URS

August 17, 2012

Pierre Martinez
Project Manager
Systems Assessment & Facility Siting Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Subject: Applicant's Supplemental Response #7 to CEC Staff Data Request Set 1A (DR 51)
Rio Mesa Solar Electric Generating Facility (11-AFC-04)

Dear Mr. Martinez:

On behalf of Rio Mesa Solar I, LLC and Rio Mesa Solar II, LLC, collectively the "Applicant" for the Rio Mesa Solar Electric Generating Facility project ("Rio Mesa SEGF"), we submit the Applicant's Supplemental Response #7 to CEC Staff Data Request Set 1A (DR 51) – 2012 Bat Survey Quarterly Report.

Sincerely,

Angela Leiba, Vice President
Senior Project Manager/ Environmental Department Manager

Enclosure

cc: POS List
Project File

REPORT

SPRING 2012 ACOUSTIC BAT SURVEY QUARTERLY REPORT FOR THE RIO MESA SOLAR ELECTRIC GENERATING FACILITY, RIVERSIDE COUNTY, CALIFORNIA

Prepared for

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August 2012

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SECTION 1 SUMMARY

The following quarterly report summarizes Spring 2012 acoustic bat survey results for the Rio Mesa Solar Electric Generating Project (RMS or Project). Surveys covered in this report were conducted from February 10 through May 31, 2012 by URS biologists using passive monitoring with three AnaBat acoustic bat detectors. Data will continue to be collected by the AnaBat detectors into February 2013 and will be provided in 3 subsequent quarterly reports.

The Renewable Energy Action Team (REAT), which includes the California Energy Commission (CEC), the US Fish and Wildlife Service (USFWS), the Bureau of Land Management (BLM) and the California Department of Fish and Game (CDFG), recommended conducting bat surveys by deploying at least three acoustic monitoring stations for no less than one year within the Project area. The REAT recommended placing these detectors in microphyll woodlands and close to agricultural areas, with adequate spacing between the detectors to provide maximum coverage of the Project area (REAT 2011). AnaBat locations were approved by the REAT prior to installation.

Acoustic bat monitoring can provide information on relative bat activity, species presence, and bat use of a site. While distinctive echolocation calls can be identified for some bat species, there is also significant overlap between species. Bats can produce a variety of calls depending on their behavior, and while some of these calls may be species-specific, many are not. Due to this limitation, acoustic monitoring data are presented in groups of species with similar calls.

During the course of spring monitoring, 92,163 files were recorded, including 43,648 bat call files. Bat species confirmed to be present included **western pipistrelle** (*Parastrellu hesperus*), **pallid bat** (*Antrozous pallidus*), **western red bat** (*Lasiurus blossevillii*), **hoary bat** (*Lasiurus cinereus*), **pocketed free-tailed bat** (*Nyctinomops femorosaccus*), and **western mastiff bat** (*Eumops perotis*). Other groups included among the recorded calls were 50 kilohertz (kHz) species, 40 kHz species, high slope species in the 30 kHz range, and low slope species in the 25 kHz range. Species present or with potential to occur in the Project area are detailed in Table 1 in Section 2.

SECTION 2 BACKGROUND

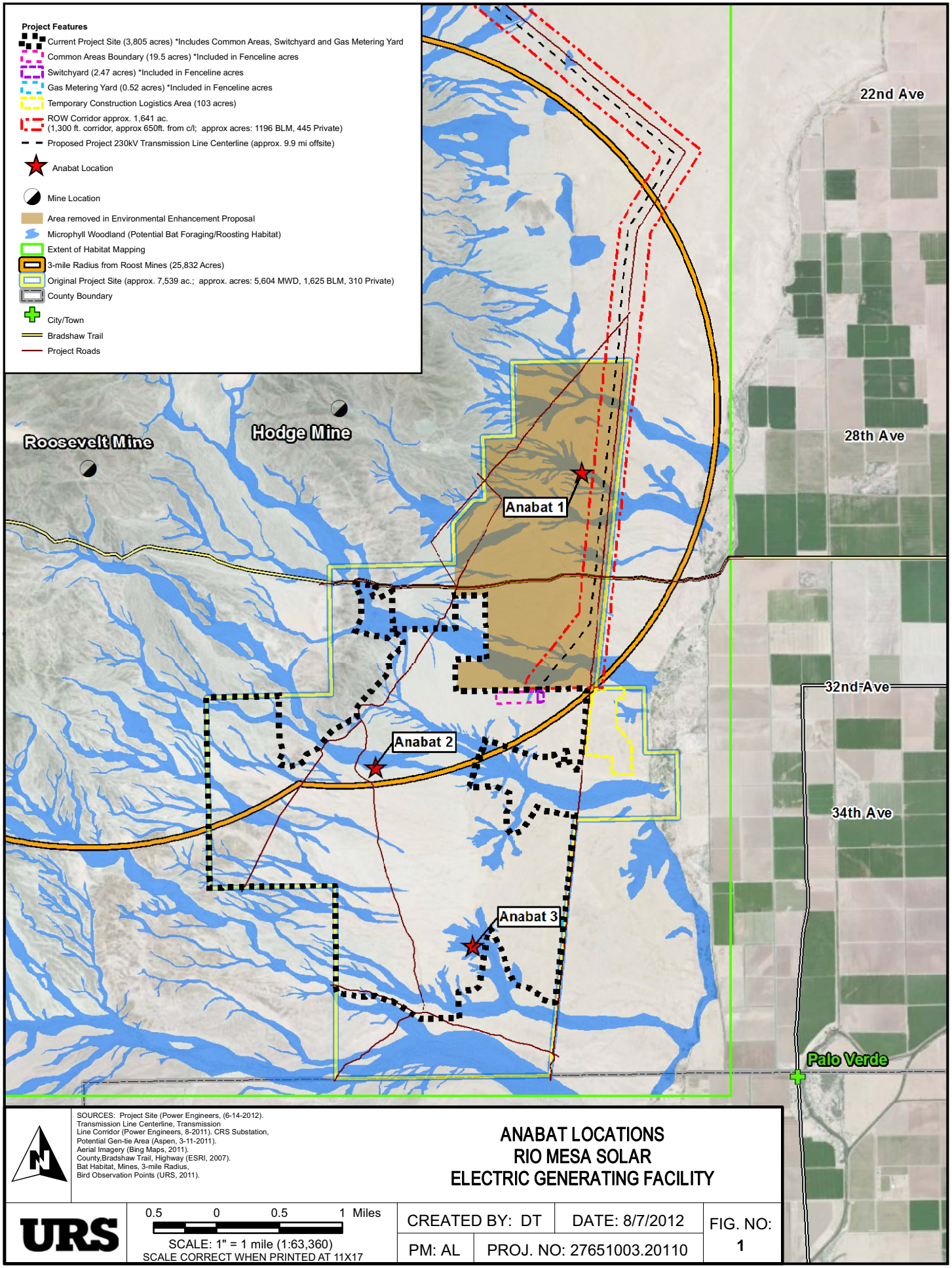
The RMS Project site is located in eastern Riverside County approximately 13 miles southwest of Blythe, California. The two solar plants on the Project site are proposed to be located on land leased from the Metropolitan Water District of Southern California (MWD). Portions of the Project gen-tie line, upgraded access road, and 33kV construction/emergency backup power supply line are located on federal lands administered and managed by the BLM.

