Isabella Lake
Dam Safety Modification Project

Isabella Lake, Kern County, California

DRAFT Recreation Report

February 27, 2014

US Army Corps of Engineers ®
Sacramento District

Prepared by the
U.S. Army Corps of Engineers
Sacramento District
In coordination with the
U.S. Department of Agriculture,
Sequoia National Forest,
Kern River Ranger District

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1.0 Introduction

The Isabella Lake Dam Safety Modification (Isabella Lake DSM) Project Draft Recreation Report (Report) is being prepared by the U.S. Army Corps of Engineers (Corps), in coordination with the U.S. Forest Service (USFS) Sequoia National Forest, and in consultation with local, State, and Federal agencies, stakeholders, and the public. In accordance with 33 C.F.R. §230.13(d), this Report contains supplemental information on the recreation impacts discussed in the Isabella Lake DSM Project Environmental Impact Statement (EIS) and will not be officially filed with the Environmental Protection Agency (EPA). The purpose of the Report is to act as a scoping document, to further explore and identify options that could be applied to offset adverse effects on recreation resulting from construction of the Isabella Lake DSM Project. Currently, the Corps is working with the USFS to resolve questions regarding implementation authority for recreation measures at Isabella Lake.

The Isabella Lake DSM Project draft and final EISs, which were released in March 2012 and October of 2012 respectively, describe the impacts to the recreation facilities around Isabella Lake. Based on the findings in the final EIS, it is anticipated that the visitor experience will be substantially diminished at certain recreation areas near the lake during construction of the Isabella Lake DSM Project if no mitigation measures are implemented to offset impacts. Furthermore, it is anticipated that the safety of visitors could be jeopardized by a failure to mitigate for closures. Increased visitation in the areas adjacent to the closed recreation facilities would likely encounter visitor use conflict, increased vandalism, overcrowding of bathroom and parking facilities, traffic congestion and circulation issues, and other health and safety issues. This Report discusses areas that will be directly impacted from either a temporary or permanent closure due to the construction of the Isabella Lake DSM Project, or indirectly impacted by increased use as a result of the closures.

The development of this Report was a commitment in the Isabella Lake DSM Project Record of Decision (ROD), which was signed December 2012. The purpose of the Report, as described in the ROD, is to "identify options for mitigation to offset adverse effects on recreation resulting from construction of the Isabella Lake DSM Project." This Report will not recommend any specific alternative to offset impacts; rather, it will be used as a scoping tool to collect input for the forthcoming Isabella Lake DSM Project Recreation Environmental Assessment (EA), which is scheduled for public release in late 2014. The purpose of the scoping process is to help the Corps and USFS determine the scope of the Recreation EA, if a Federal action will be taken, and to ensure that problems or issues are identified early.

In compliance with the National Environmental Policy Act (NEPA), the draft Recreation EA will be a concise document that supplements the EIS analysis of potential environmental effects of the Isabella Lake DSM Project on recreation. It will present a final array of mitigation alternatives for public review and comment. Once the authority issues are resolved, the Recreation EA will be finalized with a decision resulting in either a Finding of No Significant Impact (FONSI) or a recommendation for additional analysis.

Additional information may be obtained by contacting the Sacramento District Public Affairs office at (916) 557-5100.

1.1 Background of Isabella Lake DSM Project

In 2005, the Corps determined through a screening-level risk assessment process that the Isabella Dams posed an unacceptable level of flood risk from failure of the dam(s). The Isabella Lake DSM Study was completed in December 2012. It recommended a plan to reduce the probability of dam failure associated with hydrologic, seismic, and seepage issues and its associated consequences. The features of the approved plan presented in the Isabella Lake DSM Report and EIS are summarized as follows:

- A full height filter and drain (with an approximately 16-foot crest raise);
- Improvements to the existing spillway;
- A new emergency spillway;
- An 80-foot downstream buttress at the Auxiliary Dam with an approximately 16-foot crest raise; and
- Shallow foundation treatment at the downstream toe of Auxiliary Dam.

In addition, the approved project includes realignment of the Borel Canal conduit through the right abutment of Auxiliary Dam, relocations of California State Route 178 and Lake Isabella Blvd, and a gate closure structure along California State Route 155 to accommodate the 16-foot crest raise. An illustration of the Project features is presented in Figure 1.

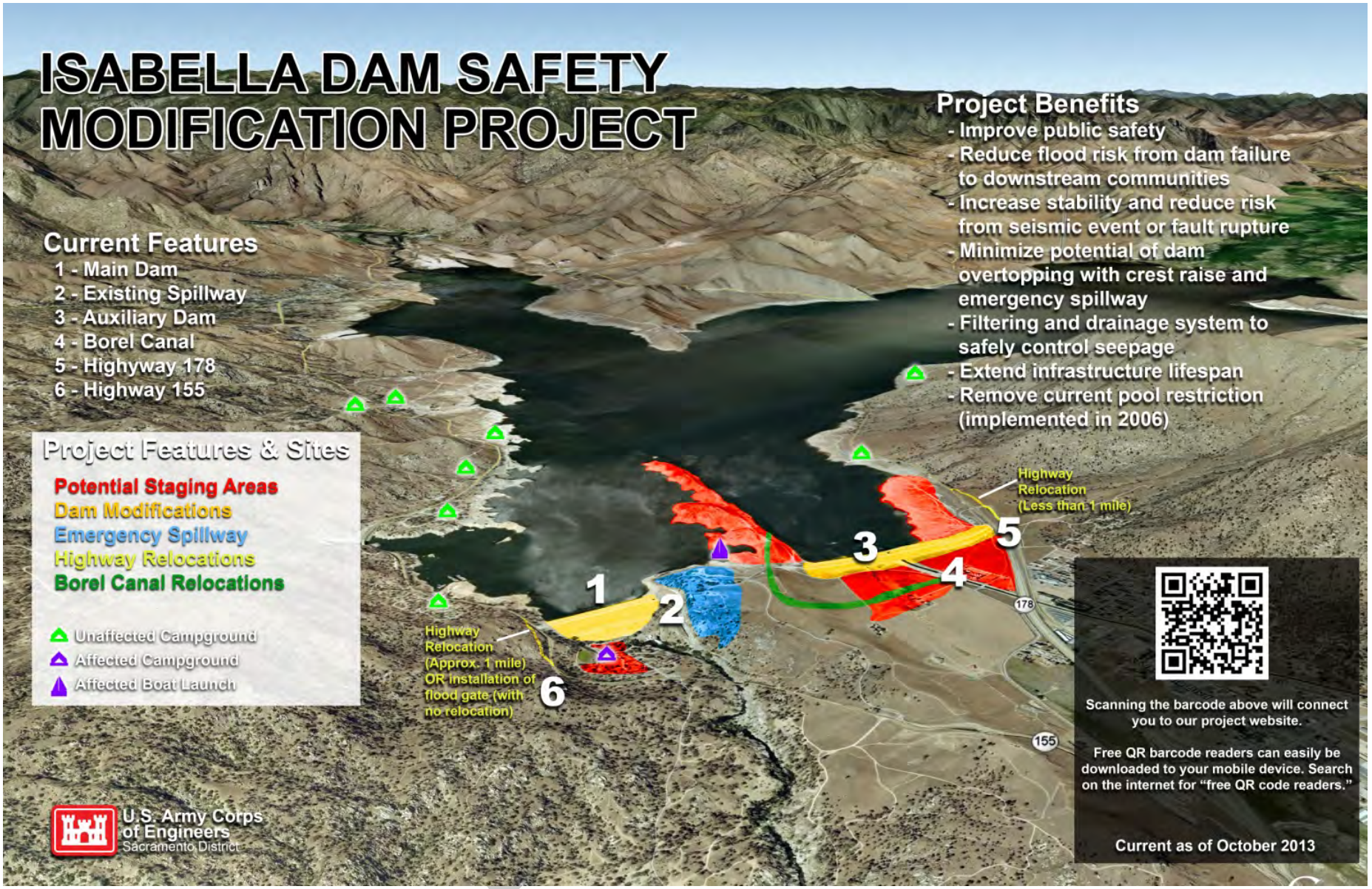

Figure 1. Isabella Lake DSM Project Illustration, Dated Oct 2013.

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1.2 Isabella Lake DSM Project Authorization

The initial study for the Isabella project on the Kern River was authorized by the Flood Control Act of 1936, Public Law (PL) No. 74-738, § 6, 49 Stat. 1579 (1936). This study provided a preliminary examination and survey of the Sacramento and San Joaquin Valleys. Separate studies were done on various sub-basins in the two watersheds. Construction of Isabella Dam and Lake was proposed in a Chief of Engineers Report in House Document 513, January 26, 1944.

The original construction of Isabella Lake Reservoir and Dams was authorized under the Flood Control Act of 1944, PL 78-534, § 10, 58 Stat. 887, 901 (1944). That authority reads:

> *The project for the Isabella Reservoir on the Kern River for flood control and other purposes in the San Joaquin Valley, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in his report dated January 26, 1944, contained in House Document Numbered 513, Seventy-eighth Congress, second session, at an estimated cost of $6,800,000. (58 Stat. 901)*

Section 4 of the Flood Control Act of 1944 (16 USC 460d) authorizes the Chief of Engineers to construct, maintain, and operate public parks and recreational facilities in reservoirs under the control of the War Department, and to permit the construction, maintenance, and operation of such facilities.

Recreation was authorized under the Federal Water Project Recreation Act of 1965, PL 89-72, 79 Stat. 213, 214, 16 USC 460l-12 et seq., as amended by the Water Resources Development Act of 1974, PL 102-575, Title XXVIII, 106 Stat. 4690, 16 United States Code (USC) 460*l*-31 – 460*l*-34. In part, 16 USC §460*l* -12 reads:

> *It is the policy of Congress and the intent of this Act that in investigating and planning any Federal navigation, flood control, reclamation, hydroelectric, or multipurpose water resource project that consideration shall be given to the opportunities, if any, which the project affords for outdoor recreation and for fish and wildlife enhancement…*

The Isabella Lake DSM Report was approved on December 18, 2012 without needing additional Congressional authorization, because the proposed modifications remained within the Chief of Engineers' discretionary authority to operate and maintain the dam. The proposed dam safety modifications ensure the project will continue to operate and provide the same purposes as congressionally-authorized in 1944.

1.3 Comments and Responses from Isabella Lake DSM Project Draft and Final EIS

Since becoming aware of the dam safety concern, the Corps continues to engage and inform the public of the DSM Project, and of the potential impacts that it might have on recreation resources. The Corps engaged the public through the NEPA public engagement process of collecting and addressing comments on the Isabella Lake DSM Project draft and final EIS.

During the draft EIS public review period, a total of 435 comments were received from the public and agencies. Comments were received from 145 different parties, including 3 Federal agencies, 1 State of California agency, 12 local agencies and organizations, and 129 private citizens. Although the public was engaged on a variety of issues, by a large margin the most important issue identified by the public was concern about periods of lake lowering during construction and their impact on recreation, the local economy, water quality, and air quality. See the final EIS, Chapter 6 (Public and Agency Review of draft EIS) for an overview of the public and agency review, the issues identified during the public comment period, and the Corps responses to those recurring comments that were of concern to many commentors. Appendix A of the final EIS presents a table that summarizes all comments received.

1.4 Agency Coordination and Public Involvement in Mitigation Measures

The Corps and the USFS have coordinated throughout the study phase of the Isabella Lake DSM Project and continue to coordinate during the pre-construction engineering and design (PED) phase to provide an accurate description of effects and include potential mitigation measures. Coordination includes conference calls, site visits, and communication through e-mail.

A survey of recreation visitors was conducted by the Corps (contracted to Gulf South Research Corporation) during the 2013 recreation season that aimed to capture the perspective of the visitors from outside of the Kern River Valley. The survey indicated the location of lake access, the type of recreation use, the concerns of visitors, and suggestions for possible mitigation measures to address project effects. Information gathered on the type and volume of visitor use contributes to a more complete understanding of the impacts to recreation resources at Isabella Lake and the Kern River Valley, and to the potential measures that could be implemented to mitigate those impacts.

Two public information gathering meetings were held by the Corps and the USFS on September 25 and 26, 2013 to discuss the potential impacts of the project with local residents. During these meetings, the public, particularly the residents of the Kern River Valley, were encouraged to provide input using the same survey questions as the visitor use survey. In

addition, comment cards were provided and communication with the public and the Kern River Valley recreation stakeholders is ongoing through the development of this Report. Future public meetings and continued stakeholder engagement are planned for fall 2014 when the draft Recreation EA is released.

2.0 Purpose and Need

The purpose of this Report, as described in the ROD, is to "identify options for mitigation to offset adverse effects on recreation resulting from construction of the Isabella Lake DSM Project." The ROD is included as Appendix A of this Report. The purpose of this Report is to help the Corps and USFS determine the scope of the Recreation EA, if a Federal action will be taken, and to ensure that problems or issues are identified early.

3.0 Isabella Lake Recreation Overview

3.1 Facility Management and Authority

The Corps operates the dams for the primary authorized purpose of flood risk management (flood control). Recreation is not an authorized purpose for the dams, but is considered a beneficial use of the project. The Corps' management of Isabella Lake is limited to the dams (Auxiliary Dam and Main Dam) and spillways, their associated outlet works, and the immediate adjacent lands.

Management of the recreation facilities at the lake was transferred from the Corps to USFS in 1991. USFS retains title to the facilities and surrounding lands. USFS is also responsible for security, management, operation, and maintenance of recreation facilities surrounding Isabella Lake and the lake itself.

The Bureau of Land Management (BLM) Bakersfield Office manages the Keyesville South and Slippery Rock boat launch on the lower Kern River below the Main Dam. Kern County Parks and Recreation (County) patrols the lake. Their offices are located at French Gulch Campground. The County uses Launch 19 on a regular basis for ingress and egress. The California Department of Fish and Wildlife stocks fish in the lake. The California Department of Transportation (Caltrans) is responsible for maintenance of State Route 155 and State Route 178.

3.2 Project Area Description

The Kern River Valley is surrounded by mountains that reach an elevation of approximately 7,000 feet, bounded by low rolling hills of the Greenhorn Mountains to the west and southwest, the Tehachapi Mountains to the south, high alpine mountains of the Sierra Nevada to the north, and El Paso Mountains to the east. The valley is considered a gateway to the Giant Sequoia National Monument, the Sequoia National Forest, and other nearby public lands. In 1987, the following were designated as Wild and Scenic River Segments; segments of the North Fork Kern River, from the Tulare-Kern County line to its headwaters in Sequoia National Park, and the South Fork Kern River from its headwaters in the Inyo National Forest to the southern boundary of the Domeland Wilderness in the Sequoia National Forest. Downstream of the Isabella Dams, the Kern River flows through the Kern River Gorge and the Kern River Valley, into the San Joaquin Valley. From the mouth of the canyon, the Kern River flows 85 miles to its terminus at the Tulare Lakebed.

