCLUSION***

The permitting process and/or removal of existing unauthorized facilities located on NID property is defined and allowed for in the above referenced CEQA guideline section. The removal of unauthorized facilities is also within the stated legislative intent of CEQA in that the environment would be restored to a natural state upon the removal of unauthorized facilities. Removing unauthorized facilities on a case by case basis and during low water conditions would provide for the enhancement of the environment and the restoration of the rural quality without having an adverse significant environmental impact. Although the CEQA guidelines provides for a categorical exemption NID will complete a Preliminary Review and Initial Study and prepare a negative declaration. A negative declaration will allow for complete documentation of the project and allow for proper public notification.

## **CONCLUSIONS AND RECOMMENDATIONS**

### ***INTRODUCTION***

The objectives of the Combie Reservoir Capacity and Safety Study were as follows:

- 1) To characterize the carrying capacity of the reservoir (or the approximate number of boats that can be safely accommodated on the reservoir surface);
- 2) To identify potential safety concerns related to the construction of unauthorized private docks and other unauthorized private facilities,
- 3) To identify potential effects of unauthorized private facilities on reservoir carrying capacity.
- 4) To identify the effects on water quality of unauthorized private facilities and recreational uses on the lake; and
- 5) To identify environmental review requirements under the California Environmental Quality Act (CEQA) that would be associated with permitting private facilities or removing unauthorized private facilities.

Based on the evaluation of these issues, this section provides an overview of the conclusions made in this study.

### ***STUDY CONCLUSIONS***

The following is an overview of conclusions identified throughout the Combie Reservoir Carrying Capacity and Safety Study:

- 1) The calculated carrying capacity overestimates the number of watercraft that can be safely accommodated on the reservoir during average and low water conditions because the surface acreage used to calculate carrying capacity was based on the high water elevation.
- 2) The carrying capacity cannot be compared to actual use since such information is not readily available.
- 3) There are existing safety concerns relating to the existing use of Combie Reservoir as expressed by the NCSD and PCSD.

- 4) Imposing a 10-mph speed limit on the entire reservoir would increase the safe carrying capacity of the reservoir.
- 5) The unauthorized facilities constructed on NID property have reduced the carrying capacity of the reservoir by increasing the 200-foot no wake zone from shoreline.
- 6) Unauthorized facilities pose potential public health and safety issues due to non-standardized construction methods, unacceptable materials and maintenance practices.
- 7) The permitting and/or removal of unauthorized facilities constructed on NID property will not be exempt from the CEQA process. The permitting and/or removal of the unauthorized facilities is within the legislative intent of CEQA and provides for the restoration, enhancement and maintenance of the environment and the maintenance and restoration of a public water supply. The construction of the unauthorized facilities would have required full CEQA compliance due to the potential for adverse impacts to safety, recreational, aesthetic, water, plant life, human health, natural resources and public services.

### ***RECOMMENDATIONS***

Based on the above conclusions the following recommendations have been made regarding the operational concerns and use of Combie Reservoir:

- 1) Due to the narrow nature of Combie Reservoir and the lack of an adequate public boat launching facility for the NCSD and PCSD, the reservoir should have a 10-mph speed limit.
- 2) A monitoring program will be established to insure compliance and to evaluate reservoir use at normal and low water conditions.
- 3) Establish and monitor a shoreline management plan by providing a one time, non transferable, permit process for existing facilities that are currently constructed to Department of Boating and Waterways standards or can be modified to meet such standards. Facilities that are not in compliance within a one-year time frame from project acceptance will be removed by the property owner, or NID will remove at property owner's expense and restore shoreline of NID property.

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