There are habitats used by bats for roosting and foraging within and adjacent to the Project site. Rocky areas and mine sites in the Mule Mountains west of the Project site provide roost sites for rock crevice- and cave-roosting bats. Microphyll woodlands, with ironwood (*Olneya tesota*) and blue palo verde (*Parkinsonia florida*) trees, provide foraging habitat and potential roosting habitat for tree-roosting species (Figure 1). In 2011, URS mapped all vegetation within the Project site and ¼-mile buffer area using desktop GIS and high-resolution aerial photography. Once the desktop analysis was completed, a team of four URS biologists field-verified the results and confirmed all areas where microphyll woodlands occur. The Project is located in the Colorado Desert region which is addressed in the BLM-adopted Northern and Eastern Colorado Desert Resource Management Plan (NECO). There are approximately 675,000 acres of microphyll woodland in the NECO planning area which covers 79% of the Colorado Desert region (BLM 2002). Approximately 708 acres of microphyll woodlands occur within the Project site or approximately 0.1% of the microphyll woodland habitat within the NECO planning area. Significant microphyll woodland habitat that would not be affected by the Project also occurs to the north, east and south of the site and in the Milpitas Wash along the southern flank of the Mule Mountains.

The Project site does not contain any permanent water features. Irrigation canals are located in the agricultural fields to the east of the site. Certain bats require more frequent access to drinking water if they do not get enough from their diets, and some bat species prefer to forage over irrigation canals or agricultural fields. Most species prefer roost sites located less than a ½-mile from water and feeding habitat (Tuttle and Taylor 1998). However, fast, long-distance flyers, such as Mexican free-tailed bats (*Tadarida brasiliensis*), can live much farther from key resources, and California leaf-nosed bats (*Macrotus californicus*) may not require supplemental water at all (Tuttle and Taylor 1998).

Portions of the RMS site are within 3 miles of the Roosevelt and Hodge Mines (see Figure 1). Hodge Mine contains a winter colony of over 4,000 California leaf-nosed bats that use the Roosevelt mine as a maternity colony. Hodge Mine also contains the second largest known cave myotis (*Myotis velifer*) colony along the lower Colorado River.

Bat species present or with potential to occur at the Project site are summarized in Table 1.



SOURCES: Project Site (Power Engineers, (6-14-2012).
Transmission Line Centerline, Transmission
Line Corridor (Power Engineers, 8-2011). CRS Substation,
Potential Gen-tie Area (Aspen, 3-11-2011).
Aerial Imagery (Bing Maps, 2011).
County,Bradshaw Trail, Highway (ESRI, 2007).
Bat Habitat, Mines, 3-mile Radius,
Bird Observation Points (URS, 2011).

ANABAT LOCATIONS
RIO MESA SOLAR
ELECTRIC GENERATING FACILITY

URS

0.5 0 0.5 1 Miles

SCALE: 1" = 1 mile (1:63,360)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: DT	DATE: 8/7/2012	FIG. NO: 1
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Table 1.
Bat Species with Potential to Occur at the Project Site

Scientific Name	Common Name	Status	Roosting Habitat	Presence / Potential to Occur
Antrozous pallidus	pallid bat	CDFG: SSC BLM: S WBWG: L	Rock crevices, buildings, and bridges	Present
Choeronycteris mexicana	Mexican long-tongued bat	WBWG: H	Cool mountain canyons	Low: the Project site is north of this species' range
Corynorhinus townsendii	Townsend's big-eared bat	CDFG: SSC BLM: S WBWG: H	Maternity colonies in mines, caves, or buildings, while males roost individually. Winter hibernation in caves and abandoned mines.	Moderate
Eptesicus fuscus	big brown bat	WBWG: L	Maternity colonies beneath loose bark and in small tree cavities buildings, barns, bridges, and even bat houses.	High: Common throughout most of its range. Occurs in a wide variety of habitats, including desert scrub.
Euderma maculatum	spotted bat	CDFG: SSC BLM: S WBWG: M	High in cliff crevices	Low: the Project site is southeast of this species' range
Eumops perotis	western mastiff bat	CDFG: SSC BLM: S WBWG: M	Cliff-face crevices	Present
Lasionycteris noctivagans	silver-haired bat	WBWG: M	Maternity colonies almost exclusively in tree cavities or small hollows	Low: the Project site is south of this species' range
Lasiurus blossevillii	western red bat	CDFG: SSC WBWG: H	Tree foliage	Present
Lasiurus cinereus	hoary bat	WBWG: M	Trees	Present
Lasiurus xanthinus	western yellow bat	CDFG: SSC WBWG: H	Trees, especially palm tree skirts	Moderate: Associated with dry, thorny vegetation, particularly palm trees
Macrotus californicus	California leaf-nosed bat	CDFG: SSC BLM: S WBWG: H	Caves and abandoned mines	High: known colony at Roosevelt and Hodge Mines less than 3 miles from Project site
Myotis californicus	California myotis	WBWG: L	Trees cavities and crevices. Small maternity colonies in cliff crevices, buildings, and bridges.	High: this species is common in desert areas
Myotis ciliolabrum	western small-footed myotis	BLM: S WBWG: M	Cliffs, crevices, caves, or mines.	Low-Moderate
Myotis evotis	long-eared myotis	BLM: S WBWG: M	Tree cavities and under bark.	Low: the Project site is southeast of this species' range