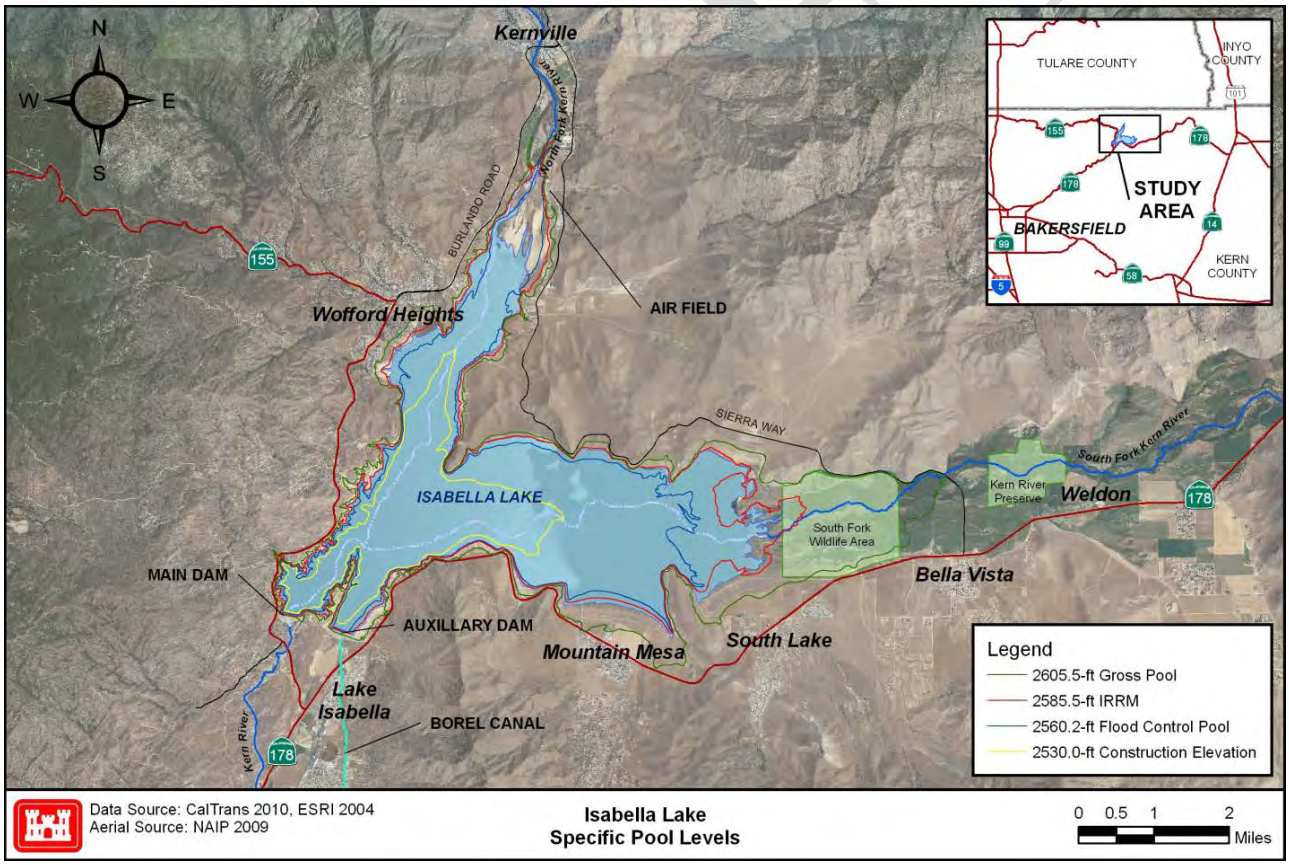

Figure 2. Isabella Lake Area Map with Pool Levels.

Isabella Lake consists of a Main Dam on the Kern River and an Auxiliary Dam directly to the east in the adjacent Hot Springs Valley. The construction of the Isabella Lake dams began in March 1948; the dams were placed in full operation in February 1953. The major physical features of the Isabella Lake DSM Project include embankments, outlet works, a small hydroelectric plant, a spillway, and the Borel Canal.

A private hydroelectric plant, owned and operated by Isabella Partners, is located on the downstream toe of the Main Dam. The Borel Canal passes through the Auxiliary Dam and supplies water directly to another hydroelectric plant operated by Southern California Edison on the Kern River, six miles south of the Auxiliary Dam.

The Isabella Lake dams provide flood risk management (flood control), water conservation (irrigation), and other benefits to the residents and business owners of the town of Lake Isabella, Kern River Valley, and Bakersfield (Figure 2). Water stored in Isabella Lake is used for irrigation and to recharge the groundwater basin. An exception to this can be found in years with exceptionally large runoff, when the Tulare Lake basin is threatened with flooding. During those years, all or a portion of the runoff is diverted to the California Aqueduct via the Kern River-California Aqueduct Intertie.

3.3 Recreation Use and Management on Isabella Lake and the Kern River

3.3.1 Historic Recreation Use

Isabella Lake became fully operational in 1953. Although recreation is not a Federally authorized purpose, it is acknowledged as a benefit as evidenced in the *Preliminary Report on Recreation Potentialities* created by the National Park Service in 1946, at the request of the Corps' Sacramento District Engineer.

The *Agreement for Establishment and Maintenance of a Minimum Recreation Pool of 30,000 Acre-Feet in Isabella Lake*, dated November 8, 1963 was signed by the local water users. Under this agreement, 30,000 acre-feet is designated for recreation. The release of the 30,000 acre-feet is made only if required for flood reduction or by mutual agreement of the water rights holders. This agreement was incorporated and made a part of the 1964 Contract between the United States government and the downstream water districts.

In May 1991, through an interchange of lands agreement, the USFS assumed management responsibilities of operation and maintenance of all recreational resources and facilities at Isabella Lake.

3.3.2 Current Recreation Use

Recreation at Isabella Lake and vicinity includes a variety of water and land-based activities, including picnicking, camping, lake boating and whitewater boating, swimming, fishing, hiking, off-road motorcycling, hunting, sightseeing, mountain biking, road cycling, wind surfing and horseback riding. Most water-oriented visitor use originates at permanent or portable facilities developed along the western shore of the North Fork area and the southern shore of the South Fork area, where the water surface is relatively accessible at all lake stages due to the ability of the marine docks to move and adjust to the lake level.

There are 26 developed sites in the immediate vicinity of the Isabella Lake DSM Project available for recreation. They are operated and maintained by the USFS, BLM, Kern County Parks and Recreation, the California Department of Boating and Waterways, and the California Wildlife Conservation Board. These areas provide opportunities for picnicking, camping, boating, swimming, hiking, cycling, and horseback riding.

The USFS-managed facilities in the area include the following developed day use recreation sites on the Lower Kern River: Live Oak, Lower Rich Bar, Upper Rich Bar, Miracle; at Lake Isabella: Launch 19, Old Isabella Boat Launch, South Fork Boat Launch, and Camp 9. In addition, the USFS manages the following developed overnight recreation sites at Lake Isabella: Auxiliary Dam, Old Isabella, South Fork, and Camp 9. Several designated dispersed camping areas offer undeveloped camping opportunities at Isabella Lake and on the Upper Kern River, north of Isabella Lake.

Other private operators providing recreation services in the immediate area include three private marina operators at Isabella Lake and four outfitter guides that operate on the Lower Kern River below the dams. Outfitters also provide kayak lessons on Isabella Lake. All private operators conduct services under Special Use Permits with the USFS.

Most visitors are from Southern California. According to the 2013 recreation survey and data collection effort, 95 percent of the 308 respondents interviewed were from zip codes in the southern California region, mostly from Los Angeles or Bakersfield (only 15 percent of the 95 percent were from within the Kern River Valley areas). The remaining five percent of visitors interviewed were either from Northern California or from outside of the state.

4.0 Affected Recreation Environment

This section illustrates and briefly describes the recreation facilities and resources that will be affected during and/or after the period of construction. The period of construction is anticipated to occur from 2017 to 2022. During this time, recreation facilities in the Isabella Lake area will be closed. Some facilities will be reopened after construction is complete and others will remain permanently closed (see Section 5 for details). Figure 3 shows the current design features of the Isabella Lake DSM Project and impacted areas in the vicinity of the action area. Figure 4 shows the current Isabella Lake DSM Project construction schedule.

A more comprehensive description of the affected environment can be found in section 3.12 of the March 2012 draft EIS and section 3.10 of the October 2012 final EIS.

4.1 Boat Launch 19

The Main Dam Boat Launch, also known as Launch 19, is centrally located near the current Corps and USFS offices. Launch 19 is the most popular and well-developed boat launch at Isabella Lake. It is in the deepest portion of the lake, allowing ingress and egress at low lake levels. This area is designed to accommodate use by motorized boats with parking for vehicles and trailers. It also includes an Architectural Barriers Act (ABA) accessible bathroom. Launch 19 also is used by patrol officers to watch the lake.

4.2 Auxiliary Dam Recreation Site

The Auxiliary Dam Recreation Site is an open beach area with almost no boulders and thus, is the most heavily used area for recreational vehicle (RV) parking and camping, as well as small motorized craft launching (jet skis). It is also used as the central staging area for large special use events, such as the annual Lake Isabella Fishing Derby. An RV dump station and three restroom facilities – two providing sinks and flush toilets, and one providing showers in addition to the sinks and toilets – are located above high water level. The entrance to the site also has a visitor kiosk that is staffed during high use periods as an entrance station to provide visitor information and issue passes for camping and day use activities.

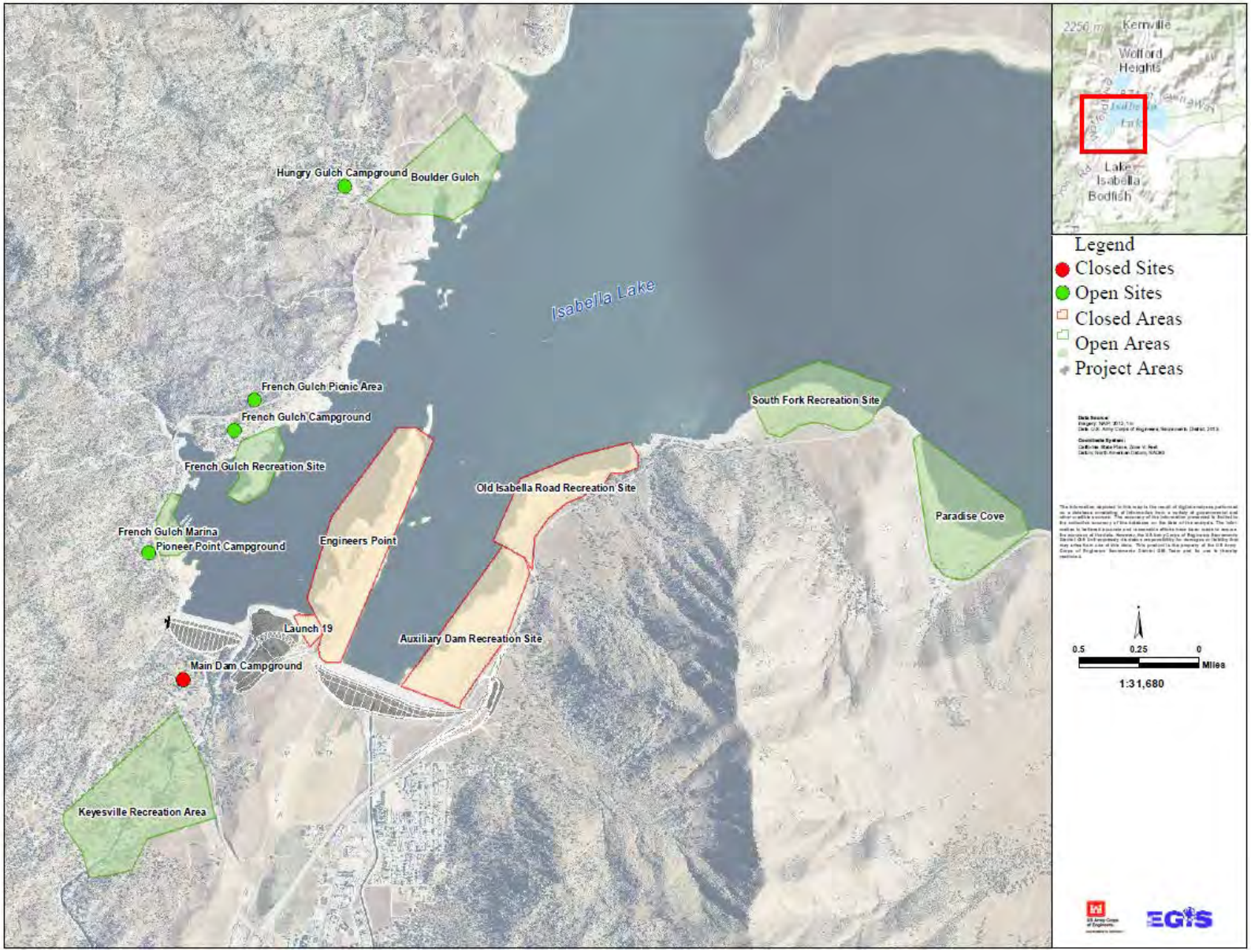

Figure 3. Isabella Lake DSM Project - Recreation Impacts Map.

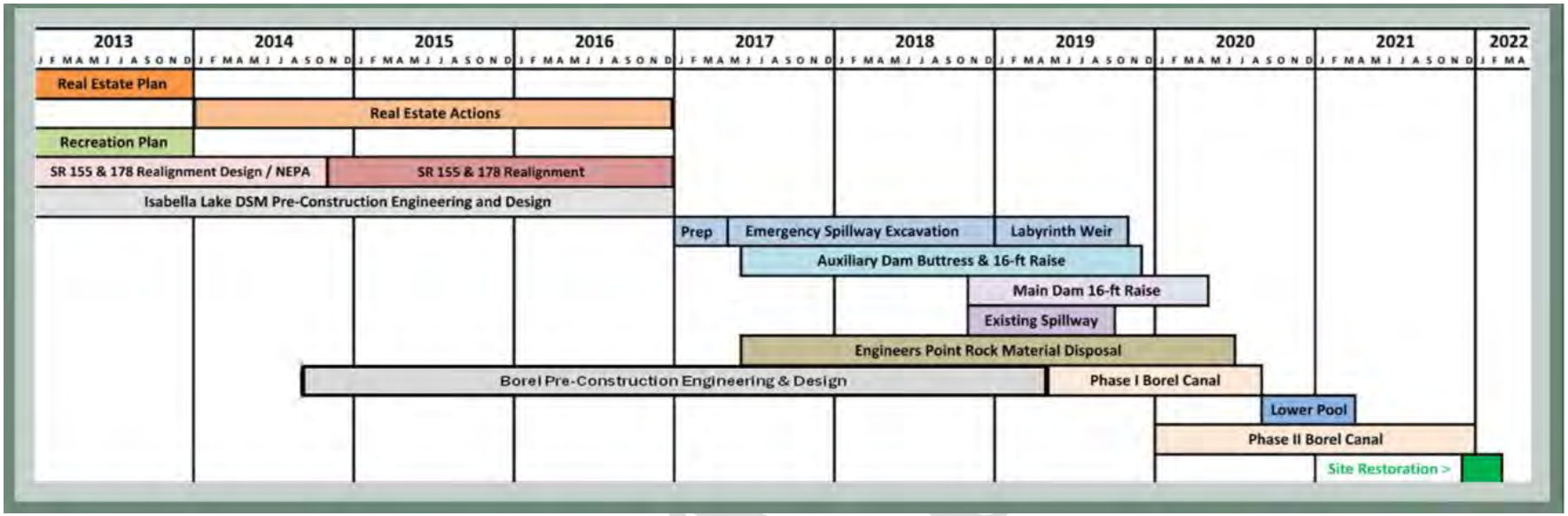

Figure 4. Isabella DSM Project Construction Schedule.

4.3 Engineers Point Recreation Site

The peninsula of land between the two dams, known as Engineers Point, is popular for walking and fishing and is used for many of the larger special use events. It is the staging area for the annual Fourth of July fireworks display.

4.4 Main Dam Campground

The Main Dam Campground, at the toe of the Main Dam, is a wooded developed campground. It is currently closed while the Isabella Lake DSM Project is in PED phase and planned for use as a staging area during construction.

4.5 Old Isabella Recreation Site

The Old Isabella Recreation Site is located just to the north and east of the Auxiliary Dam Recreation Site. The boulder-strewn beach is prohibitive to large recreational vehicle traffic, but smaller vehicles are often parked near the lake edge. It is a popular wind- and kite-surfing destination and the only inland windsurfing location with reliable conditions.

4.6 Visitor Services (USFS Lake Isabella Office)

In addition to the administrative offices and fire services, the USFS Lake Isabella Office provides visitor services, to include campfire permits, special use permits, area recreation information, and a small gift shop.

4.7 Keyesville South and Slippery Rock Put-In

The areas to the south of Main Dam Campground are managed by BLM and consist of a vault toilet, developed and undeveloped camping and river access for rafting concessions, fishing, and other river recreation use.

5.0 Consequences to Impacted Areas

The Isabella Lake DSM Project final EIS lists criteria that would create significant impacts to recreation if the Project actions do any of the following:

- Result in a permanent loss of recreational opportunities or resources;
- Severely restrict or eliminate access to recreational opportunities and facilities;
- Cause a substantial disruption in a recreational use or activity ; or
- Substantially diminish the quality of the recreational experience.

Below is a list of the significantly impacted areas and the consequences to recreation without mitigation.

5.1 Boat Launch 19

All facilities at Boat Launch 19 will be closed temporarily for the period of construction. Facilities at this site might be preserved and reopened after construction is complete, but it is uncertain at this time. This is a significant impact to recreation, as there are no other developed low-water or ABA-accessible boat access points.

5.2 Auxiliary Dam Recreation Site

The Auxiliary Dam Recreation Site is proposed as a staging area for the construction of the Isabella Lake DSM Project and will be closed during construction. After construction is complete, it will be graded and restored to its former uses for day use, RV parking and camping. However, as this site is the most popular and heavily-used area on the lake – and the only area on the south side of the lake with a dump station and showers – displacement of visitors during construction is likely going to cause visitor use conflict in other areas. Amenities that are impacted during construction could be made available at alternate locations. Recent survey data indicate that visitors to the Auxiliary Dam Recreation Site would most likely move up the beach to the Old Isabella Recreation Site in the event of the former being closed to recreation. Currently, the facilities at Old Isabella Recreation Site are not adequate to absorb the anticipated visitor use increase from such a closure.

5.3 Engineers Point Recreation Site

The closure of the peninsula between the dams, known as Engineers Point, is expected to impact special use permits and popular weekend events, such as the Independence Day fireworks show and the annual Lake Isabella Fishing Derby. It is anticipated that the land will be reopened to the public for recreation use after construction of the Project and that access will be available by land or water. The Corps is currently assessing dam safety security requirements that will dictate whether this area will be reopened after construction.

5.4 Main Dam Campground

The Main Dam Campground is currently closed and is expected to remain closed throughout construction of the Project. The site is proposed as a staging area and will be within the blasting restriction zone for the construction of the new emergency spillway. As part of the Isabella Lake DSM Project PED phase, the Corps is currently assessing dam safety security requirements that will dictate whether the campground can be reopened after construction. The stilling basin that is located on the Main Dam Campground property is anticipated to stay intact and operational, enabling the continued operation of bathrooms at nearby Pioneer Point Campground.

5.5 Old Isabella Recreation Site

The Old Isabella Recreation Site will be impacted by increased traffic and mixed recreation use as a result of the closure of the adjacent Auxiliary Dam Recreation Site. The concentration of different types of recreation use, the limited availability of space for recreation activities (day use, camping, RV parking, boat launching, etc.), and increased mixed use of motorized and non-motorized watercraft will present management challenges and visitor use conflict. Additionally, there may be a safety concern with increased traffic entering and exiting the area on State Route 178, as there is not currently a turn lane into the area.

5.6 Visitor Services (USFS Lake Isabella Office)

The USFS Lake Isabella Office will be demolished as a result of the construction of the new emergency spillway. The services provided to the public through this office will be directly impacted by the closure.

5.7 Keyesville South and Slippery Rock Put-In

Tent camping near the river can be found at nearby Slippery Rock and Keyesville State Recreation Area. Parking off the dirt road and camping in undeveloped riverside areas would likely continue, but construction noise may discourage use. Rafting entities will still be able to access the area and use it as a put-in during construction. Some road closures may present traffic delays. Fishing access will not be disturbed, but the construction noise may negatively affect the recreation experience.

6.0 Potential Mitigation Measures

This section presents a summary of the potential mitigation measures proposed by agencies, visitors, and recreation stakeholders, drawing from comments to the draft and final EIS, survey results and recommendations, public information meetings, and correspondence with Kern River Valley residents. In general, mitigation measures are expected to be in-kind and on-site. However, at this early phase of analysis, a broad range of potential measures are being discussed.

Many measures have been proposed by agencies and the public to accommodate the loss of recreation resources from indirect actions. Indirect actions, such as shifting use from one recreation site to another, do not correlate directly with the impacts caused by closures from the Project. Nonetheless, measures are included here for consideration, along with all other proposed measures that directly address the loss of resources from the Project. These measures include changes to fisheries management, removal of exposed tree stumps from the lake bottom, development of bike trails around the lake, construction of a mini-golf course, construction of hotel accommodations for construction workers, and installation of viewing platforms. Screening and evaluation of proposed recreation measures is not the intent or purpose of this Report but will instead be addressed in the Recreation EA.

An environmental analysis of these measures will be presented in the Recreation EA. This Report will be used to inform the EA and will be appended to that document scheduled for late 2014.

6.1 Boat Launch 19

Due to impacts to recreational lake access as well as operational functions (i.e. lake patrol), mitigation measures need to address parking, launching and adequate space for vehicles with trailers to turn around. Additionally, any mitigation measures must meet ABA guidelines for accessibility. Considered mitigation measures are:

- Improve boat access at Old Isabella Recreation Site;
- Develop additional parking and bathroom facilities at Old Isabella Recreation Site;
- Create a turn lane for large vehicle traffic at State Route 178 near Old Isabella Recreation Site;
- Develop a boat launch and improve parking areas at the French Gulch Recreation Site; and,
- Develop a boat launch and improve parking areas at the French Gulch Marina area.

Appropriate signage is recommended to be posted at recreation sites indicating the rules and regulations of the lake, information about the area, launch ramp closures, and to direct traffic to an appropriate alternative location.

Installation of floating bathrooms is proposed as a means of accommodating bathroom closures at Launch 19. Floating bathrooms are a convenient and sanitary option, as boaters do not need to come in off the water to use facilities. It is not determined at this time where floating bathrooms might be located.

Once construction is complete, it is proposed that Launch 19 be returned to its former state as a boat launch, as the prevailing winds and deep water make it uniquely suitable to launching boats. Currently, it is not known whether the area can be returned to its former state. Also, due to anticipated impacts from construction, the launch, parking lots, bathrooms and other facilities or utilities may need to be entirely rebuilt. The Recreation EA will evaluate whether the area can be restored. If it is determined it is not possible, one of the mitigation measures listed above may be considered for implementation.

6.2 Auxiliary Dam Recreation Site

As stated, the closure of the Auxiliary Dam Recreation Site is temporary during the period of construction. The site will be reopened when construction is complete. However, due to the significant short-term impacts to day use, recreational vehicle parking and camping, and water-related activities, considered mitigation measures are:

- Partial closures instead of permanent closures;
- Develop additional camping and vehicle parking facilities during construction at one or more of the alternate areas near the closed site (Old Isabella Recreation Site, South Fork Recreation Site, and/or Paradise Cove);

- Allow beachside parking and/or overnight camping at Paradise Cove during construction; and,
- Develop Boulder Gulch as an alternate camping spot to accommodate the campers displaced from the Auxiliary Dam Recreation Site.

It is recommended that an RV dump station be developed at any alternate locations that absorb displaced use.

6.3 Engineers Point Recreation Area

The closure of Engineers Point Recreation Area is not significant during normal use days within the recreation season, but it is a significant impact on holiday and major event weekends. It is suggested that Engineers Point might be made accessible on weekends during construction if construction traffic would allow access. It is anticipated that the land will be reopened to the public for recreation use after construction of the Project, and that access will be available by land. After construction, there may be an opportunity to grade the area for future improvements to recreation access and development; however, this opportunity may be limited by the amount of material placed at Engineers Point during construction.

6.4 Main Dam Campground

As previously stated, the assessment of whether the campground can be reopened after construction is underway. If it is determined the site cannot be reopened, the potential alternate camp sites are: the Auxiliary Dam Recreation Site, the Live Oak Campground and the Keyesville Recreation Area on the Kern River below the Main Dam, which is currently managed by the BLM.

6.5 Old Isabella Recreation Site

Although it is not directly affected by closure, the Old Isabella Recreation Site is expected to see increased use due to the closure of the adjacent Auxiliary Dam Recreation Site. Improvements to this area are suggested by agency representatives, visitors, and area residents. Proposed improvements to the Old Isabella Recreation Site are:

- Widen and lengthen the boat ramp to accommodate increased motorized boat use;
- Provide a turn lane for increased traffic;

- Grade and remove boulders from the area to accommodate recreational vehicles at the water's edge;
- Increase parking capacity and provide room for turnarounds;
- Add permanent restroom facilities (vault toilets); and,
- Add temporary restroom facilities for the period of construction.

Windsurfers and other non-motorized watercraft users proposed management measures to limit motorized boat traffic in the Old Isabella Recreation area. The mixed use currently presents conflicts and safety concerns, and the expected increased use from closure of the Auxiliary Dam Recreation Site would likely worsen this conflict.

6.6 Visitor Services (USFS Lake Isabella Office)

The location of the USFS Lake Isabella Office will be evaluated and addressed in the Real Estate EA. The USFS visitor services administered through the current office may be accommodated through alternate non-USFS facilities. The local community proposed that the visitor services be provided as a part of a "gateway center" that is currently under consideration.

6.7 Keyesville South and Slippery Rock Put-In

To address anticipated increase in camping use from closures of other recreation areas in the vicinity, a recommendation has been made to improve access and bathroom facilities in the areas along either or both sides of the Kern River in the Keyesville South Recreation Area.

6.8 Mitigation Measures Summary

The following table displays the potential mitigation measures discussed above.

Table 1. Mitigation Summary.

Recreation Site	Potential Mitigation Measure			
	Partial Closure	Temporary Replacement Facilities	Temporarily Change Use	RV Dump Station
Launch 19		X		
Auxiliary Dam	X	X	X	X
Engineers Point	X			
Main Dam Campground		X		
Old Isabella Rd.		X	X	
Visitor Services		X		
Keyesville		X		

7.0 Conclusion

7.1 Alternatives Evaluation and Implementation

This Report is a working draft document that aids consideration and determination of feasible and acceptable mitigation measures to offset significant impacts to recreation from the Project. It does not recommend an alternative, but rather provides the array of potential mitigation measures from which a selection may be made.

7.2 Recreation EA

If authority issues are resolved and a Federal Action is proposed to offset project impacts to recreation, the Recreation EA will be completed. The Report will be appended to the Recreation EA. If required, the draft Recreation EA will be released to the public in the fall of 2014, and a final EA by the end of 2014.

7.2.1 Implementation of Alternatives

The USFS is the Federal agency responsible for the management of the recreation mission at Isabella Lake. At this time, no decision has been made with regards to the appropriate authority mechanism for implementation of recreation mitigation measures at Isabella Lake. As previously stated, the Corps is working with the USFS to resolve questions regarding implementation authority for recreation measures at Isabella Lake.

8.0 References

Corps of Engineers. 2012. Isabella Lake Dam Safety Modification Project Draft Environmental Impact Statement. March 2012.

Corps of Engineers. 2012. Isabella Lake Dam Safety Modification Project Final Environmental Impact Statement. November 2012.

ER 200-2-2 – Procedures for Implementing NEPA. 1988.

ER 1105-2-100 – Planning Guidance Notebook. 2000.

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RECORD OF DECISION

ISABELLA LAKE DAM SAFETY MODIFICATION PROJECT

I have reviewed the Isabella Dam Safety Modification (DSM) Report, dated October 2012, and the Isabella Lake DSM Project Final Environmental Impact Statement (EIS), dated October 2012, addressing the need to remediate existing hydrologic, seismic, and seepage deficiencies associated with the main dam, auxiliary dam, and spillway. The Isabella Reservoir and Dam were originally authorized by Congress under the Flood Control Act of 1944, Public Law 78-534, § 10, 58 Stat. 901 (1944). Based on this review and views of other interested agencies and the public, I find that the selected plan for modification of the Isabella Dam and spillway ("Life Safety Plan 4" in the DSM Report and "Alternative Plan 4" in the Final EIS), is based on life safety requirements; considerations of cost effectiveness; and is technically sound; in accordance with environmental statutes; and in the public interest. The benefits to be gained from implementing the selected plan outweigh any adverse effects. Thus, I approve the selected plan for the Isabella Lake DSM Project for construction.

The U.S. Army Corps of Engineers (Corps) has determined that the Isabella Dam facilities require a suite of structural and non-structural improvements in order to safely meet authorized project purposes and to reduce risk to the public and property from dam safety concerns posed by floods, earthquakes, and seepage. The Corps employs a widely accepted method for determining and assessing risk at dam projects based on appropriate guidelines regarding tolerable risk. Although economic and environmental risks are important considerations when determining tolerable risk, life safety is paramount. The Corps considered economic, environmental and life safety factors in deciding among the possible alternatives.

Given the large population downstream of Isabella Lake, as well as significant dam safety deficiencies, remedial action is needed. The proposed remediation will reduce the likelihood and consequences of dam failure and restore the authorized project benefits. Life safety concerns were the most important factor for the Corps in selecting the preferred alternative. The Corps fully analyzed the extent of environmental impacts, and where practicable, adopted mitigation measures to reduce and minimize environmental effects.