Table 1.
Bat Species with Potential to Occur at the Project Site

Scientific Name	Common Name	Status	Roosting Habitat	Presence / Potential to Occur
Myotis lucifugus	little brown myotis	WBWG: M	Roosts in buildings, trees, under rocks or wood, or occasionally in caves. Hibernation roosts are in caves or mines.	Low-Moderate
Myotis occultus	Arizona myotis	CDFG: SSC WBWG: M	Day roosts in tree cavities and crevices.	Low-Moderate
Myotis thysanodes	fringed myotis	BLM: S WBWG: M	Night and day roosts include caves, mines, and buildings (typically abandoned). Hibernacula include caves and buildings.	Moderate
Myotis velifer	cave myotis	BLM: S CDFG: SSC WBWG: M	Forms nursery colonies, usually numbering in the thousands in caves, mines, barns, buildings, and sometimes under bridges.	High: known colony at Hodge Mine less than 3 miles from Project site
Myotis volans	long-legged myotis	WBWG: M	Maternity colonies usually in tree crevices or under bark. Also are found in rock crevices, cliffs, and buildings.	Low
Myotis yumanensis	Yuma myotis	BLM: S WBWG: L	Buildings or bridges, occasionally mines or caves.	Low-Moderate
Nyctinomops femorosaccus	pocketed free-tailed bat	CDFG: SSC WBWG: M	Crevices high on cliff faces of rugged canyons.	Present
Nyctinomops macrotis	big free-tailed bat	CDFG: SSC WBWG: M	Rocky outcrops, canyons, or cliffs.	Moderate
Parastrellus hesperus	western pipistrelle	WBWG: L	Rock crevices in rocky canyons and cliffs, occasionally mines and caves, and rarely in buildings.	Present
Tadarida brasiliensis	Mexican free-tailed bat	WBWG: L	Maternity colonies are formed in limestone caves, abandoned mines, under bridges, and in buildings. Smaller colonies also have been found in hollow trees.	High: Common in desert areas, but prefers foraging over water

Notes:
California Department of Fish and Game (CDFG):
SSC – Species of Special Concern
Bureau of Land Management (BLM):
S – Sensitive
Western Bat Working Group (WBWG):
The WBWG designations are included for reference in the table and are developed by an informal group of agencies, organizations and individuals interested in bat research.

H – High Priority. Based on available information on distribution, status, ecology, and known threats, this designation should result in these species being considered the highest priority for funding, planning, and conservation actions.

M – Medium Priority. This designation indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats.

L – Low Priority. Most of the existing data support stable populations of the species, and that the potential for major changes in status in the near future is considered unlikely.

Potential to Occur:
Present – Species-specific calls detected during acoustic monitoring

High – This species is known to occur in the area or is common in desert habitats.

Moderate – This species may occur in the Project area, but is not common or widespread.

Low – The Project site does not contain the preferred habitat for this species, this species is not well adapted for desert habitats, and/or the Project site is on the margins of this species' range.

Source: Bat Conservation International 2012, CDFG 2011, WBWG 2007

SECTION 3 METHODOLOGY

3.1 EQUIPMENT

In October 2011, an application for certification (AFC) for was submitted to the CEC that included a third RMS solar generation facility that would have been located on BLM-managed land to the north of the Project site. In July 2012, the AFC was revised (the "Environmental Enhancement Proposal") and the third facility was removed from the proposed Project. Three AnaBat ™ acoustic bat detectors were located to provide full coverage of the initial three-plant RMS Project site, including AnaBat 1 within the initially proposed third plant area (see Figure 1). The AnaBat 1 detection site is no longer within the proposed two-plant Project boundary (see Figure 1 and the AnaBat area denoted as "Area removed in Environmental Enhancement Proposal").

Bat detector locations were based on REAT recommendations and approved by the REAT prior to installation. The REAT recommended placing the detectors in microphyll woodlands and close to agricultural areas, with adequate spacing between the detectors to provide maximum coverage of the Project area (REAT 2011). The bat detectors were mounted on ironwood trees in microphyll woodlands (see Photos 1 through 4). The detector microphones were placed approximately four to six feet above ground and were housed within Bat-Hats using 45-degree reflectors.

Detectors were set to record from 3:30 pm to 7:43 am (one hour before the earliest sunset of the year to one hour after the latest sunrise of the year).

3.2 CALL ANALYSIS

AnaBat units record bat calls as files of one or more bat passes, up to a maximum of 15 seconds with a maximum of five seconds between pulses within each file. A bat pulse or call refers to a single echolocation "chirp". Passes will contain a sequence of pulses separated by at least 1 second (Hayes 1997).