The selected plan consists of the following features, including the refinements described in the Final EIS:

- Main dam full height filter and drain (with approximately 16-foot crest raise);
- Retrofit of main dam control tower for access with the raised dam;
- Improvements to existing spillway;
- Construction of an approximately 900-foot wide emergency spillway;

- Auxiliary dam modification (with approximately 16-foot crest raise);
  - Approximately 80-foot wide (crest width) downstream buttress;
  - Shallow foundation treatment;
- Realignment of Borel canal conduit through right abutment of auxiliary dam;
- Relocation of auxiliary dam control tower outside the potentially liquefiable foundation zone; and
- Relocation of state routes 155 and 178 to accommodate the dam crest raises.

In the Draft EIS, in addition to the no action alternative, eight action alternatives (incorporated by reference herein) composed of various structural and non-structural measures were initially considered. In the Final EIS, the Corps did not perform a detailed analysis of the three following alternatives because, in accordance with 40 CFR § 1502.14, these were not deemed reasonable in light of the project's purposes: 1) reregulation of the existing reservoir; 2) removal of the dam; and 3) construction of new dams. The remaining five alternatives selected for further analysis in the Final EIS were generally similar in their approach and measures applied to remediate the deficiencies identified in the Isabella DSM Report. The differences were largely a result of varying levels of resiliency, redundancy, and robustness incorporated in the design and their associated cost. The five action alternatives selected for further analysis were fully described in the Isabella DSM Report and Final EIS. They are incorporated herein by reference.

Technical and economic criteria used to formulate the alternative plans were in accordance with Engineering Regulation (ER) 1110-2-1156. Applicable laws, regulations, executive orders, and guidelines were considered in evaluating the alternatives. Alternative Plan 4 was found to best minimize environmental, economic, and human consequences for the least cost; while adequately meeting tolerable risk guidelines and the majority of essential Corps guidelines per the above regulation. Alternative Plan 4 was also designated as the environmentally preferable and Least Environmentally Damaging Practicable Alternative.

During the Draft EIS review period, a total of 435 comments were received from the public and various agencies. Although the public was engaged on a variety of issues, the most important issue identified by the public was concern about lowered lake levels during construction and their impact on recreation, the local economy, water quality, and air quality. Refinements to Alternative Plan 4, identified as the selected plan and assessed in the Final EIS, have reduced adverse environmental impacts from those anticipated in the Draft EIS. In addition, these refinements have addressed and reduced the concerns expressed by the public, including those associated with lake lowering.

All practicable means to avoid, minimize, and compensate for adverse effects on environmental resources were considered in plan formulation, and these mitigation measures, as

described in the Final EIS, have been incorporated into the authorized project. Although the project will not result in any long-term unavoidable significant impacts, there will be short-term unavoidable significant air quality, noise, and recreation impacts during construction. The Final EIS identifies the need for permanent relocation of some residents in the construction impact zone. In addition, the Final EIS identifies impacts associated with the removal of the U.S. Forest Service – Sequoia National Forest Lake Isabella Kern River Ranger District Office (and associated maintenance buildings and fire station), the Launch 19 boat facility, and Auxiliary Dam Recreation Area.

Mitigation measures pertaining to construction of the selected plan and recommended in the Final EIS are adopted in this Record of Decision (ROD) as environmental commitments. Monitoring plans recommended in the Final EIS are also adopted in this ROD to ensure that (1) the impacts described in the Final EIS are not exceeded; and (2) the mitigation features function as intended. A summary of key resource mitigation measures adopted are identified and described below:

1. **Air Quality**. In response to EPA's comment on the Final EIS, and for purposes of complying, with EPA's general conformity rule to ensure the project will not exceed the *de minimis* thresholds, the Corps is committed to implementation of the following key mitigation measures:

- Tier 4 emission standards would be fully implemented for all heavy and off-road emissions sources at the time of the projected start date for the project;
- A *Dust Control Plan* compliant with Eastern Kern Air Pollution Control District (EKAPCD) Rule 402 would be approved by EKAPCD prior to commencement of construction activities;
- All stationary emission sources such as rock crushing, bulk concrete plant operations and dewatering pups would be electrified and would have no internal combustion engines associated with their regular operation; and
- Additional Best Management Practices (BMPs) as identified and described in the Final EIS.

2. **Water Quality**. The Final EIS contains a Clean Water Act (CWA) subsection 404(b) (1) evaluation for the selected plan. Even though all practicable measures have been taken to minimize harm to wetlands, some placement of fill within jurisdictional wetlands (0.3 acres) and waters of the United States (approximately 36.5 acres of fill placement below the reservoir's Ordinary High Water Mark (OHWM)) is required for the project. There is no practicable alternative to this disturbance. In order to ensure compliance with the CWA, the Corps is committed to implementation of the following key mitigation measures:

- A Section 401 State Water Quality Certification for activities associated with implementation of the project is required and an application (including the 404(b)(1)) for 401 certification would be submitted to the Central Valley Regional Water Quality Control Board (CFRWQCB) prior to commencement of construction activities;
- A *Rock Material Disposal Management Plan* for the placement of unused rock material from the emergency spillway excavation to Engineer's Point on and below the OHWM would be required prior to commencement of construction activities;
- Water quality monitoring would be conducted throughout the construction period to assist in preventing adverse water quality impacts and ensure compliance under the CWA. Action levels would be based on existing water quality baseline studies, the CWA, the NPDES Permit for construction-related activities, the Tulare Lake Basin Plan, coordination with the CFRWQCB, and other applicable regulations; and
- Additional BMPs as identified and described in the Final EIS.

3. **Traffic and Circulation**. In order to minimize the level of impacts resulting from the traffic generated by construction of the selected plan, implementation of the following key mitigation measures is necessary:

- A *Traffic Safety Management Plan* would be completed prior to commencement of construction activities. This Plan would be in accordance with Caltrans California Manual on Uniform Traffic Control Devices; and
- Additional BMPs as identified and described in the Final EIS.

4. **Noise and Vibration**. In order to minimize the level of impacts resulting from noise and vibration generated by construction of the selected plan, implementation of the following key mitigation measures is necessary:

- A *Construction Noise and Vibration Monitoring Plan* would be completed prior to commencement of construction activities. This plan would include site-specific noise and vibration attenuation measures to ensure that maximum feasible noise and vibration attenuation is achieved; and
- Additional BMPs as identified and described in the Final EIS.

5. **Biological Resources**. The Final EIS contains a *Final Fish and Wildlife Coordination Act Report* (CAR), *Final Habitat Evaluation Procedures Report* (HEP) and *Programmatic Biological Opinion* (BO) from the U.S. Fish and Wildlife Service. The CAR provided recommendations to off-set the adverse impacts to vegetation and wildlife during and after construction of the project. The BO provided conservation measures that must be implemented in order for the exemption in section 7(o) (2) of the Endangered Species Act to apply. In order to

minimize the impacts to biological resources from construction-related activities of the selected plan, implementation of the following key mitigation measures is necessary:

- All avoidance and minimization measures required per the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (VELB) would be fully implemented prior to and after commencement of construction activities;
- All reasonable and prudent measures necessary to minimize impacts to VELB as required by the BO would be implemented prior to and after commencement of construction activities. Compensation for threatened and endangered species includes about 0.6 acre for the VELB);
- A *Habitat Restoration Plan* for disturbed areas that incorporates seeding, planting, and other vegetation rehabilitation techniques would be developed and implemented before commencement of construction activities. This plan would include seed collection and/or transplanting of special status plants from impacted areas, avoidance area marking, and post-construction monitoring of restoration areas;
- Compensate for permanent vegetative impacts utilizing the compensation acreages recommended in the HEP for the following three vegetative types: 1) Compensate for impacts on the sagebrush scrub upland cover-type by creating approximately 110 acres of sage-brush scrub. Compensate for impacts on the emergent wetland cover-type by creating approximately 0.3 acre of emergent wetlands. Compensate for impacts on the pine-oak woodland cover-type by creating about 42 acres of pine-oak woodland.

6. **Land Use**. There are land use impacts, as described in the Final EIS. Appropriate mitigation measures to reduce potential impacts were described in the Final EIS or will be described in supplemental NEPA documents.

- Relocation of the U.S. Forest Service – Sequoia National Forest Lake Isabella facilities. Measures to mitigate impacts to the U.S. Forest Service facilities have not been adopted by the Corps, because they are not within the Corps' authority and appropriations to implement as part of the Isabella Lake DSM Project. The U.S. Forest Service is responsible for preparing a *Relocation Plan* and appropriate supplemental NEPA document tiered to the Final EIS.
- Other Real Estate Actions. Required details on relocation of residents, property acquisition requirements, and disposal of acquired property will be developed upon project approval. The Corps is preparing a *Real Estate Plan* and appropriate supplemental NEPA document tiered to the Final EIS.
- Final design and alignments for State Routes 155 and 178. Resolution requires additional input from Caltrans. The final design with rerouting options would be determined in consultation with Caltrans and analyzed in detail in an appropriate supplemental NEPA document tiered to the Final EIS.

- Farmlands. Temporary disturbances and permanent conversion of approximately 10 acres of agricultural land is required for project features and construction staging areas under the selected plan. There is no practicable alternative to the conversion of a portion of this agricultural land. Although not considered to be *prime farmland,* the site is adjacent to an area designated as unique farmland by the California Department of Conservation. The Natural Resource Conservation Service was provided a copy of the Final EIS for review and no comments of concern were received by this agency.

7. **Recreation**. There are recreation impacts, as described in the Final EIS. Refinements to the selected plan described in the Final EIS will avoid extended lake lowering for construction during the recreation season, thus minimizing impacts to recreation. Other measures to mitigate recreation impacts have not been adopted by the Corps, because they are not within the Corps' authority or appropriations as part of implementation of the Isabella Lake DSM Project. The Corps is preparing a *Recreation Plan* to explore and identify options to offset adverse effects on recreation resulting from construction of the Isabella Lake DSM Project. Preparation of the *Recreation Plan* will be undertaken in coordination with the U.S. Forest Service.

8. **Cultural Resources**. The Corps would fulfill its responsibilities under Section 106 of the National Historic Preservation Act by carrying out the terms of the final signed programmatic agreement.

The Isabella Lake DSM Project approved in this Record of Decision addresses the risk of downstream flooding associated with dam failure. Because downstream communities are also likely to experience flooding from existing spillway flows, additional flood risk management studies are recommended in the DSM Report to address residual (non-breach) flood risk downstream of the project. These studies are recommended due to the increase in downstream population since the dam was constructed and associated increased risk to public safety, which exceeds life safety thresholds defined in Dam Safety Guidance at ER 1110-2-1156. The DSM Report also recommends some specific non-structural measures. The non-structural measures and downstream studies are vital components to address residual (non-breach) flood risk in the town of Lake Isabella, California and in the City of Bakersfield, California.

This ROD completes the National Environmental Policy Act process. As the selected plan is refined during Preconstruction Engineering and Design, a supplemental NEPA document tiered to the Final EIS will be prepared as appropriate. The ROD will be made publicly available upon request, or can be found on the Sacramento District website.

DEC 18 2012

Date

James C. Dalton, P.E.
Dam Safety Officer

Final Report
Isabella Lake Recreation Data Collection

November 2013

Final Report
Isabella Lake Recreation Data Collection

Contract No. W91238-09-D-0034
Delivery Order 11

Prepared for:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street
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November 2013

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1.0 INTRODUCTION

The Isabella Lake Dam Safety Modification (DSM) Project Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS), released in March and December 2012, respectively, evaluated the environmental impacts of implementing the Isabella Lake DSM Project to remediate existing seismic, seepage, and hydrologic deficiencies in the Main Dam, spillway, and Auxiliary Dam. The Record of Decision (ROD) requires the U.S. Army Corps of Engineers (USACE) to prepare a recreation plan to explore and identify options to offset adverse effects on recreation resulting from the implementation of the remediation measures identified in the Isabella Lake DSM Project. The current DSM project plan has direct impacts on four recreation sites on the lake. These sites include the Auxiliary Dam Recreation Site, Launch 19, Engineers Point, and the Main Dam Campground, which is currently closed. Gulf South Research Corporation (GSRC) was contracted by USACE Sacramento District (Contract # W91238-09-D-0034, Delivery Order 11) to conduct surveys to gather data to be used in the development of the required recreation plan.

Isabella Lake is located on the Kern River in the Sierra Nevada, in the southernmost part of the Sequoia National Forest, Kern County, California, as shown in Figure 1. It is located approximately 35 miles northeast of Bakersfield, along Highway 178, 1 mile upstream of the town of Lake Isabella. Highway 155 is located along the western side of Isabella Lake from the town of Lake Isabella north to Wofford Heights, where it turns west.

The study area included 10 selected recreation sites on and near Isabella Lake. These recreation sites included the Auxiliary Dam, Old Isabella Road, French Gulch, and South Fork recreation sites; areas near the Paradise Cove and Boulder Gulch campgrounds; and the French Gulch Marina, Launch 19, and Engineers Point around Lake Isabella, as well as the Keyesville Recreation Area along the Kern River. These recreation sites are managed by the U.S. Forest Service (USFS), with the exception of the Keyesville Recreation Area, which is managed by the U.S. Department of the Interior, Bureau of Land Management (BLM).

The 2013 summer recreation season around Isabella Lake was impacted by below-average lake water levels experienced as a result of the drought conditions throughout the Kern River watershed over the last 2 years. The Recreation section of the DEIS noted that, historically, visitation correlates with lake levels, so that when water levels are low, fewer visitors come to the lake. Local citizens and businesses reported lower visitation levels and revenues during the 2013 summer.

On 19 July, the USFS removed the docks from all boat launches around the lake as a result of the low water levels. By the middle of July, the only functional boat launch was at South Fork Recreation Site, although some visitors continued to launch from selected areas at Engineers Point, the French Gulch Recreation Site, and other locations, and the only marina remaining open was the French Gulch Marina. The low water level had forced the North Fork Marina to move to a location near French Gulch prior to Memorial Day weekend and forced Red's Marina to move to a new location at the east end of the Old Isabella Road Recreation Site in mid-July. Neither of these marinas were operable after the move, as they did not have electrical power.

Figure 1. Project Location Map

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October 2013

2.0 STUDY AREA

The study area for this project is shown in Figure 2. Infrastructure available at the recreation areas is summarized in a tabular format in Appendix A. Field maps for each of the recreation sites are included in Appendix B.

2.1 Auxiliary Dam Recreation Site

The Auxiliary Dam Recreation Site (Photograph 1) is accessed from Highway 178. The site is located just east of the Auxiliary Dam on the south side of Isabella Lake. It is the most widely used of the 10 recreation areas included in this study, based on observations of the number of vehicles and anecdotal information from area residents and local agency personnel.

Photograph 1. Auxiliary Dam Recreation Site, looking toward Auxiliary Dam

The Auxiliary Dam Recreation Site is a relatively flat open area, with large expanses of sand. Vehicle trails are present throughout the site when lake levels are low. Many visitors come this site to camp (in recreational vehicles [RVs], campers, and tents) along the shoreline. The area is also widely used by visitors for day-use recreation, including sunbathing/relaxing, swimming, picnicking, boating, jet skiing, windsurfing, and kiteboarding.

Windsurfers report that the section of Isabella Lake that is east of Engineers Point and west of the Auxiliary Dam and Old Isabella Road recreation sites is a premier location in the U.S. for windsurfing and kiteboarding. They are particularly attracted to Isabella Lake because they are allowed to camp along the shoreline.

The Auxiliary Dam Recreation Site has restrooms (no showers) above the lake's flood control pool elevation. Portable toilets, which can be moved as water levels rise, are scattered across the area below the flood control pool elevation. There are also picnic tables and picnic sites with outdoor cooking grills above the flood control pool elevation, as well as an RV dumping station and trash receptacles. A USFS Daily or Annual Southern Sierra Pass is required for day use or camping at this area.

2.2 Old Isabella Road Recreation Site

Old Isabella Road Recreation Site (Photograph 2) is accessed from Highway 178. It adjoins the Auxiliary Dam Recreation Site to the east, forming a continuous camping and day-use area east of the Auxiliary Dam. As with the Auxiliary Dam Recreation Site, camping along the shoreline is allowed. Visitors pull RVs, campers, boat trailers, and other trailers up to the lake

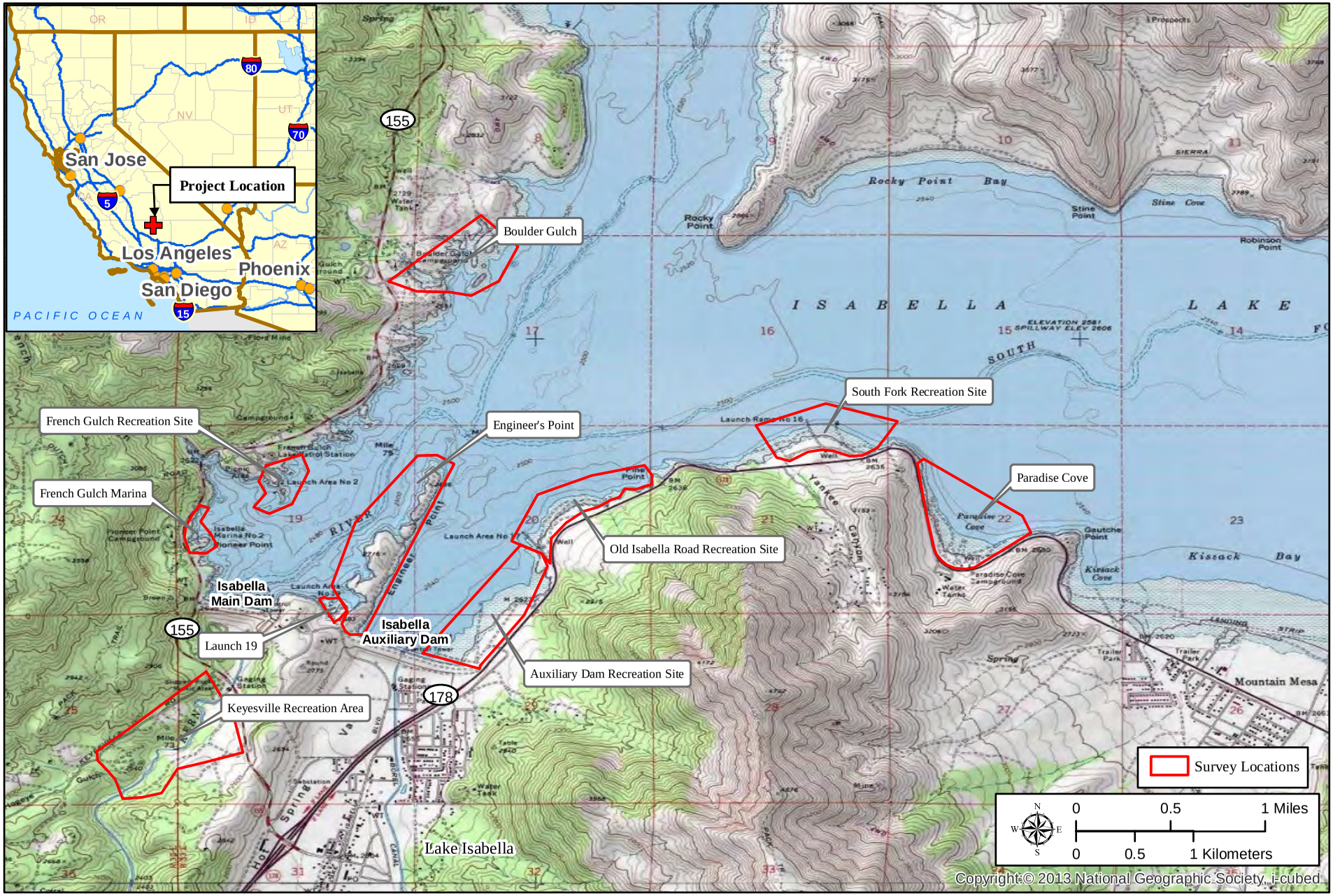

Figure 2. Survey Site Locations

GSRC

October 2013

Photograph 2. Old Isabella Road Recreation Site

edge, and day-use visitors park as close to the water as possible, seeking out areas with easy access to the water. However, the Old Isabella Road Recreation Site has less camping and open space than the Auxiliary Dam Recreation Site, and access to day-use and camping areas is more difficult because roads in this area are rocky, rough, and steeper.

Visitors to this area come for windsurfing and kiteboarding, direct access to the water, and to be around other people recreating. Those seeking less crowded areas go to other recreation sites along the lake.

There are two boat launches at this site; however, neither was functional during much of the summer 2013 because of the low water levels. Visitors report that the boat launches, one of which is the old Isabella Road, are narrow and less functional than Launch 19 and the South Fork launch (described later).

The Old Isabella Road Recreation Site has restrooms; however, no showers are available. There are paved parking areas above the lake's flood control pool elevation that are striped for 68 vehicles (60 long spaces for vehicles boat trailers or RVs, five regular spaces, and three handicap spaces). Trash receptacles are also available. A Daily or Annual Southern Sierra Pass is required for day use or camping at this area.

In mid-July 2013, Red's Marina moved from the South Fork Recreation Site to the east end of the Old Isabella Road site. However, at the end of September, Red's Marina still did not have electric power, so it was inoperable. Access to Red's Marina is a challenge for some vehicles, as the roads are alternatively rocky and washed out in places, and there is soft sand.

2.3 South Fork Recreation Site

The South Fork Recreation Site (Photograph 3) is accessed from Highway 178. It is located east of the Old Isabella Road Recreation Site and west of Paradise Cove. Camping is allowed along the shoreline. The South Fork boat launch was the only boat launch that was operable throughout the summer 2013. Until 19 July 2013, Red's Marina was located there, providing marina services, a deli, and docks for boats, including several sailboats. As a result of the low water levels, the marina was moved to the east end of the Old Isabella Road Recreation Site.

Photograph 3. South Fork Recreation Site, taken from across the lake

There are restrooms located at South Fork; however, they were out of order during the summer 2013 due to issues with water pressure. There are no paved parking areas at South Fork. There are a few picnic tables with adjacent parking located above the lake's flood pool elevation, and there are trash receptacles. There are also a few portable toilets at the site scattered below the high water mark. A Daily or Annual Southern Sierra Pass is required for day use or camping at this area.

2.4 Paradise Cove

The Paradise Cove recreation area is located off Highway 178 near the Paradise Cove Campground. It is the easternmost recreation site included in this project. Camping along the shoreline is not allowed at Paradise Cove; however, the adjacent campground offers tent and RV/camper camping, with eight paved parking lots designed for RV camping. The shoreline areas are used for day-use recreation. The area is relatively flat with large expanses of sand allowing easy access to the shoreline for vehicles during the low water levels experienced in the summer of 2013. In times of higher water levels, visitors launch boats at Paradise Cove.

2.5 Launch 19

Launch 19 is accessed from Highway 155 via Ponderosa Drive and Barlow Road. It is located east of the Main Dam between the Main and Auxiliary dams. This launch is a long, steep boat ramp leading into a relatively deep part of the lake. However, after mid-July 2013, Launch 19 was not usable (reportedly for the first time since the lake filled with water) due to the low water levels and a sand bar located at the base of the launch. Launch 19 is the launch used by first responders in public safety emergencies. It is also the only Americans with Disabilities Act (ADA) compliant boat launch on the lake.

There are two paved parking lots adjacent to Launch 19. In addition to parking for visitors and boaters, the paved parking areas are used as the staging area for bass tournaments held each summer by the American Bass Association and the Lake Isabella Bass Club. The American Bass Association holds six tournaments from April through September (one each month), and the Lake Isabella Bass Club typically holds seven tournaments each year. The lower parking lot has 58 spaces (14 regular spaces, 43 long spaces for vehicles with trailers, and one handicap space). The upper parking lot has 18 parking spaces (nine regular spaces, seven long spaces for vehicles with boat trailers, and two handicap spaces). Restrooms are located near the upper lot.

2.6 Engineers Point

Engineers Point is the peninsula that extends from the area between the Main and Auxiliary dams. It is accessed from Highway 155 via Ponderosa Drive and Barlow Road. The roads on Engineers Point are challenging, with substantial elevation changes, potholes, and rocks. There are no paved roads, no restrooms, and no trash receptacles. As a result, this site is less used than other recreation sites in the area. Visitors using Engineers Point are typically seeking remote recreation opportunities. Some locals also walk or run in the area.

2.7 French Gulch Recreation Site

The French Gulch Recreation Site (Photograph 4) is located on the west side of Isabella Lake and accessed from Highway 155. It is a popular day-use recreation area on the lake, where visitors launch boats and jet skis, paddle board, swim, and water ski.

Photograph 4. Day-use visitors at French Gulch Recreation Site

The site has a number of assets and features not found at other locations. These assets and features include several paved parking areas, restrooms, trash receptacles, the Nuui Cunni Native American Inter-Tribal Culture Center (Nuui Cunni Center), and the Kern County Lake Patrol staff office and boat docks. The site also has a group camping area available for use by reservation only.

The site has two large paved parking lots (not striped for parking), which must be crossed to access the day-use areas along the lake. Kern County Lake Patrol officers reported that the parking area closest to the Lake Patrol office and Highway 155 is submerged when the lake is extremely high but the far parking area remains dry.

The Nuui Cunni Center houses a museum, library, gift shop, and Visitors' Center. It includes 5.6 acres of grounds that have native plant exhibits and tribal artifacts. The area is operated by the Kern River Paiute Council through a Special Use Permit from the USFS. A group meets there each Wednesday to do native crafts, and a farmers market is open on Saturdays. There is a paved parking area adjacent to the Nuui Cunni Center.

2.8 French Gulch Marina

Photograph 5. French Gulch Marina

The French Gulch Marina (Photograph 5), located off Highway 155 not far from the Main Dam and across Highway 155 from the Pioneer Point Campground, is privately operated under a permit from the USFS. The marina rents pontoon boats, personal watercraft, fishing boats, paddle boats, and kayaks. It has a general store that sells snacks and drinks, ice, bait, fishing tackle, and gasoline. The marina also has private boat slips.

The area around the marina is used for day-use recreation. It has no paved parking and no

restrooms; however, there is a portable toilet. When water levels are low, vehicle access to shoreline areas is challenging as a result of rocky roads, potholes, and steep terrain. However, the area is used for day-use recreation by visitors who like the less crowded area and visitors who walk from the Pioneer Point Campground, which is located directly across Highway 155 from the marina entrance.

2.9 Boulder Gulch

The Boulder Gulch recreation area is the area along the shoreline near the Boulder Gulch Campground. It is located off Highway 155 between French Gulch and Wofford Heights. This day-use recreation area has vast expanses of shoreline, although much of the area exposed during low water levels is relatively difficult to access due to steep terrain and roads with rocks and potholes. Restrooms are available at the campground.

2.10 Keyesville Recreation Area

The Keyesville Recreation Area (Photograph 6) is a BLM-managed recreation area along the Kern River below where it exits the lake. It is the only recreation area included in this project that is not located directly on Isabella Lake. The Keyesville Recreation Area includes areas along both sides of the Kern River and the Keyesville/Slippery Rock raft launch area. The Keyesville area located on the south side of the Kern River is accessed directly from Highway 155 across from Ponderosa Drive, the road leading to the Lake Isabella Visitor Center/ USFS office. The camping and day-use area on the north side of the Kern River and the Keyesville/Slippery Rock raft launch are accessed via the Keyesville Road, which intersects Highway 155 just north of the Kern River.

Photograph 6. Camping in the Keyesville South area

The Keyesville areas on the north and south sides of the river are widely used for camping and day-use recreation along and in the Kern River. Unrestricted camping is allowed on both sides of the river. Visitors relax, picnic, swim, fish, and pan for gold along the river. Camping is primarily in tents, with few RVs and campers traversing the rough, sometimes steep roads. On busy weekends, tents are next to each other all over the site. Restrooms and trash receptacles are available on both sides of the river and at the Slippery Rock launch area. No camping fees are required.

3.0 METHODS

GSRC conducted two types of surveys, Observation Surveys, where visitor use was observed and recorded, and Visitor Use Surveys, where one-on-one surveys were completed with visitors. Surveys were conducted at recreation areas selected by the USACE, Sacramento District. Data collection was accomplished by the GSRC team, which included Ann Guissinger (Project Manager), Maria Reid (Field Supervisor), and field technicians David Ortiz and Amy Aupperle. GSRC conducted surveys over six weekends, including three holiday weekends (Memorial Day, July 4th, Labor Day) and three non-holiday weekends, one each in June, July, and August, and on 12 weekdays. Surveys were conducted on 30 days beginning with the Memorial Day weekend and ending on Labor Day. The survey forms are found in Appendix C.

The survey questionnaires were approved by the Office of Management and Budget (OMB). GSRC team members recorded answers on iPads® using Survey Maker, an application designed to be used for questionnaires and surveys to gather data. Each evening, data were transmitted to the project manager. Data were transferred into Microsoft Excel spreadsheets for analysis. Data gathered in the Observation and Visitor Use Surveys, including the date, time, and weather conditions for each survey, are included in appendices D and E, respectively. These appendices are included in electronic versions of this document only and are not included in the printed version due to length.

3.1 Observation Surveys

The GSRC team conducted 418 Observation Surveys. Surveys were conducted between the hours of 6 a.m. and 6 p.m. on the following dates:

- 24-28 May 2013
- 22-26 June 2013
- 3-7 and 18-22 July 2013
- 16-19, 30, 31 August 2013
- 1-2 September 2013

For these surveys, the GSRC team counted numbers of vehicles, vehicles with motorboat trailers, vehicles with other trailers, RVs/campers, and visitors, and observed the types of recreational activities occurring at the site at that time. The large area covered by the sites and the rugged terrain made it impossible to obtain accurate counts from one location, so GSRC team members walked or drove to different locations within each recreation site to record activity. Observation locations varied, depending on where visitors were concentrated at the time of the survey; however, the same pattern of observation was used for each survey at each site.