Call analysis involved review of the duration, slope, sweep, and frequency of calls. Due to the large number of files recorded, filters were used for analysis. All call files were initially passed through a noise filter requiring files to contain calls meeting the following parameters: smoothness up to 50, frequency (Fc) between 5 and 60 kHz, duration of 1 to 100 milliseconds, and a minimum of 3 pulses over 3 seconds. This filter was used to reduce the number of noise files and poor quality bat calls. Multiple additional filters were used for calls passing the noise filter in order to group similar call types. These filters were used in combination with visual analysis of call files and adjusted to achieve the highest accuracy.

Bat species were placed in groups with similar call characteristics. Some species produce calls in two or more groups. AnaBat call files containing calls from multiple bat call groups were counted for each group. For example, a single file containing calls from multiple bats in both the 50 kHz call group and the 30k call group would have been counted as a call file for 50 kHz and a call file for 30 kHz.

Photos 1 through 4 - Habitat in Areas Recorded by AnaBats at the RMS Project Site

Photo 1. Bat-Hat and microphone setup at AnaBat 2

Photo 2. Palo Verde wash woodland in the area recorded by AnaBat 1

Photo 3. Ironwood wash woodland in the area recorded by AnaBat 2

Photo 4. Sparse ironwood habitat in the area recorded by AnaBat 3

3.3 LIMITATIONS

Passive acoustic monitoring is a common technique for characterizing bat activity and species presence in specific geographical locations. Passive acoustic monitoring can provide information on relative bat activity and species presence; however, this type of monitoring is limited in its ability to provide bat density information or confirm species absence.

A large number of bat call files could indicate multiple bats passing briefly through an area or a few bats continuously using the area. A lack of calls for a particular species does not necessarily indicate absence of this species. Lower frequency or low-volume bat calls that are characteristic of certain species, such as the spotted bat (*Euderma maculatum*), are known to be more difficult to detect with passive acoustic monitoring. Some species, particularly those with lower call frequencies, such as the spotted bat, or those that often forage using sight rather than echolocation, such as the California leaf-nosed bat, may be more difficult to record.

AnaBat zones of reception are affected by elevation, atmospheric conditions, topography, vegetation, and bat call frequency and intensity. The zone of reception for a 40 kHz bat is typically 30 meters in front and 15 meters on each side of the detection unit microphone (Livengood 2008).

SECTION 4 RESULTS

A total of 43,648 bat call files and 48,515 noise files were recorded during the monitoring period from February 10 to May 31, 2012, for a total of 111 nights of data collection. For AnaBat 1, monitoring ended on May 12, 2012 after 92 nights of data collection because the microphone cable was damaged by rodents. File totals by detector are provided in Table 2.

Table 2.
Total Files Recorded by AnaBat Detectors

AnaBat Detector	Bat Call Files	Noise Files	Total	Calls per Night Average
1	23,155	4,955	28,110	252
2	16,367	39,380	55,747	147
3	4,126	4,180	8,306	37
Total	43,648	48,515	92,163	139

AnaBat 2 recorded a large number of noise files, relative to the other two detectors. Noise files include wind, insect noise, small mammal vocalizations, and poor quality bat calls. The detectors record in 16-second increments, and continuously-generated sounds would result in a maximum of 225 files being recorded per hour. The majority of the noise files recorded by AnaBat 2 were not attributable to bat activity; however, continuously recorded noise could reduce the quality and quantity of detectable bat calls by masking them.

4.1 CALL GROUPS

Bat call groups were created specifically for the Project by grouping similar calls based on a combination of what was recorded and which species have the potential to occur at the Project site based on their known ranges (Table 3). Bat species that produce calls characteristic of multiple groups are listed in these groups accordingly.

Distinctive, species-specific calls reviewed during the analysis confirmed the presence of the following species: pallid bat, pocketed free-tailed bat, hoary bat, western pipistrelle, western mastiff bat, and western red bat. Table 3 summarizes the species included in each call group.

Table 3 summarizes the bat call groups and shows bat species detected or potentially occurring within each group.

4.1.1 50 kHz Call Group

The 50 kHz group is characterized by high slope calls (60 or higher) with a minimum frequency of 45 kHz or higher. Calls in this group are expected to mainly be from 50 kHz myotis species including California myotis (*Myotis californicus*) and Yuma myotis (*Myotis yumanensis*); however, western

pipistrelle and western red bat feeding buzzes and calls produced while flying through high clutter are also included in this group. The 50 kHz group may also contain calls from the California leaf-nosed bat and Townsend's big-eared bat (*Corynorhinus townsendii*).

4.1.2 PAHE-LABL Call Group

The PAHE-LABL group contains low slope (less than 60) calls, generally with a shorter sweep than the 50 kHz group, at frequencies from about 40-50 kHz. This group is mainly expected to consist of western pipistrelle calls, but also includes calls from western red bats. Species-specific calls for both western pipistrelle and western red bats were identified within this group.

4.1.3 40 kHz Call Group

The 40 kHz group is characterized by high slope calls (60 or higher) with a minimum frequency of about 35 to 40 kHz. 40 kHz myotis species include (*Myotis occultus, Myotis velifer, Myotis ciliolabrum, Myotis lucifugus, Myotis evotis, and Myotis volans*). The 40 kHz group may also contain feeding buzzes or high clutter calls from western red or western yellow bats (*Lasiurus xanthinus*). If present, calls produced by the cave myotis (*Myotis velifer*) would be included in this group; however, cave myotis calls are generally indistinguishable from other 40 kHz myotis species.

4.1.4 30 kHz Call Group

The 30 kHz group contains high slope calls with minimum frequencies ranging from 25-35 kHz. 30 kHz species include the pallid bat, Townsend's big-eared bat, big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), western red bat, hoary bat, western yellow bat, long-eared myotis (*Myotis evotis*), and fringed myotis (*Myotis thysanodes*).

4.1.5 25 kHz Call Group

The 25 kHz group contains low slope calls with minimum frequencies ranging from about 20-30 kHz. This group is expected to mainly contain calls from big brown and Mexican free-tailed bats, but may also include calls from silver-haired bats, pocketed free-tailed bats, and western yellow bats.