3.2 Visitor Use Surveys

The GSRC team completed 308 Visitor Use Surveys over the summer. Visitor Use Surveys were conducted between 11 a.m. and 4:30 p.m. on the following dates:

- 25-27 May 2013
- 22-23 June 2013
- 4-6 and 20-21 July 2013
- 3, 10, 17, 18, 31 August 2013
- 1 September 2013

Most of the surveys were done at the Auxiliary Dam, Old Isabella Road, South Fork, and French Gulch recreation sites and the area around the French Gulch Marina, as they are the sites that had the largest number of visitors. No surveys were conducted at Boulder Gulch. GSRC team members walked around the sites conducting the survey with visitors willing to participate.

4.0 RESULTS

4.1 Climate Data

With the exception of Memorial Day weekend, when temperatures were unusually cool, temperatures throughout the summer were very hot, climbing to over 100 degrees Fahrenheit (°F) by around noon most survey days. On many afternoons the temperature registered 110 °F or above.

4.2 Data Collection Issues

Below-average visitation as a result of the low water levels during the survey project time period meant that the total number of visitors and vehicles counted by GSRC was not representative of normal use. However, the benefits of conducting the surveys in a year with very low water levels were that the GSRC team was able to gather input from visitors who were experiencing the effects of the low water levels, including input on which boat ramps were not operational. Visitors also experienced the impacts of having Launch 19 nonfunctional for much of the summer, forcing them to consider other launch options on the lake. These conditions allowed visitors to better understand the issues and needs and better evaluate alternatives.

The Observation Survey gathered data for two categories that did not provide useful measures of recreational activity: 1) the total number of people recreating and 2) the percentage of the parking areas that were full.

It is likely that counts of the "total number of people recreating" did not accurately reflect the total number of people recreating. Visitors park RVs, campers, cars, and trucks around the areas where they set up tents and shade canopies. This practice is used to block the extremely high winds that occur most days around the lake and often blow shade canopies and tents down, although it also may be used for privacy. As a result of visitors being obscured from view, it is unlikely that observations of the number of people recreating were accurate.

Estimates of the percentage of the parking areas that were full also did not provide a reliable or useful measure of activity. For most of the Observation Surveys, designated parking areas were empty or almost empty (rarely more than 3 vehicles). The "available parking areas" were difficult to define and changed through the summer. Areas where visitors parked were expansive

(covering large areas that could not be viewed from one location), and as the water level receded, the sizes of the areas available for parking increased. Visitors also parked in areas that many would not consider a "parking area." As a result, counts of vehicles by type were much more useful for understanding patterns of use than estimates of percent use of parking areas.

The Visitor Use Survey inquired about the horsepower of boat motors. Many boaters did not know the horsepower of their boats and some instead reported the speed of the boat. As a result, data for this question are inconsistent and incomplete.

4.3 Visitors' Home Locations

The Visitor Use Survey obtained information on the home zip code of the visitor. These zip codes were grouped into areas for analysis of visitors' home locations. Table 1 shows data for total surveys and those totals broken down into areas by zip code, Figure 3 presents a map showing the locations of the visitors' home zip codes, and Figure 4 shows the areas visitors were from by recreation area. Data show that 95 percent of the visitors surveyed were from southern California, with the remaining 5 percent from northern California and out of state. Fifteen percent of the visitors surveyed were from areas immediately around Isabella Lake (i.e., Lake Isabella, Kernville, Wofford Heights, Bodfish, and Weldon). Of the visitors surveyed at the Auxiliary Dam Recreation Site, 46 percent were from the Los Angeles area, 17 percent were from the Lancaster/Palmdale area, 13 percent were from the Bakersfield area, and 13 percent were from the Isabella Lake area.

Table 1. Visitors Surveyed by Zip Code

Recreation Site	Total Surveys		Los Angeles Area		Isabella Lake Area[4]		Bakersfield Area		Lancaster/ Palmdale Area[5]		Ridgecrest Area		San Diego Area		Other CA South		Other CA North		Out of State/U.S.		No Zip Code		Invalid Zip Code	
	#	%[1]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]	#	%[2]
Auxiliary Dam	107	35%	49	46%	14	13%	14	13%	18	17%	3	3%	0	0%	3	3%	0	0%	2	2%	1	1%	3	3%
Old Isabella Road	74	24%	32	43%	11	15%	13	18%	5	7%	0	0%	3	4%	7	9%	1	1%	1	1%	0	0%	1	1%
South Fork	49	16%	26	53%	9	18%	5	10%	5	10%	3	6%	0	0%	0	0%	0	0%	0	0%	0	0%	1	2%
Paradise Cove	13	4%	6	46%	1	8%	1	8%	2	15%	3	23%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Launch 19[3]	2	1%	0	0%	0	0%	0	0%	1	50%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1	50%
Engineers Point[3]	4	1%	2	50%	2	50%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
French Gulch Rec Site	39	13%	24	62%	7	18%	3	8%	1	3%	1	3%	0	0%	2	5%	1	3%	0	0%	0	0%	0	0%
French Gulch Marina	19	6%	7	37%	1	5%	7	37%	2	11%	0	0%	0	0%	0	0%	1	5%	1	5%	0	0%	0	0%
Keyesville[3]	1	0%	0	0%	1	100%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Study Area	308	100%	146	47%	46	15%	43	14%	34	11%	10	3%	3	1%	12	4%	3	1%	4	1%	1	0%	6	2%
Total from Southern CA	294	95%																						

Source: Visitor Use Survey data
[1] Percent of all Visitor Use Surveys
[2] Percent visitors surveyed by home zip code area
[3] Because of the low number of Visitor Use Surveys conducted at this location, results for this location are less likely to be representative of all visitors.
[4] Includes Lake Isabella, Kernville, Bodfish, Wofford Heights, and Weldon
[5] Includes towns around Edwards Air Force Base

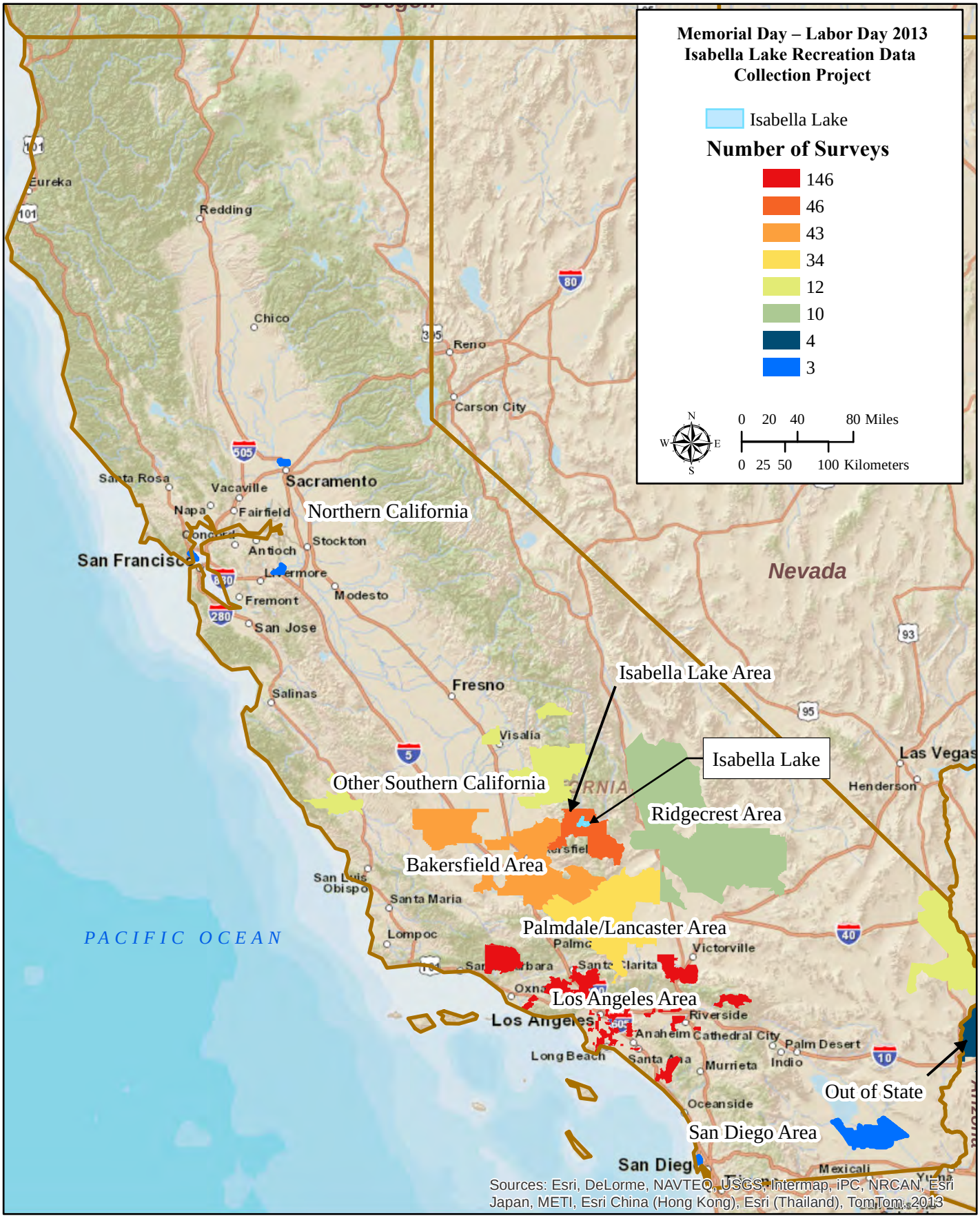

Figure 3. Home Area of Visitors to Isabella Lake

GSRC

October 2013

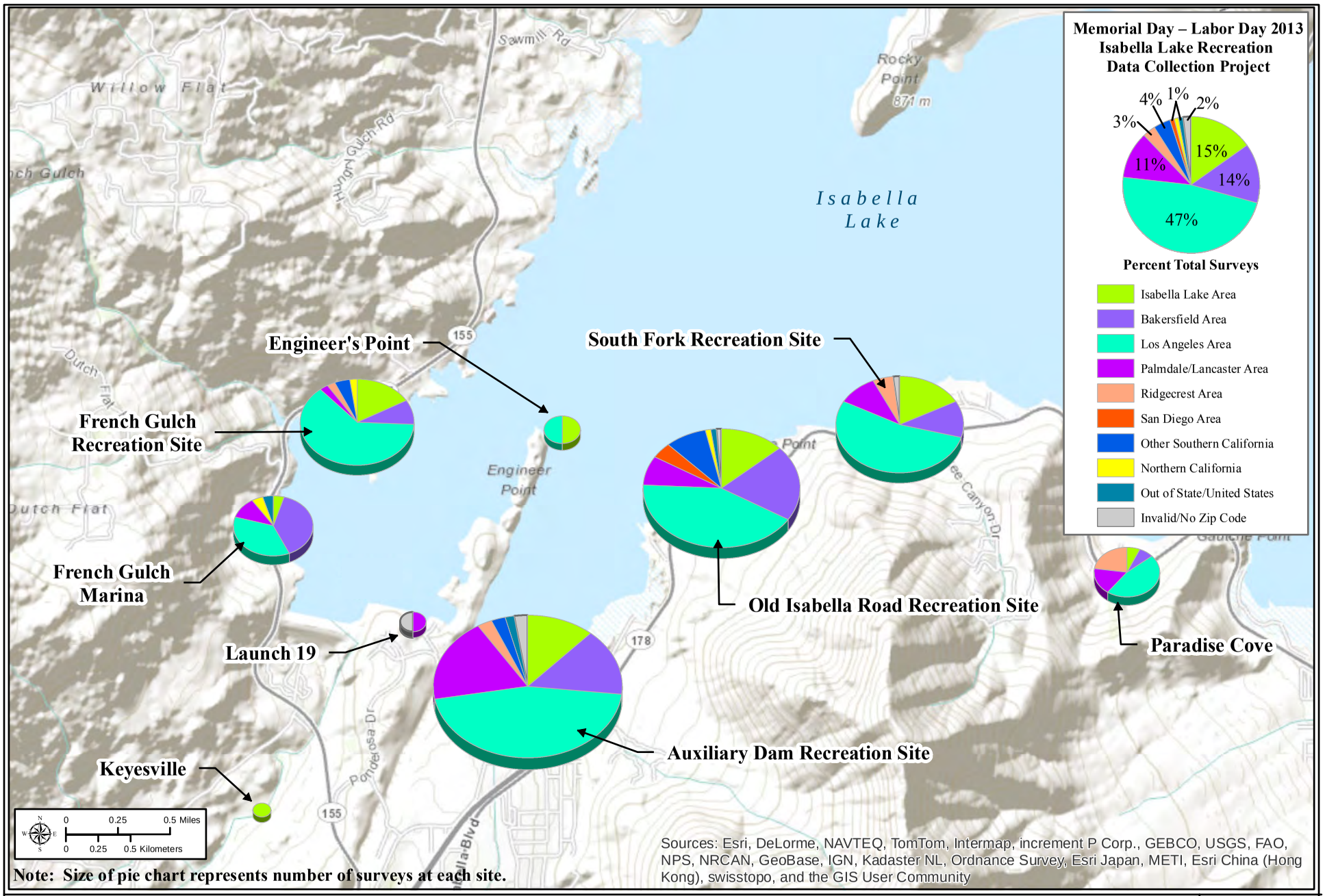

Figure 4. Visitors to Isabella Lake by Recreation Area – Percentages by Home Zip Code Area

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4.4 First-Time Visitors

The Visitor Use Survey asked visitors if this was their first visit to Isabella Lake. Table 2 shows the percentage of visitors who were first-time visitors. Data show that 53 percent of the visitors to French Gulch Marina were first-time visitors to the lake. A possible explanation is that first-time visitors may seek a location where they can obtain information and possibly rent a boat to go out on the lake.

Table 2. Visitors to Isabella Lake

Recreation Area	First Time Visitors (Percent)	Repeat Visitors (Percent)
Auxiliary Dam	13	87
Old Isabella Road	12	88
South Fork	6	94
Paradise Cove	15	85
Launch 19*	0	100
Engineers Point*	0	100
French Gulch Rec Site	5	95
French Gulch Marina	53	47
Keyesville*	0	100
Study Area	13	87

Source: Visitor Use Survey data
* Because of the low number of surveys conducted at this location, the results are less likely to be representative of all visitors.

Table 2 also shows the percentage of visitors to the region who were repeat visitors. A large percentage of visitors surveyed visit the lake regularly, as shown in Table 3, with many traveling from areas that are some hours away, as shown in the zip code data above.