4.1.6 NYFE-LACI Call Group

The NYFE-LACI group includes low-slope calls from 15-20 kHz that would be produced by pocketed free-tailed bats and/or hoary bats.

4.1.7 Low Frequency Call Group

Species with calls characterized by frequencies of less than 20 kHz include the spotted bat, Allen's lappet-browed bat (*Idionycteris phyllotis*), big free-tailed bat (*Nyctinomops macrotis*), and western mastiff bat. The only call within this frequency range was detected at AnaBat 2. The call was of poor quality, but the low slope was consistent with that of a western mastiff bat. No calls attributable to any of the other low frequency species in this group were recorded.

Table 3.
Bat Call Groups for Species with Potential to Occur at the Project Site

Scientific Name	Common Name	Calls Recorded*
50 kHz (45-50 kHz high slope)		
Corynorhinus townsendii	Townsend's big-eared bat	potential
Lasiurus blossevillii	Western red bat	potential
Macrotus californicus	California leaf-nosed bat	potential
Myotis californicus	California myotis	potential
Myotis yumanensis	Yuma myotis	potential
Parastrellus hesperus	Western pipistrelle	potential
PAHE-LABL (40-50 kHz low slope)		
Lasiurus blossevillii	Western red bat	species-specific (AnaBat 1)
Parastrellus hesperus	Western pipistrelle	species-specific (AnaBats 1, 2, and 3)
40 kHz (35-40 kHz high slope)		
Lasiurus blossevillii	Western red bat	potential
Lasiurus xanthinus	Western yellow bat	potential
Myotis ciliolabrum	Western small-footed myotis	potential
Myotis lucifugus	Little brown myotis	potential
Myotis occultus	Arizona myotis	potential
Myotis velifer	Cave myotis	potential
Myotis volans	Long-legged myotis	potential
30 kHz (25-35 kHz high slope)		
Antrozous pallidus	Pallid bat	species-specific (AnaBats 1 and 3)
Corynorhinus townsendii	Townsend's big-eared bat	potential
Eptesicus fuscus	Big brown bat	potential
Lasionycteris noctivagans	Silver bat	potential
Lasiurus blossevillii	Western red bat	potential
Lasiurus cinereus	Hoary bat	species-specific (AnaBat 1)
Lasiurus xanthinus	Western yellow bat	potential
Myotis evotis	Long-eared myotis	potential
Myotis thysanodes	Fringed myotis	potential
Tadarida brasiliensis	Mexican free-tailed bat	potential
25 kHz (20-30 kHz low slope)		
Eptesicus fuscus	Big brown bat	potential
Lasionycteris noctivagans	Silver-haired bat	potential

Table 3.
Bat Call Groups for Species with Potential to Occur at the Project Site

Scientific Name	Common Name	Calls Recorded*
Lasiurus xanthinus	Western yellow bat	potential
Nyctinomops femorosaccus	Pocketed free-tailed bat	potential
Tadarida brasiliensis	Mexican free-tailed bat	potential
NYFE-LACI (15-20 kHz low slope)		
Lasiurus cinereus	Hoary bat	potential
Nyctinomops femorosaccus	Pocketed free-tailed bat	species-specific (AnaBat 1)
<20 kHz		
Euderma maculatum	Spotted bat	none
Idionycteris phyllotis	Allen's lappet-browed bat	none
Eumops perotis	Western mastiff bat	species-specific (AnaBat 2)
Nyctinomops macrotis	Big free-tailed bat	none

*Calls Recorded:
Potential – Non-species specific calls were recorded that could have been produced by this species or other bat species in the call group.
Species-Specific – Distinctive calls from this species were recorded.
None – No calls were identified during Spring 2012 acoustic monitoring that could have been produced by this species.

4.2 SPECIAL STATUS BAT SPECIES

Special status bats detected during spring 2012 acoustic monitoring included the pallid bat, pocketed free-tailed bat, western red bat, and western mastiff bat.

Pallid Bat

Regulatory Status: Federal: BLM: Sensitive; State: CDFG: Species of Special Concern

During spring 2012 acoustic bat monitoring, distinctive pallid bat social calls were identified. The pallid bat's range includes the Mojave and Sonoran Deserts where it is most abundant in xeric ecosystems. Pallid bats roost in crevices in rocky outcrops, cliffs, caves, mines, and trees. Roost reuse is common, although pallid bats may switch roosts on a daily or seasonal basis. Pallid bats are not known to migrate long distances between summer and winter sites; however, the winter habits of this species are poorly understood. Pallid bat's tendency to roost gregariously and their relative sensitivity to disturbance make them vulnerable to mass displacement (Sherwin 2005).

Pocketed Free-tailed Bat

Regulatory Status: Federal: none; State: CDFG: Species of Special Concern

Within the NYFE-LACI group, steeper-sloped calls (>60) resembling those of the pocketed free-tailed bat were observed. The pocketed free-tailed bat is more common in Mexico. Southern California is the

northern-most portion of this species' range. Its habitats include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Pocketed free-tailed bats prefer to roost in rock crevices in cliffs. This species is probably a non-migratory, yearlong resident (Harris 2000).

Western Red Bat

Regulatory Status: Federal: none; State: CDFG: Species of Special Concern

During spring 2012 acoustic bat monitoring, western red bat calls were identified. Western red bats occur over a broad range extending from southern British Columbia in Canada, through much of the western United States, through Mexico and Central America, to Argentina and Chile in South America. This species may be associated with intact riparian habitat (particularly willows, cottonwoods, and sycamores). Western red bats roost in trees, often in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. This species may also occasionally roost in caves (Bolster 2005). Red bats are highly migratory. Although generally solitary, red bats appear to migrate in groups and forage in close association with one another in summer. Winter behavior of this species is poorly understood (Bolster 2005).