Table 3. Visits to Isabella Lake By Repeat Visitors

Recreation Area	Number of Surveys	Number of Visits in Last 12 Months	Number of Years Visiting	Number of Recreation Days Each Year	Number of Weekend Days	Number of Weekdays
Auxiliary Dam	93	16	13	15	6	9
Old Isabella Road	65	11	14	6	3	3
South Fork	46	21	19	9	6	3
Paradise Cove	11	3	19	4	2	2
Launch 19*	2	2	17	3	3	0
Engineers Point*	4	66	26	78	53	25
French Gulch Rec Site	37	10	17	3	2	1
French Gulch Marina	9	3	21	4	2	2
Keyesville*	1	20	18	45	15	30
Weighted Average		14	16	10	5	5

Source: Visitor Use Survey data
* Because of the low number of surveys conducted at this location, the results are less likely to be representative of all visitors

4.5 Number of Visits to Isabella Lake

The Visitor Use Survey asked visitors to estimate how often they visit Isabella Lake. Table 3 provides responses to questions about visitation for visitors who had previously visited the lake. These data show that many of the repeat visitors surveyed are frequent visitors to the area. The weighted averages show the average number of visits, years, and days weighted based on the number of visitors surveyed at each recreation area. As a result of the low number of surveys conducted at the Launch 19, Engineers Point, and Keyesville locations, the results for those sites are less likely to be representative of all visitors

The data show that of the 107 visitors surveyed at the Auxiliary Dam Recreation Site, 87 percent were repeat visitors who estimated they had visited the lake a little more often than the average for all visitors surveyed (16 times in the last 12 months compared with 14 visits). Visitors to the Auxiliary Dam Recreation Site reported staying 1.5 times longer than the average for all visitors surveyed (15 days versus 10 days), and they estimated spending almost twice as many weekdays at the site (9 weekdays compared to 5) than all visitors surveyed at all sites. These data, combined with the information in Table 2, show that many of the visitors surveyed are frequent visitors to the area.

4.6 Patterns of Use – Vehicles

Although the number of visitors to Isabella Lake was lower than years when water levels were normal, the patterns of use at the recreation sites observed were reported to be representative of patterns of use experienced in higher visitation years. Table 4 and Figure 5 present data showing the percentage of vehicles observed at the surveyed recreation sites that were RVs/Campers or were pulling motorboat trailers or other trailers (e.g., carrying jet skis or other recreation or camping equipment). Data show that Launch 19 is primarily used by visitors launching boats, with 70 percent of the vehicles pulling motorboat trailers.

Table 4. Patterns of Use for RVs/Campers and Vehicles with Motorboat and Other Trailers

Recreation Site	Number of Observations	Percentage of RVs/Camper Trailers (Percent)	Percentage of Vehicles with Motor Boat Trailers (Percent)	Percentage of Vehicles with Other Trailers (Percent)
Auxiliary Dam	44	38	16	6
Old Isabella Road	43	30	13	3
South Fork	42	26	24	5
Paradise Cove	39	13	15	1
Launch 19	45	3	70	1
Engineers Point	52	4	15	4
French Gulch Rec Site	44	2	17	6
French Gulch Marina	44	2	9	3
Boulder Gulch	35	3	2	8
Keyesville	30	5	1	1

Source: Observation Survey data

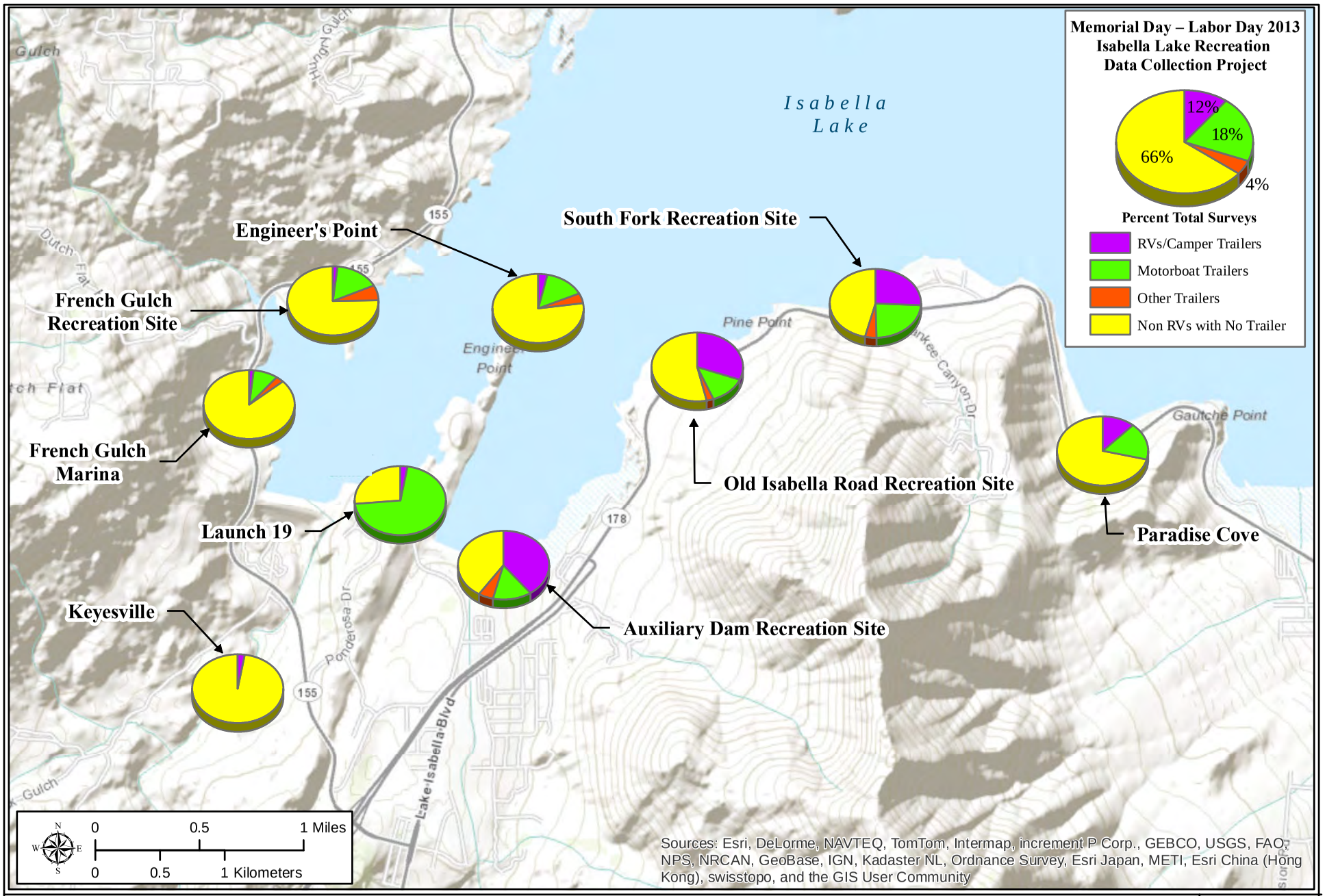

Figure 5. Patterns of Use - Percentages by Vehicle Type

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Observation Surveys at the Auxiliary Dam, Old Isabella Road, and South Fork recreation sites showed that a relatively large percentage of the vehicles counted were RVs or campers. At the Auxiliary Dam Recreation Site, 38 percent of the vehicles counted were RVs or campers. Similarly, 30 percent of the vehicles at the Old Isabella Road Recreation Site, and 26 percent of the vehicles at the South Fork Recreation Site were RVs or campers.

Patterns of use changed at the South Fork Recreation Site after Launch 19 became unusable in mid-July due to the low lake water levels. Most visitors launching boats shifted from Launch 19 to the South Fork launch. Prior to 18 July 2013, when the boat dock at Launch 19 was removed and use of the launch became very difficult, 14 percent of the vehicles counted at the South Fork Recreation Site were pulling motorboat trailers. After 18 July, the percentage of vehicles pulling motorboat trailers at South Fork increased to 33 percent.

4.7 Patterns of Use – Recreation

Weekend use of the recreation areas was observed to be much heavier than weekday use. Table 5 shows the percentage of Observation Surveys in which each activity was observed at each recreation site. The level of activity for all types of recreational activities at the Auxiliary Dam Recreation Site was greater than at the other recreation sites. Visitors were observed sunbathing/relaxing 91 percent of the times observation surveys were conducted. Visitors were observed picnicking 89 percent of the times observed, fishing on 86 percent of observations, and swimming and motorized boating on 84 percent of observations. This may be partly a result of the large number of visitors at the Auxiliary Dam site relative to numbers of visitors at other sites; however, these data show the wide range of recreation activities at the Auxiliary Dam Recreation Site.

Kiteboarding and windsurfing were observed at four of the 10 recreation sites surveyed. These four sites are along the south side of Isabella Lake east of Engineers Point. Windsurfing or kiteboarding was observed at the Auxiliary Dam Recreation Site on 43 percent of observations and at the Old Isabella Road Recreation Site on 37 percent of the times observed. These percentages are expected to be influenced by winds in the area at a given time. The GSRC team observed windsurfers once from the South Fork Recreation Site (Labor Day weekend) and once near Paradise Cove (in June).

4.8 Comments and Preferences

The two direct impacts of the DSM project that will have the greatest effect on current recreation at Isabella Lake are the closures of Launch 19 and the Auxiliary Dam Recreation Site. Launch 19 is reported to be the most used launch on Isabella Lake, and the Auxiliary Dam Recreation Site is the most used camping and day-use area directly on the lake. This section provides a discussion of information gathered through this project (data and qualitative information obtained from visitors' comments and discussions with agency personnel), that provides background for the recommendations that follow this section. The discussion is presented under the categories of boat launches and camping and day-use recreation.

Table 5. Patterns of Use – Observed Recreational Activities (Percent of Observation Surveys in which Activity was Observed)

Recreation Area	Sunbathing/ Relaxing	Picnicking	Swimming	Motorized Boating	Other Boating	Windsurfing/ Kiteboarding	Fishing	Jet skiing
Auxiliary Dam	91	89	84	84	50	43	86	50
Old Isabella Road	86	70	70	65	40	37	58	33
South Fork	69	52	48	55	40	2*	48	33
Paradise Cove	67	33	41	28	8	3*	72	13
Launch 19	20	9	18	56	16	0	18	11
Engineers Point	52	37	33	27	27	0	10	29
French Gulch Rec Site	68	57	55	57	52	0	43	39
French Gulch Marina	73	55	61	57	43	0	57	30
Boulder Gulch	71	49	40	14	23	0	46	17
Keyesville	80	73	70	0	7	0	17	0

Source: Observation Survey data

Note: For Launch 19, the percentage of observations where motorized boating was observed includes only the times visitors were observed boating, not the times parked vehicles with empty motorboat trailers were observed.

See electronic Appendix D for data on other activities observed at the recreation areas

*One observation

4.8.1 Boat Launches

4.8.1.1 Importance of Launch 19

Launch 19 is reported to be the most widely used launch on Isabella Lake. The Kern County Parks and Recreation Lake Patrol staff reported that when water levels are normal, 60 to 70 percent of all boat traffic on the lake launches at Launch 19. Boaters prefer Launch 19 because of its width, access to deep water, and protection from lake winds. Boaters and Lake Patrol staff report that Launch 19 is also the safest location on the lake from which to launch because it is somewhat shielded from the high-velocity winds that occur almost daily on the lake, its angle in relation to prevailing winds allows lake ingress and egress with either a direct headwind or tailwind, and the water nearby is deep. As a result, it is the preferred launch by first responders dealing with emergencies (which often happen as a result of strong winds on the lake) to evacuate people (i.e., to meet emergency medical vehicles).

4.8.1.2 Launch with Access from Highway 155

Boaters and Lake Patrol staff report that when Launch 19 is unavailable, another launch is needed to accommodate the volume of recreational use (in a normal year) and for public safety use for first responders. Boaters requested a launch with access from Highway 155, which provides access to the west side of the lake. Other than Launch 19, the only boat launch that provides access to the west side of the lake is north of Boulder Gulch at the North Fork area near the Tillie Creek Campground. However, this launch has been unusable since the spring of 2013 when lake water levels dropped to a level where the launch area was too shallow to use.

Access from Highway 155 is an advantage to boaters because the western side of the lake experiences somewhat lower winds than the area east of Engineers Point and the lake water depth is also greater in that area. Visitors seeking to water ski on the lake primarily use this area. Access from Highway 155 is desired by those who live or vacation on that side of the lake and prefer not to have to drive longer distances to access another launch.

Locations for a new boat launch with access off Highway 155 proposed by boaters include the French Gulch Recreation Site, the French Gulch Marina area, and Engineers Point. Engineers will be needed to identify locations that could be used for a boat launch. The locations suggested by boaters were based on preferences other than engineering requirements, although some of the visitors recommending launch locations were familiar with launching from locations in these areas.

There are a number of advantages of locating a boat launch at the French Gulch Recreation Site (Photograph 7), including existing infrastructure. The site has paved parking areas and restrooms, and the Kern County Lake Patrol office and boat docks are located there. Shoreline areas at this site are more accessible than at many recreation areas around the lake.

Photograph 7. French Gulch Recreation Site

A possible drawback is that when water levels are very high, part of the existing paved parking area goes under water. However, the paved parking area closest to the lake remains above water. The possibility of raising the level of the road area to keep it above the lake during highest water levels was mentioned.

The French Gulch Marina area was also mentioned as a possible location for a launch with access off of Highway 155. The marina rents boats, provides private boat slips, and has a small store. There is a small, somewhat flat, unimproved area for parking, but no paved parking. Roads to access the lake when water levels are low are steep and rocky, and substantial grading would likely be required to provide paved parking areas at the site.

Photograph 8. East side of Engineers Point, viewed from the west side of Auxiliary Dam

Engineers Point (Photograph 8) was mentioned as a good location for a launch; however, Engineers Point would be inaccessible during DSM project construction. There are no paved parking areas and no restrooms. Access is currently difficult; however, after dam modification, when additional fill will be added to the area from excavation of the new spillway, access could be improved.

4.8.1.3 Launches with Access from Highway 178

By mid-July 2013 and with lake water levels continuing to decline, the South Fork launch was the only functional boat launch on the lake. Boaters surveyed, including boaters who generally used Launch 19, considered the South Fork launch to be a good launch. They reported that with the dock removed (as it was after mid-July) the launch was wide enough to allow vehicles to pass and two vehicles to launch at a time. Skirts along the sides of the launch provide extra space for turning and parking. However, boaters reported that high-velocity crosswinds experienced regularly at the South Fork launch often make lake ingress and egress at the site difficult. One boater suggested that rocks be moved to create a windbreak to provide some protection from wind near the South Fork launch. There are no paved parking areas at the South Fork Recreation Site. There are restrooms; however, they were closed during the 2013 summer, with signs indicating low water pressure.

The Old Isabella Road Recreation Site has two launches that are available when lake levels are normal. Neither of the launches were functional by mid-summer 2013 due to the low water level. Boaters suggested that at least one of the launches be extended to provide another functional launch when the lake water level is low. Boaters report that both of these launches are narrower than they prefer, although one is reportedly artificially narrow due to sand covering the sides. There are paved parking areas and restrooms at this site.

At Paradise Cove, boaters reported that the paved road between the RV parking areas is used as a launch ramp during years when lake water levels are high enough to use it or to launch from the

shoreline. It was suggested that extending that road would provide a good additional launch that, unlike other launches on the south side of the lake (accessed from Highway 178), is protected from extreme lake winds. It was reported that Paradise Cove is widely used in summers with normal lake water levels.

4.8.2 Camping and Day-Use Recreation

The Auxiliary Dam Recreation Site is the largest and most heavily used site that allows shoreline camping. During the construction period when the Auxiliary Dam site will be unavailable, alternative camping and day-use areas will be needed. Survey data showed that 49 percent of respondents at the Auxiliary Dam Recreation Site reported that they would go to the Old Isabella Road Recreation Site if the Auxiliary Dam Recreation site were unavailable. Improvements at the Old Isabella Recreation Site suggested by visitors focused on improving access roads by grading to eliminate potholes and rocks. Survey respondents also mentioned that allowing shoreline camping at Paradise Cove would provide additional camping areas.

As with campers, day-use visitors want the existing roads graded to improve access. Visitors who pull trailers were particularly concerned about roads being graded. For some, the quality of the access roads is the reason they go to the Auxiliary Dam Recreation Site instead of the Old Isabella Road Recreation Site.

Windsurfers and kiteboarders reported that the area between the Auxiliary Dam and Old Isabella Road recreation sites and Engineers Point (across the lake) is one of the best windsurfing and kiteboarding areas in the country. An added attraction is that camping is allowed on the shoreline. Windsurfers and kiteboarders reported that they would want to camp at the Old Isabella Road Recreation Site when the Auxiliary Dam Recreation Site is unavailable.

Engineers Point is the least used of the recreation areas surveyed, based on observations of the number of vehicles and visitors. However, some area residents reported it has the potential to be one of the nicest day-use recreation areas on the lake. Compared to other recreation areas around the lake, Engineers Point is difficult to access. Roads are steep, rocky, and full of potholes, and there are no restrooms or trash receptacles.

The French Gulch Recreation Area provides relatively easy access to multiple shoreline areas for day-use recreation by visitors seeking a less crowded area. Visitors launch boats and jet skis from the shoreline, paddle board, swim, and fish. There are two paved parking areas located at the site, which must be crossed to access the day-use areas along the lake. Kern County Lake Patrol officers reported that the parking area closest to the Lake Patrol office and Highway 155 is submerged when the lake is extremely high but the far parking area remains dry.

The area around French Gulch Marina is used for day-use recreation. Visitors report that they like this area because it is less crowded than other areas and has good areas for swimming and fishing. Visitors were often observed walking from the Pioneer Point Campground, which is located directly across Highway 155 from the marina entrance. Data obtained through the Visitor Use Surveys showed that 53 percent of the visitors to the area are first-time visitors to Isabella Lake.

4.8.2.1 Floating Restrooms

Boaters requested floating restrooms on Isabella Lake. They reported that floating restrooms are available on other lakes in southern California, and they would very much like to have them on Isabella Lake. Several boaters reported that there are two floating restrooms on Isabella Lake that are not currently available for use on the lake.

4.8.2.2 Use of Spillways for Recreation

It was reported that a number of USACE lakes in the eastern U.S. use spillways as recreation sites and parking areas. These areas are available for use except when lake water levels are too high, in which case they serve as spillways. Foot and bicycle traffic are allowed on top of the dams, with high security fences installed to keep people away from the base of the dams. It was suggested that the USACE, Sacramento District, consider designing the new spillway in a way that would allow recreational use when water levels are below the level of the spillway.

5.0 RECOMMENDATIONS

The following recommendations are focused on mitigating the closure of the most used boat launch on the lake, Launch 19, and the largest and most used campground and day-use area located on the lake, the Auxiliary Dam Recreation Site. Recommendations are presented under the categories of boat launches and camping and day-use recreation.

5.1 Boat Launches

1) Identify a site for and construct a new boat launch that is accessed via Highway 155. The site should provide access to water with sufficient depth to support a boat launch when lake water levels are low. A location with some protection from lake winds or a site where protection could be constructed is also important, and the new launch should be wide enough for at least two boaters to launch at a time.

   The French Gulch Recreation Site should be considered a prime candidate for a launch accessible from Highway 155. The site is in an area of the lake reported to be deep water, and it is the only site that has substantial infrastructure in place, including paved parking areas and restrooms, which could be utilized by visitors using the launch. It also has parking areas that could be used by the American Bass Association and the Lake Isabella Bass Club for bass tournaments. The Kern County Lake Patrol and boat docks located at the site could be an added safety-related asset.

2) Construct a windbreak to provide some protection from wind at the South boat launch. As the only functional launch during the current low water levels, providing a windbreak at the South Fork launch could be a cost-effective way to mitigate for the biggest issue with the launch.

3) Extend at least one of the boat launches at the Old Isabella Road Recreation Site to provide another launch that is usable when water levels are low. Visitors reported problems with boaters who were angry over delays to launch or land as a reason for the need for an additional launch that is usable when the water levels are low.

5.2 Camping and Day-Use Recreation

5.2.1 Structural

1) Grade areas at the Old Isabella Road Recreation Site (Photograph 9) to improve vehicle access to areas for shoreline camping and day-use recreation.

2) Grade areas at other sites to improve vehicle access to areas for day-use recreation.

3) Improve or add restrooms, showers, and trash receptacles at selected recreation sites as a way to encourage visitors to move to a different location.

Photograph 9. Campers at the Old Isabella Road Recreation Site

5.2.2 Non-structural

1) Allow shoreline camping at Paradise Cove.

2) Utilize floating restrooms that are now near the Lake Patrol boat docks.

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SUMMARY OF RECREATION IMPACTS RESULTING FROM IMPLEMENTATION OF THE ISABELLA LAKE DSM PROJECT						
#	IMPACTED AREA	DETAILED DESCRIPTION OF AREA	SHORT TERM CONSEQUENCE	LONG TERM CONSEQUENCE	ANTICIPATED IMPACT TIMEFRAME	ACTIONS TO MINIMIZE IMPACT
1	**Launch 19**	The largest and most popular boat launch at the reservoir, this 4-lane boat launch is the only ADA-accessible launch at the lake. Generally, the launch area is used primarily for motorized and non-motorized boating, used less for other types of recreation. Includes flush restrooms and large day-use parking area. It is the only launch that can be accessed at low water (at approximately the 75,000 acre-foot pool, other access points are dry).	Significant and adverse for short-term. The emergency spillway excavation would close the launch and access to the area for the duration of the project. The surrounding area (Engineers Point) may be used as staging area, or a deposit area for excavated material from spillway construction.	Potentially Significant, adverse: The boat launch may not be returned to its previous state in the same location, due to the new emergency spillway feature. Additional engineering design thru 2014 is required to make this determination.	Temporary closure to begin end of 2016 recreation season and reopen spring 2023 (6-year closure; status of permanent closure to be determined). Off-setting measures need to be in place beginning April 2017 for economically important Fishing Derby and opening recreation season.	Short-term impacts could be minimized by enlarging and lengthening smaller launch ramp at Old Isabella Recreation Area. Long-term impacts could be minimized with like-kind replacement in vicinity of original location.
2	**Engineers Point**	The peninsula of land between Main and Auxiliary Dams, this has a small beach area to the east (Aux. Dam) side, which is used as a fishing spot, general recreation, and overflow camping for the economically important Fishing Derby. Boaters also use the coves on the west side for beaching boats and recreating on the shore.	Significant and adverse for short-term. Construction would close public access and use of the area due to air quality impacts, noise/vibration and project safety. The land area nearest the dams may be used to permanently deposit excess material from spillway excavation. Engineers Point was the original borrow source for the Main Dam.	Less than significant, potentially beneficial: It is anticipated that the area will be returned to a useable state, and that access would be restored. Excess material from the spillway excation may be placed to improve access.	Temporary closure to begin end of 2016 recreation season and reopen spring 2023 (6-year closure).	Short-term impacts may be minimized with access provisions for local events (such as the July 4 Fireworks Extravaganza). The long-term impact would be less than significant if the area were returned to a useable state, and the quality of the visitor experience were not diminshed significantly by access issues. Long-term recreation benefits may be possible through improvements to existing access and landscape features designed in the waste material disposal plan and implemented after project completion.
3	**Auxiliary Dam Recreation Area**	The most popular open beach area adjacent to the Auxiliary Dam is used for RV camping, as an informal car-top boat launch, and for fishing from the shore and for general recreation. Also used as main staging area for special use events such as the economically important Fishing Derby. The northern beach area of Aux Dam Recreation Area is known as a world class venue for windsurfing.	Significant and adverse for short-term. Construction activities would restrict public use and access to the area for the duration of the project. During Hwy 178 realignment, access may be temporarily restricted. During dam remediation, the entire area will be closed for public use as a staging area for construction and optional sand source for new dam filters.	Less than significant for long-term. It is anticipated that the area will be returned to a useable state, and that access would be restored.	Temporary closure to begin end of 2016 recreation season and reopen spring 2023 (6-year closure). During the recreation season when Highway 178 is being relocated, it is anticipated that there will be controlled access restrictions resulting from entrance tie-in with the highway.	Short-term impacts could be minimized with improvements to access and restroom facilities at another nearby existing recreation area such as Old Isabella Recreation Area. Other off-setting measures are identified in the Draft Recreation Report and will be evaluated in a supplemental NEPA document for public release later in 2014.
4	**Slippery Rock put-in and BLM Keysville Campground**	The whitewater boat launch for the lower Kern River section below Main Dam, used by commercial rafting companies and private boaters, as well as some general recreation. Primitive camping across river. Operated by BLM.	Less than significant, adverse: Implementation of the Isabella Lake DSM Project could temporarily restrict access to the area due to blasting for the emerency spillway.	Less than significant: It is anticipated that the area will be returned to a useable state, and that access would be restored.	Sporatic temporary restrictions throughout construction period.	If construction schedule can accommodate high use times (late summer recreation season), the impact could be minimized. The floodgate option (in lieu of Hwy 155 relocation) would likely not impact recreation in these areas.
5	**Main Dam Campground**	The campground immediately below Main Dam. There are 82 developed campsites with firegrills, picnic tables, water and flush toilets. An oxidation pond located and servicing the Main Dam Campground also receives effluent from Pioneer Pt. and French Gulch Marina.	The campground has been closed for several years due to water quality issues. The issues have been fixed, but the campground is still closed due to project's periodic geotechnical drilling for dam. It will remain closed throughout the project construction for use as the Main Dam staging area.	Potentially significant and adverse: Permanent closure may be necessary due to homeland security access restrictions to downstream toe of dam upon completion of construction. Otherwise, long-term impacts would be less than significant with reopening upon completion of dam remediation. Oxidation pond is expected to be protected in place and continue to support Pioneer Pt. and French Gulch Marina.	Off-setting measures need to be in place beginning May 2017 for opening recreation season.	If campground must be permanently closed, short- and long-term adverse impacts could be minimized through like-kind replacement of campground elsewhere around the lake. Other off-setting measures are identified in the Draft Recreation Report and will be evaluated in a supplemental NEPA document for public release later in 2014.
6	**Pioneer Point Campground**	Located adjacent to Hwy 155 north of the Main Dam, this shaded campground has 78 developed campsites with RV turnaround access. Campground capacity is 468 persons.	Potentially Significant and adverse: Relocation of Hwy 155 would impact the access to the campground, and construction noise/air quality would deter from the recreation experience. The floodgate option would not significantly impact the campground or the recreation experience. The floodgate option is preferred by the Corps, but requires approval from Caltrans (currently under review).	Potentially significant and adverse: Depending on the extent of the relocation, some campsites would be permanently lost, and road relocations inside the campground may be necessary to accommodate the Hwy 155 easement and traffic flow. For the floodgate option, it is anticipated that the campground would be unaffected and visitor use patterns would return to pre-project levels upon completion of construction.	Temporary/permanent closures and access restrictions for the Highway 155 realignment option. Off-setting measures would need to be in place prior to construction for the opening of recreation that season. No significant impacts for floodgate option.	If campsites must be permanently closed, short- and long-term adverse impacts could be minimized through like-kind replacement of additional sites elsewhere around the lake. Other off-setting measures are identified in the Draft Recreation Report and will be evaluated in a supplemental NEPA document for public release later in 2014. The floodgate option (in lieu of Hwy 155 relocation) would minimize both short- and long-term impacts to less than significant.
7	**Old Isabella Recreation Area**	Located adjacent to Hwy 178 north of the Auxiliary Dam Recreation Area, this area offers primitive beach camping, a 2-lane launch ramp, paved parking lot and flush toilets.	Direct Impacts: Leach field located below Auxiliary Dam would be impacted due to construction activities. Indirect impacts: Closure of nearby Auxiliary Dam Rec Area, Main Dam Campground and Launch 19 due to construction would likely result in carrying capacity exceedance of this area, leading to increased health and safety issues.	Less then significant. It is anticipated that visitor use patterns would return to pre-project levels upon completion of construction.	Off-setting recreation mitigation measures need to be in place beginning April 2017 for fishing derby and opening recreation season.	See ACTIONS TO MINIMIZE IMPACTS for Auxiliary Dam Recreation Area and Launch 19 for opportunities to minimize project impacts.
8	**Isabella Lake Marinas**	Three privately operated, full-service marinas provide boat docks, fuel, food, fishing supplies and information. These are the French Gulch Marina, North Fork Marina, and Red's Kern Valley Marina.	Since the draft EIS, refinements to the timing and duration of the construction pool have reduced short-term marina impacts to less than significant.	Less then significant. It is anticipated that marina operations would return to pre-project levels upon completion of construction.	Construction pool currently scheduled for autumn 2020 through spring 2021.	Maintain construction schedule to include construction pool drawdown during the recreation off-season. Minimize duration of the construction pool and allow lake recharge during spring runoff.
9	**15 Additional Lakeside Recreation Areas**	Located around the lakeshore of Isabella Lake. Both developed and primitive beach camping/day-use areas. Mixed bag of facility development.	Since the draft EIS, refinements to the timing and duration of the construction pool have reduced short-term recreation impacts to less than significant.	Less then significant. It is anticipated that visitor use patterns would return to pre-project levels upon completion of construction.	Construction pool currently scheduled for autumn 2020 through spring 2021.	Maintain construction schedule to include construction pool drawdown during the recreation off-season. Minimize duration of the construction pool and allow lake recharge during spring runoff.
10	**Whitewater flows**	The lower Kern River below the Main Dam is used for commercial whitewater rafting and river fishing. Non-flood releases from the Main Dam are controlled by the Kern River Watermaster for water supply and irrigation.	Depending on flood flows or water needs, the planned temporary closure of Borel Canal may increase flows in the main channel, which may be beneficial to rafting and fishing activities if the release is timed correctly.	It is anticipated that the agreements currently in place would return to the same status. However, a buyout option of Borel (and its subsequent closure) with SCE could be a significant long-term recreation benefit for rafting, fishing, or potential bike trail utilizing old canal easement.	Borel Canal is currently scheduled to be off-line 2017 - 2023.	Provide a flow schedule during construction; coordinate water supply release with Watermaster to optimize highest and best flows during recreation use periods.