Western Mastiff Bat

Regulatory Status: Federal: BLM: Sensitive; State: CDFG: Species of Special Concern

A single 8 kHz call was recorded by the AnaBat 2 detector. The call was of poor quality, but the slope was consistent with that of a western mastiff bat call and too low to be a spotted bat call.

The western mastiff bat subspecies that occurs in North America, *Eumops perotis californicus*, ranges from central Mexico across the southwestern United States (parts of California, southern Nevada, Arizona, southern New Mexico and western Texas). Western mastiff bats can be found in a variety of habitats, from desert scrub to chaparral to oak woodland and into the ponderosa pine belt and high elevation meadows of mixed conifer forests. In California, these bats are most frequently encountered in broad, open areas. Foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas. The western mastiff bat is primarily a cliff-dwelling species, where maternity colonies of 30 to several hundred (typically fewer than 100) roost generally under exfoliating rock slabs (e.g., granite, sandstone or columnar basalt). It has also been found in similar crevices in large boulders and buildings. Western mastiff bats have been estimated to forage considerable distances from roosting sites. The western mastiff bat appears to move relatively short distances seasonally and does not undergo prolonged hibernation (Bolster 2005).

4.3 CALL FILE COUNTS

Call file counts by month are summarized in Table 4 and Figure 2 and indicate the seasonal distribution of bat activity in the detection area. Call file counts by time of day indicate call group peak activity and are summarized in Figures 3, 4 and 5. The timing of the recordings can indicate the travel distance from roost sites to the detection area. Recordings near sunset are consistent with bat species that may travel from roost sites located in closer proximity with the Project site.

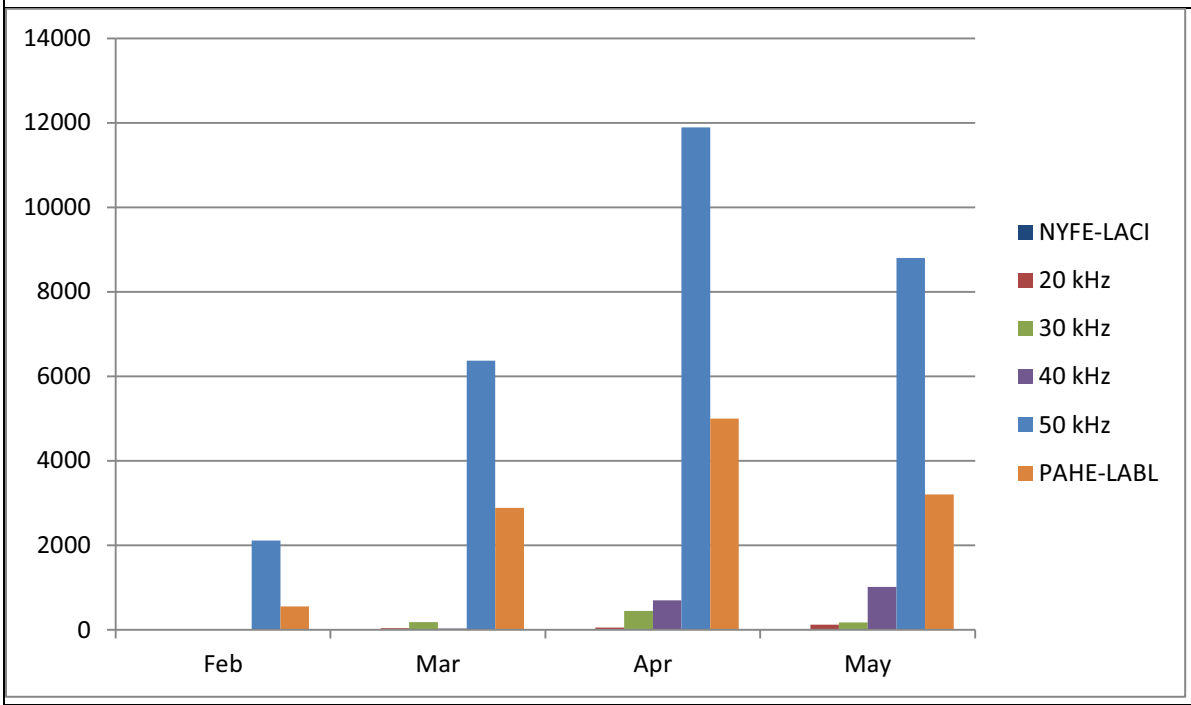
The greatest number of confirmed bat calls was recorded at the AnaBat 1 and AnaBat 2 locations. The majority of calls were in the 50 kHz and PAHE-LABL groups. Bat activity at the Project site peaked in April with reduced activity in March and May. Activity patterns by call groups varied for each detector. AnaBat 1 showed a peak in 50 kHz bat activity in the early evening, while 50 kHz bat activity at AnaBats 2 and 3 peaked at 2:00 and 3:00 am. PAHE-LABL activity at all AnaBat sites peaked in the early evening and sharply dropped between 8:00 and 9:00 pm.

Table 4.
Call Group Totals by Month

Month	NYFE-LACI	25 kHz	30 kHz	40 kHz	50 kHz	PAHE-LABL	Total
All Detectors							
Feb*	9	15	5	2	2,117	551	2,699
Mar	3	36	181	32	6,373	2,889	9,514
Apr	13	52	445	702	11,889	5,002	18,103
May*	14	121	174	1,016	8,799	3,204	13,328
Total	39	224	805	17,52	29,178	11,646	43,644
AnaBat 1							
Feb*	3	12	4	2	1218	485	1,724
Mar		16	175	29	4177	2282	6,681
Apr	7	30	431	692	4632	4202	9,994
May*	9	57	146	996	1,869	1,677	4,756
Total	19	115	756	1,719	11,896	8,646	23,155
AnaBat 2							
Month	NYFE-LACI	25 kHz	30 kHz	40 kHz	50 kHz	PAHE-LABL	Total
Feb*		3	1		790	49	843
Mar	1	14	3	3	1,767	338	2,126
Apr	3	10	9	4	6,141	572	6,739
May	3	30	17	15	5,551	1,043	6,659
Total	7	57	30	22	14,249	2,002	16,367
AnaBat 3							
Feb*	6				109	17	132
Mar	2	6	3		429	269	709
Apr	3	12	5	6	1,116	228	1,370
May	2	34	11	5	1,379	484	1,915
Total	13	52	19	11	3,033	998	4,126

*Partial months

Figure 2. Group Totals by Month for all Detectors



* Feb and May are partial months.

Figure 3. AnaBat 1 Call File Counts by Time of Day

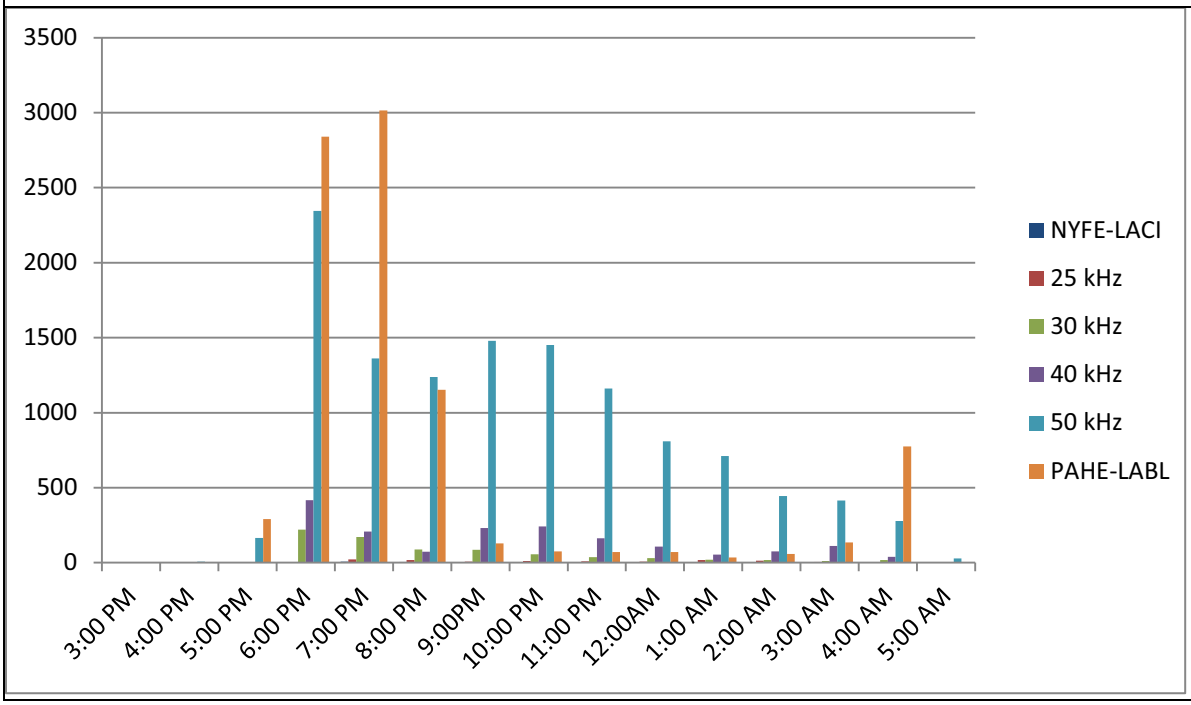


Figure 4. AnaBat 2 Call File Counts by Time of Day

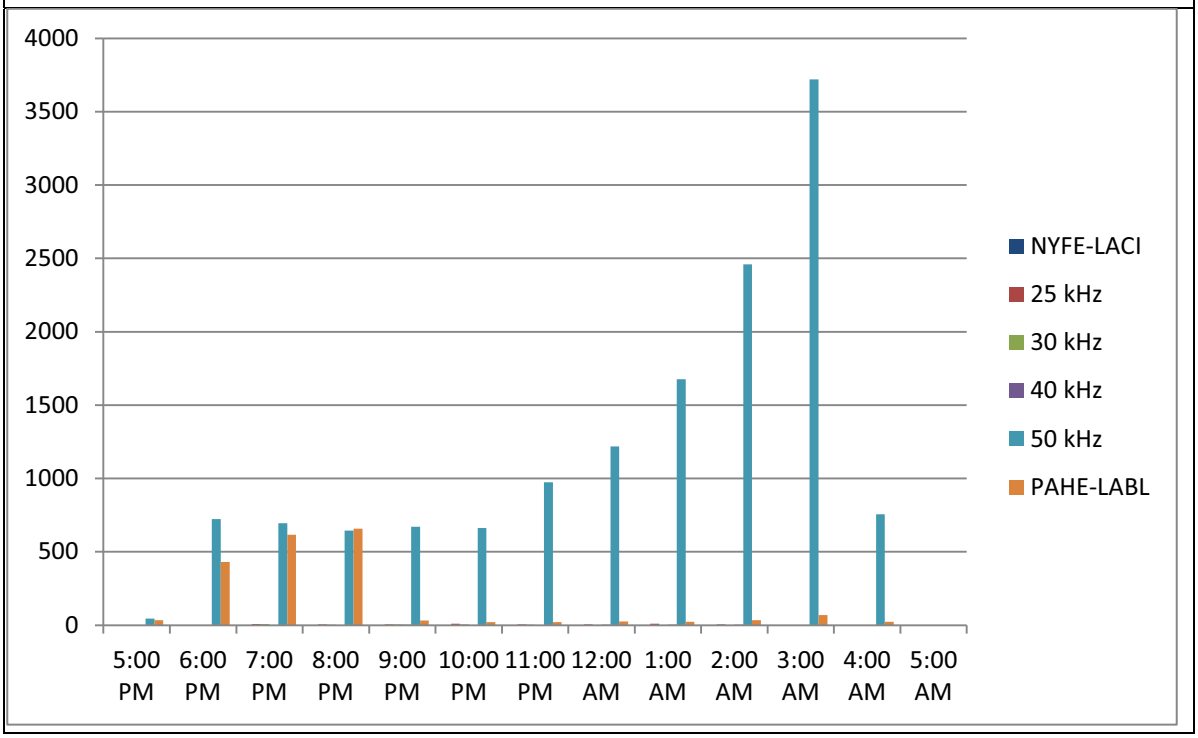
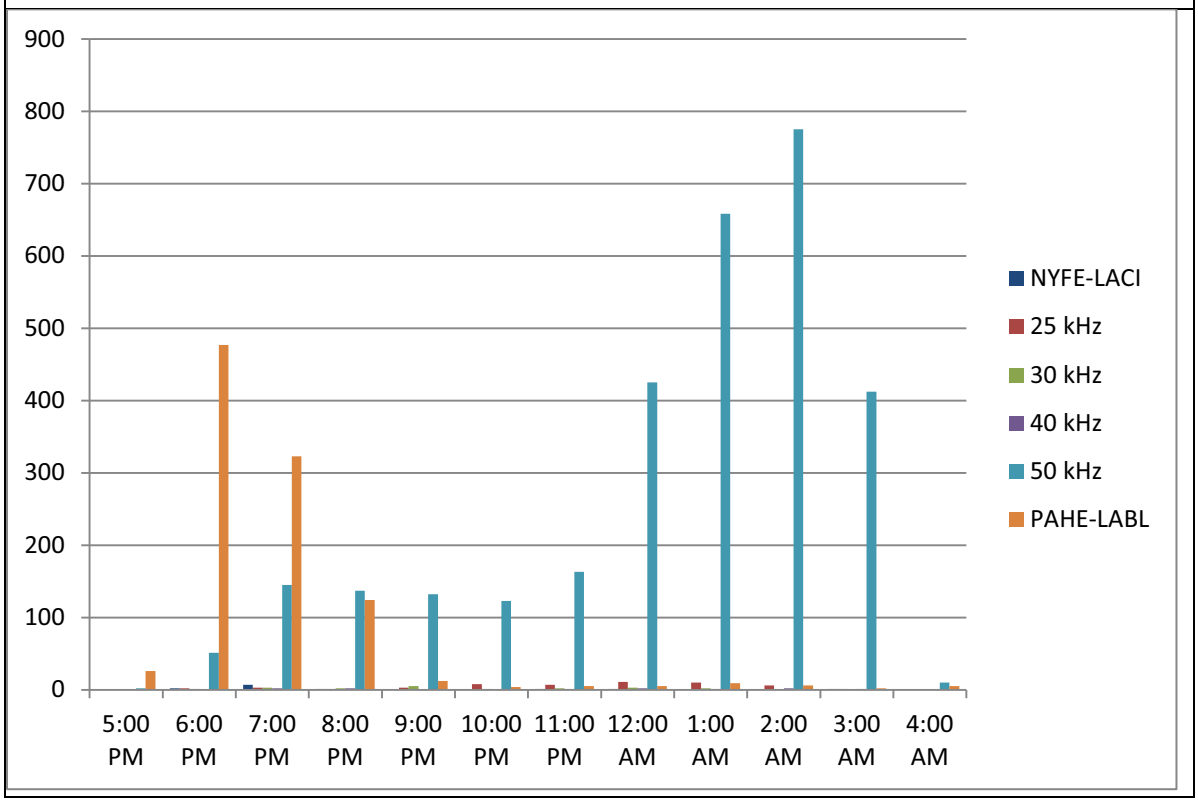


Figure 5. AnaBat 3 Call File Counts by Time of Day



SECTION 5 CONCLUSIONS

Special status bats detected during spring 2012 acoustic monitoring included the pallid bat, pocketed free-tailed bat, western red bat, and western mastiff bat. The California leaf-nosed bat and cave myotis were not specifically identified during acoustic monitoring, but are expected to occur on the Project site due to the proximity of known roosts in the Roosevelt and Hodge mines. California leaf-nosed bats are known to be difficult to detect acoustically due to their propensity to forage using vision instead of echolocation. Cave myotis call recordings are known to overlap with other 40 kHz myotis species calls. The number of 40 kHz call group recordings was low in relation to other recorded call groups.

The average number of call files recorded per night at the AnaBat 1 location was nearly double the rate at the other two detectors. As discussed above, AnaBat 1 was deployed in microphyll woodland areas that are not included in the proposed Project and these areas would not be affected by the Project.

The acoustic monitoring results also exhibited a seasonal peak in April, which could be related to an influx of migrating bats. Nightly trends in bat activity indicated that the number of recorded PAHE-LABL group calls, which include western pipistrelle and potentially western red bats, peaked early in the evening at all three AnaBat locations. This result could be consistent with these species roosting in closer proximity with the site.

Acoustic bat monitoring data will continue to be collected for the RMS Project. Collection and analysis of additional data may provide more substantiated conclusions than those that can be drawn from this interim report.

SECTION 6 REFERENCES

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APPLICATION FOR CERTIFICATION
FOR THE *RIO MESA SOLAR*
ELECTRIC GENERATING FACILITY

DOCKET NO. 11-AFC-04
PROOF OF SERVICE
(Revised 8/14/12)

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DECLARATION OF SERVICE

I, Darin Neufeld, declare that on August 17, 2012, I served and filed a copy of the attached document Applicant's Supplemental Response #7 to CEC Staff Data Request Set 1A (DR51) dated August, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: **http://www.energy.ca.gov/sitingcases/riomesa/index.html**.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(*Check all that Apply*)

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OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signed By
Darin Neufeld

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